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Таблица 1. Характеризующая таблица синтаксонов сложных и неморальнотравных сосняков
Table 1. Characteristic table of composite and nemoral-herb pine forests syntaxa

| **Номер описания** | **Ярус** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | **13** | **14** | **15** | **16** | **17** | **18** | **19** | **20** | **21** | **22** | **23** | **24** | **25** | **26** | **27** | **28** | **29** | **30** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Синтаксон** | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| **Сомкнутость древостоя, %** | | 70 | 70 | 65 | 70 | 60 | 70 | 70 | 70 | 70 | 60 | 60 | 70 | 60 | 60 | 60 | 50 | 70 | 80 | 50 | 60 | 60 | 60 | 80 | 80 | 70 | 70 | 70 | 60 | 70 | 70 |
| **Сомкнутость кустарникового яруса, %** | | 1 | 1 | 20 | . | 60 | . | 1 | 20 | 30 | 50 | 25 | 5 | 45 | 40 | 5 | 10 | 35 | 30 | 40 | 50 | 35 | 20 | 20 | 45 | 30 | 20 | 40 | 60 | 50 | 45 |
| **Общее проективное покрытие, %** | | 25 | 40 | 35 | 20 | 10 | 20 | 35 | 49 | 15 | 10 | 10 | 15 | 25 | 10 | 40 | 35 | 20 | 60 | 15 | 40 | 25 | 30 | 15 | 30 | 15 | 10 | 70 | 10 | 20 | 15 |
| **Покрытие наземных мхов, %** | | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 1 | . | . | . | . | . | . | . | . | . | 1 |
| Диагностические виды (д. в.) асс. ***Corylo avelanae–Pinetum sylvestris*** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| *Pinus sylvestris* | A1 | 3 | 3 | 2 | 3 | 4 | 3 | 3 | 2 | 4 | 3 | 1 | 4 | 3 | 3 | 3 | 2 | 4 | 4 | 3 | 3 | 4 | 3 | 5 | 4 | 4 | 3 | 4 | 3 | 4 | 4 |
| *Corylus avellana* | B | + | . | 2 | + | 4 | . | + | 2 | 5 | 4 | 1 | + | 4 | 4 | 1 | 1 | 2 | 2 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | + | 2 | 5 | 5 | 3 |
| *Convallaria majalis* | C | + | . | . | 1 | 1 | + | + | r | . | 1 | . | + | r | + | + | 2 | r | r | . | . | + | 1 | r | . | + | + | 1 | + | r | + |
| *Euonymus verrucosus* | B | 1 | + | + | 1 | + | + | r | + | + | + | + | 1 | + | + | r | + | + | r | . | + | 2 | 2 | r | . | + | 3 | + | + | r | 1 |
| *Stellaria holostea* | C | . | 1 | + | 1 | 2 | + | 1 | 2 | 2 | 1 | + | + | 2 | 2 | + | . | r | + | r | 2 | 2 | 3 | + | . | + | + | 2 | 1 | 2 | 1 |
| *Quercus robur* | A2 | 3 | 3 | 2 | 3 | 2 | . | . | 2 | 2 | 3 | 1 | 1 | 3 | 1 | + | 1 | . | 2 | . | . | 3 | 2 | r | . | 3 | 2 | . | 2 | 2 | + |
| *Quercus robur* | A1 | . | 1 | 2 | + | 2 | 2 | 2 | 2 | . | + | . | . | + | . | . | . | . | . | . | . | 2 | . | . | . | + | . | . | . | . | . |
| Д. в. вар. ***Sambucus racemosa*** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| *Sambucus racemosa* | B | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | r | r |
| *Chelidonium majus* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | + | r | + | . | + | . | r | r | r | 1 |
| *Geranium robertianum* | C | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | r | . | . | . | . | r | + | . | + | + | r | r | . | + | . |
| *Geum urbanum* | C | r | . | . | r | . | . | r | . | . | . | . | + | . | . | . | . | . | . | + | . | . | + | . | + | . | . | . | r | r | . |
| *Urtica dioica* | C | . | . | . | . | . | . | . | . | . | . | . | + | r | . | . | . | r | . | . | . | . | . | r | r | . | r | . | . | r | r |
| *Moehringia trinervia* | C | . | . | . | . | . | . | . | . | . | . | . | + | . | . | + | . | r | . | . | . | . | . | . | . | . | . | r | . | r | r |
| Д. в. субасс. ***C. a.–P. s. tilietosum cordatae*** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| *Asarum europaeum* | C | . | . | + | . | + | . | . | + | . | . | + | + | . | 2 | + | . | . | 1 | 1 | + | . | 2 | . | r | + | + | + | . | + | + |
| *Carex pilosa* | C | 2 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | . | + | + | . | + | . | + | . | . | 3 | . | . | r | + | . | . | + | . | 3 | . | . | . |
| *Tilia cordata* | A2 | + | . | 1 | . | . | . | + | 1 | + | . | 1 | . | . | r | . | . | . | 1 | . | . | . | r | . | . | 2 | + | . | . | . | . |
| *Tilia cordata* | B | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | r | . | . | . |
| *Galeobdolon luteum* | C | . | . | . | . | . | . | . | 1 | 2 | 1 | . | . | . | 1 | . | . | . | . | . | . | . | . | . | . | 1 | . | . | . | . | + |
| *Calamagrostis arundinacea* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Quercus robur* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Tilia cordata* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Lathyrus vernus* | C | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | r | r | . | . | r | . | . | r |
| *Galium intermedium* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r |
| *Tilia cordata* | A1 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| Д. в. асс. ***Rhodobryo rosei–Piceetum abietis*** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| *Oxalis acetosella* | C | . | . | . | . | . | . | . | . | . | . | r | . | . | . | 1 | . | 1 | . | . | . | . | . | 1 | . | . | . | . | . | . | + |
| *Picea abies* | B | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | r | . | . | . | . | . | . | . |
| *Athyrium filix-femina* | C | . | . | . | . | . | . | . | 1 | . | . | . | . | 1 | . | . | . | . | . | + | r | . | . | . | r | r | . | . | . | . | . |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Picea abies* | A2 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 1 | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Picea abies* | A1 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Paris quadrifolia* | C | . | . | . | . | . | . | . | . | r | + | + | + | + | . | + | . | . | . | + | r | . | . | . | r | . | r | . | + | r | . |
| *Gymnocarpium dryopteris* | C | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Mycelis muralis* | C | r | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . |
| *Cirriphyllum piliferum* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Sciuro-hypnum curtum* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | + |
| *Plagiomnium affine* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Picea abies* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Stellaria nemorum* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Rhytidiadelphus triquetrus* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Dryopteris expansa* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Circaea alpina* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| Д. в. класса ***Carpino–Fagetea sylvaticae*** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| *Lonicera xylosteum* | B | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | r | . | . | r | . | . | . | . | . | . | . | . | . | r |
| *Carex digitata* | C | r | + | r | r | + | + | r | r | . | . | . | r | . | . | + | . | + | r | . | . | . | . | + | . | r | 1 | r | . | . | r |
| *Aegopodium podagraria* | C | + | + | . | + | + | 2 | . | . | 1 | + | r | . | + | 2 | 2 | 1 | r | 1 | . | . | + | 1 | . | . | . | . | . | + | 1 | . |
| *Dryopteris filix-mas* | C | . | . | . | . | . | . | . | r | . | . | . | + | r | . | + | . | . | . | + | . | . | r | . | . | r | . | . | r | + | . |
| *Acer platanoides* | B | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | 1 | . | . | . | . | . | + | . | . | 2 | . | . | r |
| *Ranunculus cassubicus* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Milium effusum* | C | . | . | . | . | . | . | . | . | . | r | . | . | r | . | + | . | . | . | . | . | + | . | . | . | . | . | r | + | . | . |
| *Quercus robur* | B | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | + | . | . | . | . | . | . | . | . | . | . | . | . | r |
| *Acer platanoides* | C | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | + | + | . |
| *Melica nutans* | C | + | + | . | + | + | + | . | r | . | . | . | + | r | + | . | . | . | . | + | . | + | r | . | . | r | . | . | . | . | r |
| *Acer platanoides* | A2 | . | . | 1 | . | . | . | . | 1 | r | . | . | . | . | r | . | . | . | 1 | . | . | + | . | . | + | . | . | . | . | 1 | . |
| *Viola mirabilis* | C | . | . | r | . | + | . | . | . | r | . | r | . | . | . | . | . | . | r | + | . | . | . | . | r | . | . | . | . | . | . |
| *Pulmonaria obscura* | C | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | + | . | . | . | . | 2 | . | . | r | . | . | . |
| *Corylus avellana* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Glechoma hederacea* | C | 2 | . | . | 1 | . | + | . | + | . | . | + | . | + | . | . | . | . | + | . | . | + | . | . | . | . | . | + | . | . | . |
| *Polygonatum multiflorum* | C | . | + | . | + | . | . | . | r | . | + | r | . | . | . | . | . | . | . | . | . | + | + | . | . | + | 1 | . | . | . | . |
| *Daphne mezereum* | B | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Mercurialis perennis* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Galium odoratum* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Festuca gigantea* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | r | . | . | . | . | . | . |
| *Carex sylvatica* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Viola riviniana* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | + | . | . | . | . | . | . | r | . | . | . |
| *Ulmus laevis* | B | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Neottia nidus-avis* | C | . | . | r | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| Д. в. класса ***Vaccinio–Piceetea*** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| *Maianthemum bifolium* | C | 1 | + | r | . | + | + | + | r | . | + | . | + | + | + | . | . | . | . | r | . | . | . | r | . | + | + | . | . | + | r |
| *Trientalis europaea* | C | . | + | . | . | + | + | + | . | r | . | . | . | . | . | . | + | r | . | . | . | . | . | . | . | r | . | r | r | r | . |
| *Vaccinium myrtillus* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Pleurozium schreberi* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | r | . | . | . | . | . | . |
| *Hylocomium splendens* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Orthilia secunda* | C | . | . | . | . | r | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Dicranum scoparium* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Vaccinium vitis-idaea* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |

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| *Dicranum polysetum* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Goodyera repens* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Ptilium crista-castrensis* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Pinus sylvestris* | B | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Lycopodium annotinum* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Hypopitys monotropa* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Juniperus communis* | B | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Lycopodium clavatum* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| Прочие виды | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| *Dryopteris carthusiana* | C | r | r | . | . | . | . | . | . | r | . | . | . | . | r | . | + | + | . | + | r | r | r | . | r | + | r | r | r | r | + |
| *Sorbus aucuparia* | B | . | + | + | 1 | + | 2 | 1 | + | + | + | + | . | + | . | . | . | . | . | . | + | . | r | r | + | r | r | + | r | r | . |
| *Rubus saxatilis* | C | . | + | + | . | 2 | 1 | + | + | . | r | . | . | r | . | + | + | 1 | + | . | . | . | . | + | . | . | + | r | . | . | . |
| *Rubus idaeus* | C | . | 2 | . | 2 | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | + | + | + | + | . | . | . | + |
| *Ajuga reptans* | C | . | . | . | . | . | . | . | . | . | . | r | . | . | . | + | . | + | . | r | . | . | . | + | . | . | . | . | . | . | r |
| *Fragaria vesca* | C | 2 | 2 | + | 2 | + | 1 | 2 | . | . | + | r | + | . | . | r | . | + | . | + | + | . | . | r | r | . | . | . | . | . | r |
| *Luzula pilosa* | C | + | . | r | . | . | . | . | r | . | r | . | + | . | . | + | . | + | . | . | r | . | . | + | . | . | . | . | . | r | . |
| *Padus avium* | B | . | . | . | . | . | . | . | . | 1 | . | . | + | . | + | . | 1 | 1 | . | . | . | + | r | . | . | . | r | . | 1 | . | . |
| *Sorbus aucuparia* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Betula* sp. | A1 | . | + | + | . | . | + | + | + | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Viburnum opulus* | B | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | r | . | + | r | . | . | . | r | . | . | . | . | . | . |
| *Frangula alnus* | B | . | . | . | . | . | . | . | . | . | . | 2 | . | . | . | + | 1 | r | . | . | 1 | . | . | . | . | . | . | . | . | . | + |
| *Betula* sp. | A2 | . | . | . | . | . | . | . | . | . | . | 3 | . | . | . | + | 2 | . | + | + | + | . | . | . | 1 | . | . | + | . | . | . |
| *Pteridium aquilinum* | C | . | . | . | 3 | r | 5 | 3 | . | . | . | + | r | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . |
| *Veronica chamaedrys* | C | + | 1 | . | 2 | 1 | + | 1 | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Solidago virgaurea* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | r | . | . | + | . | . | r | . | . | . | . | . | . | r |
| *Lysimachia vulgaris* | C | . | . | . | . | . | . | . | . | r | . | + | . | . | . | . | + | . | . | . | + | . | . | + | . | . | . | . | . | . | . |
| *Atrichum undulatum* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | r | . | . | . | . | . | . | . | . | . | . |
| *Equisetum sylvaticum* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . |
| *Platanthera chlorantha* | C | . | . | . | r | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | r | . | . |
| *Impatiens parviflora* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Polygonatum odoratum* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | r | . | . | . |
| *Impatiens noli-tangere* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Sorbus aucuparia* | A2 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Brachythecium salebrosum* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Stereodon pallescens* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Stellaria media* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Deschampsia cespitosa* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Geum rivale* | C | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Lysimachia nummularia* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Eurhynchium angustirete* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Angelica sylvestris* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . |
| *Actaea spicata* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Equisetum pratense* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Veronica officinalis* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | + | . | . | . | r | . | . | . | . | . | . |
| *Malus sylvestris* | B | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | r | . | . | . | . | . | . | . | . | . | . |
| *Sciuro-hypnum starkei* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Ranunculus repens* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |

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| *Plagiochila porelloides* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Galeopsis bifida* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . |
| *Viola canina* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Amelanchier spicata* | B | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . |
| *Populus tremula* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Plagiomnium undulatum* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Crepis paludosa* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Plagiomnium cuspidatum* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | r | . | . | . | . | . |
| *Rhodobryum roseum* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Plagiomnium elatum* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Populus tremula* | A1 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Stachys sylvatica* | C | . | . | . | . | . | . | . | . | . | r | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Populus tremula* | B | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | + | . | + | . | . | . | r | . | . | . | . |
| *Sciuro-hypnum reflexum* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Callicladium haldanianum* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Lophocolea heterophylla* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Adoxa moschatellina* | C | . | . | . | . | . | . | . | + | 1 | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | + | + | . |
| *Betula* sp. | B | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Rhytidiadelphus subpinnatus* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Sanionia uncinata* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Filipendula ulmaria* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Plagiomnium* sp. | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Prunella vulgaris* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Galium triflorum* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Ribes spicatum* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Epilobium montanum* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . |
| *Malus sylvestris* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Geranium sylvaticum* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . |
| *Clinopodium vulgare* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . |
| *Populus tremula* | A2 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 1 | . | . | . | . | . | . | . | . |
| *Brachythecium rutabulum* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Climacium dendroides* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Cirsium heterophyllum* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Pyrola minor* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Pyrola rotundifolia* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Anemonoides ranunculoides* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Chamaenerion angustifolium* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Thalictrum aquilegifolium* | C | . | . | r | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Brachypodium sylvaticum* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Campanula persicifolia* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Pinus sylvestris* | A2 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 1 | . | . | . | . | . | . | . | . | . | . | . | . |
| *Oxyrrhinchium hians* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Phegopteris connectilis* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Plagiothecium denticulatum* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Carex rhizina* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Brachytheciastrum velutinum* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Dactylis glomerata* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |

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| *Carex pallescens* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Galium mollugo* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Carex leporina* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Chaerophyllum aromaticum* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . |
| *Salix caprea* | B | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Vicia sepium* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Festuca altissima* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Pinus sylvestris* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Viola palustris* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Viola epipsila* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Alnus incana* | B | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Ulmus laevis* | A2 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Hypericum maculatum* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . |
| *Malus sylvestris* | A2 | . | . | . | r | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . |
| *Peucedanum oreoselinum* | C | r | . | . | + | r | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Stachys officinalis* | C | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . |
| *Molinia caerulea* | C | . | . | . | . | . | . | . | . | . | + | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Lamium maculatum* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Agrostis capillaris* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . |
| *Rubus caesius* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Poa pratensis* | C | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Rhizomnium punctatum* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Fraxinus excelsior* | B | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Plagiomnium ellipticum* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Ranunculus auricomus* | C | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Scrophularia nodosa* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Elymus caninus* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Padus avium* | A2 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Salix caprea* | A2 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Fraxinus excelsior* | C | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . |
| *Fissidens bryoides* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Plagiothecium laetum* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Viola hirta* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Poa nemoralis* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Agrimonia eupatoria* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Ranunculus acris* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Campanula patula* | C | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Ribes nigrum* | B | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Grossularia reclinata* | B | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . |
| *Epipactis helleborine* | C | . | r | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Anemonoides nemorosa* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Campanula trachelium* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Viola selkirkii* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Ulmus glabra* | A2 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Melandrium dioicum* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Coccyganthe flos-cuculi* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Brachypodium pinnatum* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |

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| *Ribes spicatum* | B | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Chrysosplenium alternifolium* | C | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Euonymus europaeus* | B | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Fragaria moschata* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Grossularia uva-crispa* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Amblystegium serpens* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Acer campestre* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | + | . | . |
| *Polytrichum commune* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Trifolium alpestre* | C | r | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Melampyrum pratense* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Hepatica nobilis* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Melampyrum nemorosum* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Hypericum perforatum* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Anthoxanthum odoratum* | C | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Silene nutans* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Taraxacum officinale* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Sanicula europaea* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . |
| *Galium palustre* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Anthriscus sylvestris* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Rosa majalis* | B | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Plagiomnium medium* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Ulmus glabra* | B | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Thuidium recognitum* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Acer platanoides* | A1 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Betula* sp. | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Melampyrum sylvaticum* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Pyrola media* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Campylidium sommerfeltii* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Ulmus glabra* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Galeopsis tetrahit* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Poa* sp. | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Primula veris* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Valeriana officinalis* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Alnus incana* | A2 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Pylaisia polyantha* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Carex* sp. | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Dicranum montanum* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Viola collina* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Potentilla alba* | C | . | . | + | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Koeleria cristata* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Gagea lutea* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Festuca ovina* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Carex elongata* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Chamaecytisus ruthenicus* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Geranium sanguineum* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Sphagnum girgensohnii* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Salix cinerea* | B | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |

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| *Scorzonera humilis* | C | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Trifolium medium* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Lathyrus niger* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . |
| *Astragalus glycyphyllos* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Seseli annua* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Pilosella onegensis* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . |
| *Origanum vulgare* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Hieracium umbellatum* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Viola ruppii* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Knautia arvensis* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Hieracium pilosella* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Platanthera bifolia* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Succisa pratensis* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Rumex acetosella* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Poa angustifolia* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Centaurea jacea* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Rumex thyrsiflorus* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Carex contigua* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Carex hirta* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Alnus glutinosa* | A2 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Brachythecium albicans* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . |
| *Equisetum hyemale* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Vicia sylvatica* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Acer campestre* | B | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . |
| *Aconitum lasiostomum* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Pyrus* sp. | B | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + |
| *Torilis japonica* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r |
| *Leucanthemum vulgare* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Galium uliginosum* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Acer negundo* | B | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Thyselium palustre* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Myosoton aquaticum* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Potentilla argentea* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Hieracium murorum* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Hieracium* sp. | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Dicranum* sp. | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Epilobium* sp. | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Polytrichastrum longisetum* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Cardamine amara* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Galium aparine* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Lamium purpureum* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Solanum dulcamara* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Fraxinus excelsior* | A2 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Cardamine impatiens* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Ribes* sp. | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Salvia glutinosa* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Dicranella heteromalla* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |

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| *Swida alba* | B | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Aconitum septentrionale* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Alliaria petiolata* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Alnus incana* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Carex praecox* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Dianthus fischeri* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Elytrigia repens* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Fritillaria meleagris* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Hylotelephium triphyllum* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Herzogiella seligeri* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Pohlia wahlenbergii* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Caragana arborescens* | B | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Crepis tectorum* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Hypericum sp.* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Matteuccia struthiopteris* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Campanula rapunculus* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Carex echinata* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Lathyrus sylvestris* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Quercus rubra* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Ribes rubrum* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Sonchus oleraceus* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Eurhynchiastrum pulchellum* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Tetraphis pellucida* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Anemone sylvestris* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Linaria vulgaris* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Atrichum flavisetum* | D | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Trollius europaeus* | C | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| *Bromopsis benekenii* | C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . |

| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 60 | 70 | 50 | 70 | 60 | 80 | 80 | 60 | 60 | 80 | 80 | 80 | 70 | 50 | 70 | 70 | 70 | 65 | 80 | 60 | 40 | 75 | 70 | 60 | 90 | 55 | 80 | 90 | 60 | 65 | 70 | 65 | 65 | 70 | 85 | 60 | 100 | 70 | 60 | 60 |
| 60 | 65 | 80 | 25 | 50 | 40 | 25 | 30 | 20 | 25 | 30 | 10 | 10 | 5 | 30 | 10 | 30 | 65 | 5 | 45 | 90 | 15 | 80 | 30 | 50 | 40 | 50 | 3 | 40 | 70 | 40 | 30 | 5 | 10 | 5 | 15 | 40 | 40 | 10 | 50 |
| 10 | 30 | 10 | 30 | 20 | 10 | 60 | 30 | 20 | 10 | 15 | 15 | 15 | 20 | 60 | 60 | 70 | 35 | 35 | 60 | 55 | 60 | 70 | 50 | 90 | 55 | 80 | 15 | 55 | 55 | 40 | 60 | 80 | 65 | 35 | 75 | 90 | 90 | 55 | 75 |
| . | . | . | . | . | . | 1 | . | . | . | . | . | . | . | . | . | . | 1 | 1 | . | 1 | 2 | 5 | 1 | 2 | 1 | 5 | . | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 10 | 10 | . | . |
| 4 | 2 | 3 | 4 | 2 | 4 | 4 | 3 | 3 | 5 | 5 | 5 | 4 | 3 | 3 | 2 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 4 | 3 | 2 | 3 | 4 | 2 | 2 | 3 |
| 5 | 4 | 5 | 2 | 5 | 2 | 1 | 2 | 2 | + | 1 | 1 | + | + | 1 | 1 | + | . | r | 3 | 5 | . | . | . | 3 | r | 3 | . | . | 4 | . | 2 | . | . | . | 2 | . | 2 | . | 2 |
| . | . | + | . | r | . | 3 | + | + | . | . | . | + | . | r | + | . | 1 | + | + | r | r | 2 | 2 | 2 | 3 | 2 | r | r | + | r | . | r | 1 | r | r | 2 | 2 | 1 | r |
| r | . | r | + | r | + | 2 | 1 | r | . | . | . | . | + | r | + | + | 1 | r | + | r | 1 | . | r | . | + | 2 | r | r | r | 1 | r | r | + | r | r | . | 2 | . | r |
| + | 2 | . | . | . | + | r | . | 1 | . | . | . | . | + | + | r | . | r | + | r | r | r | 2 | r | 1 | . | 2 | r | r | r | r | r | . | r | 2 | r | 2 | 2 | 1 | r |
| 2 | + | + | . | 3 | 2 | 2 | 2 | 2 | . | . | . | . | r | . | . | . | 1 | . | + | . | . | 2 | 2 | . | 3 | 2 | . | . | . | r | r | . | 2 | . | 2 | . | 2 | . | . |
| . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | 1 | + | . | . | . | . | 2 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r |
| + | r | r | + | r | + | + | 1 | 2 | 2 | 2 | 1 | + | . | . | . | . | r | . | . | r | . | 2 | r | . | + | 2 | . | . | r | . | . | r | . | r | r | . | . | . | . |
| r | . | . | + | + | r | + | r | 1 | + | + | + | . | . | . | . | . | . | . | . | . | . | . | . | . | r | + | . | . | . | . | . | . | . | . | . | . | . | . | . |
| r | . | . | . | r | . | r | r | r | . | + | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | r | . | + | + | . | . | . | . | r | + | + | . | . | . | . | . | . | . | . | r | . | . | . | . | . | 1 | . | . | . | . | . | . | . | . | r | . | 2 | . | r |
| . | r | r | . | r | . | . | r | . | 1 | + | + | . | . | + | . | . | . | . | . | r | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | 2 | . | . | . |
| . | . | . | . | . | r | r | r | . | . | . | . | r | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . |
| . | 1 | . | 1 | . | + | . | . | . | + | + | + | . | 1 | 1 | . | + | . | 1 | 1 | 2 | + | 2 | r | 2 | r | 2 | r | r | r | . | . | r | r | 3 | r | 2 | 2 | 1 | 1 |
| . | . | . | . | . | . | . | . | . | . | . | . | . | 1 | r | 3 | 3 | r | r | 3 | . | 4 | 2 | 3 | 2 | . | 4 | r | 4 | 3 | 3 | 4 | 5 | 4 | . | 4 | 2 | . | 2 | 4 |
| . | . | . | . | . | . | . | . | + | . | . | . | . | + | + | . | . | r | 1 | . | r | 4 | 3 | 2 | 3 | 2 | 4 | 2 | 3 | . | 3 | 3 | 2 | 3 | 4 | 2 | 4 | 2 | . | 2 |
| . | . | . | . | . | + | . | . | . | . | . | . | . | + | . | 1 | 1 | . | r | . | . | 2 | 3 | 2 | 2 | 2 | 2 | r | 3 | . | 3 | r | 1 | 2 | + | 1 | 3 | 2 | 1 | r |
| 1 | . | . | . | 2 | . | . | . | . | . | . | . | . | 1 | 3 | 1 | 2 | . | r | 1 | 3 | . | 2 | r | . | r | 2 | r | r | 2 | + | . | . | r | . | . | 2 | 2 | 2 | 2 |
| . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | 2 | + | . | . | r | . | + | . | + | . | r | r | . | . | r | . | + | r | r | 2 | . | 2 | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | r | . | . | 2 | . | 1 | r | . | . | . | r | r | r | . | r | 2 | 2 | + | r |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | r | 1 | . | 2 | r | 2 | r | . | . | r | . | + | r | + | r | 2 | 2 | + | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | + | . | r | + | . | . | . | . | + | . | . | . | + | . | r | . | . | r | . | . | . | . | + | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | 1 | . | . | . | r | . | r | . | . | . | . | . | r | . | 2 | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | 2 | . | . | . | . | . | r | . | . | 2 | . | . | r | 2 | . | . | . | . | . | . | . | 2 | . | + | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | r | 2 | . | . | . | 2 | . | 2 | r | 2 | . | . | + | . | r | . | . | r | . | 2 | . | 2 | . |
| . | . | . | . | . | . | . | . | . | . | . | . | r | r | . | r | 2 | r | 1 | + | . | . | . | . | 2 | . | 2 | . | . | r | r | . | r | . | . | . | . | . | . | . |
| . | + | r | 2 | . | . | . | r | . | . | + | 1 | . | . | . | . | . | . | . | . | r | . | . | . | 1 | . | 1 | . | . | r | . | r | . | . | . | + | . | . | . | r |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | 1 | 2 | + | . | 3 | 2 | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 2 | . | . | . | 2 | . | . | . | . | . | . | . | r | . | . | r | . | . | . | . | 2 | . | . |
| r | . | . | . | . | . | . | + | . | . | . | . | + | . | r | . | . | . | r | . | r | . | . | . | . | . | . | r | . | r | . | r | . | r | r | r | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | 2 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | + | r | . | . | r | . | + | + | + | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | r | r | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | r | . | r | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | r | + | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | r | . | . | . | r |

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| . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | 1 | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | r | . | . | . | . | . | . | . | . | . | . | . | + | + | . | r | . | . | r | 2 | . | 2 | . | 2 | . | 2 | . | . | . | . | . | . | . | . | . | 2 | . | . |
| . | . | . | . | . | r | r | . | . | . | . | . | . | . | . | + | r | . | r | r | + | . | . | + | r | + | r | r | 2 | r | r | . | . | . | r | r | r | . | . | . | . |
| . | + | . | . | . | r | . | . | r | . | . | . | . | . | . | . | . | + | r | . | r | . | r | . | . | 2 | . | 2 | . | 1 | r | r | r | r | . | r | . | 3 | 2 | 1 | + |
| . | r | . | . | r | . | . | . | r | . | . | . | . | + | . | . | . | r | . | . | . | . | . | 2 | . | 2 | . | . | . | . | . | . | . | . | . | . | . | 2 | 2 | . | . |
| . | + | . | . | . | + | + | . | . | . | . | . | . | . | + | 2 | + | + | . | . | 1 | . | . | 2 | r | 2 | 1 | . | 2 | + | . | . | . | . | r | 1 | r | . | 2 | . | . |
| . | . | r | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | 2 | . | . | . | + | . | . | . | . | . | . | . | . | . | r | r | . | . | . | . |
| . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | + | . | r | . | + | . | r | . | . | . | . | r | r | r | 2 | . | + | . |
| . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | 1 | + | r | . | . | . | r | 2 | . | . | . | . | + | . | . | r | . | . | . | . | 2 | . | + |
| . | . | . | . | . | . | . | 2 | + | . | . | . | . | . | . | . | . | . | r | . | . | . | . | 2 | r | 2 | r | . | r | r | . | . | . | . | r | + | r | . | 2 | . | . |
| r | . | . | . | + | r | r | . | . | . | . | . | . | + | . | . | r | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | 2 | . | . |
| 2 | . | . | . | . | + | 1 | . | 1 | . | . | . | . | . | . | . | . | 2 | . | . | + | . | . | . | . | 3 | . | . | 4 | . | . | . | . | . | 2 | 2 | r | . | 2 | . | . |
| . | . | . | . | + | . | . | . | . | . | . | . | . | . | + | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | r |
| . | 1 | . | . | . | . | . | . | . | . | . | . | . | . | + | + | + | + | . | . | r | 2 | . | . | . | 2 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | 1 | . | 2 | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | + | . | . | . | . | 2 | . | . | . | . | . | . | . | . | . | . | . | 2 | . | . | . |
| . | . | . | . | . | . | r | . | r | . | . | . | . | . | . | . | r | . | . | + | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 1 | 1 | . | . | + | + | . | . | 2 | . | . | . | 2 | . | . | . | . | . | . | . | . | . | 2 | . | 1 | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 1 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
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| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 2 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
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| . | . | . | . | . | . | + | + | . | + | . | . | . | . | . | . | + | . | . | . | r | . | . | . | . | . | . | . | . | . | r | . | r | . | . | . | . | + | . | + | . |
| . | . | . | . | 1 | r | r | + | . | . | . | . | . | + | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | r | r | . | r | . | r | . | . | + | . | + | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | r | . | r | . | . | r | . | . | . | . | r | . | r | . | . | . |
| . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
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| r | + | r | . | . | . | r | r | . | . | . | . | . | . | + | r | r | r | r | r | r | r | 1 | r | 1 | + | 1 | . | r | r | r | . | r | r | r | + | 2 | . | + | r |
| . | r | 2 | . | r | + | + | . | . | . | . | . | 1 | r | + | r | . | 4 | . | . | + | + | 3 | 2 | . | 2 | 2 | r | + | + | 1 | 2 | + | r | r | 2 | 2 | . | . | 3 |
| r | . | + | . | + | r | . | . | . | . | . | . | + | . | . | + | . | + | 1 | . | r | r | 2 | r | . | . | 2 | r | r | r | . | r | r | r | 1 | r | 2 | . | + | r |
| + | . | r | . | . | 1 | + | 1 | 2 | . | . | . | . | . | . | . | . | r | + | . | r | r | 2 | r | . | r | . | . | r | . | r | r | . | . | . | . | 2 | . | + | . |
| . | . | . | + | . | . | . | . | . | . | . | . | . | + | + | r | + | . | + | . | . | r | 2 | . | 2 | . | . | . | r | . | . | . | . | . | + | . | . | . | . | r |
| . | . | . | . | . | . | . | . | . | . | . | . | + | + | . | . | . | r | . | . | . | . | . | r | . | r | . | . | . | . | . | . | . | r | r | r | + | 2 | . | . |
| . | . | . | . | . | + | + | . | . | . | . | . | + | + | . | . | . | r | . | r | . | r | . | r | r | r | + | . | r | . | . | . | . | . | r | . | + | . | . | . |
| + | 1 | 1 | . | r | 2 | + | + | . | . | . | . | . | . | 1 | . | . | r | . | 1 | 1 | . | 2 | . | 2 | . | 2 | . | . | . | . | . | . | . | . | . | 2 | . | . | . |
| . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | r | r | . | r | . | r | 2 | . | . | r | r | r | r | r | r | r | . | . | + | r |
| . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | r | 2 | 2 | r | 2 | 2 | r | r | r | 2 | 2 | . | 2 | . | 2 |
| . | . | r | + | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | r | . | . | . | . | . | 1 | . | r | . | . | . | . | r | r | . | . | . | . | . |
| . | . | . | . | . | . | + | . | . | . | . | . | . | . | r | r | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . |
| . | 3 | 2 | . | . | . | . | . | . | . | . | . | . | . | 3 | . | . | 3 | 2 | . | . | 2 | . | r | . | . | . | . | 2 | . | . | 2 | r | . | r | . | . | . | . | 2 |
| . | . | . | . | . | . | 2 | . | . | . | . | . | . | . | . | r | . | . | r | . | . | . | . | . | . | . | + | . | r | . | r | r | 2 | r | . | 2 | . | . | + | r |
| . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | r | . | 2 | . | . |
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| . | . | . | . | r | . | . | r | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
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| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | r | . | . | . | r | r | . | . | . | 2 | + | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | r | r | r | r | . | . | . | . | r |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 2 | + | . | . | . | 2 | . | . | . | 2 | r | 2 | 2 | 2 | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | r | . | . | r | . | r | . | . | r | r | r | . | . | . | r |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | r | . | r | . | . | r | r | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | r | . | 1 | . | r | . | . | . | r | . | r | r | r | . | . | . | r |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 1 | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | r | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 1 | . | . | . | . | . | . | . | . | . | . | . | 2 | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 2 | . | . | . | . | . | . | . | . | . | . | 2 | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | r | + | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | r | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | r | . | . | . | 2 | . | + | . | . | . | . | . | . | . | . | . | 2 | 2 | + | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | r | . | . | . | . |
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| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | r | . | . | . | . | . | . | . |
| . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 2 | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
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| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . |
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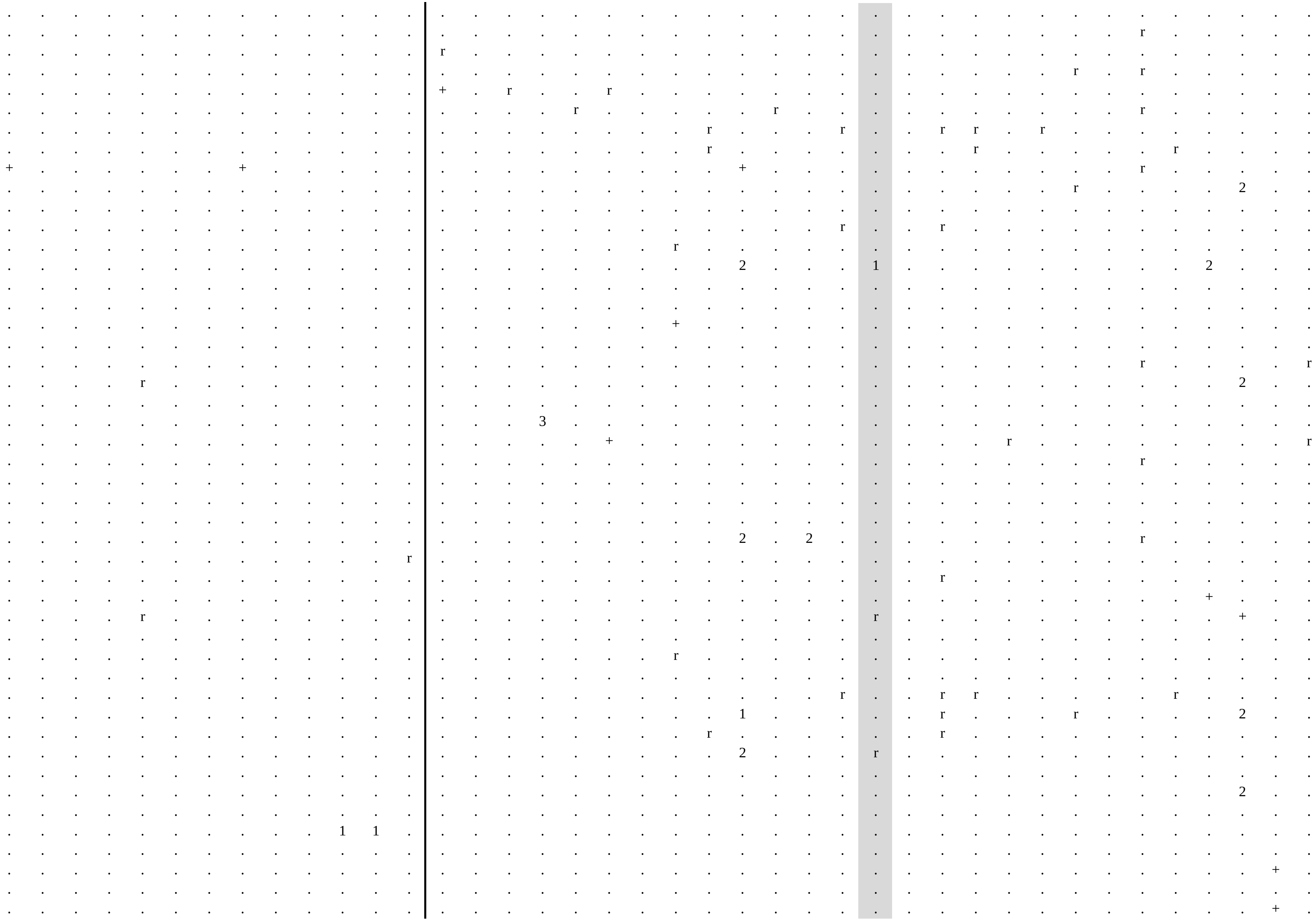
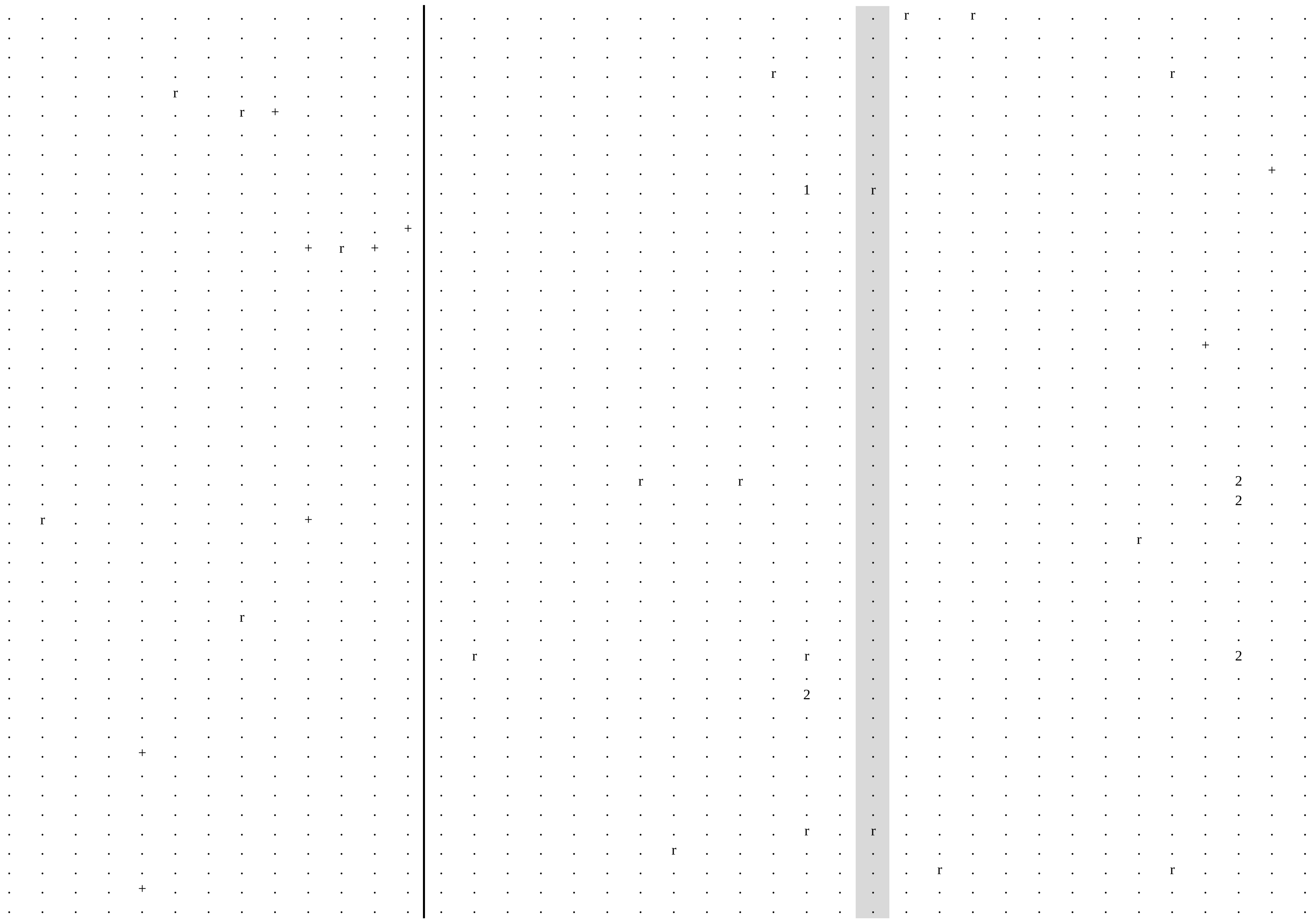
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | r | . | . | . |





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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 100 | 60 | 70 | 80 | 60 | 55 | 65 | 60 | 90 | 30 | 30 | 50 | 30 | 40 | 40 | 80 | 70 | 70 | 60 | 50 | 50 | 80 | 80 | 80 | 70 | 60 | 50 | 40 | 50 | 75 | 60 | 60 | 70 | 60 | 70 | 40 | 50 | 30 | 80 | 60 |
| 30 | 5 | 70 | 60 | 40 | 10 | 70 | 10 | 40 | 80 | 90 | 60 | 90 | 80 | 85 | 50 | 2 | 5 | 5 | 20 | 20 | 5 | 20 | 20 | 20 | 5 | 60 | 80 | 7 | 10 | 40 | 40 | 10 | 60 | 60 | 30 | 50 | 20 | 20 | 10 |
| 75 | 35 | 30 | 70 | 60 | 60 | 55 | 40 | 50 | 60 | 70 | 65 | 60 | 70 | 75 | 30 | 30 | 15 | 60 | 50 | 40 | 70 | 70 | 60 | 35 | 30 | 40 | 50 | 90 | 35 | 70 | 75 | 70 | 80 | 70 | 60 | 30 | 60 | 55 | 75 |
| 5 | 1 | 1 | 5 | 5 | . | 1 | 1 | 10 | 5 | 50 | 15 | 1 | 10 | 4 | 1 | 1 | 15 | 2 | . | 1 | 1 | 1 | 1 | . | 2 | 5 | 2 | 1 | 3 | 20 | . | 30 | 10 | 10 | 30 | 2 | 35 | . | 25 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 1 | 4 | 2 | 3 | 2 | 3 | 3 | 5 | 3 | 2 | 4 | 3 | 3 | 3 | 5 | 4 | 3 | 2 | 2 | 2 | 5 | 4 | 5 | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 4 | 4 | 3 | 4 | 4 | 3 | 2 | 4 | 4 |
| 3 | r | r | 3 | . | . | 4 | . | 2 | 4 | 4 | 1 | 5 | 5 | 5 | 3 | 2 | + | + | + | 1 | 1 | 2 | . | 2 | 1 | 2 | 5 | 2 | r | . | 3 | 2 | 4 | . | 2 | 4 | 1 | 1 | . |
| 2 | r | + | 2 | 2 | 1 | + | 2 | . | . | . | . | . | . | . | r | . | 1 | + | 1 | + | . | . | + | + | . | . | . | + | r | 3 | . | 2 | 1 | 2 | 1 | r | . | 1 | 2 |
| 1 | r | r | 2 | 1 | . | r | . | 2 | . | . | + | . | + | . | . | + | r | . | + | . | . | . | . | r | . | 2 | + | r | . | + | r | . | . | . | . | r | . | . | . |
| . | + | r | 3 | . | 2 | r | r | 2 | r | . | r | . | . | . | + | . | . | . | . | . | . | 1 | . | . | . | + | . | . | . | . | r | + | 1 | . | 1 | . | . | . | + |
| . | + | 2 | 2 | . | . | . | 2 | . | . | . | . | . | . | . | . | . | + | . | + | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | r | . | . | . |
| . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | r | . | . | . | r | r | . | . | . | . | . | r | . | . | . | . | r | . | . | . | . | . | . | . | . | + | . | r | r | r | . | + | . | . | r | 1 | r | r |
| 2 | . | . | . | + | . | . | . | 2 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . |
| 2 | . | r | . | . | . | . | . | + | . | + | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | 1 | . | . | r | r | . | . | . | . | . | . | . | . |
| . | . | r | . | + | . | . | . | 2 | r | + | r | r | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | r | . | r | . | . | . | . | . | . | . | r |
| . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| 2 | 1 | + | 2 | . | 1 | r | r | 2 | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | + | r | + | . | . | . | + | . | . | 1 | + | . | . | . | r | r |
| 2 | 2 | r | 3 | 1 | + | 3 | . | . | . | . | . | . | . | . | 1 | . | . | . | . | . | . | . | . | . | . | 1 | . | . | . | . | r | 3 | . | . | . | . | . | . | r |
| . | 3 | 3 | 2 | 3 | . | . | 2 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | + | 2 | 2 | 2 | 1 | . | r | . | . | . | . | . | . | . | . | . | . | + | r | . | . | . | . | . | . | . | + | . | . | . | r | . | . | . | . | . | . | . | . |
| . | + | . | . | . | 2 | 2 | . | 2 | 3 | 2 | r | + | 4 | 4 | . | . | . | . | . | . | 3 | + | 1 | 2 | . | 2 | 3 | . | . | . | 2 | 2 | 1 | . | . | . | . | . | . |
| 2 | . | + | . | 2 | + | . | + | . | . | . | . | . | . | . | . | . | + | + | + | + | . | . | . | . | . | . | . | 2 | r | 3 | . | 2 | . | 2 | . | . | r | . | . |
| . | . | r | 2 | . | + | . | r | + | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | + | . | . | . | . | . | r | r |
| . | . | r | . | 2 | + | . | . | . | r | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 1 | . | . | . | . |
| + | + | . | 2 | . | + | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | + | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . |
| . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| 2 | . | 1 | + | . | 2 | + | r | . | 2 | 3 | . | 2 | r | 2 | . | . | 1 | 3 | . | 2 | 2 | 4 | 2 | 1 | + | 1 | 3 | r | 2 | 2 | 4 | 4 | 4 | 3 | 4 | . | . | 3 | 4 |
| + | 1 | . | . | 2 | . | r | . | . | . | . | . | . | . | . | 1 | r | + | . | 2 | 2 | . | . | 2 | + | 1 | 2 | . | r | + | + | . | 2 | 2 | 2 | 2 | 2 | . | r | + |
| 2 | . | r | . | . | . | r | . | . | r | 1 | 3 | r | 3 | 2 | . | + | . | . | . | . | . | . | . | r | . | + | 1 | r | . | r | 1 | . | . | r | 2 | 2 | 2 | . | r |
| 2 | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 2 | 2 | 2 | . | 2 | 3 | . | 2 | 2 | . | . | + | 3 | 3 | 2 | 2 | 3 | 2 | 3 | 2 | 1 | 4 | 3 |
| . | . | . | 2 | 2 | . | r | . | . | . | . | . | . | . | . | . | . | 1 | 2 | . | 1 | . | . | . | . | . | 2 | . | . | r | 2 | . | 2 | 1 | 1 | . | . | . | 2 | . |
| r | . | r | + | . | + | r | . | + | . | . | . | . | . | r | r | + | . | . | . | . | r | . | . | r | . | . | . | . | r | r | . | . | + | . | 1 | r | r | r | . |
| r | . | + | . | . | . | . | r | . | . | . | . | r | . | . | + | 2 | . | . | + | . | . | r | + | . | r | 1 | . | r | . | r | r | . | + | r | 2 | r | 1 | . | . |
| . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | + | . | + | . | . | . | + | r | . | r | . | . | r | r | r | . | . | 1 | . | 1 | . | 1 | 2 | r |
| . | . | . | . | . | . | . | . | . | r | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | r | . | . | + | . | . | . | . | . | r |
| . | . | r | . | . | . | . | . | . | . | . | r | . | r | . | . | . | . | . | . | . | . | . | . | . | + | . | + | . | r | r | . | . | + | . | . | . | . | . | . |
| . | . | r | . | . | . | . | r | . | . | . | . | . | . | . | + | . | . | + | . | . | . | r | . | . | + | . | . | . | . | r | . | . | 1 | . | . | . | . | r | 2 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| . | . | . | . | + | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 1 | . | . | 2 | . | . |
| . | . | . | . | . | . | . | . | . | . | + | . | . | 1 | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 2 | . | . | . | 1 | . | . | . | . |
| . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | 2 | . | . | . | . | . | . | . | . | . | . | . | . | . | 2 | . | . | . | + | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 2 | + | 2 | . | . | . | . | . | . | . | . | . | r | . | . | . | . | r |
| . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | r | 1 | . | . | . | . | . | . | . | . | 1 | . | . | . | . | . | . |
| 2 | r | r | . | . | . | . | . | 2 | + | 1 | 3 | . | + | 2 | . | . | + | . | . | . | . | . | . | r | . | 1 | . | + | . | + | + | . | + | . | 2 | + | 1 | 1 | . |
| 2 | r | + | . | + | . | r | r | . | . | . | . | . | . | . | . | . | . | . | 2 | 1 | r | + | + | 1 | + | + | . | . | 2 | r | . | . | . | + | . | + | r | . | 2 |
| 2 | + | r | . | 2 | + | r | r | 2 | 2 | 1 | r | 3 | . | . | . | . | . | + | . | + | . | . | . | . | r | 1 | 1 | . | . | r | r | . | + | . | . | . | . | . | . |
| . | . | . | 2 | + | . | . | . | 2 | . | . | . | . | r | r | . | + | . | . | . | . | . | . | . | r | . | + | . | . | . | r | . | . | . | . | 1 | . | + | . | . |
| 2 | . | 2 | 3 | 2 | . | . | . | . | r | . | . | r | 2 | 3 | . | . | + | . | . | . | + | + | . | . | . | + | + | . | r | r | . | . | 1 | . | 1 | . | . | . | . |
| . | . | . | . | . | . | . | . | . | + | + | r | 1 | r | 2 | . | . | . | . | . | . | . | . | . | . | . | 1 | + | . | . | . | . | . | . | . | 1 | . | . | . | . |
| . | . | r | 2 | r | . | . | r | . | . | . | r | . | . | r | . | . | . | r | . | . | . | . | . | . | . | + | . | . | . | . | . | . | 1 | r | . | . | . | . | r |
| . | . | . | . | . | . | + | r | 2 | . | + | 2 | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | r | . | r | r | . | 1 | . | . | 2 | . | . | r |
| 2 | . | . | 2 | 2 | . | . | r | . | . | . | . | . | + | 2 | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | r | . | . | . | . | 1 | r | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . |
| 2 | + | . | 3 | 3 | . | . | . | . | . | . | . | . | 2 | . | . | . | 1 | . | . | 1 | . | + | 2 | + | . | . | . | . | . | r | . | . | 1 | . | . | . | . | . | . |
| . | r | . | 2 | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 1 | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | 1 | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | r | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | + | . | . | r | . | . | . | . |
| . | . | . | . | 1 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | r | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | r | r | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . |
| . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . |
| r | r | . | 2 | . | + | r | r | . | . | . | . | . | . | . | . | + | . | + | . | . | + | + | . | . | + | + | . | . | r | + | . | . | + | + | 1 | . | r | r | r |
| . | . | r | 2 | . | + | r | r | . | . | . | . | . | . | . | . | + | . | + | . | + | . | . | . | . | + | . | . | . | r | . | . | + | + | . | . | . | . | . | r |
| . | . | . | . | 1 | . | . | . | . | . | . | . | . | . | . | + | . | . | . | 2 | + | . | . | . | . | + | . | . | . | 2 | 2 | . | 1 | . | 3 | . | . | . | r | 2 |
| . | . | . | . | + | . | . | . | . | r | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | r | + | . | r | . | r | . | . | 1 | . | . | . | 1 | . | r |
| . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | r | . | . | . | . | . | . | 1 | . | r |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | r | . | . | . | + | r | . | . | 2 | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | r | . | . | + | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . |
| . | . | . | . | 2 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |

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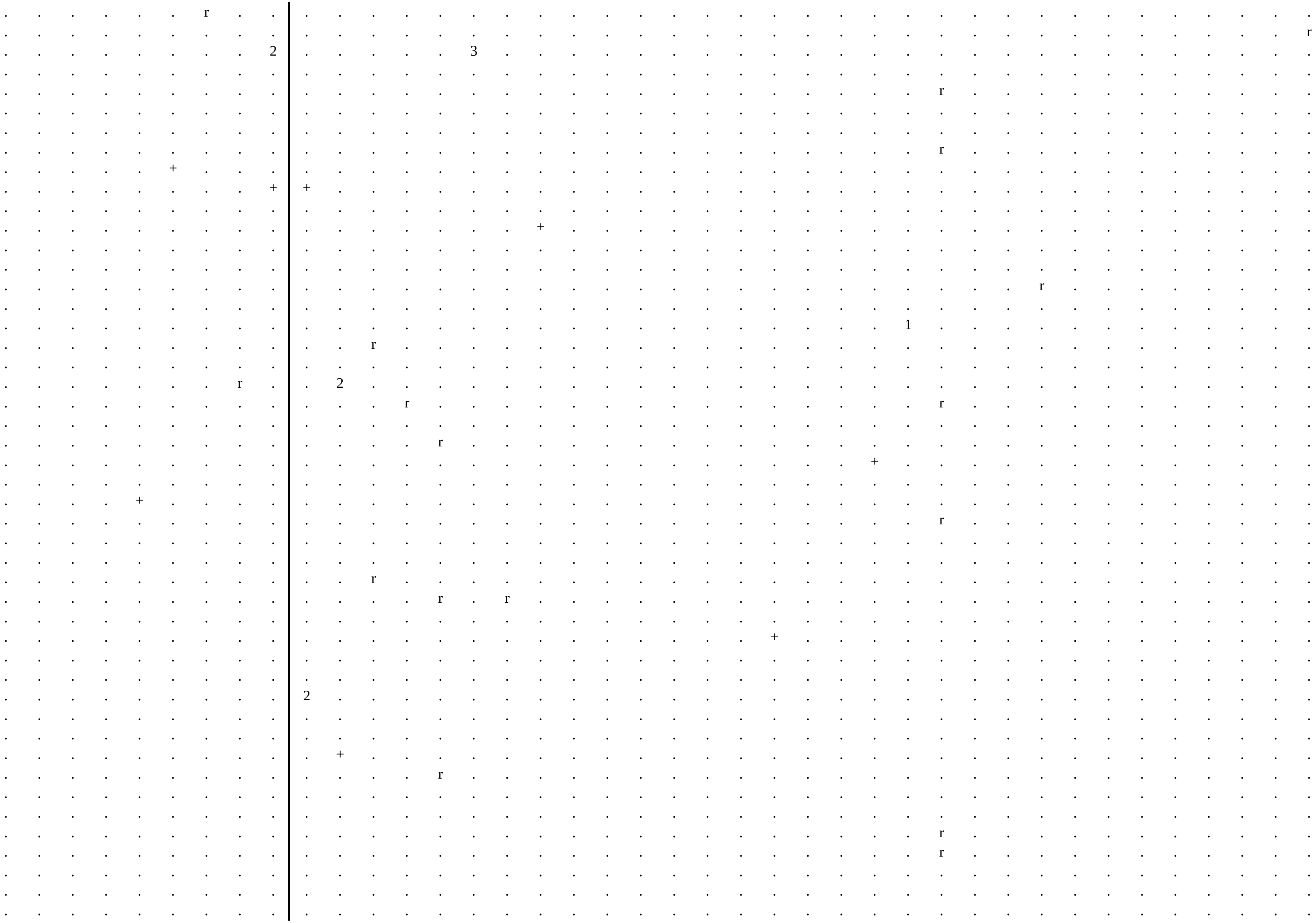
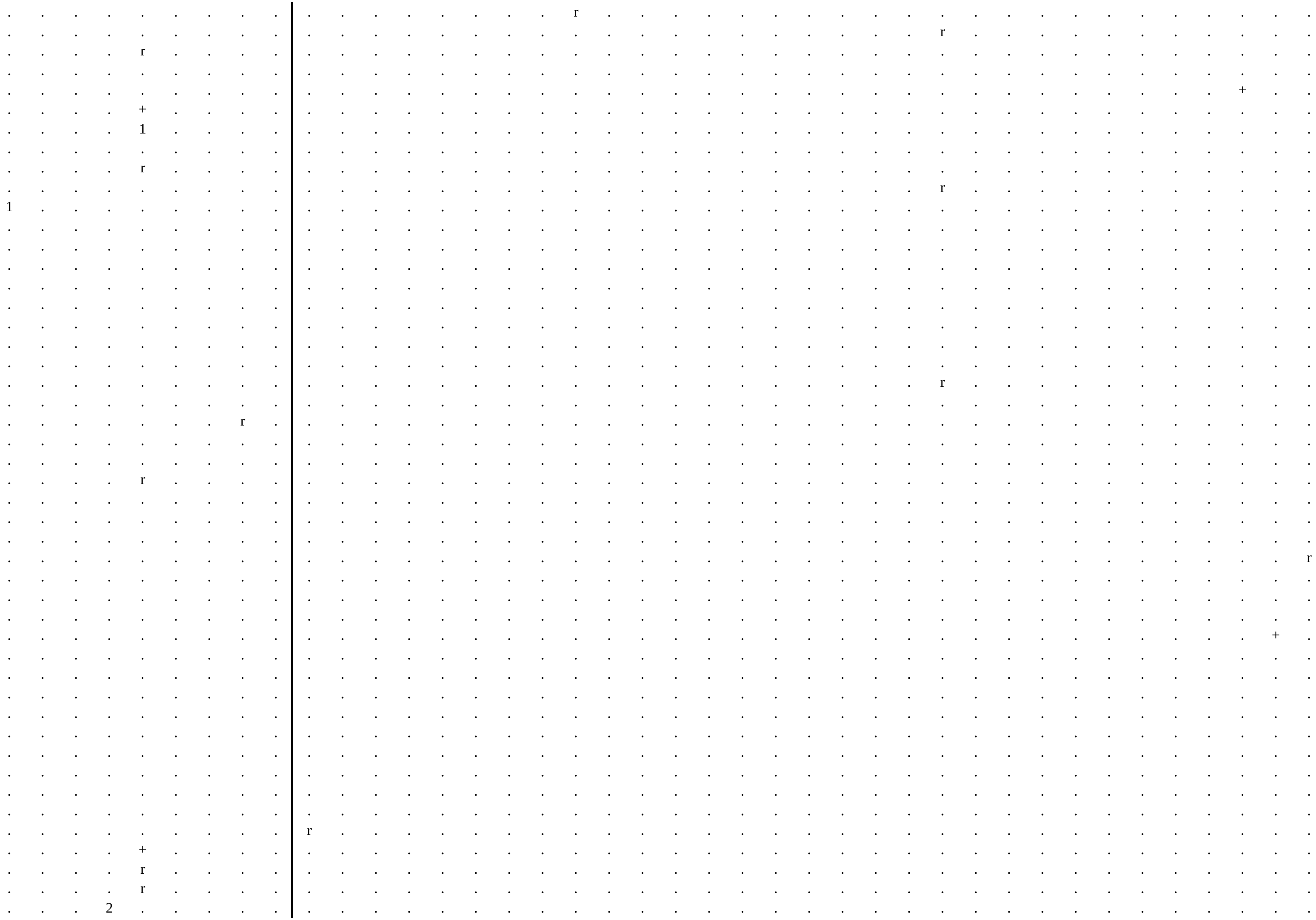
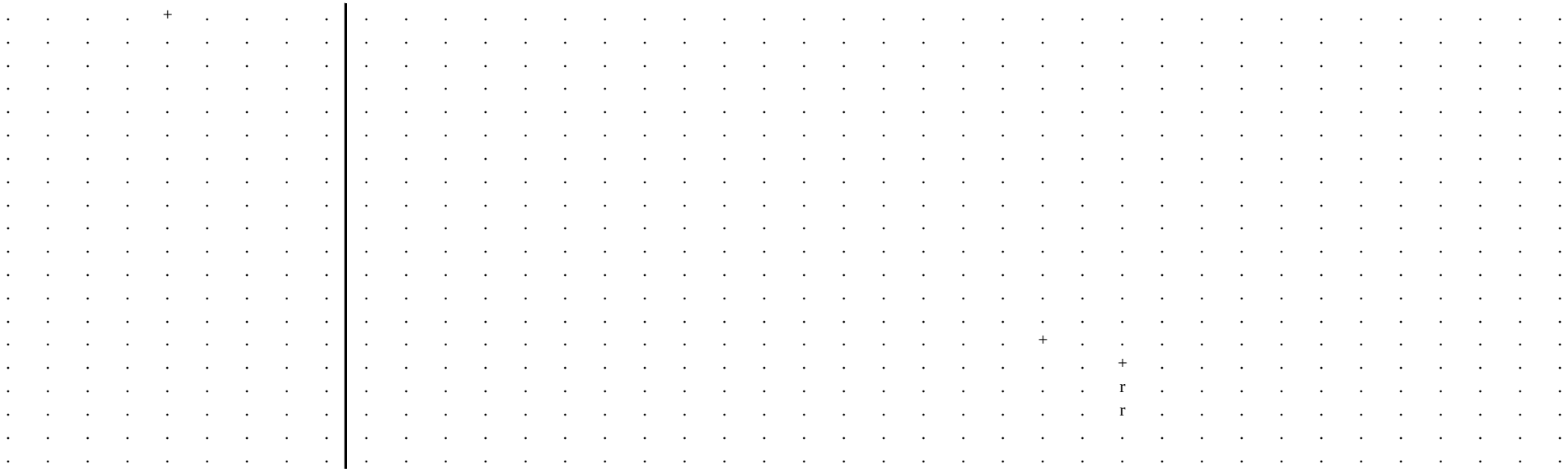
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | . | r | 2 | 1 | + | r | r | 2 | r | + | 2 | r | 2 | 2 | . | + | . | + | . | 1 | . | 1 | . | . | 2 | + | + | . | + | r | + | 2 | 2 | 2 | 1 | 2 | 2 | 1 | 3 |
| 2 | . | 4 | . | 2 | . | + | 2 | 2 | 2 | + | r | + | r | . | + | + | + | + | . | + | r | . | r | . | + | 1 | + | r | 2 | 3 | . | . | 1 | 4 | 1 | 2 | . | 1 | 2 |
| 2 | r | 1 | . | 2 | + | r | + | . | . | . | r | . | r | r | r | . | + | 1 | + | . | . | + | + | + | . | 1 | . | r | r | r | r | 2 | . | 2 | . | r | 1 | r | 2 |
| 2 | . | r | . | 2 | + | . | + | . | r | + | 1 | . | r | 2 | . | . | . | . | . | + | + | r | + | r | r | + | . | r | r | + | 1 | + | 1 | 2 | 1 | . | . | r | . |
| 2 | r | . | + | 2 | . | . | r | 2 | + | 1 | 1 | 2 | r | 2 | + | . | . | r | + | + | . | . | . | + | + | . | + | r | r | r | . | + | 1 | 1 | . | 2 | . | r | 2 |
| 1 | r | r | . | 2 | + | . | . | + | . | 1 | . | r | . | r | 2 | . | + | . | + | . | . | . | . | + | + | . | + | + | r | r | r | r | 1 | . | 1 | . | 1 | r | + |
| + | . | r | 2 | 1 | . | . | r | . | r | + | . | r | . | r | + | . | + | + | . | . | . | r | + | r | r | . | + | r | . | r | . | . | 1 | r | . | r | . | . | r |
| . | . | . | . | . | . | . | 1 | 2 | + | 2 | . | r | r | 1 | . | . | . | . | . | . | . | . | . | . | . | . | 1 | r | . | 1 | . | . | 2 | . | 1 | . | . | . | . |
| 2 | . | r | . | . | + | r | r | . | r | . | . | r | r | r | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | r | . | 2 | 1 | 2 | 1 | r | r | 1 | r |
| . | . | 2 | 3 | . | . | 2 | . | . | . | . | . | . | . | . | . | . | . | . | . | 2 | . | . | . | . | . | 1 | . | 2 | 2 | . | . | r | . | 2 | . | + | . | 2 | . |
| . | . | r | . | . | . | . | r | . | . | + | + | r | r | 1 | r | . | r | + | . | . | . | . | . | . | r | . | + | r | r | . | . | . | + | . | 1 | r | 1 | . | r |
| . | . | r | . | . | + | . | . | . | . | . | r | . | . | . | + | . | + | . | . | . | + | + | . | + | + | . | . | . | r | . | . | . | + | 1 | . | . | 1 | . | r |
| 2 | 2 | . | . | . | . | . | 2 | . | . | . | . | 1 | . | . | 1 | . | . | + | 1 | . | . | + | . | + | . | . | . | 2 | . | . | . | . | . | . | . | + | 2 | . | r |
| . | . | r | + | . | . | . | + | . | . | . | . | . | . | . | + | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| 1 | . | . | . | r | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | r | . | . | . | . | . | . | . |
| . | . | r | . | 1 | . | . | r | . | . | . | . | . | . | . | r | . | . | r | . | . | . | . | . | r | + | . | . | r | r | . | . | . | + | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | r | . | . | . | + | . | . | . | . | r | . | r |
| r | r | . | . | + | . | . | . | 1 | . | . | r | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 2 | . | 1 | . | . | . | . | r |
| . | . | . | . | . | + | r | r | 2 | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| 2 | . | 1 | . | . | . | 1 | . | . | r | . | 2 | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | 2 |
| . | . | . | . | + | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | r | . | . | . | . | 2 | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| 4 | . | . | . | . | . | . | 2 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | + | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | r | . | . | . | r | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . |
| . | . | + | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | r | r |
| . | . | . | . | . | . | . | . | . | r | . | r | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | + | . | 1 | . | . | . | . |
| . | . | . | . | . | . | . | . | . | r | . | + | r | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r |
| 2 | . | . | . | + | . | . | . | . | r | 1 | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 1 | . | . | . | . | . | . | . | . | r | . | . | . |
| + | . | . | . | . | . | . | . | 2 | r | + | . | . | 2 | 2 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 2 | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | + | . | . | . | . | . | . | . | r | . | . | . | r | + | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | + | . | . | . | . | r | . | . | + | . | . | . | . | . | . | . | . | . | . | + | r | . | . | . | . | . | . | . | r | r | r | . |
| . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | r | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | r | . | . | . | . | r | . | . | 2 | r | . |
| . | . | r | . | . | . | . | . | . | . | . | . | r | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . |
| . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . |
| 2 | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . |
| r | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | 2 | . | . | . | . | . | . | . |
| . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . |
| . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | r | r | . | . | . | . | . | . | . | . | . |
| . | . | . | . | 2 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . |
| . | . | . | 2 | . | . | . | . | . | . | . | . | r | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . |
| . | . | . | . | . | . | . | . | . | 2 | + | r | r | + | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | + | . | r | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 1 | . | . | . | . | . | . | . | . | . | 2 | 2 | . |
| . | . | . | . | . | . | . | . | 2 | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . |
| . | . | . | 2 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | r | . | . | . | . | . | . | . | + | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | r | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | r | . |
| . | . | r | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . |
| + | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | r | . | . | . | 2 | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . |
| r | . | . | 2 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | r | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 1 | . | . | . | . | . |
| . | . | . | . | . | + | . | . | . | r | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | 2 | 1 | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . |
| . | r | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . |
| . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | + | . | . | . | . | . | . | . | . | . | . | . | r | . | . | 2 | . | . |
| . | . | . | 2 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | r | + | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | + | + | + | + | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . |
| . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | 2 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . |
| . | . | . | . | 1 | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | r | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | 2 | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 1 | . | . | . | . | . |
| . | . | . | . | 1 | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . |







| 111 | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 | 130 | 131 | 132 | 133 | 134 | 135 | 136 | 137 | 138 | 139 | 140 | 141 | 142 | 143 | 144 | 145 | 146 | 147 | 148 | 149 | 150 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 70 | 40 | 50 | 20 | 60 | 50 | 50 | 90 | 40 | 40 | 50 | 40 | 60 | 80 | 70 | 85 | 75 | 70 | 50 | 85 | 80 | 65 | 65 | 45 | 70 | 55 | 70 | 35 | 80 | 60 | 70 | 65 | 75 | 40 | 80 | 65 | 40 | 60 | 60 | 70 |
| 10 | 70 | 60 | 60 | 70 | 30 | 90 | 50 | 70 | 80 | 70 | 90 | 15 | 50 | 30 | 5 | 15 | 30 | 50 | 15 | 35 | 25 | 60 | 70 | 40 | 30 | 40 | 40 | 40 | 60 | 80 | 50 | 40 | 40 | 40 | 60 | 40 | 5 | 50 | 40 |
| 55 | 50 | 45 | 50 | 85 | 40 | 80 | 60 | 30 | 80 | 50 | 50 | 70 | 80 | 90 | 65 | 60 | 70 | 80 | 70 | 20 | 55 | 25 | 20 | 50 | 50 | 50 | 35 | 40 | 60 | 90 | 65 | 65 | 25 | 70 | 85 | 40 | 60 | 75 | 80 |
| 30 | 5 | 7 | 10 | 20 | 15 | 1 | 10 | 40 | 1 | 30 | 10 | 7 | 10 | 20 | . | 15 | 30 | 20 | 3 | 5 | . | 1 | 5 | 10 | 70 | 30 | 15 | 35 | 10 | 10 | 50 | 2 | 80 | 70 | . | 8 | 15 | 60 | 10 |
| 3 | 3 | 3 | 2 | 3 | 5 | 4 | 4 | 3 | 3 | 3 | 2 | 4 | 3 | 4 | 4 | 5 | 4 | 3 | 4 | 3 | 3 | 4 | 4 | 4 | 3 | 4 | 3 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 3 |
| r | 5 | 3 | 3 | 3 | 2 | 5 | 3 | 3 | 4 | 4 | 4 | 2 | . | . | r | 1 | 2 | 3 | 2 | r | 1 | 4 | + | 1 | . | 3 | 3 | 2 | 4 | 5 | r | 2 | 1 | 3 | 3 | 3 | + | 1 | . |
| r | . | r | . | + | . | . | + | . | 1 | 1 | . | . | 2 | + | . | . | 1 | . | r | 2 | r | . | . | . | + | + | 1 | . | . | . | + | r | . | 3 | r | 1 | + | + | + |
| . | + | r | 1 | . | . | r | . | . | 2 | r | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | r | . | . | . | 2 | 2 | . | . | r | r |
| . | r | . | . | + | . | . | + | . | 1 | . | . | . | 2 | r | . | . | 1 | . | r | . | . | 1 | . | 1 | . | . | 1 | . | r | . | . | 2 | . | 2 | r | . | . | . | . |
| . | . | . | 1 | . | . | . | . | . | . | r | . | . | . | 2 | . | . | . | . | . | 2 | . | . | 2 | . | . | . | . | . | . | . | r | . | . | . | . | . | . | 2 | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 2 | . | . | . | . | . | . | . | . | . | . |
| . | . | r | . | + | 1 | . | + | . | r | 1 | . | r | . | + | r | . | . | r | . | . | r | . | 1 | 1 | r | . | . | 2 | . | . | r | . | . | . | . | + | . | . | r |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 2 | . | . | . | . | . | . | . | . | . | . | . |
| r | . | r | . | . | . | r | . | . | . | + | + | . | . | r | . | . | . | 2 | . | . | . | . | . | . | . | . | . | 2 | r | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | + | . | r | . | . | r | . | . | . | . | r | . | . | . | . | r | . | r | r | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | r | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | 2 | 1 | . | 1 | . | . | . | 2 | 2 | . | . | 1 | . | . | . | r | 2 | . | 1 | . | . | . | . | 1 | . | . | + | . | 2 | + | . | 1 | . | . |
| . | . | . | . | 2 | . | . | . | . | 1 | . | . | . | 2 | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | 2 | 3 | . | 3 | . | . |
| . | . | . | . | 1 | . | . | 2 | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | 2 | . | . | r | . | . | r | . |
| . | . | . | 1 | . | . | r | 3 | . | . | . | 1 | . | . | . | . | 1 | 2 | . | . | . | 1 | . | . | 1 | . | . | . | . | . | . | . | 2 | . | . | 2 | . | . | 2 | . |
| . | 3 | . | . | 2 | . | 2 | . | . | . | . | 3 | + | 3 | . | . | . | . | . | . | . | . | 2 | . | . | . | . | . | . | 3 | 5 | 1 | 3 | . | . | 2 | . | . | . | 2 |
| r | . | . | . | . | . | . | . | . | + | . | . | . | 2 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | 2 | . | . | 3 | . | . | . | . | r |
| . | . | . | 1 | + | . | . | + | . | . | . | . | r | . | r | r | . | . | . | . | r | r | . | . | . | . | . | . | . | r | . | r | r | . | 2 | r | . | . | . | . |
| . | . | . | . | . | 1 | . | . | . | . | . | . | . | . | . | . | . | 1 | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | r | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 1 | . | . | . | . | . | . | . | 2 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| 3 | + | . | 3 | 4 | 2 | 4 | . | . | 5 | 3 | 1 | 4 | 2 | 5 | 4 | 3 | 5 | 1 | 4 | 1 | 3 | 2 | 1 | 3 | 4 | 3 | 3 | 2 | 2 | . | 2 | 3 | . | 3 | 4 | 3 | . | 4 | 4 |
| 2 | + | 2 | . | 2 | . | 2 | + | 1 | 1 | . | + | 2 | 4 | 2 | . | 1 | 2 | 2 | r | 3 | 2 | 2 | . | 3 | 2 | . | . | 2 | r | 2 | 3 | 2 | 1 | 2 | . | 1 | + | + | 1 |
| r | 2 | r | 2 | + | 3 | + | 1 | 1 | . | + | 3 | r | 2 | r | r | . | 1 | 2 | + | 2 | . | r | 2 | 1 | . | 1 | 1 | 2 | . | 3 | r | . | + | 2 | r | 2 | + | r | r |
| 3 | . | r | . | 3 | . | 2 | 2 | . | . | 3 | . | . | . | 3 | . | . | 2 | 3 | 3 | . | . | + | 2 | 2 | 3 | 3 | 2 | 3 | 2 | 3 | 3 | 3 | . | 4 | 3 | . | 1 | 3 | 3 |
| r | . | . | 1 | 2 | 1 | r | 3 | . | 2 | . | . | . | 2 | 2 | 2 | . | . | . | 2 | . | 2 | + | . | . | 1 | 2 | . | 2 | 2 | 2 | 2 | . | 2 | 2 | 2 | 2 | + | 3 | 2 |
| r | . | r | 1 | + | 1 | r | + | . | 1 | + | . | . | . | r | r | 1 | + | 1 | r | . | r | . | . | 1 | r | + | 1 | r | + | . | . | r | . | . | r | + | + | r | r |
| 2 | . | . | . | 1 | 2 | . | 2 | . | 2 | 1 | . | . | + | r | . | 1 | . | 1 | . | + | . | . | . | 1 | 2 | . | 1 | r | . | + | . | . | . | 2 | r | 1 | + | 1 | + |
| r | . | . | . | . | . | r | . | . | + | . | . | . | . | r | . | 1 | . | . | . | . | . | . | . | . | + | . | . | r | r | . | r | r | . | + | r | 1 | + | r | r |
| . | . | r | . | + | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | r | . | . | r | . | . | . | r | r | r | r | + | . | r | . | . | r | r |
| r | . | . | . | + | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | r | r | + | . | r | . | . | . | . | . | r | r | . | . | r | . | . | . | r |
| . | . | . | . | 1 | . | . | . | . | . | . | . | r | . | 2 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | + | . | . | r |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| r | r | . | . | + | . | . | + | . | . | . | . | . | 2 | . | . | 1 | . | + | . | . | r | . | + | . | . | . | . | . | r | . | r | r | . | 2 | . | . | . | . | . |
| . | . | . | 1 | . | . | r | 3 | + | . | . | . | 2 | . | . | . | . | 2 | . | . | . | . | r | . | . | 2 | . | 1 | . | . | . | . | . | + | . | r | . | . | 2 | + |
| . | r | 1 | . | . | . | . | . | + | . | . | . | . | 2 | . | . | . | . | . | . | . | . | . | . | . | . | + | . | 2 | 2 | . | . | . | + | 2 | . | . | . | r | r |
| . | . | . | . | . | 1 | . | . | . | . | . | . | . | . | 2 | r | . | . | . | . | . | . | . | . | 2 | . | . | . | + | . | 2 | . | 2 | . | 2 | . | . | . | . | . |
| . | . | . | . | . | . | . | 1 | . | . | + | . | . | . | r | r | . | . | + | + | . | 2 | . | . | . | r | . | . | . | . | . | . | r | . | . | . | + | . | + | r |

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| . | 2 | 2 | 2 | . | 1 | r | 2 | 1 | 1 | 2 | + | . | . | . | r | 1 | . | 2 | r | . | r | r | . | 1 | 1 | 1 | r | 2 | 2 | . | . | r | 2 | 2 | r | 1 | . | 2 | r |
| + | . | . | . | . | . | . | . | . | . | . | . | . | . | 2 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | r | . | 2 | 2 | . | . | r | r |
| . | . | . | . | . | . | 2 | . | . | + | . | . | + | 2 | . | . | . | . | 1 | r | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | r |
| r | . | + | . | . | . | . | + | + | . | . | . | r | . | r | r | . | 1 | 1 | r | . | . | r | . | 1 | . | . | 1 | 2 | r | 2 | . | . | . | . | + | + | . | r | r |
| . | 2 | . | . | . | . | . | + | 1 | . | r | 1 | . | . | . | . | 1 | 1 | . | . | . | 1 | + | . | 1 | 1 | . | . | . | . | . | . | . | 1 | . | . | . | . | 2 | . |
| . | 2 | r | 2 | . | . | . | + | 2 | . | 1 | + | . | r | . | . | 1 | 1 | 1 | . | . | . | r | + | 1 | . | 2 | 2 | . | + | . | . | . | . | . | . | + | . | r | . |
| r | . | . | . | + | . | . | . | . | . | . | . | + | r | r | . | . | . | . | . | . | r | r | . | . | . | . | . | . | . | . | r | + | . | . | . | . | + | r | r |
| . | . | . | 1 | 1 | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | r | + | 2 | . | + | + | . | . |
| . | 2 | . | . | . | 1 | . | . | 1 | . | . | . | . | . | . | . | . | 1 | . | . | . | . | r | . | . | . | . | . | . | . | r | . | . | + | . | . | . | . | r | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | r | . | . | . | r | . | . | . | r |
| . | 2 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | + | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | r | . | r | . | . | 1 | . | . | . | . | r | . | . | . | . | . | + | . | . | r | . |
| . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | 1 | . | . | . | . | . | 3 | . | . | r | . | . | . | . | . | + | . |
| . | . | r | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | r | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | r | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | r | . |
| . | . | . | . | . | . | . | . | . | 3 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | 1 | r | . | . | . | . | . | . | . | . | . | . | + | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | 1 | . | . | . | . | . | . | . | . | . | . | 1 | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . |

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| r | . | . | . | + | . | . | + | . | 2 | 2 | . | . | + | + | . | . | 1 | 2 | r | . | r | . | . | 1 | r | + | . | + | . | . | r | r | . | 2 | r | 1 | . | + | r |
| r | . | . | . | . | . | . | . | . | . | + | . | r | 2 | r | . | . | . | . | . | . | . | r | . | 1 | . | . | . | r | . | . | . | . | . | 2 | . | + | . | r | . |
| 2 | . | . | . | . | . | . | . | . | . | . | . | . | 2 | r | . | . | . | . | . | . | . | . | . | . | 2 | . | . | . | . | . | 3 | . | . | 2 | + | . | . | . | r |
| r | . | . | . | 1 | . | . | . | . | . | . | . | r | 1 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | 3 | r | . | 2 | . | . |
| 3 | . | . | . | 1 | . | . | . | . | . | . | . | . | + | r | . | . | . | . | . | . | . | . | . | . | r | + | . | . | r | . | r | . | . | 2 | . | + | + | . | . |
| r | . | . | . | + | . | . | . | . | . | + | . | . | r | . | . | . | . | . | . | . | + | . | . | . | r | . | . | . | . | . | . | . | . | 2 | r | . | . | . | . |
| . | . | . | . | + | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | r | . | . | 2 | . | + | . | . | . |
| r | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | 1 | . | . | . | . | . | r | . | . | 2 | . | . | . | . | r |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | + | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 1 | . | . | . | . | . | . | . | . | + | . | . | . | . | r |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . |
| . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
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| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
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| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |

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| + | 1 | r | 2 | 2 | 2 | . | 1 | + | 2 | 3 | 2 | 2 | 2 | 2 | r | 3 | 1 | 2 | r | + | 2 | r | + | 3 | 2 | + | 2 | 1 | + | 3 | 2 | + | 1 | 2 | r | 1 | . | r | + |
| 2 | r | 2 | 1 | 2 | 1 | . | 1 | + | r | + | + | 1 | 3 | 2 | r | . | . | 1 | r | r | 1 | 2 | + | 1 | 2 | . | 1 | 2 | 2 | 2 | 2 | 1 | . | 2 | 2 | + | + | 2 | 3 |
| 2 | . | r | . | 2 | . | r | 1 | . | + | 1 | . | . | 2 | 1 | r | 1 | 1 | + | 1 | . | r | + | . | . | . | 2 | . | 2 | 2 | . | 2 | + | 2 | 2 | 2 | 2 | + | 1 | 2 |
| r | . | . | 1 | 2 | 1 | 1 | . | . | + | 2 | + | 1 | . | + | 2 | . | 1 | 2 | r | . | + | . | 4 | . | 2 | + | 1 | 2 | . | + | 2 | + | . | 2 | + | . | . | + | 2 |
| . | + | r | . | 1 | 1 | 2 | + | . | 1 | + | . | + | + | 1 | . | 3 | 2 | 2 | 2 | 2 | r | r | . | 1 | . | + | 2 | . | . | 2 | . | r | + | 2 | r | + | + | + | r |
| r | . | 1 | 1 | 2 | 1 | r | 2 | . | + | 2 | . | r | . | 1 | r | . | . | + | + | . | 2 | . | . | . | 2 | + | . | 2 | r | . | r | . | . | 2 | . | 1 | . | + | + |
| r | . | r | . | + | . | r | . | . | . | . | . | . | 2 | r | . | . | . | r | . | . | . | . | . | . | + | + | 1 | + | r | . | r | r | . | 2 | r | . | + | r | r |
| . | 2 | r | 1 | + | 1 | . | 1 | 3 | . | . | + | 1 | . | . | . | 1 | 1 | . | r | . | r | . | . | . | . | . | 1 | . | . | 2 | r | r | + | . | . | . | . | 2 | . |
| r | r | . | 1 | + | 1 | . | . | + | . | + | . | + | 2 | . | r | . | . | . | r | . | . | . | . | . | r | + | . | 2 | + | r | . | . | + | . | . | + | . | r | . |
| . | . | 2 | . | . | . | r | r | . | . | r | . | 2 | 2 | . | 2 | . | . | . | r | 2 | 3 | + | . | . | 1 | . | . | . | 2 | . | . | 2 | . | . | 2 | . | . | 2 | r |
| r | r | r | . | + | . | . | + | . | + | + | 2 | r | . | r | r | . | . | 1 | . | . | r | . | . | . | 2 | . | 2 | 2 | r | r | r | . | . | . | r | + | . | r | . |
| r | . | r | . | + | . | . | . | . | . | + | . | . | . | + | . | . | . | . | . | . | + | . | . | . | 2 | . | . | 2 | + | . | . | 1 | . | . | 2 | + | + | r | 2 |
| 2 | . | . | . | . | . | . | 2 | . | . | . | . | . | . | + | . | . | 2 | . | . | . | . | . | . | . | . | . | 1 | 3 | . | . | . | 2 | 2 | . | . | . | r | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| r | . | r | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . |
| r | . | . | . | + | . | . | . | . | . | . | . | r | + | r | . | . | . | . | r | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | + | . | r |
| . | . | . | . | . | . | . | 1 | . | . | 1 | . | r | . | r | . | . | 1 | 1 | r | + | r | r | . | . | . | . | . | 2 | . | . | . | . | . | . | . | . | . | r | r |
| . | r | r | . | . | . | . | . | . | . | . | + | . | . | 2 | . | . | . | . | . | 1 | r | r | . | . | . | + | . | . | . | r | . | . | + | 1 | . | . | . | . | . |
| . | . | . | 1 | . | 1 | . | + | . | . | . | . | 1 | + | . | . | 2 | . | . | + | . | + | r | . | . | . | + | . | . | . | . | . | r | . | . | . | . | . | r | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | r | . | . | . | . | . | . | . | . | . | . | . | 1 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 2 | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 2 | r | . | . | . | . |
| . | . | . | . | 1 | . | 2 | . | . | . | . | . | r | . | r | . | . | . | . | . | . | . | r | . | . | r | . | . | . | . | . | . | r | . | 2 | . | . | . | . | . |
| . | . | r | 2 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 2 | . | 4 | . | . | 1 | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | r | + | . | . | . | . | . | . |
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| r | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | + | . | r | + | . | + | r |
| r | . | r | . | 1 | 1 | . | . | . | . | + | . | + | . | r | . | 1 | 1 | r | . | r | r | r | . | 1 | r | + | 1 | 2 | . | . | . | r | . | . | . | . | . | r | . |
| . | . | . | 1 | + | . | . | . | + | + | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | + | 1 | r | . | . | . | . | 1 | . | . | + | . | r | . |
| . | . | 2 | 1 | . | 1 | r | . | . | . | . | . | . | . | . | . | + | 1 | r | . | + | . | . | . | 1 | . | 1 | . | 2 | . | . | . | + | + | . | . | . | . | . | . |
| . | + | r | . | . | . | . | . | + | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | 2 | 2 | r | . | . | . | 2 | . | . | . | . | . |
| r | r | . | . | + | . | . | . | . | . | . | . | + | . | r | . | . | . | . | . | . | r | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | r | . |
| . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | r | r | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | 1 | . | . | . | . | . | . | . | 2 | . | . | . | . | . | . | . | + | . | 2 | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | 2 | . | . | . | . | . |
| . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | r | . | . | . | 1 | . | . | . | . | . | r | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | + | . | . | + | . | . | . | . | . | r | . | . | . | . | . | r | . |
| . | . | . | . | . | . | . | . | . | . | 2 | + | . | . | r | . | . | . | 2 | . | . | . | r | . | . | . | . | . | 2 | . | . | . | . | . | . | . | . | . | r | . |
| . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | 1 | r | + | . | . | + | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | r | . | . | . | r | . | . | r | r |
| r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | r | . | . | + | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | 2 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . |
| r | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | + | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 2 | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | 1 | 1 | . | . | . | r | . | . | . | + | . | . | r | . | . | . | + | . | . | . | . | r | . |
| . | . | . | . | 1 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |

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. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .
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| 151 | 152 | 153 | 154 | 155 | 156 | 157 | 158 | 159 | 160 | 161 | 162 | 163 | 164 | 165 | 166 | 167 | 168 | 169 | 170 | 171 | 172 | 173 | 174 | 175 | 176 | 177 | 178 | 179 | 180 | 181 | 182 | 183 | 184 | 185 | 186 | 187 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 60 | 80 | 70 | 30 | 80 | 70 | 80 | 70 | 90 | 60 | 35 | 70 | 50 | 60 | 40 | 50 | 70 | 60 | 60 | 80 | 70 | 70 | 70 | 60 | 40 | 60 | 80 | 80 | 50 | 65 | 70 | 70 | 60 | 70 | 50 | 65 | 70 |
| 40 | 40 | 30 | 40 | 60 | 55 | 60 | 50 | 60 | 30 | 80 | 5 | 50 | 50 | 75 | 40 | 40 | 40 | 40 | 40 | 50 | 38 | 25 | 10 | 45 | 30 | 20 | 20 | 45 | 15 | 7 | 25 | 60 | 35 | 60 | 66 | 25 |
| 70 | 75 | 30 | 80 | 70 | 70 | 60 | 70 | 70 | 60 | 75 | 70 | 80 | 65 | 40 | 75 | 80 | 90 | 70 | 70 | 50 | 25 | 15 | 95 | 70 | 35 | 70 | 70 | 80 | 55 | 80 | 85 | 55 | 35 | 25 | 50 | 40 |
| 1 | 15 | 10 | 70 | 25 | 5 | 25 | . | 45 | . | 2 | 15 | 5 | 10 | 40 | 10 | 35 | . | 15 | 1 | 3 | 10 | 12 | 1 | 20 | 60 | 3 | 10 | . | 15 | 5 | 18 | 40 | 7 | 15 | 30 | 3 |
| 3 | 4 | 3 | 2 | 4 | 3 | 3 | 3 | 4 | 2 | 2 | 2 | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 2 | . | 2 | . | 3 | 3 | 2 | . | 3 | . | 5 | r | . | 2 | 4 | 3 | 3 | 3 | 1 | 2 | 2 | 3 | 2 | r | + | 2 | 2 | 3 | . | . | r | 2 | 4 | 2 | 3 | 2 | 2 |
| 1 | r | 1 | 1 | 2 | r | r | 2 | . | 1 | 1 | . | . | . | . | + | r | r | . | . | 2 | r | 1 | + | . | r | r | . | r | 2 | . | . | 1 | r | 1 | 2 | r |
| . | r | . | . | . | . | . | 2 | . | . | . | . | . | . | 1 | 2 | r | r | . | . | r | r | r | r | . | r | . | . | . | . | . | . | . | r | . | . | 2 |
| r | . | . | 2 | 2 | r | . | 2 | . | . | . | . | . | . | . | + | r | 2 | . | . | . | r | . | . | . | . | . | . | . | r | . | . | . | . | 1 | . | . |
| . | . | . | . | . | . | 1 | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 1 | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | r | 2 | + | . | . | . | . | . | . | r | . | . | + | . | . | r | . | . | . | . | . | r | r | + | . | . | . | r | . | r | . | 1 | r | . | 1 | r |
| . | . | . | . | . | . | . | 2 | . | . | r | . | . | . | . | 2 | . | . | . | . | . | . | . | + | . | . | r | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | + | . | . | . | . | r | . | r | . | . | . | . | r | . | r | . | . | . | . | . | . | . | . | . | . | . | r | . | . | r |
| . | r | + | . | . | r | r | . | . | r | . | . | r | + | . | . | . | . | + | r | . | r | . | . | . | . | r | r | 2 | r | r | + | . | r | . | . | . |
| . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | r | r | . | . | . | . | . | . | . | r | . | . | . | . | r | . | . | . |
| + | r | . | 1 | 2 | . | . | . | 2 | . | . | . | 2 | . | . | 2 | . | + | 2 | . | r | . | + | 2 | . | r | . | . | . | r | . | . | . | . | + | . | . |
| . | . | . | . | 3 | + | . | 2 | 2 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | 1 | . | . | . | . | . | . | . | . | 2 | . | r | . | . | . | . | r | . | 2 | 2 | . | . | . | 2 | . | . | . | . | . | . | 4 | . | . | . |
| . | . | . | 2 | . | . | . | . | . | . | . | r | r | 1 | . | . | . | . | . | . | 2 | . | 2 | . | . | . | . | . | . | r | . | . | 2 | 2 | . | . | . |
| 2 | 4 | . | 3 | . | 3 | . | 3 | 3 | . | . | . | . | . | . | 2 | . | 3 | 2 | . | . | . | 2 | 2 | . | + | . | . | . | r | . | 2 | . | . | 2 | . | . |
| . | . | . | . | 2 | . | . | 2 | . | 2 | + | . | . | . | . | + | . | . | . | . | . | . | + | . | . | r | . | . | 1 | r | . | . | . | . | + | . | . |
| . | . | . | . | . | r | r | . | . | . | . | . | . | . | . | . | r | . | . | r | r | . | . | . | . | r | . | . | . | r | . | . | . | . | . | + | . |
| . | . | . | 1 | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | + | r | r | . | . | . | . | . | . | r | . | . | 2 | + | . | . | . |
| . | . | . | 1 | + | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 2 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| 4 | 3 | . | 2 | 3 | 4 | 4 | 2 | 2 | 3 | 4 | 4 | 3 | 4 | . | 3 | 2 | 4 | 4 | 3 | . | . | . | . | . | 2 | 4 | 4 | 3 | 3 | 5 | 4 | . | . | . | + | . |
| 3 | 3 | 2 | 2 | . | r | 2 | . | 3 | 2 | . | r | + | 3 | 2 | 1 | 2 | . | 1 | 2 | + | 2 | . | 2 | 3 | 2 | 2 | . | 1 | 1 | 2 | 2 | 2 | . | + | 3 | . |
| . | r | 2 | 3 | 2 | + | r | 2 | 2 | 1 | . | . | 2 | 1 | r | . | . | r | . | . | r | + | . | . | 3 | r | . | . | r | . | . | 2 | 3 | . | 2 | 3 | r |
| 3 | 2 | 3 | 2 | 4 | . | 2 | . | . | 3 | 2 | 4 | 2 | 2 | . | 2 | 2 | 3 | 3 | 2 | 2 | + | 2 | 3 | 2 | 3 | 3 | 3 | 2 | 3 | 3 | 4 | 3 | 2 | 2 | 3 | 4 |
| 2 | 2 | . | 1 | 2 | 4 | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | . | . | 2 | 2 | 2 | 2 | 2 | 2 | 3 | . | . | 2 | r | 3 | 2 | . | 2 | 3 | + | 2 | 1 | . | + |
| . | r | + | + | . | r | r | . | . | r | r | r | r | . | r | . | r | r | + | . | r | . | . | . | 1 | . | r | . | r | . | r | + | 1 | r | 1 | + | r |
| . | + | 1 | . | . | + | r | 1 | . | 2 | r | . | 2 | 1 | . | . | . | r | 1 | . | r | . | . | . | 1 | r | 2 | 2 | r | . | + | + | . | r | 1 | . | r |
| . | r | . | . | . | . | . | . | . | 1 | . | + | . | . | . | . | r | . | 1 | r | . | . | . | . | . | . | r | r | 1 | r | r | r | . | r | . | . | r |
| . | . | + | + | . | 1 | r | . | . | r | r | . | . | + | 2 | . | . | r | . | . | r | . | . | . | + | . | . | r | r | r | . | . | + | r | + | + | . |
| r | . | . | . | . | . | r | . | . | r | r | . | r | . | . | . | r | . | + | . | . | . | . | r | + | r | r | . | r | . | . | . | . | . | + | . | . |
| . | . | . | 1 | . | . | 2 | . | . | r | r | . | . | . | . | . | r | . | 1 | . | . | . | . | . | + | r | . | + | r | 2 | . | 2 | . | . | . | . | . |

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| . | . | . | . | 2 | r | r | 1 | 2 | + | r | r | . | . | . | . | r | . | . | . | . | 1 | r | . | 1 | . | . | . | . | . | . | 2 | + | r | + | 1 | . |
| . | . | 1 | . | . | 2 | . | . | . | 2 | 2 | . | . | 2 | . | 2 | . | r | . | r | . | . | . | . | 3 | . | . | . | . | . | . | 2 | . | . | . | 1 | . |
| . | . | . | 2 | . | . | . | . | . | . | . | + | . | + | 3 | . | . | . | . | . | r | 2 | 1 | . | + | . | . | r | r | . | . | . | + | r | . | + | r |
| . | . | . | . | . | r | . | . | 2 | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | 2 | . | . | . | . | . |
| . | . | . | . | . | . | 2 | . | . | . | . | . | . | . | . | . | . | . | 1 | . | . | . | . | . | . | . | 2 | . | 1 | . | r | . | . | . | . | . | . |

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| . | r | 1 | . | . | r | r | . | 2 | . | . | . | . | . | 2 | . | . | + | 1 | . | 2 | 2 | r | + | 2 | r | . | 2 | 2 | r | . | 2 | 1 | 2 | . | 1 | 2 |
| 1 | 1 | . | 1 | 2 | + | . | 2 | 2 | . | r | . | . | . | . | + | 2 | 2 | 1 | . | 2 | . | 2 | r | . | r | . | . | + | 2 | . | . | . | . | + | . | 2 |
| . | . | . | 1 | . | 3 | . | 2 | 2 | . | . | . | . | . | . | + | . | r | . | 1 | . | r | r | . | . | . | . | . | . | . | . | . | . | . | 1 | . | . |
| 2 | . | . | 1 | . | . | . | . | 2 | + | . | . | . | 1 | . | + | 2 | . | . | r | r | . | r | 2 | + | r | . | 2 | + | . | r | 2 | 1 | r | + | + | r |
| . | . | . | . | . | 2 | . | 2 | 2 | . | . | . | 2 | . | . | . | . | . | . | 2 | r | 2 | + | . | . | . | . | 2 | . | . | . | . | . | + | . | . | r |
| . | . | . | 1 | . | r | . | . | . | . | . | . | . | . | 2 | . | . | r | + | . | r | r | . | . | . | . | . | r | . | . | . | . | 1 | r | + | + | r |
| . | . | . | + | . | r | . | . | . | + | r | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | r | . | r | . | 2 | . | . | . | . | . |
| r | . | . | + | . | r | 2 | . | . | 1 | . | r | . | . | 2 | + | . | . | . | . | . | . | . | . | + | r | . | . | r | + | . | . | . | . | . | . | . |
| . | . | + | . | . | r | . | 2 | . | . | . | . | 2 | . | . | . | . | . | . | . | r | r | . | . | . | . | . | . | . | . | . | . | . | r | . | . | r |
| 2 | . | . | . | . | r | . | . | . | r | . | . | . | . | r | . | 1 | . | . | . | r | r | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | 2 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 2 | . | . | . | . | . | r |
| . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | + | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 2 | . | . | . | . |
| . | . | . | . | . | r | r | . | . | . | r | . | . | . | r | . | . | + | . | r | + | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | r | . | . | . | . | . | . | . | r |
| . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |

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| . | r | . | 1 | 2 | . | r | + | 2 | r | r | . | . | . | . | . | r | r | . | r | . | . | r | . | . | + | 1 | r | r | r | + | 2 | . | . | 1 | . | r |
| . | r | . | + | 2 | . | r | . | . | r | r | . | . | . | . | . | . | . | . | . | . | . | r | . | . | r | r | . | . | r | . | . | . | . | . | . | . |
| 2 | + | . | 1 | 2 | + | 2 | + | 2 | 2 | . | . | . | . | . | . | 3 | . | . | r | . | . | . | . | . | 2 | . | r | r | 2 | . | . | . | . | . | . | . |
| r | r | + | 2 | 2 | . | r | . | . | r | r | + | . | . | . | . | 2 | . | 1 | . | . | . | . | . | + | r | . | . | . | + | r | 2 | . | . | . | . | . |
| r | r | + | 2 | 2 | . | . | . | . | r | r | r | . | . | . | . | 2 | . | . | . | . | . | r | . | . | r | . | r | r | . | 1 | . | . | . | . | + | . |
| . | . | . | . | 2 | . | . | . | . | r | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | r | . | . | . | . | . | + | . |
| . | . | . | 1 | . | . | r | . | . | r | . | r | . | . | . | . | 2 | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . |
| r | r | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | r | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . |

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| r | + | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | r | + | . | 2 | . | 1 | . | + | r | + | 1 | r | 2 | r | 3 | r | 2 | 2 | + | r | + | 1 | r |
| 3 | 2 | 1 | 1 | 3 | 2 | 3 | 2 | . | 2 | r | r | 2 | 1 | 2 | . | 2 | 2 | 3 | 2 | 2 | + | 2 | 1 | 2 | 2 | 1 | . | 3 | 2 | r | 2 | 1 | 2 | 2 | 1 | . |
| 2 | 1 | + | 2 | 2 | . | 2 | 2 | 2 | 2 | 2 | . | . | + | 1 | 1 | 2 | . | 1 | r | r | r | . | + | 1 | 2 | . | . | + | r | . | 2 | 2 | r | . | . | r |
| 2 | r | + | 1 | . | r | 2 | 2 | 2 | 1 | . | . | . | 1 | . | + | 2 | r | . | . | r | r | . | . | 1 | r | r | . | 3 | 1 | r | + | 1 | r | + | + | r |
| . | r | . | 1 | 2 | + | . | 2 | 2 | r | . | + | 1 | 2 | 2 | + | . | . | 1 | 2 | 1 | 2 | + | r | . | r | r | . | + | r | . | 2 | 3 | 2 | 1 | 1 | + |
| . | r | + | . | . | r | r | . | . | + | . | r | . | . | r | + | . | r | 1 | . | r | r | . | r | . | r | r | r | r | r | + | . | 1 | r | + | 1 | r |
| r | r | + | 1 | 2 | r | r | . | 2 | + | 1 | + | . | + | . | + | r | r | . | r | r | r | r | r | . | r | r | . | 1 | r | . | + | . | . | + | + | . |
| . | . | 2 | 1 | . | 2 | . | 2 | . | 1 | . | . | r | 2 | 2 | . | r | . | . | . | . | r | . | . | 2 | . | 2 | . | . | . | . | . | 2 | r | 2 | 2 | . |
| . | r | . | + | 2 | . | 1 | 2 | 2 | . | r | r | . | . | r | . | . | . | . | . | . | . | . | . | 1 | r | . | . | r | r | r | 2 | + | r | + | 1 | r |
| . | . | . | 1 | . | . | 2 | . | . | 1 | . | 2 | 2 | . | 2 | 1 | 3 | . | 1 | . | 2 | 2 | 2 | 2 | + | r | . | . | 1 | 3 | . | . | 2 | . | + | 1 | + |
| . | r | + | + | . | . | r | . | . | . | . | . | . | . | . | . | . | + | 2 | . | r | r | . | + | + | . | r | . | . | r | . | . | . | r | . | . | . |
| . | r | . | 1 | . | . | + | . | 2 | 1 | r | r | . | . | r | . | 2 | r | 1 | . | . | . | . | . | . | r | . | . | 1 | . | r | . | . | . | . | . | . |
| . | . | . | + | . | . | 1 | . | . | 2 | . | . | . | . | 2 | . | . | . | . | . | 3 | 1 | . | + | . | . | . | . | . | . | . | . | 1 | . | . | . | . |
| . | . | . | . | 2 | . | . | . | 2 | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | + | . | r | . | r | . | . | r | . | . | . | . | . | r | . | . | . | . | . | . | . | r | . | . | . | + | . | . | + | r |
| . | . | . | + | . | . | r | . | . | . | . | r | . | + | . | . | . | r | 1 | . | . | . | r | . | 1 | r | r | . | . | . | r | . | . | . | + | . | . |
| . | r | . | + | . | . | + | . | . | r | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . |
| . | r | + | . | 1 | . | 1 | . | 2 | . | . | 2 | . | + | r | . | . | r | . | . | r | r | . | . | + | . | r | r | . | . | + | 1 | + | 2 | + | + | . |
| . | . | . | 1 | . | . | . | . | . | . | . | . | r | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | r | . | 3 | + | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | 2 | . | . | . | . | r | . | . | . | . | . | . | r | r | . | . | . | . | . | . | r | . | 2 | . | . | . | 2 | . | . | 2 |
| . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | + | . | . | . | . | r | . | . | r | . | . | . | . | . | . | . | . | 1 | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . |
| . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | r | r | . | . | . | . | . | . | . | + | . |
| . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . |
| 2 | 2 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | + | . | . | . | r | . | . | . | . | . | . | r | . | . | 1 | . | . | . | r |
| . | . | . | 1 | . | r | + | . | . | . | . | r | . | 1 | . | + | . | . | . | . | r | . | . | . | 1 | . | r | . | . | r | . | . | . | . | 1 | + | . |
| . | . | . | . | . | . | r | . | . | . | . | . | . | + | . | . | . | . | + | . | r | . | . | . | . | . | . | r | . | . | . | . | 1 | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | r | . | + | r | . | . | . | . | . | + | 2 | r | . | . | . | . | . | . | . | . | . | 1 | 1 | 1 | . | 1 |
| . | . | . | . | . | r | . | . | 2 | . | . | . | r | . | . | . | . | . | + | . | . | . | 1 | . | . | . | . | . | . | . | . | . | + | r | . | + | . |
| . | . | . | . | . | . | r | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | r | . | . | . | . | . | . |
| . | . | . | . | . | r | . | . | . | . | . | . | r | . | . | . | . | . | + | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | 2 | . | . | . | . | . | . | . | . | . | . | . | . | 2 | . | . | . | . | . | . | . | . | . | . | + | . | . | . | + | . | . |
| . | r | . | . | + | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | r | . | . | . | . | r | . | . | . | . | . | . | . | r | + | . | r |
| . | . | . | . | . | . | . | 1 | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | + | . | . | . | . |
| r | r | . | + | . | . | . | . | . | . | . | . | . | + | . | . | . | . | + | . | . | . | . | . | + | . | r | . | r | . | r | . | + | . | . | . | . |
| . | . | . | 1 | . | . | r | 1 | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | r | . | . | . |
| . | . | + | . | . | . | . | . | 2 | . | . | . | . | + | . | . | . | r | . | . | . | r | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . |
| . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | r | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | r | . | . | . | r |
| + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | + | . | . | . | r | . | . | r | . | r | . | . | . | . | . | . | . | . | . | . | . |
| . | r | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | r | r | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | r | . | . | . | . | . | . | 1 | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | 1 | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | r | . | . | . | . | . | . | . | . | . |

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| . | . | . | + | . | . | . | . | + | r | r | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | r | r | . | . | . | . | . | . | . |
| . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | r | . | r | . | . | . | . | . | . | . |
| . | r | . | 1 | . | . | 2 | . | . | . | . | . | . | . | 1 | . | . | . | . | . | . | + | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . |
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| . | . | . | . | . | . | + | . | . | . | . | . | . | . | 2 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | r | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . |
| . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | + | . | . |
| . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | + | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 1 | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | r | 1 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | r | + | 2 | . | . | r | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | + | . | . |
| . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | r | r | + | . | . | . | . | . | . | . | . | . | . | + | . |
| . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
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| . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . |
| . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . |
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| . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | r | . | . | . | . | . | . | . | . | r | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
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| . | r | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
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| . | r | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
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| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . |
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| . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
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| . | . | . | . | . | . | . | . | . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
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| . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | r | . | . | . | . | . | . | . | r | . | . | . | r | . | . | . |
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| . | . | . | . | . | . | . | 2 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . | . | . | . | . | . | r | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
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| . | . | 2 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
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| . | . | . | + | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
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Обозначения синтаксонов указаны в соответствии с табл. 1 статьи.
Локализация описаний приведена в табл. 2 Приложения.
Ярусы и подъярусы: A1 – первый подярус древостоя, A2 – второй подъярус древостоя, B – кустарниковый ярус,
C – травяно-кустарничковый ярус, D – ярус наземных мхов.
Номенклатурные типы субассоциаций ***Corylo avelanae–Pinetum sylvestris*** выделены серой заливкой.