```
R version 4.3.1 (2023-06-16 ucrt) -- "Beagle Scouts"
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Platform: x86_64-w64-mingw32/x64 (64-bit)

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[Previously saved workspace restored]

> rm(list = ls())
> x0 <- c(42.857,0,0,0,0,0,0,0,0,75,0,0,0,0,0,25,0,33.333,33.333,0,0,16.667,0,0,0,0,0,0,0,0,20,0,
10,33.333,16.667,45.455,0,0,0,6.25,12.5,31.25,0,9.524,9.091,3.846,3.704,3.03,2.564,0,3.846,0,9.21
1,3.774,0.855,0,0,1.6,0,0,0,0,7.937,0,0,17.46,0,1.575,34.646,24.409,0,0.787,4.724,74.219,0,0,0,0,
74.016,0,0,0,0,0,4.724,0.787,0,0,0,0,0,0,11.811,0,3.15,14.173,0,0,10.236,9.449,15.748,3.15,22.835
,10.236,11.024,0,11.811,0,14.173,2.362,2.362,1.575,0,12.598,5.512,5.512,0,0,0,1.575,0,0.787,0,3.1
25,30.469,0.781,38.583,0,0,9.449,10.938,0,0.781,1.562,0,0,43.182,0,10.526,0,6.818,28.03,37.121,18
.939,16.667,6.818,3.788,38.76,7.576,8.333,0,0,4.545,48.485,14.394,4.545,3.03,1.515,5.303,11.364,0
.758,0,0.758,14.394,1.515,0,0.758,0,1.515,17.293,5.303,0,0,3.03,2.344,0,0,0,2.344,0,0.746,3.03,4.
237,0,0,26.316,6.015,4.511,3.759,2.679,5.172,3.361,2.521,0,10.811,5.333,7.273,7.353,7.595,8.73,6.
154,8.333,1.471,10.145,2.158,2.857,10.638,0.685,0,22.297,3.356,2.013,0.671,0,0,0.671,11.409,73.82
6,0.667,1.333,6,3.571,0,0.667,0.667,0,4,0,0.667,7.333,0.667,3.333,18.667,8,1.333,0,2.685,17.45,3.
356,0.671,2.685,6.711,21.477,18.121,2.685,32.886,22.819,49.664,1.342,4.698,10.067,12,4,0,0,57.333
,0,2.667,3.333,0,0,72,72.667,0,19.463,0,4.027,3.356,1.342,0,0,55.034,41.333,0,10,27.333,0.667,1.3
33,30,0.667,0.667,47.333,0,0,0,0,0.671,4,2,0,13.423,6.711,0,0,5.369,6,0.667,3.333,3.378,0)
> x1 <- c(0,0,1.342,0.671,7.432,0,95.973,0,14.765,0,0,14.765,8.725,0,18.792,1.342,0,0,3.333,0,19.
333,0.667,1.333,0,13.333,10,12,6,0.667,0.667,0.667,0.667,0.667,0,1.333,0,0.667,0,24,3.333,1.351,0
,3.356,10.067,12.752,41.611,2.013,8.054,23.49,0,0,9.333,0,0,14.667,12.667,2,0,2.667,50.667,24.667
,0,0,40,7.333,0,0,1.333,0,0.667,12,2,0,41.333,0.667,43.333,0,2,90.667,31.333,3.333,0,0,1.333,0,0,
20.667,0,25.333,34.667,0,0,0,7.333,34.667,0.667,0,0,2.667,20.667,0,3.333,14.667,0,0,40,4.667,0,0,
10.738,0,2.013,4.027,11.409,8.054,0,13.423,0,0,0,10.811,22.973,1.351,29.054,0.676,14.189,29.73,29
.73,0,6.122,17.123,15.753,0,4.138,0,1.37,13.699,4.167,0.943,0,0.781,0,2.74,13.014,15.753,25.342,2
.74,15.068,36.986,6.849,19.178,20.548,1.379,0.69,4.828,9.655,0,1.379,12.414,0.69,52.055,0,0,2.759
,0,7.639,0.694,40.972,13.889,2.083,1.389,15.972,0,1.399,0,7.692,9.79,1.399,7.692,6.294,13.287,3.4
97,14.685,22.378,18.881,6.944,9.028,0,17.931,31.034,12.414,40,3.448,0,35.172,0.69,0,31.469,0,0.69
9,2.797,0.699,2.098,0.699,19.58,2.098,0.699,0,3.521,0,1.408,1.408,3.521,0,8.451,2.817,3.497,3.497
,12.676,0.704,0,10,20.423,24.823,0.709,0,12.057,13.475,4.255,9.22,16.429,22.695,7.092,29.078,5.03
6,0.725,11.594,36.957,0.73,0.735,5.839,0.73,6.569,5.839,0,0.73,0.735,8.889,34.815,0,0,5.882,0.735
,1.471,4.444,15.556,17.037,0,2.963,7.407,5.185,5.185,6.667,8.088,2.941,22.963,17.037,4.478,25.564
,3.008,10.687,12.214,5.385,24.806,17.969,1.575,12.8,8.065,1.626,2.521,0,0,0,1.802,2.679,0.926,0.9
43,8.654,0.99,6.452,4.651,9.524,1.19,0,5.97,0,0,3.03,0,4.545)
> x2 <- c(33.333,7.143,0,0,0,62.5,0,0,0,0,12.5,0,0,0,12.5,0,14.286,17.857,0,0,0,0,0,0,100,0,0,0,0
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.091,0,4.348,7.407,0,5.263,0,5.769,4.11,4.651,4.082,3.67,0,0,1.754,0,0,0,0,8.772,0,0,13.043,0,0,3
2.479,27.586,0,2.586,2.586,80.172,0,0,0,0,75.862,0,0,0,0,0.855,3.39,1.695,0.847,0,0,0,0,0,20.492,
0.813,4.032,26.446,0.826,0,10,10.833,10.833,6.612,28.099,16.529,4.959,0.826,10.744,0,12.397,2.479
,1.653,0.826,0,12.295,8.197,8.197,0,0,0.813,2.439,0,4.878,0,0,21.951,0,43.089,2.439,0,13.008,14.6
34,0,0.813,0.806,0.806,0,34.646,0,8.661,0,9.375,33.594,39.844,17.969,21.094,5.469,3.876,30.469,3.
876,10.853,1.55,0,5.426,48.837,16.279,3.876,2.326,0,2.326,11.628,0,0,0,11.628,0.775,0,1.538,2.326
,2.326,6.154,5.385,0,0,3.846,0.781,0.775,0,0.781,1.6,0.775,1.538,0,2.479,1.575,0,20.611,6.107,6.4
,3.252,3.39,8.85,1.818,2,2.5,12.308,0,11.017,1.724,6.481,13.115,4.615,2.439,6.4,2.206,4.348,5.797
,0,1.361,25.85,4.082,0,0,0.685,1.351,0,8.276,69.863,0.676,0,6.081,3.846,0,1.351,2.027,0,4.667,0,0
,12.081,0,4,24.832,12.081,0,0,4,14.667,4,0.667,1.333,5.333,15.333,16.667,0.671,36.913,16.779,50.6
67,0.667,3.333,10.667,16.667,2,0,0,54,0,1.333,2,0,0,78,76.667,0,16.667,0,5.333,3.333,1.333,0,0,59
.732,51.007,0.671,12.752,29.53,0,0.671,25.503,0)
> x3 <- c(0,50,0,0,0,0,0,0,8,1.333,0,10.667,6.667,0,0,12,4,3.333,2.667,1.342,0,0.671,1.351,1.342,1.
333,4.698,0.671,86.667,0,16.779,0,0,9.396,8.054,0,20.134,0.671,0,0,3.333,0,22.667,0,2,0.667,13.33
3,7.333,7.333,2,0,0,0,0,0,0,0.667,0.667,0,0,0,20,3.333,2,0.667,2.013,12.081,20.134,36.913,2.013,16.
779,21.477,0,0,1.342,0,0,10.738,19.463,2.685,0,5.369,47.333,28,0,0,44.667,4,0,2.013,0.671,0.671,0
```

```
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8.188,0,0,0,6.667,39.333,2.667,0,0,0.667,20,0,3.333,14.667,0,0,32.667,3.333,0,0,8,0,4,8,10.667,6,
0.667,8,0,0,0.667,8.054,24.832,2.013,33.557,0,14.765,26.846,32.215,0.671,4.054,19.595,25,0,2.74,2
.721,0.68,2.721,11.565,0.769,2.308,0,0,6.803,5.442,20.408,25.85,4.762,23.81,30.612,6.122,23.129,3
6.054,0.676,0,5.442,10.884,0,3.401,9.524,0,55.479,0,0,2.041,0,2.041,0,41.497,16.327,2.041,2.041,1
7.123,0,0.685,0,9.589,5.479,1.379,8.219,6.849,14.384,6.849,13.014,25.342,19.863,4.795,3.425,0,15.
068,32.877,13.014,34.932,2.74,0,33.793,0,0.685,25.517,0,0,2.083,2.083,0.694,0,16.084,0,2.098,0.69
9,3.472,0,3.472,0.694,6.25,2.778,2.797,5.594,1.399,1.399,15.385,0,0,10.563,10.563,23.404,3.521,0,
15.493,18.44,3.571,7.801,19.858,17.857,5.036,24.265,2.941,0,14.706,27.206,0.735,0.735,5.147,1.471
,9.63,4.478,0.746,0,0.763,8.462,29.545,0.752,0,6.818,0,2.273,7.576,22.727,15.909,0,3.008,6.767,6.
767,4.478,5.224,8.955,1.493,21.805,18.182,1.527,20.611,1.538,12.308,13.077,6.923,28.346,12.598,3.
968,11.29,10.744,5.128,0.855)
> x4 <- c(0.862,0,0,2.727,1.852,1.835,4.717,10.784,3.125,6.522,6.742,8.434,2.597,0,2.899,3.922,0,
0,0,11.111,26.667,7.692,9.091,0,0,70,0,0,0,0,25,0,0,0,0,0,20,0,0,0,0,0,0,0,0,0,0,0,0,0,33.333,0,0
,0,0,0,0,0,0,0,0,0,57.143,0,0,0,50,50,0,0,25,0,0,0,60,0,0,0,0,16.667,0,0,0,0,0,7.143,20,0,12.5,0,
0,0,0,0,0,0,30,0,0,0,7.692,0,11.111,17.391,11.538,20.69,18.182,20,6.818,4.082,11.321,3.39,5.556,4
.301,0,0,0.885,0.885,0,0.885,0,0,13.274,0,0,10.619,0,1.77,39.823,23.009,0,2.632,6.087,78.261,0,0,
0,0,78.947,0.877,0,0,0,0,3.448,0.862,0.862,0,0,0.84,0,0.833,15.833,0,1.653,29.167,0,0,14.167,10,1
2.397,6.557,27.869,13.934,6.557,0,11.475,0.82,13.934,0.82,3.279,0.82,0,11.475,4.098,7.377,0,0,0.8
2,0,0,0,0,2.459,24.59,0.82,31.967,3.279,1.695,0.82,12.295,11.475,0,3.252,0,0,0,32.258,0,10.484,0.
806,7.258,25.806,34.677,27.419,18.548,3.226,4.032,33.333,3.226,16.129,0,0,4.839,48.387,13.71,4.83
9,4.839,0.806,2.419,10.484,0,0,0.806,18.548,0.8,0,0,1.575,2.362,10.853,7.752,0,0,2.4,3.101,0,0,0,
1.6,0,0,3.361,3.937,0,0,23.256,5.426,6.977,3.876,7,4.902,0,4.918,10.638,3.906,4.444,2.222,7.353,2
.098,8.219,11.565,0.676,0.671,22.819,6.04,2,0.667,0,0.667,0,8.725,69.128,0,0,10,5.714,0,0,0.667,0
,4.667,0,0,8.667,0,3.333,30,8.667,1.333,0,3.333,10.667,4,1.333,2.667,6.667,14,14,0.667)
> x5 <- c(34,10,43.333,0.667,4,4.667,13.333,2.667,0,0,67.333,0,0,4,0,0,76.51,81.081,0,19.595,0,4.
698,4.027,2.013,0,0,56.081,43.243,1.351,11.486,27.703,0,2.703,32.886,2.667,0,42.667,0.667,0,0,0,0
,7.333,0,0,17.333,8,0.671,0,8.054,6.04,1.342,2.685,2.013,0,0,1.342,2,1.333,6.667,0,94.667,0,17.45
,0,0,8.054,9.396,0,18.121,0.671,0,0,4.027,0,25.333,0.667,2.667,0,22.148,7.383,8.725,3.356,0.671,0
.671,0,0,0,0.671,1.351,0,0,0,18.367,0.68,2.041,0,2.685,9.396,16.779,34.899,5.369,14.094,22.819,0,
1.342,6.711,0,0,13.333,19.333,2,0,2.667,54,29.333,0,0.667,43.333,4.667,0,0.667,0,0,1.333,7.333,1.
333,0,43.333,0,42.667,0.667,2,89.333,27.333,1.333,0,11.111,0,2.013,0.671,0,22.819,0,30.201,27.517
,0,0,0,7.383,33.557,0,0,0,0,20.27,0,3.378,6.711,0,0,31.333,2.667,0,0,6.667,0,6.04,2.685,8.725,6.7
11,0,10.738,0,0,0,10.067,31.544,1.333,35.333,0,14,28,30,0.671,4.027,23.49,15.436,0,3.378,2.721,1.
361,1.449,22.297,2.479,0.752,0.752,0.676,0,3.378,9.459,17.568,27.703,5.405,16.892,31.544,8.725,24
.324,24.324,0.676,0.676,5.405,11.486,0,1.351,11.486,0.676,52.027,0,0,2.041,0,6.122,0.68,39.456,16
.327,1.361,2.721,17.007,0,1.361,0.68,6.803,5.442,2.74,7.483,6.803,14.286,6.803,11.565,24.49,17.00
7,11.644,5.479,0,17.241,27.586,13.793,44.828,2.759,0,37.931,0,0,24.138,0.694,0.694,1.399,4.895,0,
0.704,26.056,1.408,3.521,0,3.472,0,2.083,0,4.167,2.797,6.294,4.196,2.098,0.699,13.986,1.399,0,10.
563,14.789,20.979,3.472,0,21.379,14.583,8.333,9.722,10.417,16.667,9.028,25.175,2.797,0.704,8.511,
36.879,1.418,0,6.338,2.817,7.801)
> x6 <- c(2.837,2.128,0.709,0.709,4.255,31.206,0,0,3.546,0,2.817,5.634,24.476,13.986,0,3.497,8.39
2,6.993,6.993,7.746,9.286,1.439,23.741,15.108,2.899,26.087,0,11.679,17.778,6.818,26.923,13.077,4.
615,10.769,6.299,8.264,1.653,0,0,0,4.274,5.217,0,0.917,11.111,2.885,5.051,4.167,10.87,0,0,4.615,4
.651,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,60,0,0,0,0,42.857,0,0,9.091,0,4.545,0,0,0,1.887,1.852,0,1.695,0,1.
695,0,0,1.695,69.492,1.695,52.542,49.153,98.305,0,62.712,5.085,0,0,6.667,0,0,0,0,0,0,70.312,84.61
5,85.507,0,2.857,30,0,0,1.515,0,0,3.03,0,0,0,0,0,4.688,1.587,6.25,0,24.074,1.786,1.818,3.571,3.33
3,0,9.615,0,0,4.082,0,4.651,2.381,2.381,0,1.754,5.263,4.545,3.03,0,15.385,13.636,0,1.695,1.562,0,
1.562,0,6.349,31.746,12.903,28.07,1.786,5.263,0,12.5,1.852,0,0,18.868,0,8.511,4,3.922,0,1.724,0,3
.448,10.714,5,4.762,1.587,0,8,16.216,6.757,0,7.143,0,2.439,6.024,2.273,0,1.124,1.124,4.494,1.124,
0,1.124,9.574,2.97,1.887,10.619,0,1.613,0,48.905,0.69,64.384,0,21.233,0.685,0.685,0,2.041,0,0,8.1
63,67.347,0,0.68,8.163,46.259,0,0,4.082,54.422,0,1.361,3.401,2.041,0,0,14.966,0,0,2.027,9.459,0,0
,4.054,6.081,0,0,22.819,16.107,1.333,2.667,19.333,0,0.667,20.667,21.333,0,0.667,1.333,0.667,0,0,0
,2.667,28.667,0,1.333,16.667,0,0,1.333,4.667,0,0,36.667,0,0,0,0,0.667,0.667,68,0,0,0.676,0.676,0,
8.108,0,0,34.899,0,1.351,0.676,0,1.361,0.676,0,0.671,3.333,7.333,0.667,0.667,9.333,7.333,0)
> x7 <- c(0,0,3.356,0,5.369,0,65.772,0.667,44.667,0,0,0.667,1.333,0,0,49.333,0,0,0.667,0.667,50.6
67,0,0,1.333,17.333,0.667,0,2,40,4,1.333,7.333,18,5.333,10.667,5.333,0,0.671,8.725,3.333,4.667,3.
333,6.667,41.333,1.333,0,1.361,6.803,6.25,33.913,12.5,2.027,3.356,2.027,10.811,9.396,0,2.685,0,8.
784,1.342,0.671,0,6.122,1.351,0,0,0.671,4.054,2.685,44.295,11.409,2.685,4.027,0,1.342,2.013,5.369
,0,0,20,2,22,0,3.333,1.333,0,0,0,2.667,0,0.667,0,0,2.667,1.333,2.667,0.667,0,0.667,1.333,0.667,0,
0,6,0,18.121,19.048,0,0.68,1.361,2.041,1.351,18.243,0,0.676,21.622,8.784,0,26.531,5.442,8.844,0.6
8,23.81,12.245,3.401,1.361,0,1.37,2.027,0,0.69,0.685,2.055,4.795,0.676,2.703,12.838,0,0.68,25.17,
30.612,40.136,0,18.919,0.676,4.73,4.73,6.081,49.324,0,1.351,2.703,1.351,1.37,13.014,0,8.904,4.795
,5.479,13.699,0.685,2.069,1.379,2.759,15.068,0,0,0.685,4.795,0,6.803,80.272,0,0.69,0.685,4.795,10
.274,0,0.685,0,0,0,0,97.26,0,19.178,0,0,43.662,0,76.027,0,0,0,86.301,0,0,0.685,0,0,52.414,0,12.41
4,0,16.552,0,0,2.069,21.379,0,0,6.207,13.889,0,0,2.098,13.986,72.028,0,4.895,16.084,0,0,1.399,0,4
.196,1.399,28.671,2.797,13.986,0,27.273,16.197,0,15.385,6.993,0,4.895,0,18.881,1.399,7.692,0.699,
0.704,0,0,10.084,0,8.333,0.943,0.943,0.952,0.971,3.093,15.054,1.163,7.229,0,0,0,0,5.085,5.263,0,1
.754,3.704,0,7.407,0,2,0,2.326,2.564,0,0,0,0,0,9.524,7.143,0,0,0,0,21.622,0,3.226,0,0,0,0,0,0,0,0
,3.571,0,0,6.061)
```

```
> x8 <- c(10.256,0,0,3.333,3.175,0,1.471,0,0,0,0,2.899,1.449,60.87,4.348,53.623,35.294,98.529,0,4
8.529,0,0,0,2.941,0,0,0,0,2.817,0,71.831,87.5,93.243,0,5.333,16.883,0,0,0,1.299,0,0,1.333,1.333,0
,4,2.703,5.405,8.219,9.589,2.74,9.722,1.389,4.167,3.448,3.774,5.128,6,7.547,0,1.429,2.857,1.408,4
.225,1.389,1.887,0,1.613,0,28.125,18.75,0,0,0,0,1.37,2.74,10.811,16.667,16.883,19.231,1.282,2.564
,2.632,2.703,2.941,7.692,4.762,0,3.704,0,1.923,8.955,6.25,0,1.587,0,15.625,17.647,3.896,2.597,4.7
06,1.176,6.977,3.488,3.409,2.198,1.053,1.042,1.053,1.031,0.971,1.852,5.405,2.586,0.855,16.102,0,2
.857,0,50,0,65.306,0,22.449,0,0,0,2.041,0,0,4.082,64.626,0,1.361,9.524,47.619,0,0.68,0.68,47.619,
0,3.401,2.721,0.68,0,0,17.931,0,0,2.069,10.345,0.69,1.379,2.759,8.844,0,0,17.808,20.548,0.685,0.6
85,21.233,0.685,0,16.107,16.779,0,0.671,3.356,0.671,0.671,0,0,2.685,26.846,0,0.671,16.779,0,0,1.3
42,6.711,0,0.671,40.94,0,0,0,0,1.342,2.027,65.541,0,0.671,0.676,0,0,7.432,0,0,33.108,0.676,1.351,
0,0,2.027,0,0,0,2.013,6.04,0.671,0,8.667,4,0,0,0,4.027,0.671,2.685,0,63.758,2.685,53.691,0,0,1.33
3,0,0,0,51.333,1.333,0,0.667,0,56,0,0,0.667,22.667,0.667,0,4,38,1.333,0.667,8.667,17.333,8,12,6.6
67,1.342,0.671,12.752,2.74,6.207,2.759,6.944,51.389,2.083,0,0.714,3.571,6.542,29.577,7.746,2.083,
5.556,3.356,10.067,13.423,0.671,2.013,0,6,1.342,0.671,0,5.333,2.013,0,0,0,2.685,6.711,41.216,16.1
07,2.013,3.356,0.676,0.676,4.762,4.054,0.676,0,16.779,4.027,20.805)
> x9 <- c(0,6.757,1.351,0,0,0.671,2.685,0,4.027,0.671,0,3.356,0,1.342,0,0.667,3.333,0,0,0,0,3.333
,0.676,20.946,20.946,0.68,4.054,0,0,0,18.121,0.671,1.342,24.832,8.725,0,27.703,2.027,10.738,1.351
,26.351,14.094,4.698,2.013,0,0.671,2.013,0,0,0,1.342,4.698,0.676,2.703,14.865,0,1.361,33.333,25.1
7,36.054,0,19.048,0,4.082,3.401,5.442,53.061,0,0,2.055,0.685,0.685,13.014,1.37,2.74,3.448,5.517,1
3.194,0.694,0,0,4.225,16.197,0,0.699,0,4.828,0,5.479,78.082,0,1.389,0,0,6.25,0,1.389,0,0,0,0.694,
97.917,0,20.139,0,0,48.611,0.694,85.417,0,0,0,84.722,0,0,2.778,0,0,50.694,0.694,10.417,0,21.528,0
,0,2.759,21.379,0,0,6.944,19.444,0,0,2.128,12.766,75.177,0,2.837,11.348,0,0,8.511,2.128,3.546,4.9
65,23.404,2.837,7.801,0,25.532,18.571,0.714,13.571,5.714,0,2.143,0,15,0.719,5.755,0,0,0,0.735,1.0
1,0,13.265,0,0,0,0,1.087,7.143,3.797,5.128,4.762,1.389,1.429,0,1.587,4.839,24.59,1.639,6.78,15.25
4,1.754,0,2.128,0,0,0,2.703,0,4.878,2.5,0,0,0,2.632,2.778,0,0,12.121,0,4.348,0,0,0,0,16.667,0,0,1
2.5,0,0,12.5,0,0,0,25,0,0,7.692,0,0,5.882,35,0,3.704,11.765,6.25,0,0,0,3.175,4.762,0,0,1.515,1.49
3,49.254,1.493,61.194,20.896,100,0,41.791,2.985,0,0,2.941,0,0,2.899,0,0,0,79.71,62.319,97.143,0,0
,15.942,0,1.429,0,2.857,0,0,8.824,0,1.449,1.449,1.429,4.286,8.451,8.451,1.493,6.061,3.125,6.667,3
.922,11.765,0,14.286,0,0,16.667,0,7.692,9.091,6.667,5.263,4.255,0,20,25.641,2.273,1.786,3.448)
> x10 <- c(3.39,0,4.348,15.517,14.545,3.333,5.714,4.286,1.408,4.225,4.167,4.396,2.128,3.191,0,2.0
41,1.042,1.01,5.051,2.941,6.731,4.673,0,8.397,0,0,0,50.667,0,59.333,0,25.333,0,0,0,0,0,0,4,65.772
,0,0,4.698,53.02,0,0,0,38.667,0,0.667,3.333,0,0,0,18.792,0,0,0.676,10.135,0,0,4.698,7.383,0,0,21.
622,20.27,0.676,0,20.805,0,0,20,14.765,0,0.667,2,0,0,0,0,2,26.667,0,1.333,22,0,0,0,5.333,0,0,36.6
67,0,0,0,0,0,1.333,57.333,0,0,0,0,0,1.342,0,1.333,34,0,0.667,0.667,0,2.667,0,0,0,2.667,1.333,0,0.
667,8,0.667,0,0,0,0,0,2.013,0,60.403,0,59.333,0,0,1.333,0,0,0,53.333,1.333,0,2,0.667,50,0,0,1.333
,27.333,1.333,0,2.667,36,0.667,0,10,24,2.667,9.333,8,0,1.333,8,2,6,0,6,53.333,1.333,0,0,8.054,3.3
9,1.818,0,0,0,32,10.667,2,2.685,1.342,9.396,14.094,0,4.698,0,5.333,2,0.667,0.671,2.703,2.027,0,0.
671,0,2.703,2.685,48.667,19.333,1.333,2.667,0.667,1.333,4,6.667,0,0.667,20.667,1.333,20.667,0,3.3
33,1.333,0,0,0,1.333,0,4,0,0.667,1.333,1.333,2,0,0,4.667,0.667,0.667,0,0,4.667,0,22.667,9.333,0,4
,0,0.667,0,22.667,0,0,34.667,4,0,36.667,4,7.333,2.013,35.57,19.463,2.013,1.342,0,0,2.685,0,0,0,0,
0,1.361,1.361,0,1.361,14.286,0,0,28.571,26.531,35.374,0.68,19.728,0,4.795,2.74,9.459,56.081,0,0,0
.68,0,0.68,4.762,2.041,10.204,6.122,6.803,17.687,0,0.68,1.351,5.405,17.568,0,0,0.676,4.027)
> x11 <- c(0,1.342,79.195,0,0,0,2.685,0,0,2.013,0,0,0,0,99.329,0,25.503,0,0,59.732,0,90.604,0,0,0
,79.195,0,0,0.671,0.671,0,54.362,0,2.685,0,22.973,0,0,1.351,17.568,0,0,5.479,24.658,0,0,4.138,17.
241,75.172,0,2.069,11.724,0,0,8.966,0,0,1.379,29.655,0.69,4.828,0,19.31,20.69,0.69,16.552,3.448,0
,4.138,0,22.069,2.069,6.207,4.138,0,0,0,26.957,0,17.91,3.39,0,0,0,0,0,2.041,2.083,0,33.333,2,8,0,
0,0,0,2.174,2.174,0,0,2.222,2.222,9.091,11.905,0,0,0,0,0,0,12.903,33.333,0,0,0,13.333,0,0,0,0,0,0,0
,0,0,0,0,25,0,0,16.667,0,0,0,0,0,0,0,0,0,0,0,11.111,0,0,0,0,0,0,0,0,4.762,0,0,0,0,0,0,2.564,4.878,0,2.1
28,7.692,3.448,0,0,1.538,0,0,0,1.923,0,0,0,0,0,6.522,7.143,13.38,6.294,17.483,16.084,4.861,0,4.138,
34.932,0,1.37,1.37,2.055,0.685,7.534,0.685,19.863,0,7.534,0,0,0,0,0,0,0,0,0.676,1.342,1.333,15.333,0.
667,1.333,0,19.333,0,0.667,0.667,36.667,30,0,3.333,40,0,0,14.667,0,0,16.667,40.667,26,2.667,15.33
3,11.333,0,0.667,28,0.667,0,0.667,0.667,3.333,41.333,4,9.333,0,3.333,0,7.333,3.333,0,38,0.667,0,5
.333,0.667,53.02,1.342,0,12.752,17.45,0,13.333,2,0,0,10.667,2,1.333,0,50,0,0,0,2.667,15.333,0,10,
17.333,0,0,0,28,48.667,0,8,42,0,0,28,0,4,0,0,1.333,7.333,0.667,0,0.667,1.333,10,4.667,15.333,10,0
,10,0,0,0,0)
> x12 <- c(62.667,0,3.333,64.667,2.667,0.667,0.667,1.333,0,9.333,0,14,0,3.333,0,0.667,25.333,31.3
33,0,0,2,38.667,0,0.667,8.667,0,0,0,16,0,0,0,2,40,0,0,12,41.333,8.667,0,4.667,14.667,27.333,8,8.6
67,4.667,51.333,12,12.667,2,1.333,1.333,24.667,3.333,0,2.667,5.333,4.667,0.667,8.392,2.721,0,0.66
7,2,0,4,3.333,1.333,10.667,14,2,10.667,10.667,1.333,57.333,17.333,17.333,7.333,4,2,32.667,14,17.3
33,21.333,7.333,0,2.667,4,1.333,0,0.667,0,0,0.671,1.342,0,0,0.671,0,24.832,6.329,0.671,2,0.667,0,
1.342,0,4.698,11.409,11.333,59.333,0,7.333,38,0,20,4,3.333,1.333,2,10.667,0,0,9.333,2,0,0.667,6.6
67,2.667,0,6.667,13.333,4.667,0,0,10.811,3.356,3.356,4.698,0.676,0,9.459,6.081,3.378,54.73,6.757,
0,0.676,14.094,9.333,12,4.667,22,1.333,0.667,1.333,0.667,16,0,0,19.333,0,11.333,0,0.667,2.013,0.6
76,2.027,0,2.027,2.041,16.327,13.605,40.136,25.85,13.605,0,49.66,25.85,4.082,0,10.884,0,13.514,0,
0.68,3.378,3.378,29.054,0,11.486,1.351,0.676,0,11.486,2.027,1.351,1.351,8.108,7.432,0,0.676,0,0,0
.676,0,0,1.351,1.351,0.676,0,0,5.405,75.676,0,0,16.216,2.027,0,0,19.595,0,0,13.514,0,0,12.925,21.
233,0,0,6.849,32.192,0,0,9.589,2.74,9.589,0,2.055,10.274,0,0,0.685,3.425,0.685,3.425,5.479,27.083
,7.692,10.49,8.392,6.338,2.837,4.255,17.266,28.358,6.25,19.841,23.2,13.6,5.6,20.161,0,0.82,6.034,
11.712,0.935,0,2.128,1.087,1.163,0,1.299,21.538,1.923,1.961,1.923,0,3.846,5.66,0,0,6.818,0,0,0,1.
852,3.922,0,2.222,0,0,0,0)
```

```
> x <- c(x0,x1,x2,x3,x4,x5,x6,x7,x8,x9,x10,x11,x12)
> y0 <- c(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,33.333,0,0,0,0,0,0,0,0,11.111,0,11.111,0,0,20,0,0,0
,8.333,0,6.667,6.25,6.25,6.25,0,14.286,0,11.538,7.407,6.061,7.692,0,1.923,8.197,7.895,4.717,3.419
,0.813,0,28,0,11.905,3.968,0,8.73,0,0,1.587,0,4.724,2.362,0,0,1.575,0.787,0.781,0,0,0,1.55,0,0,0,
0,0,0,8.661,1.575,0,2.362,0,0,0,0,1.575,0,0,0,0,0,0,11.024,3.937,5.512,0.787,0.787,13.386,4.724,0,1
.575,0,0,0,0,0,0,0,18.11,3.15,0,0,0,0,0,32.283,3.15,3.15,0.787,0,2.344,29.688,1.575,0,1.575,2.362,0,0
,0,0,3.125,0,2.273,0,0,5.303,9.091,5.303,0.758,2.273,9.848,7.576,0.758,3.101,3.788,22.727,1.515,0
,2.273,8.333,0,0,7.576,0.758,21.97,3.03,0,0,0,0,3.03,0,0,32.576,6.818,11.278,0,0.758,0,20.455,27.
344,0,2.273,0.763,15.625,0,0.746,59.091,1.695,6.87,0.752,13.534,5.263,10.526,11.278,1.786,6.034,5
.882,4.202,12,8.108,8,16.364,13.235,11.392,11.111,35.385,6.061,14.706,15.942,7.914,9.286,31.915,2
1.233,0.676,8.108,4.027,0,0,0,5.369,0.671,0.671,2.685,0,0,0.667,7.143,0,18,6,2,0,0.667,1.333,10,0
,17.333,0,0,0.667,1.333,0,9.396,0.671,7.383,0.671,0,1.342,5.369,0,6.711,2.013,2.013,0.671,0.671,2
.013,3.333,0,0,0,0.667,0,14.667,34,0,0,0.667,2,0,0,84.564,0,58.389,0,0,0,0.671,0,0,10,1.333,0,0,0
,0.667,2,0,87.333,0,0.667,0,0,3.333,6.667,0,0,1.342,0,0,0,28,0.667,1.333,0.676,6.757)
> y1 <- c(2.027,0,7.383,4.027,4.054,4.027,0.671,0,1.342,0,0,0.671,55.705,0,2.685,1.342,0,2,2,1.33
3,2.667,2,4,0,9.333,0.667,19.333,26,0.667,0,0,0,0,2,0,8,2.667,0,2.667,0,1.351,0,14.765,2.685,2.01
3,12.752,20.134,16.107,7.383,0,12,2,96,0,0,0.667,0,0,2,9.333,2.667,0,4.667,10,0,0,0,0.667,0.667,2
.667,5.333,14,0,14,6,0,3.333,3.333,0,2,12.667,0.667,0,5.333,0.667,0,2.667,0,0.667,6,0,0.667,1.333
,1.333,0.667,26,12,0,3.333,0,1.333,10.667,0,0,1.333,1.333,0,0.667,0,4.027,2.685,0,0,34.899,0,0,0.
671,0,16.779,6.667,2.703,3.378,12.838,5.405,1.351,25,1.351,10.135,82.432,2.721,0.685,9.589,0,2.06
9,0,5.479,6.164,2.083,2.83,0.794,0,5.442,8.904,1.37,3.425,27.397,3.425,2.74,5.479,3.425,11.644,5.
479,4.138,0,0.69,0.69,0.69,2.759,4.138,6.897,10.959,76.027,0.69,0,0,1.389,0,0.694,0,20.139,0,0.69
4,0,9.091,0,4.196,6.294,9.091,7.692,12.587,0,0.699,4.895,0,3.497,4.861,5.556,2.069,6.897,3.448,2.
759,0.69,3.448,0,0,0,0,0,0.699,0.699,0,1.399,0,0,0.699,1.399,2.797,0,11.972,0,3.521,3.521,8.451,2
.817,1.408,0,0,2.098,2.113,3.521,0,4.286,0.704,2.128,51.064,0,3.546,5.674,2.837,5.674,4.286,14.18
4,2.128,3.546,1.439,9.42,0,7.971,14.599,0.735,22.628,0,0,35.766,0,0,5.882,0.741,11.111,0,0,8.824,
0,0.735,4.444,2.222,0,0,0,3.704,2.222,6.667,5.926,1.471,5.147,1.481,0.741,0.746,0.752,0,3.817,4.5
8,1.538,0.775,0,8.661,0,3.226,11.382,30.252,1.681,0,38.462,0.901,3.571,2.778,0.943,0,1.98,6.452,3
.488,17.857,39.286,0,10.448,3.636,0,6.061,0,13.636)
> y2 <- c(0,14.286,7.692,7.692,8.333,0,12.5,0,0,12.5,0,0,0,12.5,12.5,0,0,3.571,0,0,0,0,0,0,0,0,0,
0,0,0,0,0,0,0,0,0,0,0,0,0,0,25,25,0,0,0,0,0,0,0,0,0,0,0,0,0,9.091,0,0,9.091,0,0,66.667,0,20,66.667,0,18
.182,15.385,4.348,3.704,3.448,10.526,11.111,5.769,1.37,9.302,6.122,3.67,0,0.877,28.07,0,14.035,2.
632,0,2.632,0.877,0,2.609,0,7.692,2.564,0.862,0,1.724,0,0,0,0,0,0,0.862,0,0,0,0,0,0,0.855,9.322,0.847
,0,1.695,0,0,0,0,0,0.82,0,0,0,2.479,0,10,1.667,7.5,1.653,0,9.917,3.306,0,0.826,0,1.653,0,0,0,0,18.0
33,3.279,0,0,0,0,0,32.52,1.626,1.626,0,3.252,0.813,31.707,2.439,0,2.439,0,0,0,0,0,0,0.806,0,4.724,0.7
87,0,6.25,16.406,1.562,3.906,3.906,10.156,16.406,1.55,6.25,5.426,20.93,0,0,0.775,7.752,0,0,3.101,
0,17.829,0.775,0,0,1.55,1.55,2.326,1.55,0,33.333,8.527,11.538,0,0,0,16.154,17.969,0,0.8,0,23.2,0,
0.769,62.791,4.132,6.299,0,15.267,6.107,8.8,5.691,5.932,8.85,7.273,9,11.25,10.769,2.521,3.39,54.3
1,2.778,6.557,12.308,21.951,17.6,6.618,13.768,38.406,27.66,0.68,6.122,8.163,0,0,0,6.081,0.69,2.06
9,1.37,0.676,0.676,0,7.692,0,12.838,4.73,0.671,0,0.667,2,10.067,0.671,6,0,0.671,0,0,0,12.667,0.66
7,6,0.667,1.333,0.667,8,0,9.396,2.013,2.667,0.667,0,0.667,1.333,0,0,0,2,0.667,16,30,0,0,0,0,0,0,8
7.333,0,60,0.667,0,0,0,0.671,0,14.094,2.013,0,0,0,0.671)
> y3 <- c(2.013,0.676,83.893,0,0,0,0,3.333,4.667,0,0,2,0,0,0,26,0.667,1.333,0.671,16.107,1.342,0,
10.067,2,5.369,4.698,3.333,0,1.342,0,0,0.671,55.705,0,5.369,1.342,0,2,1.333,2,3.333,1.333,4.667,0
,8.667,0,20.667,24.667,0,1.333,0,0.667,0,3.333,0,4.667,0,2.667,0.667,0.667,1.333,0.667,14.094,2.6
85,1.342,16.107,20.805,8.054,10.738,0,14.765,1.342,96.644,0.671,0.671,0,0,0,0.671,8.667,3.333,0,5
.333,6,0,0,0,0,2.013,4.698,2.013,14.765,0,10.738,2.013,0,1.351,3.356,0,2.685,8,1.333,0,4,0.671,0,
2.013,0,0,9.396,0,0.667,0,2,0.667,21.333,14,0.667,1.333,0,0,8,0,0,2.667,2.667,1.333,0.667,0,1.333
,1.333,0,0,36,0,0.667,0,0,16,8,0.671,2.685,12.752,4.698,1.342,22.148,2.013,6.711,84.564,8.108,0,7
.432,0,1.37,0,0.68,5.442,4.762,3.077,1.538,1.361,0.68,4.762,1.361,2.041,27.891,1.361,3.401,7.483,
1.361,6.803,4.762,3.378,0.68,1.361,1.361,0.68,0.68,4.762,6.207,10.959,81.507,0.685,1.361,0,0,0,0,
0,17.007,0,0,0,0,10.274,0,4.795,5.479,8.276,10.274,12.329,1.37,0,3.425,0.685,0,5.479,1.37,0.685,10.
274,3.425,4.795,0,3.425,0,0.69,0,0,6.207,0.694,0,0,1.389,2.083,0,2.098,2.797,3.497,0,11.806,0,2.0
83,2.083,4.861,0.694,1.399,0,0.699,2.098,2.098,2.797,0,4.225,0,2.128,53.521,0,2.817,6.383,4.286,1
2.057,6.383,12.143,0.719,4.412,0.735,12.5,1.471,0.735,15.441,1.471,14.706,1.471,0.741,39.552,0.74
6,0,7.634,1.538,10.606,0,0,0,7.576,0,2.273,7.576,3.03,0,0,0,2.256,0.752,14.925,5.97,4.478,2.985,3.0
08,0,1.527,0.763,0,3.077,4.615,1.538,2.362,0,7.143,0,1.653,17.094,32.479)
> y4 <- c(3.448,1.739,47.748,0.909,3.704,0.917,2.83,0.98,4.167,5.435,1.124,14.458,28.571,1.316,13
.043,5.882,0,10.714,0,5.556,0,0,0,0,0,0,0,16.667,0,0,50,0,0,0,0,0,0,0,10,0,0,100,66.667,0,0,0,0,0,0,0,0
,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,25,0,0,0,0,0,0,0,0,0,33.333,0,0,0,0,12.5,0,7.143,0,37.5,
18.75,0,23.529,5.882,0,12.5,0,62.5,0,10,45.455,0,7.692,7.143,16.667,30.435,19.231,10.345,12.121,2
.5,18.182,8.163,13.208,3.39,5.556,5.376,2.804,0,0,29.204,0,11.504,1.77,0,7.08,0,0,2.655,0,1.77,3.
54,0,0,7.018,2.609,0,0,0,0,0,0.87,0,0,0,0,0,0,0.87,7.759,0,0,1.709,0,0,0.84,0,0.833,0,0,0,2.5,0,5,4.1
67,4.959,0.82,0.82,13.934,5.738,0,0.82,0,0.82,0,0,0.82,0,26.23,4.098,0,0,0,0,40.984,0.82,2.459,0.
82,0,0,40.984,3.279,0,3.39,4.098,0,1.639,0,0,0,0,2.419,0,3.226,0,0,4.839,14.516,3.226,2.419,4.032,8
.871,12.097,0,8.333,8.065,19.355,1.613,0,3.226,12.097,0,0,6.452,0,20.968,1.613,0,0,0.806,0,2.4,3.
937,0,27.559,8.661,9.302,0,0.775,0,17.6,20.93,0,4.651,0.775,20.8,0,0,71.429,2.362,4.615,0.775,10.
078,9.302,9.302,10.853,3,8.824,4.902,11.475,8.511,21.875,7.407,17.037,15.441,11.189,8.904,39.456,
26.351,1.342,4.698,10.738,0.667,0,0,8.667,0,2.685,0.671,0,0,0.667,11.429,0,14.667,3.333,0,0,2.055
,0.667,6.667,1.333,10.667,0,0,0.667,0.667,0,11.333,0.667,5.333,0.667,2.667,0,4.667,0)
```

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> y5 <- c(7.333,2.667,2,0.667,0,2,2,0,0,0,0,0.667,16,36.667,0,0,0,0,0,0,87.248,0.671,63.758,0,0,0
,0,1.351,0,12.162,4.054,0,0,0,0.667,2,0,75.333,0,0.667,0,0,5.333,6.667,0,0,6.667,0,0,0,26.174,0,2
.013,0,14.094,0.671,0,10.667,2,8,3.333,1.333,0.671,0.671,0,0,0.671,45.638,0,2.685,0,0,2.013,0.671
,1.333,3.333,1.333,6,0,6.711,0,24.161,26.846,0,0,0,0,0.671,2.685,0,6.757,1.361,0,2.041,0.68,0.68,
0,15.436,0.671,3.356,16.107,18.792,11.409,10.067,0,14.765,0.671,93.289,0,0,0.667,0,0,1.333,8,4,0,
7.333,5.333,0,0,0,0,0,1.333,1.333,9.333,0,8,2.667,0,2.667,7.333,0,0,13.333,4,0,0,6.711,0.671,0,0,
0,1.342,9.396,0,0.671,1.342,0.671,2.685,23.49,18.243,0.676,3.378,0,0,10.811,0,0,2,1.333,0.667,0,0
,0.667,1.333,0,0.671,34.228,0,0,0,0,20.805,6.711,0,2.013,15.333,4,1.333,21.333,0,12,83.893,4.698,
0,11.409,0,0.676,0,2.041,5.072,2.703,0.826,0,3.008,1.351,1.351,8.784,0.676,4.054,29.054,0.676,1.3
51,6.711,0.671,4.73,8.784,3.378,0,0.676,2.027,0,1.351,2.703,7.432,12.838,87.075,0.685,0,0,0,0,0.6
8,0,14.966,0,0,0,7.483,0,6.122,9.524,8.219,10.204,10.884,0,2.041,5.442,3.401,2.041,0,4.11,1.37,11
.034,2.069,4.828,0,2.759,0,1.379,0.69,0,4.828,2.778,0,0,0.699,2.098,0,0.704,2.113,2.113,0.699,9.7
22,0,2.083,2.083,5.556,1.399,0.699,0,0,1.399,2.098,7.692,0,4.225,0.704,3.497,52.083,0,4.828,5.556
,2.083,9.028,4.861,13.194,2.083,4.895,2.098,11.972,1.418,4.255,13.475,2.837,23.944,2.113,2.128)
> y6 <- c(31.915,0.709,0,4.965,1.418,19.149,0,0.709,10.638,0,2.817,7.042,2.098,0.699,0,0,4.895,1.
399,9.091,4.93,7.857,2.878,2.878,0.719,0,0.725,0,3.65,3.704,0,3.846,0,5.385,0.769,2.362,15.702,28
.099,4.098,0,45.378,0.855,2.609,0.87,0.917,0.926,1.923,5.051,2.083,8.696,32.955,0,9.231,11.628,13
.793,26.087,0,0,0,0,20,0,0,0,0,0,0,0,0,8.333,9.091,0,42.857,0,0,0,18.182,0,0,0,0,0,0,3.704,3.571,0,
1.695,0,0,3.39,0,0,0,0,0,0,3.39,0,0,0,0,0,0,0,0,0,0,90.476,17.188,1.538,0,0,0,1.429,0,40,0,0,1.51
5,25.758,28.788,0,0,1.515,1.562,12.5,20.635,28.125,7.937,11.111,7.143,30.909,5.357,11.667,18.644,
7.692,24.444,31.818,2.041,10.204,4.651,7.143,26.19,2,5.263,24.561,9.091,7.576,9.231,1.538,4.545,2
.985,0,0,1.562,3.125,50,58.73,0,22.581,17.544,1.786,3.509,12.5,6.25,22.222,12.727,16.667,11.321,4
.255,0,8,0,11.321,55.172,3.509,6.897,21.429,23.333,36.508,11.111,7.692,5.333,18.919,27.027,23.188
,18.571,14.085,17.073,12.048,9.091,4.494,3.371,7.865,3.371,3.371,2.247,8.989,1.064,11.881,1.887,8
.85,0,0,11.719,8.759,0.69,6.849,0,0,0,0,0.685,0.68,0,0,10.884,0,0,0.68,0,18.367,0.68,0,0.68,6.122
,0,13.605,0,65.306,2.041,1.361,1.361,0,0,6.081,2.027,0,0,0.676,13.514,0,5.405,12.081,3.356,0,0.66
7,0,0.667,82.667,4.667,3.333,0,0,0,0.667,4.667,30.667,0,20.667,13.333,0,0,0.667,0,0,4.667,0,0,0,2
,0,0,0,0,8,3.333,27.333,0.671,0,0.676,0,0.676,0,0,4.027,1.342,0,52.703,0,0,3.401,0.676,0,2.685,2,
0,0,0,2.667,0,0.667)
> y7 <- c(2,0.667,0,0,0.671,0,0,0,2,0,0,2,0,0,0,0.667,4,0,0.667,0,2,0,0,20,5.333,0,0,0,1.333,0,0.
667,2,0,4,0,0.667,2.013,0,1.342,0.667,0.667,0,4.667,8,2.667,1.342,1.361,6.803,2.679,4.348,7.353,2
.027,8.725,4.73,10.811,0.671,2.013,61.074,4.698,0,6.04,34.228,0,0,8.784,0,0.671,0,1.351,0,0.671,4
.027,0.671,0,1.342,0,28.188,5.369,4.027,11.333,4,4.667,0,0,2,0,0,4.667,60.667,0.667,4.667,4.667,0
,0,1.333,4.667,68,0,8,8,4,1.333,0,1.333,2,0,10.067,9.524,0.68,0,0.68,1.361,0.676,0.676,0.676,0,0,
0.676,2.041,64.626,0,2.041,26.531,0,1.361,0,0.68,0.685,2.74,0,0,0,0,0,2.055,2.027,0.676,2.703,0,0
.68,1.361,2.041,0.68,1.351,5.405,2.027,3.378,0.676,4.73,0,0.676,1.351,2.027,31.757,16.438,1.37,5.
479,0,0,0,0,0,3.448,0.69,3.448,0,0.685,0.685,0,1.37,0,2.041,0.68,0,28.276,1.37,0,0,0.685,20.548,0
,0,3.425,0,0,0,8.904,1.37,0,25.352,1.37,0,0,0,8.219,0,0,0.685,0,2.069,0.69,7.586,0.69,0,0,0,0,0,0
,0,0,0,0.69,18.75,0,0,11.888,0,0.699,1.399,17.483,0,0.699,0,13.986,4.196,0,0.699,11.888,4.196,3.4
97,0,1.399,9.155,2.797,0,0,0,2.098,0,2.797,2.098,2.098,1.399,0,2.878,0,1.681,0.909,15.741,1.887,0
.943,0.952,0.971,4.124,3.226,0,1.205,2.817,4.286,1.515,3.279,6.78,1.754,3.509,45.614,14.815,14.81
5,3.704,40.385,38,4.444,6.977,15.385,14.286,0,5.128,0,2.381,2.381,11.905,0,4.762,0,0,2.703,0,12.9
03,11.111,0,0,0,0,0,0,0,0,0,6.061,0)
> y8 <- c(0,5.882,0,0,0,3.077,0,0,1.471,0,0,1.449,0,1.449,0,0,1.471,1.471,2.941,0,2.941,0,0,0,0,0,0
,1.429,0,0,90.141,11.268,2.778,0,0,0,0,0,28.205,0,1.299,0,15.584,18.667,0,2.667,0,12.162,8.108,12
.329,20.548,5.479,13.889,5.556,22.222,12.069,5.66,10.256,20,11.321,25.49,5.714,20,12.676,8.451,2.
778,15.094,8.621,12.903,19.355,1.562,3.125,1.562,0,4.688,1.37,2.74,35.616,54.054,1.282,15.584,29.
487,7.692,2.564,10.526,27.027,16.176,13.462,21.429,7.547,3.704,27.778,7.692,25.373,26.562,36.923,
12.698,9.375,3.125,16.176,25.974,14.286,16.471,9.412,15.116,13.953,2.273,3.297,4.211,6.25,4.211,3
.093,1.942,11.111,1.802,3.448,1.709,1.695,0,0,7.639,6.164,0.68,6.803,0,0.68,0,0,0.68,0.68,0,0,13.
605,0.68,0,0.68,0,23.81,0.68,0,0,4.082,0,12.925,0,63.265,1.361,1.37,0.69,0,0,6.897,2.069,1.379,0,
0.69,8.163,0,5.479,14.384,0.685,0.685,1.37,0.685,1.37,84.459,3.356,6.04,0,0.671,0,0,5.369,22.819,
0,16.779,14.765,0.671,0,1.342,0.671,0,6.04,0,0,0,0,0,0.671,0,0,12.081,2.703,31.081,0.671,0,0,0,0,
0,0.676,1.351,2.703,0,57.432,0.676,0,2.027,1.351,0,2.013,2.013,0,0,0,2.667,0,0,1.333,0.671,0.671,
0,0,0,0.671,0.671,1.342,0,0,2,0,0,0,2.667,2,0,1.333,0,1.333,0,0,16.667,3.333,0,0,0,4.667,0,1.333,
3.333,0,4,0,0,0.671,0.671,2.013,2.74,0,0,6.25,4.167,1.389,0.699,0,7.143,1.869,2.817,6.338,0,3.472
,1.342,8.725,1.342,4.698,60.403,5.405,0.667,8.054,38.255,0.667,0,7.383,0,0.671,0,0,0.671,0.676,4.
027,0.671,0.671,0.676,0,34.014,8.108,2.703,8.054,2.013,1.342,0)
> y9 <- c(0,4.054,0,0,2.685,58.389,0,3.356,7.383,0,0,1.342,5.369,69.128,0,8,8.667,8.725,1.342,0,0
.671,1.333,0,8.108,12.162,0,0,1.351,2.685,0.671,0.671,2.013,0,0,1.342,1.351,66.216,0.676,2.685,27
.027,0,2.685,0,1.342,2.013,0,0,0,0,0,0,4.027,2.703,1.351,0.676,0,0.68,4.082,1.361,3.401,1.361,2.7
21,1.361,3.401,0,7.483,0,0,1.361,2.055,32.877,12.329,0,6.849,0.685,0,1.379,0.694,0,2.817,2.113,4.
225,0,0,0.699,0,0,0,1.37,1.37,0,29.167,2.083,0.694,0,0,25,0,0,3.472,0,0.694,0,7.639,0.704,0,18.05
6,0,0.694,0,0,4.861,0,0,2.778,0,1.389,0,3.472,1.389,0,0,0.694,0,0,0.69,0.69,0,0,1.389,16.667,0,0,
11.348,0.709,0.709,1.418,12.766,1.418,0,0,12.057,4.965,2.128,0.709,14.184,1.418,4.255,0,3.546,4.2
86,2.857,0,1.429,0,2.143,0,0.714,1.439,1.439,2.174,0,0,0,1.01,2.041,12.245,2.105,0,1.053,0,3.261,
2.381,2.532,1.282,7.143,1.389,5.714,1.471,1.587,4.839,6.557,0,45.763,3.39,33.333,0,59.574,8.511,8
.511,6.818,18.919,0,2.439,0,0,5.405,7.895,0,2.778,0,0,0,0,13.043,0,0,0,0,0,0,0,14.286,0,0,0,0,0,0,0
,0,50,0,0,14.286,0,11.765,0,4.762,3.704,2.941,0,1.887,1.786,0,6.349,1.587,0,1.515,4.545,2.985,5.9
7,0,0,2.985,0,0,0,1.493,0,0,0,0,0,2.899,0,0,66.667,11.594,0,1.429,0,0,0,0,12.857,0,1.429,0,24.286
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,11.765,0,1.449,0,8.571,10,8.451,11.268,8.955,4.545,7.812,35.556,15.686,5.882,14.286,42.857,12.5,
75,16.667,14.706,0,15.909,42.222,15.789,19.149,2.174,0,5.128,0,3.571,12.069)
> y10 <- c(3.39,4.615,24.638,48.276,9.091,13.333,12.857,28.571,22.535,16.901,16.667,17.582,7.447,
6.383,3.093,3.061,9.375,0,0,12.745,1.923,4.673,7.826,5.344,1.379,0,7.333,5.333,0,9.333,0,0.667,0,
0,0.667,0.667,0,0,14,0.671,0,1.342,0,18.121,0,0,0,4,0,16.667,0,59.333,0.667,0,0,0,0,5.405,0,0,0,2
.013,14.094,0,0.671,12.838,0,0,1.351,3.356,1.342,92,3.333,5.369,0,0,0,0,2.667,26.667,0,28,15.333,
0,0,1.333,0,0,6.667,0,0,0,0,0,0,0,0,4,2,39.333,0,0,0,0,0,0.671,0,2,3.333,0,64,0,0,2.667,0,0,6,0,0
.667,0,0,2,0,0,0,0,0,0,0,0,0,0,0,1.333,0,0,2,0,0,0,3.333,0.667,0,0.667,0,2.667,0,0,17.333,2.667,0,0
,0,2.667,0,0,0.667,0,2.667,0,0,0,0,2.667,0,0,0.667,10,3.333,0.667,0,0.671,8.054,0.847,7.273,2.632
,5.128,3.704,10.667,0.667,1.333,6.04,2.685,9.396,1.342,4.698,63.758,3.333,0.667,2.667,40,0,0.676,
8.784,0,0,0,0,0,1.333,2.667,0,0,1.333,0,34.667,10,0.667,2.667,4,0.667,0,0,1.333,0,0,0,64.667,0,4,
6.667,0,0,1.333,3.333,74.667,0,9.333,9.333,5.333,0.667,0,0,2,0,2.667,14,0,0,0,0.667,2,0,0.667,0,0
,0,1.333,60.667,0,2.667,36.242,0,5.369,0,0.671,0.671,1.342,0,0.676,0,1.754,3.509,0,0,0.68,6.081,1
.361,0.68,0,0,4.082,0.68,0.68,0.68,4.082,0,0.685,0,9.459,0,0,0.676,2.721,31.973,7.483,1.361,2.721
,0.68,0,1.361,0,0.68,1.361,0,3.378,0,0,0.676,0,0.671)
> y11 <- c(0,0.671,2.013,0,37.162,1.342,0,0.671,0,32.886,0,0,0,0,0,0,7.383,0,0,16.107,0,0,0,0,5.3
69,0,0,0,0,1.342,0,0.671,0,0,0,0.676,0,0,0.676,0,0,0,0.685,17.123,0,0,13.793,0,0,2.759,10.345,0,0
,0,16.552,3.448,0,0.69,15.172,2.069,2.069,0,0,8.276,2.069,0,1.379,0,2.069,0,0.69,0.69,1.379,0.69,
0,0.69,0.699,0,2.703,1.493,0,6.897,1.724,0,1.818,1.961,0,2.083,3.922,1.961,0,0,4.082,0,2.128,0,13
.043,0,0,0,2.222,80,0,14.286,0,0,0,0,5.556,0,0,0,9.091,0,0,6.667,0,11.111,0,14.286,0,0,0,0,0,0,0,
0,0,0,0,16.667,0,0,0,80,0,0,10,0,0,9.091,0,0,0,0,11.765,0,0,0,12.5,3.571,3.125,0,0,9.756,4.545,0,
5.769,13.793,20.968,3.125,27.692,2.817,8.219,2.299,0,42.975,2.344,3.788,0,5.797,0.714,71.831,0,2.
098,4.196,11.111,0.69,2.759,0.685,0,0,2.055,0,5.479,3.425,0.685,0,0.685,0,0,0.68,0,0,0,0,4.054,0,
0,3.333,0,0,0,0,18.667,1.333,85.333,4,4.667,0,0,0,0,0,1.333,0,0,0,6.667,2,0,0.667,17.333,0,0,1.33
3,0,0,2,0,0,9.333,2.667,2,0,3.333,0,0,6,0,6,14,0,1.333,2,23.49,25.503,0.671,16.107,4.027,49.664,0
,0.667,0,0,5.333,0,0,0.667,0.667,0.685,0.671,4.667,24.667,12.667,0,8.667,19.333,0.667,0,0,2,3.333
,0,4,3.333,0,0,0,0,0.667,1.333,0.667,1.333,2.667,97.333,0,5.333,2.667,6.667,1.333,11.333,3.333,1.
333,8.667,0,0,2.667,1.333)
> y12 <- c(0,0.667,76.667,16,1.333,0,8.667,0,0,44,0,32.667,0,0,0,0,6,1.333,0,0,18.667,0,0,0,1.333
,0,0,3.333,5.333,0,0,0,14,9.333,0.667,0,0,12.667,0.667,0,2,2,2.667,0.667,0,13.333,3.333,0.667,2,18
,1.333,0.667,0.667,0,2,7.333,3.333,2,1.333,8.392,6.122,6,11.333,3.333,3.333,0,2.667,9.333,0,1.33
3,24.667,1.333,0,2,1.333,3.333,0,15.333,4,0.667,13.333,3.333,4.667,22,20.667,2,2,8,0.667,0,0,0,0.
671,1.342,90.604,0,0.671,0.671,0,0.671,7.595,1.342,11.333,0,0.667,0.671,11.409,10.738,4.698,0.667
,0,0,0,0,0,0.667,0,0,0.667,0.667,16,0,8.667,0,22.667,0.667,0.667,0,0,0,0,0,19.333,0.667,2.667,2.7
03,1.342,2.013,16.779,0.676,0,2.703,0.676,16.892,4.73,9.459,0,4.73,2.685,4,48,8.667,4.667,1.333,1
.333,1.333,0.667,0,0,0,1.333,0.667,0,0,1.333,2.013,1.351,19.595,9.459,0.676,2.041,2.041,12.925,0.
68,2.721,0,0,2.041,0,2.721,0,1.361,1.351,3.378,0,1.361,26.351,0.676,2.027,0,54.054,0.676,14.189,2
.027,0,0.676,19.595,18.919,2.027,0.676,0.676,0,0,0,0.676,0,3.378,2.027,2.027,91.216,0,0,0,0,0,0,0
,1.351,25,0.676,21.622,0.676,0,4.054,0,3.401,0,0.685,0,0,45.89,0,0,0,2.74,1.37,20.548,0,2.74,0,1.
37,0,0,2.055,10.274,17.123,29.452,2.083,3.497,0,1.399,2.817,8.511,0.709,9.353,2.985,1.562,2.381,3
.2,12.8,5.6,7.258,0,0.82,7.759,5.405,0.935,2,7.447,2.174,5.814,2.439,0,1.538,0,1.961,3.846,2.128,
15.385,9.434,3.509,74.074,0,1.818,0,5.357,57.407,11.765,0,0,0,0,0,100)
> y <- c(y0,y1,y2,y3,y4,y5,y6,y7,y8,y9,y10,y11,y12)
> z0 <- c(4,3,7,7,7,8,8,2,8,6,5,5,5,4,4,3,4,2,3,3,8,3,3,5,3,3,4,3,5,5,3,5,4,3,2,4,4,5,2,4,3,3,4,1
,2,1,2,1,1,1,1,1,1,1,2,9,5,5,9,4,5,7,4,8,9,6,8,9,7,7,8,5,8,9,9,9,9,9,9,8,9,9,9,9,9,8,9,7,6,9,9,9,9,
8,9,8,8,9,9,3,6,7,7,4,4,6,8,6,9,6,8,6,7,9,6,6,5,9,9,7,7,8,5,8,5,6,5,6,7,4,5,6,8,5,6,7,9,6,9,4,6,8
,6,5,6,6,3,4,5,5,6,8,9,8,7,8,8,7,6,6,4,5,9,6,4,5,9,7,5,4,1,9,9,9,5,4,9,3,7,1,9,7,7,1,3,9,4,2,3,3,
1,1,3,3,4,1,4,2,2,1,1,4,1,2,1,1,2,4,7,6,7,5,8,7,6,4,4,3,8,9,4,4,5,4,8,3,7,7,4,4,4,9,2,5,4,5,4,8,5
,6,7,8,5,4,7,8,4,5,7,7,6,7,7,5,8,9,8,7,8,9,9,9,8,8,9,7,9,9,7,8,9,9,6,7,8,2,6,8,8,6,8,8,5,9,9,5,9,
8,1,3,9,8,1,6,8,6,4,8,4,4,4)
> z1 <- c(6,9,2,3,4,4,9,9,5,8,9,8,7,9,8,8,8,9,7,7,6,6,6,9,5,7,7,7,7,7,9,8,9,5,8,5,8,8,7,5,5,9,7,4
,5,8,7,4,6,9,7,3,9,9,6,5,7,9,7,8,8,9,9,7,8,9,7,9,8,4,4,5,4,5,3,8,3,3,9,7,5,7,9,6,8,9,8,9,8,8,9,9,
7,8,7,6,5,8,6,3,7,6,5,9,7,6,8,9,9,4,9,8,6,7,8,9,6,8,9,7,8,6,5,5,8,7,5,5,8,6,4,3,9,4,5,1,1,4,4,3,4
,6,5,3,5,7,4,1,4,6,2,2,5,7,4,4,7,8,4,6,6,8,5,8,9,6,8,5,6,6,8,5,9,4,7,7,6,7,5,6,6,7,5,5,7,5,4,9,5,
5,5,6,5,7,5,9,9,5,4,7,7,5,2,8,7,5,5,9,7,8,4,4,5,3,1,4,6,6,4,7,9,2,3,4,7,9,3,4,7,3,3,7,6,4,6,6,4,4
,4,4,4,5,5,4,5,5,3,7,2,7,8,1,6,7,4,3,5,9,7,3,6,6,3,5,8,5,3,4,8,7,2,3,5,4,3,4,4,1,3,4,3,7,6,3,1,5,
7,4,3,1,5,4,5,8,4,2,5,3,4,3)
> z2 <- c(4,4,4,4,2,5,6,7,8,4,5,5,8,6,4,5,4,1,6,5,4,5,4,4,7,7,4,7,8,8,7,5,5,7,4,7,4,5,8,3,4,7,7,9
,5,6,8,8,5,5,6,8,5,4,8,8,5,5,3,5,4,5,5,6,3,2,2,1,1,2,1,1,2,1,1,3,9,4,5,9,4,5,7,4,7,9,6,8,8,8,8,7,8,
5,8,9,9,9,9,9,8,9,9,9,9,8,8,9,7,6,9,9,9,8,9,9,8,8,9,9,4,6,8,7,4,4,5,9,6,9,6,8,6,7,9,6,7,6,9,9,7,7
,7,5,8,5,6,5,7,7,5,6,6,9,4,6,7,9,6,9,3,7,7,6,6,6,7,4,5,6,5,5,9,9,8,7,8,8,8,6,6,5,5,8,6,4,5,9,7,5,
4,3,8,9,9,5,3,9,3,6,2,8,8,7,1,2,9,3,3,3,1,1,1,2,1,2,1,8,1,5,1,1,4,3,1,1,2,4,7,5,7,6,7,7,7,3,4,4,8
,9,3,4,5,1,8,2,5,7,3,4,4,9,1,5,5,6,4,8,6,4,7,8,4,4,6,8,4,4,8,7,6,7,7,4,8,9,7,7,9,8,9,9,9,8,9,8,9,
9,7,8,9,9,6,7,8,3,6,9,8,7,8)
> z3 <- c(7,5,8,9,4,9,9,1,3,9,8,2,6,8,6,5,8,5,5,3,6,8,1,4,5,5,9,9,6,7,9,8,7,9,7,8,8,9,8,7,5,6,5,9
,5,7,7,7,7,7,9,8,9,5,8,5,8,8,6,5,6,9,7,4,5,8,6,4,6,9,7,3,9,9,7,5,8,9,7,8,8,9,8,7,8,9,6,9,8,4,4,5,
4,4,3,8,4,3,9,7,4,7,9,7,8,9,8,9,7,8,9,9,7,9,7,6,6,8,6,3,7,6,5,9,7,5,7,9,9,4,9,8,6,6,8,8,7,8,9,7,8
,7,4,6,8,6,5,5,8,5,5,4,9,5,5,5,1,1,4,3,5,7,4,3,5,6,4,1,4,7,1,3,4,6,4,5,7,7,4,6,7,8,5,8,9,6,8,5,7,
5,8,6,9,4,7,6,7,6,5,5,5,6,5,5,7,5,4,9,5,5,5,7,5,7,5,9,9,5,4,6,7,4,3,8,8,4,5,9,6,7,3,4,5,2,1,4,6,5
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```

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3,4,8,8,3,3,5,4,4,3,3,1,3,5)
> z4 <- c(3,7,6,3,1,5,6,3,3,1,5,4,4,9,4,1,4,3,2,1,3,3,3,4,4,7,6,5,4,5,6,6,7,5,7,3,3,7,7,7,4,7,7,7
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7,2,4,5,1,2,5,3,2,1,2,5,3,2,1,2,2,2,1,1,1,1,3,9,4,5,9,3,5,7,4,8,9,6,8,9,7,7,8,5,8,8,9,9,9,9,8,9,9
,9,9,9,8,9,7,7,9,9,9,9,9,9,9,8,7,9,9,4,5,7,7,4,4,7,9,6,9,6,9,6,7,9,6,5,6,9,9,6,7,7,5,8,5,7,5,6,7,3,
4,6,7,9,5,6,6,9,7,9,4,6,7,5,4,7,6,3,4,6,5,5,8,9,8,7,8,8,7,7,6,5,5,8,6,5,4,9,8,4,5,3,8,9,9,5,4,9,3
,7,2,8,8,7,1,3,9,3,2,3,1,2,1,3,4,1,3,1,3,1,3,2,4,7,5,7,5,7,7,7,4,4,4,8,9,4,4,4,1,8,3,7,7,4,4,4,8,
1,5,6,7,5,8,5,5,8,9,5,3,7,8)
> z5 <- c(4,5,7,7,5,7,7,4,8,9,8,7,9,8,9,9,8,9,9,7,9,9,7,7,9,9,6,7,8,3,6,9,7,5,8,7,6,7,9,4,9,8,1,3
,9,8,1,5,7,6,5,9,5,5,3,7,8,2,4,4,5,9,9,5,8,9,8,6,9,8,9,8,9,8,8,6,7,5,9,6,8,7,8,7,8,9,9,9,5,8,5,8,
9,7,5,6,9,7,4,5,7,6,3,5,9,7,3,9,9,6,6,8,9,6,8,8,9,8,7,8,9,7,9,8,4,4,6,4,4,4,8,4,3,9,7,4,7,5,9,7,8
,9,8,9,8,7,9,9,7,8,7,6,5,8,6,3,7,6,5,9,7,5,7,9,9,4,9,7,6,6,9,9,7,8,9,7,8,7,4,5,8,6,6,6,8,6,5,4,9,
5,5,6,1,1,5,4,3,4,7,5,2,4,7,4,1,5,7,2,2,4,7,4,4,7,7,3,6,6,8,4,7,9,7,8,5,7,6,8,6,9,4,7,6,6,7,5,6,7
,7,4,5,7,5,4,9,5,5,6,7,5,7,6,9,9,4,3,7,6,4,2,8,7,5,5,9,6,8,3,4,5,3,1,4,6,5,4,7,9,3,4,4,7,9,3,5,6,
2,3,7,7,4,5,6,4,4,4,4,3,3,5)
> z6 <- c(4,5,5,3,6,2,7,8,1,7,7,4,3,5,9,6,3,6,6,4,5,7,6,4,4,8,8,3,3,6,4,3,4,4,1,3,4,3,9,5,4,1,5,7
,4,4,1,4,4,5,8,1,1,3,3,4,6,5,2,4,6,8,8,5,6,8,5,4,3,6,2,2,4,4,3,6,1,3,5,8,5,5,4,8,5,9,8,5,8,8,8,4,
9,9,6,8,9,9,7,8,9,9,9,9,6,8,7,7,8,9,9,7,9,7,7,8,7,4,5,5,5,4,4,3,4,3,4,1,3,1,1,1,3,1,1,4,3,1,4,1,1
,3,1,4,3,4,3,4,1,7,3,3,4,7,4,4,1,2,3,1,2,4,1,1,3,1,1,2,1,1,3,1,4,1,1,3,1,2,1,1,1,3,2,1,1,1,1,1,1,
3,4,4,1,3,4,5,2,3,6,4,4,9,8,4,5,7,9,4,8,8,9,9,9,9,5,6,9,8,5,5,9,9,5,8,9,4,6,8,8,7,6,9,8,6,5,9,8,6
,4,9,8,2,6,7,7,2,9,8,4,5,9,9,8,7,4,7,8,3,5,9,7,3,9,9,7,6,9,9,5,9,9,9,7,8,8,8,7,9,8,8,8,8,9,7,5,7,
5,8,8,2,8,9,7,5,8,8,7,5,9,7)
> z7 <- c(8,7,8,9,5,9,7,8,6,9,9,8,7,9,8,5,7,9,6,7,5,8,9,5,5,9,9,7,5,8,8,3,5,6,5,3,7,6,3,6,8,6,1,5
,6,6,6,4,4,3,3,3,4,4,2,4,4,6,5,7,3,5,9,5,4,9,6,6,9,6,5,7,8,7,7,8,6,6,7,9,7,5,8,8,7,8,9,8,8,8,8,6,
8,9,6,5,6,8,4,7,3,5,8,7,6,9,5,7,8,8,9,7,9,5,8,9,7,6,7,8,8,5,8,7,4,7,7,5,5,5,7,7,7,5,6,7,5,3,8,7,3
,5,7,7,4,7,6,4,3,7,9,4,7,3,5,6,3,5,8,7,3,9,7,5,4,7,9,7,8,8,9,8,8,9,9,8,8,8,9,6,9,7,5,8,9,9,6,9,8,
5,7,7,9,9,8,9,9,9,8,8,9,7,9,8,8,5,9,8,8,5,9,9,6,4,8,8,5,6,7,4,3,5,8,9,4,5,8,8,5,4,7,7,4,4,8,5,1,8
,7,9,5,6,1,1,8,6,5,6,6,4,4,6,8,5,5,4,7,5,5,5,5,1,3,5,5,3,4,4,4,4,4,5,3,1,1,3,4,5,5,4,3,4,2,6,6,4,
6,2,5,4,7,5,8,8,6,3,4,3,4,2)
> z8 <- c(2,1,4,5,4,4,4,8,4,9,6,4,8,8,8,5,9,9,7,6,9,9,8,9,9,8,9,9,7,9,8,9,9,9,9,8,8,6,7,8,6,4,4,4
,5,2,1,2,1,4,1,1,2,1,1,1,1,1,1,4,1,3,1,2,2,1,4,4,3,4,3,8,3,4,4,6,4,4,2,1,4,1,1,1,1,1,1,2,1,1,1,1,
4,1,3,1,1,1,1,1,1,1,1,1,1,1,3,1,5,1,2,3,4,1,3,6,2,4,7,8,5,4,8,9,5,9,8,9,9,9,9,5,7,9,8,5,6,9,8,6,8
,9,4,7,9,8,7,7,9,9,5,5,8,8,7,5,9,8,3,7,7,7,3,9,8,4,5,9,9,7,7,4,8,8,3,5,9,7,4,9,9,7,7,9,9,6,8,9,8,
8,8,8,9,8,8,8,8,8,9,8,9,7,5,7,5,7,8,3,8,9,8,5,8,8,8,7,9,8,8,8,8,8,9,8,9,8,8,7,9,8,8,8,9,9,5,8,9,5,6,7
,8,9,5,7,9,9,7,5,9,8,4,6,6,6,3,7,6,3,7,8,6,3,6,6,5,6,4,4,3,4,2,4,5,3,4,4,6,4,6,2,5,9,5,5,9,7,7,9,
5,6,7,8,6,7,9,6,7,7,9,7,6,9)
> z9 <- c(8,7,8,9,7,8,9,8,6,8,9,5,4,6,9,4,6,4,6,7,7,7,9,5,7,9,8,9,7,9,6,8,9,7,6,8,9,7,5,8,8,4,7,7
,5,5,5,7,8,8,7,6,7,6,4,8,8,4,5,7,8,4,7,7,5,4,7,8,6,7,4,5,7,1,3,8,7,3,8,7,5,3,7,9,8,8,8,9,8,8,9,8,
9,8,8,9,6,9,7,6,8,9,9,6,9,8,5,8,8,9,9,8,9,9,9,9,8,9,8,9,8,9,5,9,8,7,4,9,9,6,4,8,8,5,7,9,4,4,6,9,9
,4,4,8,8,5,4,7,8,4,5,7,6,4,8,7,9,6,7,2,4,9,6,5,6,6,4,4,6,8,5,5,4,6,6,5,4,5,4,6,3,4,4,6,3,6,5,5,5,
3,1,1,4,4,4,4,4,3,4,2,7,7,4,6,5,6,8,8,5,3,5,7,3,3,3,5,9,3,6,5,4,5,3,3,3,2,4,1,3,3,5,5,5,4,5,4,9,6
,5,7,6,8,5,8,9,7,7,8,9,7,9,9,9,9,9,8,9,8,9,9,9,9,8,9,6,6,7,7,3,4,4,4,1,1,1,2,1,3,2,2,2,1,1,3,3,2,
6,4,1,3,1,4,1,1,2,3,3,5,1,1)
> z10 <- c(4,7,2,4,2,1,1,1,1,1,1,1,1,1,3,1,2,4,3,2,3,5,3,5,8,8,4,5,8,9,4,8,9,9,9,9,9,6,6,9,8,4,
5,9,9,5,8,9,5,5,9,9,8,7,9,9,7,6,9,7,6,4,9,8,3,8,8,8,2,9,8,4,5,9,9,7,8,4,8,8,3,5,9,7,3,9,9,8,5,9,9
,5,9,9,9,8,9,9,9,8,9,8,9,9,9,9,8,6,7,6,8,9,3,9,9,7,5,9,8,8,8,9,9,9,9,9,9,7,9,8,9,6,9,9,9,8,9,8,5,
8,9,5,6,6,8,9,5,5,9,9,6,6,9,9,3,6,7,7,2,9,7,3,6,8,5,3,5,7,6,9,4,4,1,2,3,3,3,4,4,5,5,4,4,4,6,6,7,3
,4,9,5,4,9,8,7,9,6,5,7,8,7,7,8,7,8,7,9,7,7,9,9,7,8,9,9,8,9,8,5,9,9,5,5,8,9,3,6,4,5,7,7,5,9,4,7,9,
7,9,7,9,6,9,9,8,6,9,9,8,4,8,8,4,6,8,5,4,6,8,6,4,7,9,6,5,6,6,3,8,7,3,4,8,6,4,7,7,4,3,6,9,5,7,4,5,7
,3,4,8,7,3,9,7,5,4,6,9,7,8,8)
> z11 <- c(9,8,8,9,9,8,8,9,9,5,9,7,5,9,9,9,5,9,9,6,8,8,9,9,8,8,9,9,9,9,9,8,9,8,8,4,9,8,8,4,9,9,7,
5,9,8,4,7,8,4,4,5,9,9,4,5,8,8,4,4,8,7,5,5,8,5,3,8,7,9,5,5,1,3,9,6,5,7,5,4,5,5,5,5,4,5,7,4,5,4,7,5
,4,6,4,6,1,7,5,8,5,7,5,4,5,5,6,6,2,2,2,1,1,2,1,1,2,3,5,3,3,4,5,4,3,2,4,9,4,4,5,4,4,5,5,5,5,5,7,4,
4,2,2,4,1,4,4,2,1,1,3,1,2,2,1,1,1,2,2,3,2,2,2,3,3,3,6,6,5,3,8,4,4,7,7,3,7,5,7,6,6,9,7,6,8,7,7,8,8
,9,8,8,8,9,9,9,8,9,3,8,9,5,4,9,8,6,8,5,8,5,7,9,5,9,9,8,6,8,8,6,7,7,8,4,5,9,8,4,6,9,6,6,7,7,3,7,9,6,
8,6,7,8,5,4,9,7,6,6,8,7,3,7,8,7,5,9,9,5,8,7,4,5,4,3,6,3,2,9,8,2,6,8,8,3,7,9,6,4,8,9,4,9,8,7,8,7,6
,9,9,8,7,8,7,6,8,6,5,9,9,5,8)
> z12 <- c(8,8,8,8,6,9,6,8,9,7,8,7,9,7,9,7,8,6,9,9,6,5,9,8,4,9,8,6,4,8,9,8,5,5,9,9,5,4,7,9,5,3,6,
7,3,5,6,5,4,7,4,3,5,8,8,1,3,1,4,1,1,3,2,3,8,5,2,3,7,5,4,5,6,5,7,1,4,5,4,3,5,7,4,6,4,8,5,6,7,6,8,8
,8,8,9,8,8,7,9,8,4,3,5,8,3,8,5,4,4,4,8,9,6,7,8,8,7,5,7,6,5,9,7,5,6,9,9,4,5,9,4,4,7,9,5,1,3,3,4,7,
5,3,5,7,4,1,9,5,1,3,5,5,2,5,7,4,4,6,9,9,5,8,5,5,4,4,1,5,4,7,5,5,5,7,3,6,8,5,4,5,9,4,7,5,5,6,6,4,7
,7,7,7,5,5,6,8,3,5,8,4,4,4,9,6,5,6,6,7,6,9,8,8,7,8,9,9,6,7,7,9,5,8,9,5,9,7,9,4,9,9,6,5,8,9,3,7,5,
7,3,5,5,9,4,4,6,7,7,5,7,6,1,3,4,3,3,6,5,2,3,4,1,2,5,4,3,1,4,1,1,3,1,3,3,3,1,1,2,2,1,1,1,6,4,5,8,4
,5,2,8,7,2,3,8,8)
> z <- c(z0,z1,z2,z3,z4,z5,z6,z7,z8,z9,z10,z11,z12)
>
> library(PResiduals)
> partial_Spearman(x | y ~ z)
                       est    stderr            p  lower CI  upper CI
partial Spearman 0.1650157 0.0161423 1.059209e-23 0.1332179 0.1964741
```

```
Fisher Transform: TRUE
Confidence Interval: 95%
Number of Observations: 3894
>
```