```
R version 4.4.0 (2024-04-24) -- "Puppy Cup"
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Platform: aarch64-apple-darwin20

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  Natural language support but running in an English locale

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[R.app GUI 1.80 (8376) aarch64-apple-darwin20]

[History restored from /Users/alperkaragol/.Rapp.history]

> rm(list = ls())
>
> A <- c(0, 0, 0, 0, 28.889, 0, 0, 3.333, 15.152, 10.000, 3.896, 7.500, 2.439, 0, 10.976, 0, 3.571, 11.905, 2.198,
17.143, 3.448, 1.695, 4.651, 0, 0.725, 2.174, 1.439, 15.714, 0, 3.546, 77.622, 6.897, 0, 21.918, 1.370, 0, 0, 0, 0.685,
0.680, 0, 0, 19.048, 0, 0.680, 0.680, 0, 0, 3.401, 2.041, 0, 0, 0, 0.680, 0, 0, 1.351, 0, 5.405, 0.676, 0, 0, 32.653,
8.108, 0.676, 0, 0, 1.351, 0, 1.351, 2.703, 0, 0, 0.676, 0, 0, 0, 0, 6.757, 0, 0, 1.351, 2.027, 0.676, 1.351, 0, 0.671,
0.671, 3.356, 77.852, 0, 0.671, 0.671, 0, 2.013, 0, 0, 2.685, 0.671, 0, 0.671, 0, 8.725, 2.703, 0, 2.013, 2.013, 0.671,
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2.013, 0.671, 12.752, 0, 0, 8.054, 0, 0.671, 0, 0, 0.671, 0.671, 0, 2.013, 0, 0, 4.730, 2.027, 0, 0, 0, 2.027, 3.378,
0, 0, 0, 3.378, 0, 0, 0, 0, 20.805, 3.356, 0.671, 0, 10.135, 0, 0, 0, 13.423, 0, 2.013, 2.685, 0, 0, 0, 0.671, 0.671,
0, 0.671, 2.013, 4.698, 0.671, 1.342, 0, 2.013, 0.671, 0, 0, 8.054, 5.369, 0, 0, 0, 2.667, 2.000, 0, 2.667, 0.680, 0,
0, 0, 17.333, 6.667, 1.333, 1.361, 0, 1.342, 8.966, 2.778, 2.564, 1.266, 1.361, 3.448, 14.765, 0.667, 24.667, 3.333, 0,
0, 0, 0, 0, 0.667, 0, 14.667, 0, 0, 0.667, 0, 0, 0, 0, 0, 0.667, 0, 1.333, 8.667, 5.333, 1.333, 22.667, 0.667,
1.333, 0, 0, 2.667, 90.000, 0, 1.333, 0.667, 0, 0.667, 0, 14.667, 4.667, 0, 0, 0, 9.333, 1.000, 0, 0.676, 0, 0, 6.081,
0.676, 0, 2.027, 0, 3.333, 0, 0, 2.000, 0, 0, 0, 0.667, 0.667, 0, 0, 39.333, 2.667, 0, 40.000, 2.000, 0, 6.667, 0,
2.000, 5.333, 0, 0, 0.667, 0.667, 0, 5.333, 0, 0, 0, 40.268, 0, 1.333, 0, 16.667, 0, 0, 0.667, 7.383, 0, 1.342, 2.000,
18.792, 5.369, 3.356, 0, 0, 0, 28.188, 0.671, 0, 1.342, 0, 0)
> D <- c(4.762, 0, 0, 0, 2.222, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 2.586, 0, 0, 0, 0.725, 0, 15.108, 7.857,
4.286, 0, 0, 6.207, 0, 3.425, 3.425, 0, 0, 0, 3.425, 14.966, 0, 0, 2.041, 0, 0, 0, 29.252, 0, 0, 1.361, 0, 14.966, 0,
8.163, 1.361, 0, 0.676, 0, 0, 0, 0, 2.721, 0.680, 1.351, 0, 0, 0.676, 9.459, 0, 9.459, 4.054, 0, 0, 0.676, 0, 39.865,
0, 1.351, 0, 0, 1.351, 0, 0.676, 0, 0, 0, 8.054, 2.685, 9.396, 0, 0, 0, 0, 0, 0, 1.342, 0, 0, 0, 0, 54.362, 0, 8.725,
11.486, 0, 0, 5.369, 8.054, 0, 0, 37.584, 0, 47.651, 0, 0, 0.671, 0.671, 0, 0.671, 1.342, 0, 0, 2.013, 0, 4.698, 0,
26.174, 0.671, 0, 6.711, 0, 10.067, 55.705, 0, 0, 0, 0, 26.846, 22.819, 0, 0, 0, 26.174, 0, 0.671, 0, 0, 0, 0.676, 0,
72.297, 0, 1.351, 1.351, 0, 2.027, 0, 0.676, 0, 0, 0, 0, 0.671, 0, 0, 0, 0, 3.356, 0, 1.342, 6.040, 0, 2.013, 4.027, 0,
40.268, 0, 0, 0, 0, 2.013, 0, 14.765, 0, 0, 0, 1.342, 8.054, 64.430, 0, 2.685, 0, 0, 0, 1.333, 0, 2.000, 0, 0, 0, 0,
6.667, 0, 9.333, 7.333, 0, 0.680, 0, 0, 11.034, 0.694, 2.564, 6.329, 16.327, 18.621, 56.376, 0, 6.667, 1.333, 0, 0, 0,
0, 0, 0, 8.000, 0, 0, 0, 10.000, 0.667, 0, 94.667, 0, 0.667, 6.667, 0.667, 0, 0, 4.000, 0.667, 36.000, 0, 0, 0, 2.000,
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0.667, 73.333, 0, 91.333, 0.667, 23.333, 0, 0, 1.333, 6.000, 0, 0, 8.667, 0, 11.333, 0, 1.333, 0, 0, 93.333, 0, 0,
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0, 0, 0.671)
> F <- c(0, 0, 0, 4.545, 0, 8.511, 0, 5.000, 0, 25.714, 7.792, 3.750, 9.756, 19.512, 4.878, 0, 0, 1.190, 6.593, 0,
27.586, 0, 0, 0, 5.072, 3.623, 0.719, 0, 0, 2.837, 0, 8.276, 4.828, 3.425, 41.096, 0, 0.685, 2.055, 0, 0, 0, 0, 0.680,
0, 0.680, 0, 0, 0, 0, 1.361, 3.401, 20.408, 0, 0, 39.456, 0, 6.757, 0, 0, 0, 0.676, 0, 0, 0, 0.676, 64.189, 0, 10.811,
2.703, 0, 0, 0, 4.054, 1.351, 0, 1.351, 1.351, 0, 0, 0, 18.919, 0, 6.757, 2.027, 1.351, 0, 0, 0, 0, 0, 100.000, 0, 0,
0, 0, 0, 0, 0, 0.671, 0, 0, 0, 0, 20.270, 0, 0.671, 2.013, 0, 12.752, 0, 0, 0, 0, 0, 97.315, 0, 0, 0, 16.107, 0, 0,
7.383, 0.671, 0.671, 14.765, 0, 38.926, 2.685, 0, 0.671, 4.027, 0, 0, 0, 0.671, 0, 0, 0, 0, 8.054, 40.940, 0, 0, 1.342,
2.013, 0.676, 0, 0, 2.027, 0, 0, 0, 28.378, 4.730, 0, 0, 0, 0, 0, 0.671, 0, 2.685, 0, 0, 48.322, 99.329, 0.676, 0, 0,
0.671, 2.013, 27.517, 0, 2.013, 0, 0, 13.423, 0.671, 16.779, 0, 0.671, 0, 2.013, 0, 13.423, 0, 0, 0, 0, 0.671, 4.698,
0, 81.879, 0, 0, 0, 1.333, 83.333, 0, 31.293, 38.667, 0, 2.000, 0, 0.667, 0, 1.361, 7.483, 7.383, 2.069, 0, 14.103, 0,
0.680, 0.690, 0, 0.667, 0.667, 0, 0, 0, 0, 0, 93.333, 0, 0, 0.667, 1.333, 60.667, 0, 0.667, 0, 0, 0.667, 0, 0.667, 0,
0, 39.333, 0, 0, 0, 0, 1.333, 0, 1.333, 88.000, 55.333, 0, 0, 0, 0, 0, 0.667, 0, 0.667, 6.000, 4.000, 0, 0.667, 26.000,
0, 4.000, 0, 0, 0, 0, 0, 0, 0, 87.838, 0.676, 70.548, 0.667, 0, 10.667, 0, 0, 0, 0, 0, 4.667, 0.667, 96.667, 0, 0, 0,
0.667, 0, 0, 1.333, 0, 0.667, 7.333, 18.667, 0, 0.667, 0, 0, 0, 27.333, 0, 96.667, 0.671, 0, 0, 6.000, 2.667, 6.000,
94.000, 0, 0, 4.000, 0, 0.667, 0, 0.671, 4.027, 0, 0, 0, 14.765, 2.685, 0, 0.671, 0, 0)
> I <- c(0, 0, 2.273, 0, 4.444, 4.255, 1.818, 1.667, 12.121, 7.143, 35.065, 1.250, 18.293, 4.878, 6.098, 0, 5.952,
3.571, 0, 0, 16.379, 0, 0.775, 0, 6.522, 30.435, 2.158, 0, 0.714, 24.823, 0, 9.655, 0, 5.479, 0, 0, 0, 0, 0, 0, 24.490,
0, 2.041, 1.361, 0, 0.680, 0, 49.660, 5.442, 4.082, 0, 2.041, 0, 0.680, 0.680, 0, 0, 100.000, 0, 0, 42.568, 0, 0, 0, 0,
0, 0, 0.676, 0, 0, 0, 0, 0.676, 10.135, 0, 2.703, 27.703, 0, 0, 0, 0, 1.351, 0.676, 0, 8.108, 87.162, 0, 0, 0, 0, 0,
4.698, 0, 0, 0, 0, 0.671, 9.396, 24.832, 0, 2.685, 2.685, 0, 0, 0, 10.738, 34.899, 2.013, 3.356, 6.711, 0, 0, 0, 0, 0,
1.342, 0, 0, 2.685, 0, 0.671, 3.356, 15.436, 0, 4.027, 0.671, 0, 0, 0, 0, 0.671, 0, 0, 1.342, 81.208, 0, 0, 0, 0,
0.671, 0, 0, 0, 0, 8.054, 0, 0, 0, 1.351, 0.676, 1.351, 0.676, 0, 3.378, 0, 0, 91.892, 0, 0.676, 14.094, 0, 0, 0,
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5.369, 35.570, 0, 0, 0.671, 0, 0, 2.013, 0, 0, 0, 0.667, 0, 0, 2.000, 0.667, 5.442, 1.333, 4.667, 2.667, 0, 0, 10.000,
0, 0.680, 0.671, 4.828, 1.389, 0, 0, 3.401, 1.379, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1.333, 0, 41.333, 0.667, 10.667, 1.333,
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9.333, 0, 2.000, 8.000, 0, 0.667, 2.000, 0.667, 0, 0, 4.667, 0.667, 14.000, 6.000, 0, 0, 0, 0, 0, 1.333, 87.333, 0, 0,
0, 0, 89.333, 2.667, 2.000, 4.000, 44.667, 4.000, 0, 0, 0, 27.027, 14.189, 0, 0.676, 0, 0.676, 0, 0, 0, 0.667, 14.667,
0.667, 0, 0, 0, 2.000, 0, 0.667, 0, 0.667, 0, 0, 0.667, 0.667, 0, 0, 16.667, 11.333, 26.000, 0.667, 0, 26.000, 0,
0.667, 0, 0.667, 97.333, 0.667, 0, 0, 0, 0.667, 0, 11.333, 0, 0, 0, 0, 0, 0.667, 1.342, 8.725, 26.174, 47.297, 3.378,
17.450, 0.671, 0.671, 0, 0, 77.852, 0)
> K <- c(0, 0, 2.273, 0, 0, 0, 1.818, 0, 0, 2.857, 0, 0, 0, 0, 1.220, 1.205, 0, 0, 10.989, 0, 0, 1.695, 5.426, 0,
2.174, 0, 5.755, 1.429, 2.143, 8.511, 0, 0, 0, 0, 0, 10.274, 4.110, 0, 2.055, 2.041, 0, 0, 2.041, 0, 0.680, 18.367,
0.680, 0, 4.762, 21.769, 0, 0, 0, 0, 1.361, 0, 2.703, 0, 4.054, 0.676, 0, 0, 0.680, 4.054, 0, 0, 0.676, 0, 0, 3.378,
8.784, 0, 4.730, 0.676, 0, 4.054, 0, 0, 8.108, 0, 15.541, 0, 4.730, 0, 0, 0, 3.356, 37.584, 0.671, 0, 0, 4.698, 1.342,
0, 3.356, 19.463, 0, 6.040, 14.094, 0, 2.013, 0, 0, 6.081, 0, 20.134, 0.671, 0, 4.698, 0, 0, 1.342, 2.013, 0, 0, 0, 0,
0, 0, 4.027, 0, 8.054, 4.027, 0, 0, 0, 0, 0.671, 0, 6.040, 0, 4.027, 0, 0, 0, 0, 17.450, 0.671, 2.685, 0, 0, 9.396, 0,
0, 2.685, 0, 0, 2.027, 9.459, 0, 0, 0, 1.351, 9.459, 0, 21.622, 0, 20.270, 24.324, 0, 6.040, 0, 0, 1.342, 0.671, 0, 0,
10.067, 0, 8.725, 19.463, 0, 42.953, 1.342, 0, 2.013, 0, 56.376, 0, 0, 24.832, 0, 8.054, 10.738, 0, 0, 0, 0.671, 0, 0,
6.040, 0, 0, 2.667, 0.667, 94.667, 1.333, 0, 10.000, 0.680, 0, 12.000, 0, 4.000, 1.333, 0, 17.687, 0, 4.698, 23.448,
0.694, 2.564, 5.063, 6.803, 1.379, 0, 0, 9.333, 52.000, 0, 0, 0.667, 0, 0, 34.667, 1.333, 0, 0, 0, 4.667, 1.333, 0,
0.667, 0, 0, 2.000, 0, 0, 0, 0.667, 0.667, 2.667, 27.333, 0, 22.667, 2.667, 0, 0, 27.333, 0.667, 0, 16.000, 0, 0,
32.667, 0, 1.333, 2.000, 0, 27.333, 0, 2.667, 2.000, 0, 0, 0, 0, 34.459, 0, 0, 0, 0, 6.000, 0.667, 0, 53.333, 0, 0, 0,
17.333, 2.000, 0, 0, 8.000, 0, 0, 13.333, 2.667, 0, 1.333, 0, 16.667, 2.000, 0, 0, 0, 0, 37.333, 0, 4.667, 0, 0, 0, 0,
15.333, 6.667, 0, 0, 0, 4.000, 1.342, 0, 40.268, 2.000, 0, 22.148, 0.671, 0, 0, 0, 0, 22.819, 0, 75.839, 0, 0)
> L <-c(0, 0, 11.364, 81.818, 2.222, 80.851, 20.000, 60.000, 16.667, 2.857, 20.779, 1.250, 32.927, 9.756, 63.415,
12.048, 5.952, 1.190, 5.495, 0, 0.862, 1.695, 0.775, 0, 13.768, 18.116, 0.719, 0, 12.857, 4.965, 0.699, 19.310, 0,
4.795, 7.534, 1.370, 0, 82.192, 0, 0, 0, 0, 11.565, 52.381, 6.803, 0, 0, 0, 2.041, 0.680, 87.075, 29.252, 97.959,
0.680, 12.245, 0, 0.676, 0, 0.676, 0.676, 10.811, 0, 0, 0.676, 0, 35.135, 1.351, 30.405, 81.081, 0, 0, 100.000, 20.270,
33.784, 99.324, 2.703, 65.541, 0, 2.027, 0, 6.757, 1.351, 2.027, 75.676, 1.351, 7.432, 0, 0, 0, 0, 0, 17.450, 0,
65.101, 0, 0, 97.987, 4.698, 5.369, 100.000, 0.671, 96.644, 0, 3.378, 0.671, 2.013, 3.356, 78.523, 4.027, 82.550, 0,
22.148, 4.698, 0, 2.685, 4.698, 0, 98.658, 2.013, 0.671, 92.617, 3.356, 0.671, 99.329, 4.027, 97.315, 4.027, 0, 0,
0.671, 94.631, 0, 0, 0.671, 1.342, 99.329, 0, 0, 0.671, 0, 58.389, 0, 0, 96.644, 12.752, 0.676, 100.000, 0, 2.027,
95.270, 0, 99.324, 1.351, 0, 0, 0.676, 2.703, 0, 0, 79.195, 0, 14.094, 0, 19.463, 28.188, 0, 6.081, 0, 63.087, 0.671,
0.671, 71.141, 0, 1.342, 50.336, 0, 77.181, 0, 57.047, 0, 0.671, 3.356, 0.671, 2.013, 34.899, 0, 0, 0, 0, 97.987,
9.396, 0.671, 17.450, 0.667, 0, 0.667, 0.667, 13.333, 16.000, 34.694, 56.000, 0, 93.333, 0, 1.333, 2.000, 0.680,
84.354, 3.356, 2.759, 2.083, 5.128, 2.532, 1.361, 0.690, 0, 0, 0.667, 0, 0, 1.333, 0, 1.333, 6.667, 0.667, 0, 0.667,
0.667, 18.000, 0, 2.000, 100.000, 0, 70.667, 0, 7.333, 0, 0, 15.333, 0, 8.000, 0, 3.333, 10.667, 0.667, 14.000, 10.667,
5.333, 1.333, 0.667, 2.667, 0.667, 0, 0, 0.667, 3.333, 3.333, 0, 95.333, 2.667, 58.000, 0, 1.000, 0.667, 1.351, 9.459,
0, 0, 0, 2.027, 0, 0, 0, 0, 60.667, 1.333, 0, 0.667, 0, 2.000, 1.333, 0.667, 2.000, 0.667, 0, 100.000, 0, 0, 0, 1.333,
33.333, 10.000, 15.333, 76.667, 0, 66.000, 0, 0, 0, 0, 2.000, 0, 0, 99.329, 0, 0, 19.333, 18.667, 6.000, 0.667, 1.342,
88.667, 0, 0, 59.732, 1.342, 16.779, 51.351, 0.676, 67.114, 0, 2.013, 0, 2.685, 1.342, 0)
> N <- c(0, 0, 0, 0, 0, 0, 0, 0, 0, 2.857, 0, 0, 0, 8.537, 0, 0, 0, 0, 3.297, 0, 1.724, 0, 2.326, 0, 0.725, 0, 7.914,
6.429, 0.714, 0.709, 0, 15.172, 0, 6.164, 2.740, 0.685, 64.384, 0, 0.685, 0, 0, 0, 0, 0, 0, 13.605, 23.810, 0, 2.041,
6.803, 0, 0.680, 0, 7.483, 7.483, 99.324, 6.081, 0, 2.027, 1.351, 0, 54.422, 0.680, 4.054, 0, 0, 2.027, 2.703, 0,
1.351, 2.703, 0, 0, 0.676, 0, 2.027, 0, 0, 6.081, 0, 5.405, 1.351, 5.405, 0, 1.351, 0, 0.671, 42.282, 44.966, 0, 0,
1.342, 46.980, 0, 0, 61.074, 0, 0, 0.671, 0, 1.342, 0, 0.671, 5.405, 85.235, 6.711, 6.711, 1.342, 0, 0, 1.342, 0,
0.671, 0, 0, 10.067, 0, 0, 0, 34.899, 0, 2.013, 12.752, 0, 4.698, 0, 1.342, 4.698, 32.215, 17.450, 0, 14.765, 5.369,
0.671, 0, 0, 0, 2.685, 16.779, 0, 0, 0.671, 17.450, 0, 3.356, 0.676, 0, 0.676, 0.676, 0, 12.838, 0, 0.676, 0, 100.000,
16.216, 0, 2.027, 1.351, 0, 2.685, 0, 1.342, 0.671, 0, 0, 0, 61.074, 0, 14.094, 13.423, 0, 3.356, 6.711, 0, 52.349, 0,
1.342, 1.342, 97.987, 4.698, 0, 8.054, 20.134, 0, 0, 0, 0.671, 21.477, 0, 3.356, 4.027, 0, 0, 0, 0, 5.333, 0, 1.333, 0,
0, 43.333, 0, 14.000, 2.667, 61.333, 14.286, 0, 4.027, 8.966, 2.083, 23.077, 5.063, 4.762, 4.138, 8.725, 0, 4.000,
2.667, 0, 0, 98.000, 0, 0, 0, 54.000, 0, 0.667, 0, 20.000, 0, 0, 1.333, 0, 0, 7.333, 88.000, 0, 0, 25.333, 0, 12.000,
3.333, 0, 0, 18.000, 0, 1.333, 14.667, 0.667, 0, 14.000, 0, 0, 2.667, 0, 6.667, 6.667, 0, 2.667, 0, 4.667, 6.000,
3.333, 3.378, 0, 0, 0, 0, 0, 0, 0, 40.667, 97.333, 0, 0.667, 22.000, 0, 4.667, 14.000, 13.333, 0, 0, 1.333, 0, 0,
7.333, 32.000, 0.667, 10.000, 0, 7.333, 2.000, 0, 4.000, 0, 0, 10.667, 29.333, 1.333, 0, 1.333, 0, 0, 38.000, 5.333, 0,
0, 0, 2.667, 4.027, 0, 2.013, 20.000, 0, 0, 2.685, 0, 40.541, 0, 5.369, 8.054, 99.329, 1.342, 0, 97.987)
> Q <- c(0, 0, 0, 0, 0, 0, 60.000, 0, 0, 0, 0, 0, 0, 0, 0, 65.060, 1.190, 0, 0, 0.952, 1.724, 5.085, 0.775, 0, 2.174,
0, 3.597, 1.429, 32.143, 0, 0, 2.069, 0, 1.370, 1.370, 19.863, 2.055, 0.685, 1.370, 24.490, 0, 0, 12.925, 0, 0.680,
0.680, 0, 0, 0.680, 1.361, 0, 0, 0, 0.680, 0.680, 0, 1.351, 0, 6.757, 17.568, 0, 0, 0, 0, 0, 0, 2.027, 2.027, 0, 1.351,
33.108, 0, 50.000, 7.432, 0, 0.676, 0, 6.757, 14.189, 99.324, 4.730, 0, 8.108, 0, 0, 0, 2.013, 1.342, 0, 0, 0, 4.027,
2.013, 34.228, 0.671, 0, 0, 6.040, 4.027, 0, 2.685, 0, 0, 4.730, 0, 11.409, 0.671, 1.342, 46.980, 0, 0, 2.013, 5.369,
0, 0, 17.450, 0, 0, 2.685, 0, 0, 36.242, 1.342, 0, 3.356, 0, 0, 11.409, 0, 4.027, 0, 4.027, 0.671, 0, 0, 0, 5.369,
1.342, 0.671, 0, 0, 37.584, 0, 0, 0.671, 0, 0, 6.757, 6.081, 0, 0, 0, 1.351, 0, 0, 27.703, 0, 6.081, 2.027, 0, 30.872,
0, 0, 3.356, 0, 0, 10.811, 0.671, 0, 0.671, 0.671, 0, 5.369, 9.396, 0, 0, 0, 0.671, 0, 0, 29.530, 0, 2.013, 5.369, 0,
0, 10.738, 2.685, 0, 0, 2.685, 0, 0, 63.333, 0.667, 0.667, 2.667, 0, 2.667, 0, 0, 0.667, 0, 6.667, 0, 0, 3.401, 0,
6.040, 2.759, 0, 0, 6.329, 0, 0, 0, 0, 10.667, 3.333, 0, 0.667, 0, 0, 0, 2.667, 0, 0, 2.000, 0, 10.667, 0.667, 0, 0, 0,
0.667, 6.000, 0.667, 0, 0, 0, 0, 1.333, 3.333, 0, 25.333, 26.000, 0, 0, 0.667, 0, 0, 13.333, 0, 0, 34.000, 0, 6.000,
3.333, 0, 0.667, 0, 2.000, 1.000, 2.000, 0, 0.676, 0, 2.703, 0, 0, 0, 0, 6.000, 0, 0.667, 0, 0, 0, 0, 11.333, 4.000, 0,
0, 4.667, 0, 0, 1.333, 0, 0, 0, 0, 4.667, 2.667, 0, 0.667, 0, 0, 8.000, 0, 0.667, 0, 0, 0, 0, 28.000, 11.333, 5.333, 0,
0, 23.333, 2.013, 0, 4.698, 0.667, 0, 1.342, 4.698, 0, 0, 0, 0, 22.819, 0, 2.013, 0, 0)
> R <- c(0, 7.317, 2.273, 2.273, 2.222, 0, 3.636, 0, 0, 1.429, 0, 0, 0, 0, 0, 0, 6.024, 1.190, 0, 1.099, 1.905, 0, 14.407,
3.876, 0, 3.623, 0.725, 5.755, 1.429, 12.143, 2.837, 0, 2.759, 0, 13.014, 0.685, 17.808, 5.479, 0.685, 9.589, 4.762, 0,
0, 2.041, 0, 0, 0, 0, 0, 0.680, 8.163, 0, 0, 0, 2.041, 3.401, 0, 10.811, 0, 37.162, 6.081, 0, 0, 2.041, 0, 0, 0,
15.541, 6.081, 2.027, 0.676, 4.730, 0, 4.054, 2.027, 0, 1.351, 0, 0, 2.027, 0.676, 10.811, 5.405, 10.811, 0, 1.351, 0,
50.336, 6.711, 0.671, 0, 0, 49.664, 34.899, 0, 23.490, 12.081, 0, 42.282, 20.134, 0, 0.671, 0, 0, 1.351, 0, 10.067,
2.013, 0.671, 10.067, 0, 0, 1.342, 20.805, 0, 0, 0, 0, 0, 2.685, 12.752, 0, 11.409, 0, 0, 38.926, 0, 0, 2.685, 0,
4.698, 0.671, 0, 1.342, 0, 0, 0, 4.698, 2.013, 16.779, 0, 0, 31.544, 0, 0, 10.067, 0, 0, 0, 11.486, 0, 0, 0, 5.405,
2.703, 0, 10.135, 0, 8.784, 45.946, 0, 30.201, 0, 0, 3.356, 0, 0, 7.432, 5.369, 0, 8.725, 8.054, 0, 0.671, 0.671, 0,
0.671, 0, 1.342, 4.027, 0, 9.396, 0, 3.356, 14.094, 0, 0.671, 0, 4.027, 0, 0, 4.698, 1.342, 0, 26.667, 2.000, 0.667,
4.667, 0, 6.667, 2.721, 0, 1.333, 0, 7.333, 0, 0, 9.524, 0, 5.369, 6.207, 13.889, 0, 7.595, 2.721, 2.069, 0, 1.333, 0,
16.000, 0, 3.333, 0, 0, 0, 57.333, 0.667, 0, 2.000, 0, 2.000, 0.667, 0, 0, 0, 0.667, 2.667, 0, 1.333, 0, 0, 0, 1.333,
9.333, 0, 30.667, 10.667, 0, 0, 18.667, 0, 0, 14.667, 0, 0, 4.667, 0, 0, 0, 0, 2.000, 0, 5.333, 0, 0, 0.676, 0, 0,
10.135, 0, 0, 0, 0, 2.667, 0.667, 0, 10.000, 0, 0, 0, 23.333, 2.667, 0, 0, 1.333, 0.667, 0, 7.333, 32.000, 0, 0, 0,
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20.667, 4.667, 0, 0, 0, 0, 9.333, 0, 16.000, 0, 0, 0, 0, 4.000, 11.333, 12.667, 0, 0, 4.000, 0.671, 0, 5.369, 0, 0,
2.685, 0.671, 0, 0, 0, 0, 7.383, 0, 8.725, 0, 0)
> S <- c(0, 0, 2.273, 0, 8.889, 0, 0, 0, 1.515, 1.429, 0, 1.250, 1.220, 4.878, 0, 9.639, 1.190, 8.333, 6.593, 8.571,
4.310, 24.576, 62.016, 0, 31.159, 26.812, 3.597, 0.714, 20.714, 0.709, 18.182, 1.379, 0, 9.589, 25.342, 1.370, 9.589,
0, 4.110, 9.524, 0, 0, 2.041, 0, 0.680, 11.565, 6.122, 0, 0, 5.442, 0, 3.401, 0, 34.694, 1.361, 0.676, 5.405, 0,
27.703, 0.676, 0, 4.082, 29.932, 17.568, 97.297, 0, 24.324, 4.730, 0, 0, 0.676, 0, 0, 0.676, 0, 0.676, 0, 2.703,
12.838, 0, 0.676, 2.703, 6.757, 0, 4.730, 0, 0, 2.013, 0, 8.725, 0, 12.752, 2.685, 0, 16.779, 1.342, 0, 0, 2.685, 0,
0.671, 0, 3.356, 10.135, 12.081, 1.342, 1.342, 1.342, 1.342, 0, 0, 0.671, 0, 2.013, 0, 0.671, 0, 0, 40.940, 22.819, 0,
3.356, 4.698, 0, 4.698, 0, 2.685, 10.067, 2.685, 26.174, 0, 21.477, 1.342, 76.510, 0, 0, 21.477, 1.342, 14.094, 0, 0,
0, 2.013, 0, 23.490, 97.973, 0, 2.703, 1.351, 0, 7.432, 0, 48.649, 4.054, 0, 0, 0, 1.351, 17.568, 0, 6.040, 0, 12.081,
14.765, 18.792, 0, 17.568, 2.013, 0, 8.054, 22.819, 0, 3.356, 24.161, 0, 0, 0, 28.188, 4.027, 0, 3.356, 0, 22.148,
23.490, 0, 0, 0, 28.859, 0, 0, 0.671, 32.215, 0, 0, 0, 0, 2.667, 1.333, 23.333, 3.401, 0, 26.000, 0, 22.667, 75.333, 0,
8.163, 0, 3.356, 9.655, 3.472, 19.231, 24.051, 6.122, 22.759, 2.685, 1.333, 1.333, 6.000, 0.667, 2.667, 1.333, 0, 0,
2.000, 2.000, 0, 38.667, 0, 6.000, 19.333, 0, 0, 0, 90.000, 22.667, 6.667, 4.000, 0, 44.667, 0.667, 3.333, 2.667,
10.667, 1.333, 0.667, 0, 15.333, 4.000, 1.333, 0, 8.667, 0.667, 14.667, 3.333, 0, 32.667, 36.000, 0, 0.667, 0.667,
58.000, 29.000, 14.000, 10.811, 0, 0.676, 37.162, 17.568, 2.027, 32.432, 0, 8.000, 0, 2.667, 0, 0, 0, 0.667, 6.667,
36.667, 0, 0, 4.000, 3.333, 0, 2.667, 4.000, 98.667, 44.667, 0, 2.667, 10.000, 0, 0.667, 0, 96.667, 0.667, 11.333,
14.000, 0, 0, 44.966, 0, 4.667, 28.000, 16.000, 1.333, 0, 40.667, 23.490, 0, 10.738, 2.667, 0, 0.671, 11.409, 0, 8.108,
0, 46.980, 4.698, 0.671, 2.685, 0, 0.671)
> T <- c(0, 0, 70.455, 0, 0, 0, 1.818, 0, 0, 0, 12.987, 2.500, 2.439, 1.220, 7.317, 0, 0, 13.095, 21.978, 0, 14.655,
1.695, 4.651, 0, 11.594, 2.899, 2.878, 0, 2.857, 4.255, 0, 0.690, 0, 4.110, 0.685, 0, 0.685, 0, 50.000, 1.361, 0, 0,
0.680, 0, 1.361, 6.803, 14.286, 40.816, 45.578, 2.041, 0, 0, 0, 18.367, 0, 0, 0, 0, 2.703, 10.811, 0, 30.612, 8.844,
62.162, 0.676, 0, 1.351, 0, 0, 0, 2.703, 0, 0.676, 1.351, 0, 0, 0, 0, 27.027, 0, 6.757, 20.270, 2.027, 0, 41.216, 0, 0,
2.685, 0, 11.409, 0, 0, 0.671, 0.671, 3.356, 0, 0, 24.161, 4.698, 0, 0, 0, 0, 0, 0.671, 6.040, 0, 0.671, 2.013, 0, 0,
8.054, 0, 0, 0, 1.342, 0, 0, 1.342, 0, 0, 18.121, 6.040, 0, 4.027, 0, 10.067, 1.342, 0, 0, 0, 15.436, 0, 2.685, 0, 0,
4.698, 0, 0.671, 0, 0, 0, 0, 0, 3.356, 0, 0, 7.432, 25.000, 0, 0, 0, 0, 0, 0, 0.676, 0, 27.027, 4.054, 0, 1.342, 0,
0.671, 0, 0.671, 0, 2.703, 0.671, 0, 51.678, 0.671, 0, 22.819, 11.409, 0, 0.671, 0, 3.356, 0, 2.013, 1.342, 0, 2.685,
11.409, 0, 0, 0, 8.054, 0, 0, 18.792, 0, 0, 0.667, 0, 0, 12.000, 0, 26.000, 0.680, 0, 0.667, 0, 2.000, 0.667, 6.667,
5.442, 0, 2.685, 2.759, 24.306, 10.256, 6.329, 2.041, 2.069, 2.685, 0, 2.000, 7.333, 0, 3.333, 0, 0, 0, 1.333, 0,
1.333, 23.333, 0, 12.000, 50.667, 0, 0, 0, 0.667, 4.667, 1.333, 0, 0, 12.667, 23.333, 4.667, 17.333, 22.667, 2.000,
0.667, 0, 1.333, 20.667, 2.667, 2.000, 4.000, 0, 83.333, 0, 2.667, 4.667, 2.000, 0, 5.333, 0, 6.000, 4.000, 1.333,
18.919, 0.676, 0, 0, 0, 0, 0, 0.685, 1.333, 0.667, 2.667, 0.667, 0, 0, 1.333, 0.667, 2.667, 96.000, 0, 4.000, 0, 0,
0.667, 0.667, 0.667, 2.000, 0, 4.000, 11.333, 0, 0, 0, 2.000, 0, 0, 0, 0, 0, 6.711, 0, 0.667, 2.000, 0, 3.333, 0,
2.667, 13.423, 0, 5.369, 0.667, 1.342, 5.369, 0.671, 0, 10.811, 0, 0, 0, 0, 0, 0, 0.671)
> V <- c(0, 0, 0, 2.273, 8.889, 0, 0, 20.000, 54.545, 24.286, 19.481, 12.500, 31.707, 6.098, 3.659, 0, 58.333, 26.190,
2.198, 0.952, 4.310, 0.847, 4.651, 0, 0, 10.870, 7.914, 0, 2.143, 41.135, 2.098, 7.586, 0, 1.370, 0, 0, 0, 0, 3.425,
0.680, 74.150, 0, 9.524, 46.259, 0.680, 0, 0, 8.844, 22.449, 1.361, 9.524, 0, 0, 0, 2.041, 0, 0, 0, 0, 3.378, 45.270,
0.680, 4.082, 0, 0, 0.676, 0.676, 2.027, 0, 2.027, 0, 0, 2.027, 13.514, 0.676, 1.351, 0.676, 0.676, 0, 0, 0.676,
56.757, 1.351, 21.622, 37.162, 5.405, 0, 0, 0, 0.671, 0, 2.013, 0, 0, 0, 0, 0, 0.671, 15.436, 0, 27.517, 0.671, 0, 0,
0, 10.067, 4.027, 0, 6.040, 6.040, 0, 1.342, 0, 0, 0, 36.242, 0, 0, 4.027, 0, 6.711, 0, 20.134, 0, 2.013, 0, 0, 0.671,
0, 0, 0, 0, 0, 4.027, 16.779, 0.671, 0.671, 0, 0, 2.685, 0, 0, 0, 0, 20.134, 0, 0, 0.676, 1.351, 4.054, 4.054, 0, 0, 0,
0, 2.027, 3.378, 10.135, 0.676, 6.040, 0, 0, 0, 2.013, 0.671, 0, 8.108, 0, 0, 0, 6.711, 0.671, 0.671, 7.383, 31.544, 0,
5.369, 0, 0.671, 0, 1.342, 10.738, 0.671, 2.013, 12.081, 0, 0, 0.671, 0, 1.342, 24.832, 0.671, 0.671, 0, 0, 0, 0, 0,
1.333, 9.524, 1.333, 0, 1.333, 0.667, 0.667, 17.333, 0.680, 0, 0, 0.690, 0.694, 0, 0, 12.925, 1.379, 4.027, 0, 1.333,
0, 0, 0, 0, 0, 0, 0, 0, 5.333, 12.000, 2.667, 0.667, 8.667, 0, 0, 20.000, 0, 0, 0, 0.667, 0.667, 0, 48.667, 0.667,
4.000, 20.667, 5.333, 0, 0.667, 0, 0, 2.000, 6.667, 0, 0, 0.667, 0, 3.333, 2.000, 0, 0.667, 10.667, 2.000, 0, 2.000, 0,
6.081, 0.676, 0, 0, 0, 6.081, 0, 0, 0, 0, 2.667, 0, 0, 0, 0.667, 0.667, 0, 0, 0, 3.333, 0, 0, 2.667, 0.667, 0, 0.667,
50.000, 2.000, 2.667, 1.333, 0, 3.333, 0, 1.333, 0, 0.667, 0.667, 0, 4.027, 0.671, 0, 1.333, 0, 59.333, 0, 0.667,
1.342, 0, 0, 1.333, 18.121, 10.738, 13.423, 0.676, 0, 14.765, 1.342, 0, 0, 1.342, 20.805, 0)
> Y <- c(0, 0, 0, 0, 0, 2.128, 0, 0, 0, 0, 0, 1.250, 0, 26.829, 0, 0, 0, 0, 0, 0, 17.241, 0, 0, 0, 16.667, 0.725,
13.669, 0, 4.286, 0, 0, 14.483, 41.379, 9.589, 4.795, 0.685, 0, 2.740, 15.068, 0, 0, 0, 0, 0, 0, 10.204, 0, 0,
8.163, 0, 25.850, 0, 0, 8.844, 0, 58.108, 0, 0, 0, 0, 0, 0, 0, 0, 3.378, 0, 13.514, 0, 0.676, 0, 0, 1.351, 0, 2.703,
0, 0, 0, 0, 14.865, 0.676, 10.811, 0, 0, 0, 0, 0, 0.671, 0, 0, 0, 0, 0, 0.671, 0, 0, 0, 2.685, 0, 2.685, 0, 0, 19.595,
0, 1.342, 2.013, 0, 0.671, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1.342, 0.671, 0, 0, 3.356, 0, 4.027, 0, 13.423, 32.886, 0, 7.383,
0, 2.013, 0, 0.671, 0, 0, 0, 0, 0.671, 87.248, 0, 0, 0, 0, 0.671, 0, 0, 0.676, 6.757, 0, 0, 0, 3.378, 6.081, 0, 0, 0,
0, 2.027, 0, 4.027, 0, 0, 0, 0, 0.671, 24.324, 0, 0.671, 1.342, 1.342, 0, 0.671, 0.671, 0, 0, 0, 0.671, 4.027, 0,
1.342, 0, 2.013, 0.671, 0, 0, 0, 0, 0, 0, 2.013, 0, 0, 0, 0, 0, 14.000, 0, 1.333, 8.163, 0, 0, 0, 0.667, 1.333, 0,
10.204, 0, 57.718, 2.759, 0, 12.821, 0, 12.245, 0.690, 0, 0.667, 0, 0.667, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0.667, 0, 0,
0.667, 0, 0, 2.667, 0.667, 1.333, 0, 0.667, 0, 0.667, 0, 1.333, 0, 16.000, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0.667, 2.000,
0, 0, 4.667, 1.333, 14.000, 0.667, 1.351, 0.676, 0, 0, 0, 1.351, 0, 14.384, 0, 0, 0.667, 0, 0, 0, 0.667, 1.333, 1.333,
0, 1.333, 0, 0, 0, 0, 1.333, 0, 0.667, 0, 1.333, 0.667, 0, 0, 0, 0, 0.667, 0, 26.667, 0, 1.333, 0, 0, 0, 5.333, 5.333,
0, 0, 0.667, 8.054, 0, 0, 1.333, 0, 0, 0, 0, 0, 0, 1.342, 6.711, 0, 0, 0, 0)
> H <- c(0, 0, 0, 0, 0, 2.128, 7.273, 0, 0, 0, 0, 1.250, 0, 4.878, 0, 0, 0, 0, 0, 0, 1.724, 0, 0, 0, 2.174, 0, 1.439,
2.143, 2.143, 0, 0, 0.690, 0, 6.849, 0.685, 0, 4.110, 11.644, 8.904, 2.721, 0, 0, 2.721, 0, 0, 0.680, 14.966, 0, 0.680,
31.293, 0, 0.680, 0, 0, 0.680, 0, 6.081, 0, 2.027, 0, 0, 6.803, 0.680, 0, 0, 0, 0, 2.027, 0, 0, 16.216, 0, 0.676,
0.676, 0, 0.676, 0, 0.676, 2.703, 0, 5.405, 0, 3.378, 0, 0.676, 0, 1.342, 0, 1.342, 0, 0, 0, 0.671, 0, 0, 4.027, 0.671,
0.671, 0.671, 0, 2.685, 0, 0, 4.730, 1.342, 4.698, 3.356, 0, 6.711, 0, 17.450, 0, 0.671, 0, 0, 1.342, 0, 0, 2.013,
14.765, 0, 1.342, 7.383, 0, 8.054, 0, 0, 17.450, 0, 0, 0, 1.342, 0, 0, 0, 0, 0, 0.671, 2.685, 1.342, 0, 0, 1.342, 0, 0,
0, 0, 0.676, 2.703, 0, 0, 0, 0.676, 0, 0, 5.405, 0, 9.459, 0, 0, 16.107, 0, 45.638, 0.671, 0.671, 0, 2.027, 2.013, 0,
0.671, 4.027, 0, 12.081, 2.013, 0, 0.671, 0, 0, 7.383, 0, 2.013, 0, 2.013, 0, 0, 0, 0, 4.027, 0.671, 0, 2.685, 6.040,
0, 2.667, 0, 0, 46.000, 0, 2.000, 2.041, 0, 0, 0, 6.667, 0, 0, 20.408, 0, 0, 2.759, 0.694, 2.564, 0, 2.041, 2.759, 0,
0, 2.000, 0.667, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1.333, 0.667, 0, 0.667, 0, 5.333, 0, 0, 0, 0, 0, 1.333, 1.333, 0,
2.000, 3.333, 0, 0, 1.333, 0, 0, 0.667, 0, 0, 2.000, 0, 10.667, 36.000, 0, 0.667, 0.667, 1.333, 27.000, 44.000, 20.946,
0, 0, 0, 0.676, 0, 0, 14.384, 8.667, 0, 0, 0, 0, 0, 0, 3.333, 4.000, 0, 0, 0, 0, 0, 1.333, 1.333, 0, 0.667, 0, 8.667,
7.333, 0, 0, 0, 0, 22.000, 0, 1.333, 0, 0, 0.671, 0, 2.000, 0, 3.333, 0, 0, 0.667, 6.711, 0, 2.685, 1.333, 0, 0, 0, 0,
1.351, 0, 1.342, 11.409, 0, 0.671, 0, 0)
> G <- c(0, 2.439, 0, 0, 33.333, 0, 0, 0, 0, 12.857, 0, 35.000, 0, 0, 1.220, 2.410, 4.762, 3.571, 23.077, 17.143, 0, 0,
0, 0, 0, 0, 0.719, 60.714, 0.714, 0, 1.399, 0, 0, 6.164, 7.534, 1.370, 7.534, 0, 0, 2.041, 0, 0, 0, 0, 0, 0.680, 0, 0,
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0.680, 0.680, 0, 0, 0, 4.082, 3.401, 0, 0, 0, 7.432, 0, 0, 0, 0, 0, 0, 0, 25.676, 0, 2.027, 8.108, 0, 1.351, 1.351,
0, 0, 0, 83.784, 6.757, 0, 1.351, 2.703, 6.757, 0, 0, 0, 30.872, 0.671, 17.450, 1.342, 0, 0, 8.725, 0, 0.671, 0, 0, 0,
0, 0, 0, 0, 78.523, 9.459, 0, 2.013, 24.161, 1.342, 0, 0, 0, 0, 12.752, 0, 0, 0, 97.315, 0, 0, 6.040, 0, 0, 0, 0, 0, 0,
2.013, 6.711, 0, 22.819, 0, 22.148, 6.711, 0, 0, 0, 0, 19.463, 17.450, 0, 0, 0, 2.013, 0, 0.671, 0, 0, 0, 1.351, 0, 0,
0, 0, 59.459, 0, 0.676, 0, 1.351, 0.676, 0, 0, 0, 18.121, 0, 0, 0, 2.703, 0.671, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0.671,
1.342, 0, 1.342, 0, 2.013, 1.342, 0, 0, 0.671, 12.081, 1.342, 0, 1.342, 32.215, 0, 0.667, 94.000, 0.667, 0.667, 0,
0.667, 0, 0, 4.000, 0, 6.000, 2.000, 0, 2.721, 0, 2.013, 4.828, 2.083, 0, 2.532, 6.122, 11.034, 10.738, 0.667, 8.000,
2.000, 0, 64.667, 0, 0, 0, 0, 28.667, 0, 2.000, 0, 6.000, 0.667, 0, 0, 0, 7.333, 22.000, 0, 89.333, 0, 9.333, 0, 6.667,
1.333, 0, 6.667, 0, 0, 2.000, 2.667, 0, 0, 1.333, 98.667, 0, 0, 0, 5.333, 0.667, 0, 0, 0, 2.667, 0, 33.333, 2.027, 0,
99.324, 0.676, 75.676, 0, 60.135, 0, 1.333, 0, 0, 0, 0, 0, 0, 2.667, 0.667, 0, 0, 0, 86.667, 0, 10.000, 2.667, 0,
18.000, 0, 0.667, 0.667, 0, 0.667, 0, 0, 4.000, 48.667, 0.667, 0, 0, 0.671, 0, 1.333, 0, 14.667, 0, 0, 6.000, 0.671, 0,
19.463, 2.000, 0, 0.671, 0, 0, 0, 0, 0, 2.013, 0, 0, 0, 0)
> CS <- c(9, 5, 5, 5, 4, 5, 5, 4, 4, 3, 4, 4, 5, 2, 5, 7, 5, 4, 4, 7, 4, 5, 5, 9, 4, 5, 3, 5, 5, 4, 9, 1, 9, 3, 2, 5,
5, 7, 5, 4, 7, 9, 4, 9, 7, 5, 5, 8, 6, 4, 8, 4, 9, 5, 3, 9, 4, 9, 4, 6, 8, 8, 6, 5, 9, 9, 7, 4, 8, 6, 4, 9, 4, 4, 9, 6,
7, 8, 3, 9, 1, 6, 2, 8, 5, 8, 6, 5, 6, 7, 9, 5, 7, 9, 7, 7, 9, 5, 3, 9, 7, 9, 6, 1, 9, 1, 3, 6, 4, 8, 8, 5, 6, 9, 9, 6,
9, 9, 4, 5, 8, 4, 3, 9, 4, 9, 5, 2, 9, 3, 8, 4, 4, 8, 8, 9, 5, 4, 4, 6, 8, 6, 7, 8, 4, 9, 9, 6, 4, 8, 6, 9, 5, 3, 9, 3,
9, 4, 5, 7, 4, 9, 8, 4, 7, 9, 3, 6, 8, 6, 4, 6, 4, 3, 6, 7, 6, 6, 4, 9, 1, 7, 4, 5, 6, 9, 8, 4, 8, 9, 4, 6, 9, 5, 8, 9,
4, 7, 4, 1, 5, 5, 8, 4, 7, 7, 1, 7, 3, 2, 5, 3, 3, 2, 3, 6, 6, 4, 4, 9, 6, 9, 9, 8, 5, 6, 7, 5, 6, 3, 5, 9, 9, 7, 9, 1,
8, 6, 5, 5, 5, 4, 3, 5, 4, 4, 7, 5, 4, 8, 8, 3, 9, 9, 4, 8, 3, 5, 8, 5, 4, 5, 2, 8, 4, 6, 9, 5, 7, 7, 8, 5, 3, 9, 4, 5,
8, 9, 8, 3, 4, 9, 8, 5, 8, 9, 4, 5, 9, 5, 6, 2, 3, 5, 8, 6, 9, 3, 7, 1, 9, 9, 7, 9, 5, 4, 5, 6, 9, 5, 4, 8, 4, 5, 7, 4,
3, 8, 7, 6, 7, 3, 9, 6, 8, 9)
>
> library(generalCorr)
Loading required package: np
Nonparametric Kernel Methods for Mixed Datatypes (version 0.60-17)
[vignette("np_faq",package="np") provides answers to frequently asked questions]
[vignette("np",package="np") an overview]
[vignette("entropy_np",package="np") an overview of entropy-based methods]
Loading required package: xtable
Loading required package: meboot
Loading required package: dynlm
Loading required package: zoo

Attaching package: ‘zoo’

The following objects are masked from ‘package:base’:

    as.Date, as.Date.numeric

Loading required package: nlme
Loading required package: tdigest
Loading required package: hdrcde
This is hdrcde 3.4
Loading required package: psych
Loading required package: lattice
> # For dependence
> gmcxy_np(V,A)
$corxy
[1] 0.02020597

$coryx
[1] 0.06175856

> gmcxy_np(T,A)
$corxy
[1] 0.05008949

$coryx
[1] 0.007017256

> gmcxy_np(V,T)
$corxy
[1] 0.0413676

$coryx
[1] 0.002612328

>
> gmcxy_np(D,K)
$corxy
[1] 0.02585238

$coryx
[1] 0.05193703

> gmcxy_np(Y,R)
$corxy
[1] 0.02593665
```

```
$coryx
[1] 0.04054489

> gmcxy_np(Y,H)
$corxy
[1] 0.05829801

$coryx
[1] 0.369207

> gmcxy_np(F,Y)
$corxy
[1] 0.009642124

$coryx
[1] 0.250854

> gmcxy_np(F,L)
$corxy
[1] 0.1002743

$coryx
[1] 0.009765291

> gmcxy_np(I,V)
$corxy
[1] 0.1443398

$coryx
[1] 0.4500034

>
> gmcxy_np(A,S)
$corxy
[1] 0.03307312

$coryx
[1] 0.05877159

> gmcxy_np(I,S)
$corxy
[1] 0.06746779

$coryx
[1] 0.02915473

> gmcxy_np(N,S)
$corxy
[1] 0.02240164

$coryx
[1] 0.03830652

> gmcxy_np(R,K)
$corxy
[1] 0.2731978

$coryx
[1] 0.2609021

> gmcxy_np(R,Q)
$corxy
[1] 0.2839605

$coryx
[1] 0.2367373

> gmcxy_np(L,V)
$corxy
[1] 2.938108e-06

$coryx
[1] 0.07175245

>
> gmcxy_np(G,S)
$corxy
```

```
[1] 0.04547436

$coryx
[1] 0.006398523

> gmcxy_np(D,G)
$corxy
[1] 0.02533227

$coryx
[1] 0.06168513

> gmcxy_np(K,N)
$corxy
[1] 0.1121838

$coryx
[1] 0.002365776

> gmcxy_np(L,I)
$corxy
[1] 0.00678603

$coryx
[1] 0.1190773

> gmcxy_np(S,N)
$corxy
[1] 0.03830652

$coryx
[1] 0.02240164

> gmcxy_np(H,N)
$corxy
[1] 0.1491225

$coryx
[1] 0.001213193

> gmcxy_np(F,S)
$corxy
[1] 0.03265015

$coryx
[1] 0.02532682

> gmcxy_np(K,T)
$corxy
[1] 0.07240744

$coryx
[1] 0.04270432

>
>
>
>
>
>
>
> gmcxy_np(S,CS)
$corxy
[1] 0.03739649

$coryx
[1] 0.468911

> gmcxy_np(L,CS)
$corxy
[1] 0.0951295

$coryx
[1] 0.2161149

>
>
>
```

```
>
>
>
> # Perform partial correlation analysis
> results1 <- parcor_ijk(V, A, CS)

> results2 <- parcor_ijk(V, T, CS)

> results3 <- parcor_ijk(V, T, A)

> results4 <- parcor_ijk(A, T, CS)

> results5 <- parcor_ijk(D, K, CS)

> results6 <- parcor_ijk(Y, R, CS)

> results7 <- parcor_ijk(Y, H, CS)

> results8 <- parcor_ijk(F, Y, CS)

> results9 <- parcor_ijk(F, L, CS)

> results10 <- parcor_ijk(I, V, CS)

> results11 <- parcor_ijk(A, S, CS)

> results12 <- parcor_ijk(I, S, CS)

> results13 <- parcor_ijk(N, S, CS)

> results14 <- parcor_ijk(R, K, CS)

> results15 <- parcor_ijk(R, Q, CS)

> results16 <- parcor_ijk(L, V, CS)

> results17 <- parcor_ijk(G, S, CS)

> results18 <- parcor_ijk(D, G, CS)

> results19 <- parcor_ijk(K, N, CS)

> results20 <- parcor_ijk(L, I, CS)

> results21 <- parcor_ijk(S, N, CS)

> results22 <- parcor_ijk(N, H, CS)

> results23 <- parcor_ijk(F, S, CS)

> results24 <- parcor_ijk(K, T, CS)

>
>
>
>
>
>
>
> # Function to calculate p-values for partial correlations
> calculate_p_value <- function(partial_correlation, n) {
+   t_value <- partial_correlation * sqrt((n - 3) / (1 - partial_correlation^2))
+   p_value <- 2 * pt(-abs(t_value), df = n - 2)
+   return(p_value)
+ }
>
> # Extract partial correlations
> partial_correlations1 <- as.numeric(results1["ouij"])
> partial_correlations2 <- as.numeric(results2["ouij"])
> partial_correlations3 <- as.numeric(results3["ouij"])
> partial_correlations4 <- as.numeric(results4["ouij"])
> partial_correlations5 <- as.numeric(results5["ouij"])
> partial_correlations6 <- as.numeric(results6["ouij"])
> partial_correlations7 <- as.numeric(results7["ouij"])
> partial_correlations8 <- as.numeric(results8["ouij"])
> partial_correlations9 <- as.numeric(results9["ouij"])
> partial_correlations10 <- as.numeric(results10["ouij"])
> partial_correlations11 <- as.numeric(results11["ouij"])
```

```
> partial_correlations12 <- as.numeric(results12["ouij"])
> partial_correlations13 <- as.numeric(results13["ouij"])
> partial_correlations14 <- as.numeric(results14["ouij"])
> partial_correlations15 <- as.numeric(results15["ouij"])
> partial_correlations16 <- as.numeric(results16["ouij"])
> partial_correlations17 <- as.numeric(results17["ouij"])
> partial_correlations18 <- as.numeric(results18["ouij"])
> partial_correlations19 <- as.numeric(results19["ouij"])
> partial_correlations20 <- as.numeric(results20["ouij"])
> partial_correlations21 <- as.numeric(results21["ouij"])
> partial_correlations22 <- as.numeric(results22["ouij"])
> partial_correlations23 <- as.numeric(results23["ouij"])
> partial_correlations24 <- as.numeric(results24["ouij"])
>
>
> partial_correlations1_b <- as.numeric(results1["ouji"])
> partial_correlations2_b <- as.numeric(results2["ouji"])
> partial_correlations3_b <- as.numeric(results3["ouji"])
> partial_correlations4_b <- as.numeric(results4["ouji"])
> partial_correlations5_b <- as.numeric(results5["ouji"])
> partial_correlations6_b <- as.numeric(results6["ouji"])
> partial_correlations7_b <- as.numeric(results7["ouji"])
> partial_correlations8_b <- as.numeric(results8["ouji"])
> partial_correlations9_b <- as.numeric(results9["ouji"])
> partial_correlations10_b <- as.numeric(results10["ouji"])
> partial_correlations11_b <- as.numeric(results11["ouji"])
> partial_correlations12_b <- as.numeric(results12["ouji"])
> partial_correlations13_b <- as.numeric(results13["ouji"])
> partial_correlations14_b <- as.numeric(results14["ouji"])
> partial_correlations15_b <- as.numeric(results15["ouji"])
> partial_correlations16_b <- as.numeric(results16["ouji"])
> partial_correlations17_b <- as.numeric(results17["ouji"])
> partial_correlations18_b <- as.numeric(results18["ouji"])
> partial_correlations19_b <- as.numeric(results19["ouji"])
> partial_correlations20_b <- as.numeric(results20["ouji"])
> partial_correlations21_b <- as.numeric(results21["ouji"])
> partial_correlations22_b <- as.numeric(results22["ouji"])
> partial_correlations23_b <- as.numeric(results23["ouji"])
> partial_correlations24_b <- as.numeric(results24["ouji"])
>
>
>
>
> # Number of observations (replace with your actual number of observations)
> n <- 626
>
> # Calculate p-values
> p_values1 <- sapply(partial_correlations1, calculate_p_value, n = n)
> p_values2 <- sapply(partial_correlations2, calculate_p_value, n = n)
> p_values3 <- sapply(partial_correlations3, calculate_p_value, n = n)
> p_values4 <- sapply(partial_correlations4, calculate_p_value, n = n)
> p_values5 <- sapply(partial_correlations5, calculate_p_value, n = n)
> p_values6 <- sapply(partial_correlations6, calculate_p_value, n = n)
> p_values7 <- sapply(partial_correlations7, calculate_p_value, n = n)
> p_values8 <- sapply(partial_correlations8, calculate_p_value, n = n)
> p_values9 <- sapply(partial_correlations9, calculate_p_value, n = n)
> p_values10 <- sapply(partial_correlations10, calculate_p_value, n = n)
> p_values11 <- sapply(partial_correlations11, calculate_p_value, n = n)
> p_values12 <- sapply(partial_correlations12, calculate_p_value, n = n)
> p_values13 <- sapply(partial_correlations13, calculate_p_value, n = n)
> p_values14 <- sapply(partial_correlations14, calculate_p_value, n = n)
> p_values15 <- sapply(partial_correlations15, calculate_p_value, n = n)
> p_values16 <- sapply(partial_correlations16, calculate_p_value, n = n)
> p_values17 <- sapply(partial_correlations17, calculate_p_value, n = n)
> p_values18 <- sapply(partial_correlations18, calculate_p_value, n = n)
> p_values19 <- sapply(partial_correlations19, calculate_p_value, n = n)
> p_values20 <- sapply(partial_correlations20, calculate_p_value, n = n)
> p_values21 <- sapply(partial_correlations21, calculate_p_value, n = n)
> p_values22 <- sapply(partial_correlations22, calculate_p_value, n = n)
> p_values23 <- sapply(partial_correlations23, calculate_p_value, n = n)
> p_values24 <- sapply(partial_correlations24, calculate_p_value, n = n)
>
> p_values1b <- sapply(partial_correlations1_b, calculate_p_value, n = n)
> p_values2b <- sapply(partial_correlations2_b, calculate_p_value, n = n)
> p_values3b <- sapply(partial_correlations3_b, calculate_p_value, n = n)
> p_values4b <- sapply(partial_correlations4_b, calculate_p_value, n = n)
> p_values5b <- sapply(partial_correlations5_b, calculate_p_value, n = n)
> p_values6b <- sapply(partial_correlations6_b, calculate_p_value, n = n)
```

```
> p_values7b <- sapply(partial_correlations7_b, calculate_p_value, n = n)
> p_values8b <- sapply(partial_correlations8_b, calculate_p_value, n = n)
> p_values9b <- sapply(partial_correlations9_b, calculate_p_value, n = n)
> p_values10b <- sapply(partial_correlations10_b, calculate_p_value, n = n)
> p_values11b <- sapply(partial_correlations11_b, calculate_p_value, n = n)
> p_values12b <- sapply(partial_correlations12_b, calculate_p_value, n = n)
> p_values13b <- sapply(partial_correlations13_b, calculate_p_value, n = n)
> p_values14b <- sapply(partial_correlations14_b, calculate_p_value, n = n)
> p_values15b <- sapply(partial_correlations15_b, calculate_p_value, n = n)
> p_values16b <- sapply(partial_correlations16_b, calculate_p_value, n = n)
> p_values17b <- sapply(partial_correlations17_b, calculate_p_value, n = n)
> p_values18b <- sapply(partial_correlations18_b, calculate_p_value, n = n)
> p_values19b <- sapply(partial_correlations19_b, calculate_p_value, n = n)
> p_values20b <- sapply(partial_correlations20_b, calculate_p_value, n = n)
> p_values21b <- sapply(partial_correlations21_b, calculate_p_value, n = n)
> p_values22b <- sapply(partial_correlations22_b, calculate_p_value, n = n)
> p_values23b <- sapply(partial_correlations23_b, calculate_p_value, n = n)
> p_values24b <- sapply(partial_correlations24_b, calculate_p_value, n = n)
>
>
>
>
> # Display results
> results_with_p_values1 <- cbind(results1, p_values = p_values1, p_valuesb = p_values1b)
> results_with_p_values2 <- cbind(results2, p_values = p_values2, p_valuesb = p_values2b)
> results_with_p_values3 <- cbind(results3, p_values = p_values3, p_valuesb = p_values3b)
> results_with_p_values4 <- cbind(results4, p_values = p_values4, p_valuesb = p_values4b)
> results_with_p_values5 <- cbind(results5, p_values = p_values5, p_valuesb = p_values5b)
> results_with_p_values6 <- cbind(results6, p_values = p_values6, p_valuesb = p_values6b)
> results_with_p_values7 <- cbind(results7, p_values = p_values7, p_valuesb = p_values7b)
> results_with_p_values8 <- cbind(results8, p_values = p_values8, p_valuesb = p_values8b)
> results_with_p_values9 <- cbind(results9, p_values = p_values9, p_valuesb = p_values9b)
> results_with_p_values10 <- cbind(results10, p_values = p_values10, p_valuesb = p_values10b)
> results_with_p_values11 <- cbind(results11, p_values = p_values11, p_valuesb = p_values11b)
> results_with_p_values12 <- cbind(results12, p_values = p_values12, p_valuesb = p_values12b)
> results_with_p_values13 <- cbind(results13, p_values = p_values13, p_valuesb = p_values13b)
> results_with_p_values14 <- cbind(results14, p_values = p_values14, p_valuesb = p_values14b)
> results_with_p_values15 <- cbind(results15, p_values = p_values15, p_valuesb = p_values15b)
> results_with_p_values16 <- cbind(results16, p_values = p_values16, p_valuesb = p_values16b)
> results_with_p_values17 <- cbind(results17, p_values = p_values17, p_valuesb = p_values17b)
> results_with_p_values18 <- cbind(results18, p_values = p_values18, p_valuesb = p_values18b)
> results_with_p_values19 <- cbind(results19, p_values = p_values19, p_valuesb = p_values19b)
> results_with_p_values20 <- cbind(results20, p_values = p_values20, p_valuesb = p_values20b)
> results_with_p_values21 <- cbind(results21, p_values = p_values21, p_valuesb = p_values21b)
> results_with_p_values22 <- cbind(results22, p_values = p_values22, p_valuesb = p_values22b)
> results_with_p_values23 <- cbind(results23, p_values = p_values23, p_valuesb = p_values23b)
> results_with_p_values24 <- cbind(results24, p_values = p_values24, p_valuesb = p_values24b)
>
>
>
>
>
>
> print(results_with_p_values1)
     results1    p_values  p_valuesb
ouij 0.01361832  0.7340128 0.9833016
ouji 0.000838872 0.7340128 0.9833016
> print(results_with_p_values2)
     results2    p_values  p_valuesb
ouij 0.01790735  0.6550024 0.9567055
ouji 0.002175881 0.6550024 0.9567055
> print(results_with_p_values3)
     results3   p_values  p_valuesb
ouij 0.03440867 0.3904785 1.586736e-06
ouji 0.1906151  0.3904785 1.586736e-06
> print(results_with_p_values4)
     results4     p_values  p_valuesb
ouij 0.006947158  0.8623893 0.9997958
ouji 1.025608e-05 0.8623893 0.9997958
> print(results_with_p_values5)
     results5     p_values  p_valuesb
ouij -0.005986005 0.8812759 0.5681472
ouji -0.02287408  0.8812759 0.5681472
> print(results_with_p_values6)
     results6     p_values  p_valuesb
ouij -0.001875064 0.9626863 0.8029702
ouji -0.009999961 0.9626863 0.8029702
> print(results_with_p_values7)
```

```
     results7    p_values  p_valuesb
ouij 0.003052619 0.9392895 0.1695409
ouji 0.05501563  0.9392895 0.1695409
> print(results_with_p_values8)
     results8  p_values    p_valuesb
ouij 0.1253138 0.001695384 4.823323e-11
ouji 0.2590593 0.001695384 4.823323e-11
> print(results_with_p_values9)
     results9    p_values  p_valuesb
ouij -0.01284988 0.7485003 0.2538769
ouji -0.0457069  0.7485003 0.2538769
> print(results_with_p_values10)
     results10 p_values     p_valuesb
ouij 0.1644663 3.601848e-05 2.128834e-14
ouji 0.2992587 3.601848e-05 2.128834e-14
> print(results_with_p_values11)
     results11  p_values  p_valuesb
ouij 0.06444198 0.1075068 0.6764663
ouji 0.0167239  0.1075068 0.6764663
> print(results_with_p_values12)
     results12   p_values  p_valuesb
ouij -0.05105734 0.2024113 0.5994364
ouji -0.02104824 0.2024113 0.5994364
> print(results_with_p_values13)
     results13    p_values    p_valuesb
ouij -0.1263964   0.001543837 0.8366276
ouji -0.008264762 0.001543837 0.8366276
> print(results_with_p_values14)
     results14 p_values     p_valuesb
ouij 0.1565849 8.455757e-05 3.025361e-06
ouji 0.1855088 8.455757e-05 3.025361e-06
> print(results_with_p_values15)
     results15 p_values     p_valuesb
ouij 0.3429478 1.084761e-18 0.004736604
ouji 0.1128411 1.084761e-18 0.004736604
> print(results_with_p_values16)
     results16  p_values  p_valuesb
ouij 0.00952512 0.8121473 0.121621
ouji 0.06198462 0.8121473 0.121621
> print(results_with_p_values17)
     results17 p_values     p_valuesb
ouij 0.1489017 0.0001869907 3.789365e-10
ouji 0.2470926 0.0001869907 3.789365e-10
> print(results_with_p_values18)
     results18   p_values     p_valuesb
ouij -0.1808359  5.378144e-06 0.3640544
ouji -0.03636741 5.378144e-06 0.3640544
> print(results_with_p_values19)
     results19   p_values  p_valuesb
ouij 0.002967134 0.9409865 0.581379
ouji 0.02209638  0.9409865 0.581379
> print(results_with_p_values20)
     results20   p_values  p_valuesb
ouij -0.0315887  0.4305013 0.2757119
ouji -0.04366667 0.4305013 0.2757119
> print(results_with_p_values21)
     results21    p_values  p_valuesb
ouij -0.008264762 0.8366276 0.001543837
ouji -0.1263964   0.8366276 0.001543837
> print(results_with_p_values22)
     results22  p_values  p_valuesb
ouij 0.04874278 0.2236592 0.31942
ouji 0.03988997 0.2236592 0.31942
> print(results_with_p_values23)
     results23    p_values  p_valuesb
ouij -0.01716545  0.6684262 0.8073376
ouji -0.009773813 0.6684262 0.8073376
> print(results_with_p_values24)
     results24   p_values  p_valuesb
ouij -1.4371e-05 0.9997139 0.6094345
ouji -0.02047406 0.9997139 0.6094345
>
>
>
>
>
>
>
```

>