```
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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Type 'q()' to quit R.

[Previously saved workspace restored]

> rm(list = ls())
> x0 <- c(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,10,0,0,0,0,0,0,0,0,0,0,
0,0,0,0,3.03,0,0,0,0,0,0,0,0,0,0.8,0,0,0,0,8.73,0,88.976,3.968,7.937,0,0,0,0,20.472,3.15,0,0,4.65
1,0,0,0.787,0,0,99.213,0,13.386,0,0,7.874,0,0,0,0,0,0,100,8.661,3.15,0,4.724,26.772,1.575,28.346,
2.362,24.409,20.472,0.787,0,0,0,3.937,63.78,39.37,0.787,0,3.15,1.575,10.236,0,0,47.244,1.575,0,0,
0,1.562,0,0,0,14.961,0,4.724,0.781,0,2.344,57.031,0,0,0.758,0,8.271,0,0.758,1.515,3.788,2.273,0,2
8.03,11.364,3.876,0,11.364,4.545,1.515,0,0,0,0.758,0,0,0.758,13.636,39.394,8.333,25,49.242,3.03,0
,81.818,1.515,3.03,0,0,0,0.758,0,1.562,0.758,4.545,0,0.781,1.504,0,0.758,0,3.817,0,7.519,0,8.271,
10.526,4.464,1.724,0,4.202,1.333,1.351,4,0,1.471,2.532,1.587,0.769,1.515,2.941,0,3.597,6.429,2.12
8,0.685,0,0,2.013,2.685,65.101,30.201,0.671,0,1.342,0.671,1.333,0,0,0,0,0.667,0,0,4.667,0,0.667,2
,0,0.667,3.333,0,0,0,0,4.698,1.342,0.671,2.685,13.423,6.711,0.671,7.383,3.356,2.013,0,32.215,51.0
07,0,0,13.333,0,0,0,0,0,0,0,0,2,0,0,70.47,0,0,0,77.852,0,8.054,7.383,2,0,18.667,0.667,5.333,13.33
3,8,0.667,0,2,1.333,0,0,0,0,2.667,0,0,0,0.671,54.362,25.503,8.054,0,0.667,0,23.649,0)
> x1 <- c(0,0,3.356,0,7.432,0,0,0,0.671,0,0,0,0,0,0,89.262,69.333,0,6,0,0,0,40.667,0,1.333,0,0,0,
18.667,0,0,4.667,0,0,72.667,0,0,0,5.333,7.333,0.676,0,0,13.423,5.369,0,0,9.396,0.671,0,1.333,16,0
,0,42,36.667,0,0,75.333,2,0.667,100,0,4.667,2,0,40.667,0,0,3.333,0,0,0,0,0,0,0,0,0.667,0,0,0,0,6.
667,0,1.333,0,99.333,0,0,6,0,0.667,0,2,0,0.667,13.423,0.667,11.333,1.333,0.667,23.333,16.667,0.66
7,5.333,3.333,98.667,99.333,26.846,0.671,1.342,23.49,10.738,0.671,0,3.356,0,0,0,78.378,0,2.027,6.
757,0,0,14.189,3.378,0,2.721,8.904,1.37,0,0.69,59.722,2.055,10.274,13.194,1.887,2.381,0,0,0.685,4
.11,36.986,0,4.11,9.589,5.479,1.37,10.959,8.219,8.966,66.207,14.483,6.207,0,2.759,6.207,6.207,0,1
.37,0.69,0,0,1.389,6.944,4.861,45.833,0,2.778,29.861,0,5.594,24.306,0,0.699,1.399,27.972,0.699,1.
399,8.392,33.566,2.797,0,30.556,40.972,0,0.69,2.069,0,2.759,4.828,2.759,17.241,6.897,0,4.196,0,0,
72.727,4.196,0,0,0.699,0,13.287,0,0.704,0,15.493,0.704,0,6.338,7.042,22.535,18.182,1.399,11.268,2
.113,0,6.429,35.915,15.603,0,0,5.674,16.312,0,4.965,22.857,0,40.426,8.511,43.885,2.899,10.145,1.4
49,1.46,16.912,0,0,0,0,9.489,4.38,0,0.741,2.222,19.118,0,0,2.941,0,0,2.963,5.185,0,0,13.333,5.185
,0.741,5.185,11.029,0,4.444,1.481,6.716,2.256,1.504,6.87,9.16,9.231,3.876,3.125,0,10.4,12.903,1.6
26,0,0,0,0,27.928,2.679,0,0,12.5,0.99,6.452,0,4.762,0,0,0,0,0,0,0,0)
> x2 <- c(0,0,0,0,0,0,0,0,100,0,0,0,0,0,12.5,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,
0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,9.091,0,0,33.333,0,0,0,0,0,0,0,0,0,0,2.632,0,3.846,0,2.326,0,0.917,0,
0,0,0,0,0,0,0,4.386,0,89.474,4.348,9.483,0,0,0,0,23.276,1.724,0,0,0.862,0,0,0.862,0,0,99.138,0,8.54
7,0,0,12.712,0,0,0,0,0,0,96.748,8.871,2.479,0,3.306,28.333,5,27.5,1.653,29.752,21.488,2.479,0,0.8
26,0,0.826,71.074,43.802,0.826,0,1.639,0.82,10.656,0,0,59.35,0,0,1.626,0,0,0,0,1.626,10.569,0,2.4
39,0.813,0.813,1.626,65.323,0,0,0,0,10.236,0,0,0.781,3.906,0,0,33.594,17.829,0,0,13.178,4.651,1.5
5,0,0,0,0.775,0,0.775,0.775,16.279,31.783,10.078,23.256,55.814,3.876,0,80,0,2.326,0,0,0,0.769,0,2
.344,0,0,1.562,0,0,0,0,0.826,3.937,0.758,11.45,0,15.2,10.569,1.695,0.885,0,1,2.5,4.615,1.681,3.39
,0.862,1.852,1.639,1.538,1.626,0.8,5.147,10.145,0.725,1.418,0,2.041,0.68,2.041,54.422,36.986,0.67
6,3.448,2.069,0,2.027,0,0,0,0,0,0,0,0,2,0.667,0.667,5.369,0,0.667,1.342,0,0,0,0,0,6,0.667,1.333,1.333
,13.333,6.667,0,6.04,2.013,2.013,0,28.667,50.667,0.667,0,12.667,0,0,0,0,0,0,0,0,0,1.333,0,0,71.333,
0,0,0,78,0,7.383,7.383,1.342,0,16.107,0,6.711,9.396,4.698,0.671)
> x3 <- c(0,0.676,0,0,0,0,0,5.333,0,0,0.667,0.667,48,24.667,6.667,0,0,0,20.805,0,0,0,2.685,0,3.35
6,0,0,0,1.342,0,0,0,0,0,0.671,0,87.248,65.772,0,2.667,0,0,0,37.333,0,2,0,0,0.667,16,0,0,4.667,0,0,7
4,0.667,0,0,4,10.667,0.667,0,0,13.423,2.685,2.685,0,8.725,0,0,2.685,15.436,0,0,38.255,36.913,0,0,
77.852,2.667,0.667,99.333,0,3.333,2,0,42.282,0.671,0,6.04,0,0.671,0,0,0,0,0,0,0,0.671,1.342,0,0,0,1
1.333,0,0,0,96.644,0.671,0,4,0,0.667,0,4,0,0,10.667,0.667,8,0,0.667,20.667,12,0,7.333,8,98.667,99
.333,30.667,0.667,1.333,22,9.333,0,0,2.667,0,0,0,79.866,0.671,3.356,2.685,0,0,14.094,3.356,0,0.67
6,6.757,1.351,0,0.685,52.381,0,4.082,12.925,3.077,0.769,0.68,0,0.68,4.082,33.333,0.68,3.401,7.483
,4.762,3.401,10.884,6.803,5.405,63.265,10.204,2.721,0.68,5.442,4.082,5.517,0,1.37,0.685,0,0,4.762
,6.803,7.483,52.381,0,2.721,26.027,0,6.849,23.973,0.685,0,0.69,21.233,0,0.685,4.11,32.877,3.425,0
,36.986,39.726,0.685,0.685,3.425,0,2.055,2.74,2.069,21.379,5.517,0,4.828,0.694,0,68.75,3.472,0,0,
```

```
1.399,0,12.587,0.699,0.694,0,15.278,1.389,0,9.028,5.594,20.979,18.182,2.098,8.392,0,0,7.042,44.36
6,14.184,0,0,9.155,19.858,0,8.511,22.695,0.714,42.446,4.412,47.794,8.088,9.559,2.941,1.471,18.382
,0.735,0.735,0,0,7.463,2.985,0,0,2.273,22.556,0,1.515,0.758,0,1.515,0.758,4.545,0,3.759,10.526,5.
263,0.746,5.97,10.448,0,3.759,0.758,6.107,1.527,0.769,3.846,10,6.154,3.15,7.087,1.587,14.516,5.78
5,1.709,0)
> x4 <- c(0,1.739,0,37.273,0.926,0,0.943,9.804,0,0,0,7.229,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,40,0,0
,0,0,0,20,0,0,0,0,0,33.333,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,14.286,0,0,0,0,0,0,0,0,0,0,0
,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1.389,1.075,0,0,0,0,
0,0,0,0,6.195,0,90.265,6.195,6.195,0,0,0,0,21.93,2.609,0,0,0.87,0,0,0,0,0,100,0,9.565,1.724,0,2.5
86,0,0,0,0,0,0,99.174,9.917,2.5,0,2.5,25.833,4.167,29.752,2.459,32.787,27.869,0,0,1.639,0,3.279,7
2.951,44.262,0.82,0,3.279,2.459,9.016,0,0,53.279,0,0,0,0,2.459,0,0,0,6.557,0,0.82,4.918,0,0.82,1.
626,58.871,0,0,0,0,8.871,0,0,5.645,4.839,0,0,30.645,12.097,2.5,0,14.516,5.645,3.226,0,0.806,0,0.8
06,0,0,0,16.935,35.484,11.29,17.742,47.581,7.2,0,83.465,0,1.575,0,0,0,0,0,0.775,0,2.326,0,0.8,0.7
87,0.794,0.84,0,2.308,0,9.302,0,10.078,10.078,3,0,0,1.639,1.064,1.562,0.741,2.963,2.206,0.699,4.1
1,0.68,1.351,0,0.671,0,2,60.667,33.557,2,1.342,0,0,0,0,0,0,0,0,0,0,3.333,0,0,4,0,0,2.667,0,0,0,0,
5.333,1.333,0,2,14,8,0,9.333)
> x5 <- c(5.333,4,0,28.667,49.333,0.667,0,14,0,0,0,0,0,0,0,0,0.671,0.676,0.676,68.919,0,0,0.671,7
6.51,0,6.711,9.459,1.351,0,16.216,0.676,3.378,15.541,7.383,0,0,0.667,1.333,0,0,0,0,4,0,0,0,0.667,
45.638,22.819,6.711,0.671,0,0,22.148,0,0,0,5.333,0,4,0,0,0,1.342,0,0,0,0,0,0,89.262,63.758,0,3.35
6,0,0,0,34.667,0,0.671,0,0,0,14.094,0,0,2.013,0,0,70.946,0,0,0,2.721,5.442,0.68,0,0,12.752,3.356,
2.013,0,8.054,0,0,4.027,17.45,0,0,44.667,39.333,0.667,0,76,2,0,100,0,4.667,1.333,0,45.333,0.667,0
,2.667,0,0,0,0,0,0.667,0,0,0,0,0.667,0,0,0,5.369,0,0,0,98.658,0,0,3.356,0,0.671,0,2.685,0,0,8.784
,0.676,6.081,0.676,0,30.872,14.765,0,7.333,6,99.333,100,28,0,0,20.134,13.423,0,0,1.342,0,0,0.671,
79.195,0,2.667,2.667,0,0,10.667,3.333,0,2.013,5.369,1.342,0.671,0,61.224,0.68,0.725,9.459,28.926,
0.752,1.504,0.676,0,0.676,6.757,35.811,0,8.108,7.432,4.027,2.685,12.162,10.811,10.811,72.297,13.5
14,6.081,0,4.73,3.378,7.432,0.676,1.361,1.37,0,0,2.041,6.803,8.163,48.299,0.68,2.041,28.571,0,5.4
42,17.007,0,0,0.685,21.088,0.68,0,5.442,33.333,5.442,0,28.767,41.781,0,0,1.379,0.69,0.69,4.138,3.
448,15.172,8.966,0,1.379,0,0,66.434,4.895,0.699,0,0,0,14.789,0,0.694,0,22.222,0,0,5.594,4.895,26.
573,21.678,0,5.594,1.399,0,6.338,40.141,10.49,0.694,0,5.517,15.972,0,6.25,22.917,0,45.139,4.895,4
1.958,8.451,11.348,1.418,2.837,10.638,0,0,3.546)
> x6 <- c(0,9.22,4.255,0,1.418,0.709,15.714,0,0.709,2.113,0,0,1.399,4.895,0,2.797,17.483,6.294,2.
797,6.338,10.714,0.719,5.755,1.439,2.174,0.725,0.73,2.19,8.148,5.303,6.154,9.231,2.308,12.308,5.5
12,0,0,0,0,0.84,31.624,2.609,0,0.917,7.407,0,4.04,1.042,5.435,0,0,0,2.326,0,0,0,0,0,0,0,0,0,0,0,0
,0,0,0,0,0,0,0,0,0,0,0,0,2.857,0,0,0,0,0,0,0,0,0,0,0,22.034,0,0,61.017,0,0,0,11.667,0,0,0,0,0,0
,9.836,0,0,0,1.449,0,0,0,0,0,66.667,1.515,1.515,0,0,0,9.091,0,1.562,0,0,0,0,0,0,3.636,0,0,1.695,0
,0,0,2.041,0,0,0,2.381,0,0,0,54.545,0,4.615,1.538,36.364,0,13.559,40.625,0,0,0,1.587,6.349,1.613,
0,1.786,0,9.375,0,1.852,0,1.852,0,2.128,12.766,2,0,0,0,0,1.724,0,0,0,0,0,0,0,0,1.449,1.429,0,0,1.
205,0,0,1.124,1.124,0,0,0,0,1.064,33.663,0,0,0,0,0,0.73,0.69,0,0,4.795,0,84.932,0,0,0,0,13.605,0.
68,0,1.361,8.163,5.442,0,0.68,52.381,0,0,2.041,7.483,0.68,0,0,5.442,0,2.027,0,1.351,0.676,0.676,6
2.838,5.405,0,58.784,1.342,0.671,0,82,8.667,0,0.667,0.667,0,96,0,80.667,0,0,0,8,1.333,5.333,0,82,
27.333,0,0,0,1.333,0,0,4,0,0,0,52.667,0,0,0,0,0,0.676,0,0.676,0,0,0,0.671,22.297,0,0,0,4.082,0,0,
0,0,0,2,0,8,0,2.667)
> x7 <- c(0,24.667,0,0,25.503,0,0.671,0,4.667,0,0,0.667,89.333,0,0,6.667,0.667,1.333,0,81.333,2,0
,0,0,1.333,0,98,0.667,0.667,0,0,36.667,4.667,0,3.333,17.333,0,0,10.067,2,0.667,6.667,16.667,2.667
,4.667,0,2.041,6.803,0,5.217,0,0,0,1.351,0,0,0,1.342,0,2.027,6.04,0,0,8.163,0,0,0.671,6.04,0,1.34
2,0.671,0,0.671,0.671,0,0,2.013,53.691,0,0,1.333,0,1.333,0,26,0.667,0,0,1.333,0,0,0,0,0.667,0,0,0,0
,0,0,0,0,0,0.667,0.667,0,0,3.356,0,68.707,2.041,0,0.68,25.676,20.27,1.351,0,5.405,5.405,0,0,2.041
,9.524,66.667,0,0.68,2.041,0,1.37,0,8.784,0,1.379,0,7.534,3.425,0,2.703,0.676,0,1.361,8.163,0,0,0
,4.73,3.378,0.676,15.541,6.757,2.027,0,37.162,0,0,0,12.329,6.849,1.37,0,0.685,2.74,0,0,20,3.448,0
.685,0,77.397,0,1.37,0,0.68,0,0,0,0,0,2.055,0,2.74,0,0,12.329,2.055,0,0,0,0,0,0.704,0,0,0,0,0,0,0
.685,0,0.685,0.69,0,0,0,47.586,0,4.138,0,50.345,0.69,8.966,0,0.69,1.379,5.556,0,0,0,0.699,0,0,1.3
99,6.294,0,99.301,0.699,0,0,0,9.79,6.294,0,5.594,9.79,2.113,0,18.881,3.497,17.483,0,1.399,5.594,2
.098,22.378,33.566,0.704,0.719,0,0.84,0,12.963,0,0,0,0,0,0,1.163,1.205,0,0,0,0,1.695,1.754,0,0,3.
704,1.852,0,0,0,0,0,0,3.571,0,0,53.846,0,0,2.381,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,30,0,9.091)
> x8 <- c(2.564,1.961,5.66,1.667,0,0,1.471,0,0,0,0,0,2.899,0,0,26.087,0,0,60.294,0,0,1.471,8.824,
0,0,0,0,0,4.225,0,1.408,0,1.351,0,0,1.299,0,0,55.844,1.299,5.195,0,1.333,0,10.667,0,4.054,0,0,0,1
.37,0,5.556,2.778,1.724,3.774,0,0,3.774,1.961,0,0,1.408,1.408,0,0,65.517,0,3.226,3.125,42.188,0,1
5.625,32.812,0,0,1.37,1.351,7.692,14.286,1.282,0,2.564,3.947,0,2.941,0,2.381,0,5.556,1.852,0,0,3.
125,1.538,0,1.562,1.562,0,1.299,1.299,1.176,1.176,2.326,0,0,1.099,0,0,1.053,0,0.971,0,0.901,24.13
8,0.855,0,0,3.571,0,2.055,0.68,1.361,0,2.721,0.68,85.034,0,0,0,0.68,11.565,0.68,0,2.721,6.122,2.7
21,0,1.361,55.782,0,0,2.721,13.605,0.68,0,0,2.759,0,3.448,0,0.69,0,0,65.517,5.442,0,58.219,3.425,
1.37,0.685,82.877,7.534,0,0.676,2.013,0,97.315,0,76.51,0,0,0,6.04,2.013,6.04,0.671,78.523,23.49,0
,0,0,0.671,0,0,4.698,0,0,0,46.309,0,0.676,0,0,0,0,0,0,0,0,0,1.351,21.622,0,0,0,2.027,0,0,0,0.671,
0.671,0.671,0,4,0,2,0,26.846,0.671,0,30.201,0,0,0.671,2.013,0,0,0,88.667,0,0,8.667,0.667,1.333,1.
333,80,4,0,0,0,0.667,0,100,0.667,1.333,0,0,30.667,2.667,0,3.333,22.667,0,0,9.396,2.055,1.379,9.65
5,20.139,3.472,3.472,0,2.143,13.571,0,4.93,0.704,0.694,0,0,0,0,0,0,0,2.667,6.04,0,1.333,7.333,0.6
71,0,0,4.027,1.342,2.685,0,1.342,0.671,0,0,0,1.361,52.027,0,0,0,0,0,0.671)
> x9 <- c(0,27.703,0,0,0,0.671,0,0,0,0,0,0.671,0.671,0,1.342,0,0,0.671,0,3.356,0.671,0,0,0.676,0,
68.707,6.081,0.676,0,27.517,21.477,0.671,0.671,3.356,6.04,0,0,2.703,7.383,66.892,0,0.671,1.342,0.
671,0.671,0,6.04,0,0,0.671,12.752,4.698,0,3.378,0.676,0,1.361,7.483,3.401,0,0,4.762,0.68,1.361,14
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.286,6.122,1.361,0,39.456,0,0.685,0.685,19.178,8.219,2.74,0.69,0.69,0.694,0,0.704,26.761,3.521,1.
408,0,80.42,0,2.759,0,2.74,0,0,0,0,0,4.167,0,0,1.389,0,14.583,0.694,0,0,0,0,0,0,0,0.694,0.694,0,0
,0,1.389,0,0,0,0,0,0,47.917,0,5.556,0,50.694,0.69,6.897,0,0.694,3.472,6.25,0,0,1.418,0,0,0,0,9.22
,0,98.582,2.837,0,0,0,7.092,4.255,0.709,2.837,7.092,0.714,0,17.143,2.143,20,0,0,5,0.719,22.302,42
.754,0,0,0,1.01,1.02,3.061,0,0,0,0,0,1.19,1.266,0,0,0,0,0,0,0,0,0,0,0,0,1.786,2.128,0,0,0,0,2.439
,0,45,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,7.692,0,0,0,10,0,0,0,2.083,0,0,1.639,
0,0,0,0,0,4.478,0,0,14.925,0,0,46.269,1.493,0,0,10.448,0,0,0,0,1.449,1.449,0,0,0,0,0,0,0,0,0,35.7
14,2.857,0,0,0,0,4.348,1.449,0,0,0,0,0,0,1.562,0,0,0,0,0,0,0,0,0,5.128,2.273,2.222,0,0,0,0,35.897
,0,8.929,17.241)
> x10 <- c(0,0,0,1.724,5.455,0,0,0,1.408,1.408,0,2.198,0,0,0,0,3.125,2.02,0,0,0,25.234,0,0,0,1.37
,0,2.667,0,0,0,3.333,0,98,0,1.333,0,0,13.333,1.342,0,0.671,8.054,2.685,0,0.667,62,0,0,1.333,12.66
7,0,0,0,0,0,2.013,0,0.676,0,0.671,60.403,2.685,0,57.047,3.378,0,0,93.243,10.738,0,0,0.667,0.671,9
8,0,75.333,0,0,0,5.333,2,3.333,0,88.667,26.667,0,0,0,3.333,0,0,4.667,0,0,0,58,0,0,0,0,0,0,0,0,0,0
,0,0,18,0,0,0,1.333,0,0,0,0,0,0.667,0,4,0,0,0,35.333,0,0,36.242,0,0,0,6,0,0,0,93.333,0,0,7.333,0.
667,1.333,0,86,2.667,0,0,0,1.333,0,100,0,0,0,0,36.667,0,0,1.333,26.667,0,0,12,0,0,8.667,20.667,2,
0,0,0,11.409,0.847,0,0,0,0,2,0,0.667,0,0,0.671,0,0,0,0,2,8,0,0,12.838,0.676,0,0,3.356,0,0.671,0,0
.667,0,0.667,0,0,0,56,0,0,0,0,0.667,0,36,0,0,0,0,0,0,0,0,0,0,0,0,0.667,0,0,0,0,4,0,0,0,2.667,0,63
.333,3.333,0,0,36.667,27.333,0,0,1.333,8,0,0,0.667,4,59.06,0,0.671,3.356,0,1.342,0,3.356,0,0,0,0,
0,11.565,4.082,0,4.082,1.361,0,1.361,9.524,2.721,0,0,6.803,2.74,0,21.233,4.73,0,0,46.622,0,0,0,18
.367,8.163,3.401,0,0,4.082,0,0,20.946,4.054,0,0,90.541,0,0)
> x11 <- c(0,2.013,0,0,0,0,1.342,2.685,0,0,0,0,18.121,0,0,0,0,0,0.671,0,0,0.671,0,0,0,0,2.685,0,0
,0,0,0,0,51.678,0,5.405,0,54.054,0.676,8.108,0,0,2.74,3.425,0,0,2.069,0,0,0,1.379,4.138,0,100,2.0
69,2.069,0,0,8.966,4.138,0,4.828,13.103,0.69,0,17.241,0.69,16.552,0,0,0.69,0,20,39.31,0,0,0,0,0,0
,23.729,0,0,41.071,3.636,1.961,0,0,0,0,0,0,0,0,0,0,0,0,0,4.444,0,0,0,0,0,0,0,0,0,0,0,0,4.545,0,0,
0,0,0,0,0,0,0,0,83.333,0,0,0,0,0,0,0,0,0,0,0,0,0,0,10,11.111,0,0,0,0,6.25,6.25,0,0,0,0,0,0,0,0,0,
0,0,0,0,1.724,1.613,1.562,0,4.225,0,0,12.5,0,0,0,0,0.725,25.714,0,5.594,5.594,0,6.944,0.69,4.138,
0,0,74.658,4.11,0,13.699,0,2.055,10.959,0,0,0,0,0,99.324,74.324,0,0,0,0,0.667,0,0,0,0,0,0,0,0,0,0
,13.333,0,99.333,0,10,52,0,10.667,26.667,0.667,59.333,4,4.667,0,0.667,6,38,0,0,5.333,0,0,1.333,2.
667,0,0,0,72.667,0.667,71.333,0.667,0.667,0.667,0,74.667,0,0.671,0,1.342,0,0,2,3.333,98,0,16.667,
0,0,2,0,0,0,0,0.667,0,97.333,4,0.667,9.333,0,89.333,0.667,0,0,0,6.667,0,0,2,0,46.667,0,0,33.333,1
.333,0,0,0,71.333,0,8,0,0,0,0,100,0,0,0)
> x12 <- c(0,0,0,0,30,0,4.667,0,0,0,93.333,20.667,0,3.333,0,5.333,0,0,0,0,0.667,0.667,0,0,26,12.6
67,4.667,0,0.667,44,0,28.667,3.333,0.667,0,99.333,8.667,10,0.667,0,2.667,16,0,24.667,4,1.333,0.66
7,2,19.333,0,4.667,26.667,2,0,0,0.667,2,0,0,3.497,0,1.333,0,0,0,48.667,20.667,0.667,4.667,10,0.66
7,0.667,0,0,1.333,4,6.667,0,0.667,29.333,0.667,0,30.667,0,2,0.667,1.333,0.667,13.333,0.667,90.667
,2,0,0,0,2.013,0,0,46.98,0,0,0,0,92.667,0,3.356,0,0,2.685,0,0,0,2,1.333,79.333,2,0.667,12.667,0,0
.667,2,0.667,0.667,3.333,10,0,0,4.667,18,0.667,7.333,12.667,0,0,0,8.108,1.342,2.013,0,0.676,0,3.3
78,20.946,1.351,3.378,20.27,0,2.027,13.423,14.667,0,0,5.333,0,59.333,20,14.667,0,0,0,0,0,45.333,2
2.667,0.667,4.027,1.351,0.676,0,0.676,0.68,0,15.646,0,6.803,0.68,0,1.361,4.082,1.361,0,32.653,4.0
54,2.027,0,0,1.351,0.676,0,0,0,83.108,0,1.351,0.676,1.351,0.676,1.351,0,2.027,0,0,0,62.838,0,0,0,
7.432,0,0,6.757,0,0,0,0,0,1.351,51.351,0,0,6.081,32.432,0,9.459,0,0.68,82.313,5.479,0,0,0,2.74,0,
0,34.247,0.685,5.479,0,0,11.644,0,99.315,0,2.055,0,0,1.37,19.444,6.993,1.399,2.797,12.676,2.128,2
6.241,7.194,4.478,3.906,14.286,3.2,1.6,4.8,7.258,60.484,18.033,4.31,10.811,0.935,5,2.128,0,0,1.22
,0,0,0,0,0,0,1.923,0,0,0,0,0,0,0,0,0,2.128,2.222,0,0,0,0)
> x <- c(x0,x1,x2,x3,x4,x5,x6,x7,x8,x9,x10,x11,x12)
> y0 <- c(14.286,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,16.667,0,0,0,0,0,0,0,0,0,0,0,0,0,0
,6.25,0,0,0,0,0,0,0,0,2.564,0,1.923,0,0,0.943,0,0,0,2.4,0,0,0,0,3.175,0,11.024,0,0,0,0,0,0,35.433
,0,0,0,0,0,0,0,0,0,0.787,0,85.039,0.787,0,81.102,0,2.362,0,0,0,0,0,0,0,0,95.276,0.787,0,1.575,1.5
75,0,0,0,0,0,0,0,17.323,34.646,0,0,0.787,0,1.575,0,0,48.031,0.787,0,1.575,0,0,0,0,0,3.937,0,0,0,0
,0.781,0,0,0,0,0,54.887,0,0,0,2.273,0,0,0,29.545,0.775,0.758,0,87.879,96.97,0,0,0.758,0,0,12.879,
0,0,41.667,91.667,0,9.091,3.788,0,0,0,1.515,0.752,0,0,0,0,2.344,0,1.515,0.763,5.469,0,0.746,0,0,2
.29,0.752,5.263,0,9.023,6.767,0.893,2.586,2.521,1.681,1.333,0,0,0,0,5.063,0,0,3.788,3.676,0,2.158
,1.429,0.709,0.685,0,0,0,1.342,32.215,12.081,2.685,9.396,6.04,0,0,0,0,3.571,0,2,0,0,0,0.667,3.333
,0.667,0,2,0,0,0,3.333,0.671,0,0,4.698,0,0,0,0,1.342,0,0,0,51.678,0,0,0,0.667,0,0,0,0,0,0,0,0,0,0
,84.564,0,0,0,0,2.685,0,89.933,0,0,0,0,0,0.667,0,0,0.667,0,0,0,0,0,0,1.342,5.333,0,0,0,7.383,40.2
68,71.141,0.671,15.333,0,0,0,1.351)
> y1 <- c(0,0,1.342,0,0,0,0,0,12.081,0,0,0,0,0.671,0,0,22.667,0,26,0,0,0,0.667,0,0.667,0,0,0,12,0
,0,90.667,0,0,20.667,0.667,2.667,0,0.667,63.333,0,1.342,0,2.685,5.369,0,0,0,0,0,0,0,0,0,0,4.667,0
,0,0,0,0,0,1.333,0,0,26.667,0,0,10.667,0,2.667,0,0,0,0,0,0,0.667,0,0,0,0,2,0,0,0,0.667,0,0,92.6
67,0,0.667,0,0,0,0.667,0,0,6,0,0,0,0,0,0,0,0.667,0,0,0,0.671,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,
0,0.685,0,0,21.528,2.74,4.11,2.083,0.943,9.524,9.375,0,1.37,3.425,0.685,0,0,0,1.37,0,0.685,0.685,
2.069,28.276,0,0,0,0,0,15.172,0,0,5.517,0,0,0.694,86.806,0,0.694,0.694,0,2.083,0,27.273,71.528,0,
1.399,0,4.895,0,0,2.098,1.399,0.699,0,0,0,0,0,0,0,0,0.69,12.414,0.69,91.724,0,0.699,0,0,0.699,20.
979,0,0,0,0.699,2.098,0,0,0,28.169,5.634,0.704,1.408,3.521,38.732,2.098,0.699,9.155,0,0.704,2.143
,15.493,0,0,0,0,0,0,0,0.714,0,0,0,21.583,4.348,0,1.449,1.46,45.588,0,0,0,0,65.693,0.73,0,77.778,2
.222,77.941,0,0.735,4.412,0,22.222,1.481,0,0.741,4.444,0,0,0,0.741,0.735,0,0,0,0.746,0,0,0,25.954
,0,0,46.094,4.724,2.4,9.677,1.626,0.84,0,0,0,0.901,0.893,0,0,0,0,8.602,0,0,0,0,0,0,0,0,0,0)
> y2 <- c(5.556,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,4.348,0,0,0,0,0,0,3.488,1.02,0,0,0.877,0.877,0,0
,0,0,2.632,0,10.526,0,0,0,0,0,0,35.345,0,0,0,0,0,0,0,0,0,0,0.862,0,85.47,0,0,77.119,0,0.847,0,0,0,0
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,0.813,0,0,0,96.694,0,0,0.833,1.653,0,0,0,0,0,0,0,14.876,36.364,0,0,0,0,0,0,0,34.959,1.626,0,0.81
3,0,0,0,0,0,2.439,0,0.813,0,0,0.813,0,0,0,0,0,45.669,0,0,0,0,0,0,0.781,24.031,2.344,0,0,92.248,97
.674,0,0,0.775,0,0,16.279,0,0,48.837,89.922,0,8.527,2.326,0,0.769,1.55,2.326,0,0,0,0,0,6.25,0,0,0
.781,5.6,0,0,0,0,1.575,0,2.29,0.763,5.6,6.504,0.847,1.77,4.545,3,5,0,0,2.542,0.862,4.63,0,3.077,0
.813,0.8,4.412,1.449,0,0.709,0.68,0,0.68,2.041,44.218,8.904,4.054,6.207,9.655,0,0,0,0,3.846,3.846
,0.676,0,0,0,2,5.333,0,0,3.333,0,0,0.667,2.667,0,0,0,1.333,0,0,0,0,5.369,0,0,0,56.667,0,0,0,0.667
,0,0,0.667,0,0.667,0,0,0,0,0,80.667,0,0,0,0,2.667,0,91.946,0,0,0,0,0,0,0,0,0,0)
> y3 <- c(0.671,0,0,0,0,0,2,6,0,0,0,3.333,47.333,71.333,0,16,0,0,0,2.685,0,0,2.013,0,0,0.671,0,0,
7.383,0,0,0,0,0,0,1.342,24.832,0,27.333,0,0,0,2,0,0.667,0,0.667,0,14,0,0,90.667,0,0,21.333,0.667,
4,0.667,1.333,64.667,0,0,0,2.013,5.369,0,0,0,0,0,0,0,0,0,6.04,0,0,0,0,0,0,0,1.333,0,0,25.503,0,
0,16.779,0,5.369,0,0,0,0,0,0,0.671,0,0,0,0,0,0,0,0,3.356,0,0,95.333,0,0,0,0,0,0.667,0,0.667,2.667
,0,0,0,0.667,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1.342,0.671,0,0,0,0,0,0.676,0.676,0.676,0,0.685,
23.129,1.361,2.041,8.163,0,12.308,2.721,1.361,0,4.082,0,0,0,0.68,1.361,0,0,0.68,4.054,23.81,0,0,0
,0,0,12.414,0,1.37,6.164,0,0,0,87.075,0.68,0.68,0,0,2.055,0,28.082,71.918,0,0.685,0,7.534,0,0,3.4
25,2.74,2.055,0,0,0,0,0,0.685,0,0,0,15.172,0,94.483,0,0.69,0,0,4.861,18.75,0.694,0,0,2.098,0,0,0.
694,0,24.306,2.778,0.694,0,2.098,41.958,1.399,2.098,14.685,0,0.699,2.113,18.31,0,0,0,0,0,0.714,0,
0.709,0,0,0,19.853,4.412,0.735,5.147,0.735,50,0,0,0,1.493,73.134,0,0,74.615,1.515,72.932,0,1.515,
3.03,0.758,12.879,1.515,0,0,3.759,0,0,0.746,0,0,0,0,0,0,0,0,0,23.846,0,0.787,54.331,7.937,2.419,9
.917,0,2.564)
> y4 <- c(0.862,0,0,1.818,0,0,0,0.98,0,9.783,0,0,0,0,1.449,1.961,0,0,0,0,0,0,0,0,0,0,0,40,0,0,0
,0,0,0,0,10,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
,0,0,0,50,0,0,0,0,0,0,5.882,0,0,0,0,0,0,10,0,0,0,0,0,0,0,0,0,0,0,0,1.887,0,4.167,0,0,0,0,0.885,0,
0,0,0,3.54,0,7.965,0,0,0,0,0,0,35.965,0,0,0,0,0,0,0,0,0,0,0,88.696,0,0,85.345,0,0.847,0,0,0,0,0,0
,0,0,97.5,0.833,0,0,0.82,0,0,0,0,0,0,0,15.574,31.148,0,0,0,0,0,0,0,41.803,2.459,0,2.459,0,0,0,0,0
.82,1.639,0,1.639,0,0,0,0,0.806,0,0,0,0,53.226,0,1.613,0,0.806,0,0,0,37.903,0.833,0,0,85.484,95.9
68,0,1.613,0,0,0,14.516,0,0,45.161,88.71,0,5.645,4,0,0.787,3.15,0.787,0,0,0,0.775,0,5.426,0,0,0.7
75,4.8,2.362,0,0,0,3.846,0,3.876,0.775,6.202,5.426,1,1.961,0.98,0,4.255,1.562,3.704,1.481,0,4.196
,6.849,0.68,0,0,0,0,0.667,36,9.396,2,7.383,8.054,0,0.671,0,0.667,2.857,6.061,1.333,0.667,0,0,0,2,
0,0,3.333,0,0,1.333,4,0,0,0,2,0,0,0,0,5.333)
> y5 <- c(0,0,0,58.667,0,0,0,2,0,0,0,0,0,0,0,0,0,83.784,0,0,0,0,2.685,0,91.946,0,0,0,0,0,0,0,0,
0,0,0,0,0,0,0.667,2,0,0,0,3.333,44.966,70.47,0.671,19.463,0,0,0,2.013,0,0,0,0,0.667,0,0,0,10.06
7,0.671,0,0,0,0,0,0,30.201,0,28.859,0,0,0,2,0,0,0,0.671,0,14.094,0,0,94.631,0,0,21.622,1.351,4.08
2,0,0,65.306,1.361,0.671,0,1.342,4.698,0,0,0,0,0,0.671,0,0,0,0,5.333,0,0,0,0,0,0,0,5.333,0,0,26.6
67,0,0,14,0,4,0,1.333,0,0,0,0,0.667,0,0,0,0,0,0,0,0,0,0.671,0,0,94.631,0,0,0,0,0,0,0,0,2.027,1.35
1,0,0,0,0,0,0,0,0,0,0,0,1.342,0,0,0,0,0,0,0,0.671,0,3.333,0.667,0,0,0,1.333,0,0,0,0.671,0,1.351,2
3.81,0.68,2.899,8.108,2.479,1.504,0,1.351,0,0,2.027,0.676,0,0,0,1.342,0,0,0.676,2.703,22.297,0,0,
0,0,0,9.459,0,0,6.164,0,0,0,85.034,0,0.68,1.361,1.361,0,0,26.531,77.551,0,0,0.685,6.122,0,0,0.68,
2.041,1.361,0,0,0,0,0,0.69,0,0,0,12.414,0,90.345,0,1.379,0.694,0,5.594,20.28,2.098,0,0,0.704,0.70
4,0,1.389,0,25,5.556,0,0.699,1.399,36.364,2.098,0.699,11.888,0,0.699,1.408,19.718,0,0,0,0,0,0,0,1
.389,0,0,0,19.58,4.225,0,3.546,4.255,49.645,0,0,0)
> y6 <- c(0.709,65.248,1.418,0,79.433,0,79.286,0,2.837,2.817,0,19.014,0.699,0,0,4.895,0,0,0,0.704
,0,0,0,0,0.725,0,0,0,27.407,0,0,44.615,3.077,3.077,4.724,0,1.653,0,0,0,1.709,0.87,0,0,0.926,2.885
,5.051,0,0,0,0,1.538,2.326,0,8.696,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1.786,0,
0,0,0,0,0,0,0,0,0,0,1.695,0,0,0,0,0,0,0,0,1.639,1.639,0,0,0,0,0,0,0,1.429,1.429,28.788,0,92.424,0
,0,0,27.273,0,0,0,1.587,0,1.587,0,0,0,1.786,0,0,0,0,0,0,0,0,0,0,2,0,0,1.515,0,3.077,0,1.515,1.493
,37.288,34.375,0,0,0,0,4.762,0,0,5.357,3.509,0,0,1.852,0,0,0,0,8.511,0,0,0,0,7.018,0,0,1.667,0,0,
0,0,0,0,0,0,0,2.439,0,1.136,0,0,0,3.371,2.247,0,0,3.191,1.98,7.547,0,0,0,0,0,1.379,0,0,0,0,0,0,0,
0,0,0,0,0,0,0,0,0,0,0,0,0,2.721,0,0,0,1.361,0.68,0,95.27,0,2.703,0,0,0,0,0,2.027,0,0,0,0,0,0,0,0,
0,3.333,0,1.333,0,0,0,90.667,0.667,0,0,0.667,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0.667,0,0,0,0.676,0,0,0,0,
0,0.671,75,0,0,0,1.361,0,0,0,0,0,0,0,0,0,0,0)
> y7 <- c(0,0,0,0,0.671,0,0.671,0,0,0,12,0,5.333,0,0,0,0,97.333,0.667,2,0.667,0,0,0.667,0,0,0,0,0
,0,0,0,0,0,0,0,0,0,0,0,0.667,2,0.667,0,0.671,0,1.361,0.893,0.87,1.471,4.054,0,0,0.676,0.671,1.3
42,0,0,2.703,9.396,0,0,0,0,0,0,81.208,0,0,0,0,0,0,0,0,0.671,0,0,0,0.667,0,0,0.667,0,0,0,0,0,0,0,0
,0.667,0,0.667,0.667,2,0,0.667,0,0,0,2.667,0,0,0,0,0,0,0,0,0,0,0,0,0,0,69.595,0,0,0,0.68,17.687,0,1.3
61,0,0,0.68,0,10.959,0,25,0,0,1.37,1.37,8.904,0,0,0,0,0.68,0.68,0,0.68,0.676,0,0,0,0,0.676,1.351,
0,2.027,0.676,0,0,10.274,31.507,1.37,0,0,0,0,0,0,0,0,0,0.685,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,57.534,0
,0,0,0,0,16.901,0,0,0,100,0,0,0,98.63,0,0,0.69,0,0,0,27.586,0,0,0,48.276,0,0,0,0,0,0,0,0,1.399,0,
0,0,0,1.399,0,0,0,2.797,0,0.699,5.594,0,0,0,0,0,0,0,0,82.517,0,0,0,0,12.587,18.182,0,2.158,0.735,
0,0,0,0,0,0,0,0,0,0,1.205,0,0,0,1.639,0,1.754,14.035,5.263,0,11.111,74.074,0,0,2.222,0,0,0,0,0,28
.205,4.762,0,0,0,7.143,0,0,0,5.714,6.452,0,0,0,0,0,0,0,0,0,0,0,0)
> y8 <- c(0,1.961,0,0,0,0,2.941,0,0,0,0,0,0,0,0,0,0,2.941,1.471,0,0,0,0,0,2.941,0,1.429,5.634,0
,0,0,0,0,0,0,0,0,40.26,0,80.519,0,0,0,12,0,0,0,1.37,0,0,1.389,0,1.389,0,0,0,0,0,1.961,1.429,0,0,0
,0,0,0,1.613,3.226,0,6.25,0,34.375,50,1.37,0,0,0,6.41,3.896,0,0,3.846,2.632,4.054,0,0,0,0,0,1.852
,0,0,0,0,0,3.125,1.562,0,1.299,1.299,0,3.529,1.163,1.163,2.273,1.099,0,0,1.053,2.062,1.942,0,0.90
1,3.448,5.983,0.847,0,0,0,0,1.361,0.68,0,2.041,0,0.68,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,2.721,0,0,0.6
8,0.685,0.69,0,95.172,0.69,0,0,0,0,0,0,2.055,0,0,0.685,0,0,0,0,0,0,2.685,0,0.671,0,0,0,90.604,1.3
42,0,0.671,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0.676,0,0,0.676,0,77.703,0,0.676,0,5.405,0,0,0
,0,0,0,0,0.667,0,0,0,0,0,0,0,0,0,0,0,0,0,8,0,9.333,0,0,0,0,98.667,0,6,0,0,0,1.333,0,0,0,2,0,0,0,0,0
,0,0,0,0,0,0,0,0,0.69,0.694,0.694,0.694,1.399,0,0,0,0.704,0.704,0.694,0,0,1.342,0,0,0.671,0,1.333
,8.725,0,0,0,0,0,0,88.591,0,0,0,0,0,0,0,0,0,0,0.671,0,0,0.671)
```

```
> y9 <- c(0,0,0,0,0,0,0,0,0,0.671,0,1.342,0,0.671,0,0,0,0,0,0.671,0,0,0,0,0,0.68,0.676,0,0,0,0,0,
70.47,0,0,0,0,18.919,0.671,0,0,1.342,0,0.671,7.383,0.671,24.832,0,0,0,0.671,11.409,0,0,0,0,0.68,0
.68,0,0,0,0,0,0,0,0,2.041,0,0.68,0,0.685,0,8.904,31.507,0.685,0,0,0,0,0,0,0,0,0,0.699,0,0,0,0,0,0
,0,0,0,0.694,0,0.694,0,0,61.806,0,0,0,0,0,15.493,0,0,0,99.306,0,0,0,97.222,0,0,0,0,0,0,29.167,0,0
,0,47.222,0,0,0,0,0,0,0,0,0,0.709,0,0,1.418,2.128,0.709,0,0.709,0.709,2.837,0,0,7.801,0,0,0,0,0.709,0
,0,0,0,77.857,0,0,0,0,15.108,13.043,0,2.206,0,0,0,0,0,0,0,0,0,0,0,0,2.381,0,0,0,0,1.613,1.639,0,2
7.119,5.085,0,78.571,0,0,0,0,10.811,0,0,30,5,0,0,0,8.333,0,0,3.03,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
,0,0,0,0,0,0,0,0,9.524,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,5.97,0,0,0,0,0,0,2.941,0,0,30.435,0,0,1.
449,0,0,0,0,0,0,0,60,0,61.429,5.714,0,0,7.246,2.899,1.429,2.857,0,0,1.493,1.515,3.125,0,0,1.961,0,0
,0,0,0,0,10.256,4.545,0,0,0,2.174,10,0,2.273,23.214,31.034)
> y10 <- c(0,0,4.348,0,0,3.333,0,0,1.408,0,1.389,1.099,2.128,0,0,1.02,0,2.02,1.01,0.98,7.692,2.80
4,7.826,0,0,0,0,0,2,0,0,0.667,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,3.333,0,0,0,0,0.671,0,97.315,0,0.
676,0,0,0,0,0,0,1.342,0,0,0,0,0,0,0,0,0,2,0,0.667,0,0,0,94.667,0.667,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,
0,0.667,0,0,0,0,0,0,0,0,0,0,2,81.333,0,0,0,4,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0.671,0,0,0,2.667,0,4.
667,0,0,0,0,0,98.667,0.667,2.667,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1.333,0,0,0,0.667,0,0.67
1,0,0,0,0,0,0,0.667,0,4,0,0,0,0,1.342,0,0,1.333,12.667,0,0,0,0,0,0,92.617,0,0,0,0,0,0,0,0,0,0,0,0.6
67,0,0,0.667,0,0,0,0,0,0,0,0,0,0,0,0,0,1.333,0,0,0,0,0,0,0,0.667,0,0,0,0,0,0,0,0,0,0,0,0,0,0,63.333,0,0,0
,0,26.667,0,0.671,0.671,0,0,0,0.671,0,30.872,0,0,33.333,0,0.68,0,14.286,0,0,0,0,0,1.361,0,0.68,0,
0,0,0,0,0,2.027,0,1.351,0,0.68,0,15.646,31.973,0,0,0,0,0,0,0.676,0,0,0,3.378,0,0)
> y11 <- c(0,0,0,0,0,0,0,0,0,0,0,0,65.101,0,0,0,0,0,16.779,0,0,0,100,0,0,0,97.315,0,0,0,0,0,0,36.
913,0,0,0,45.946,0,0,0,0.676,0,0,0,0,0,0,0,0,0,0.69,1.379,0,0,0,2.069,0,0,5.517,0,0,0,0,0,0,0,0,82.
069,0,0,0,0,15.172,14.483,0,0,0,0,35.135,2.985,18.644,0,0,0,5.455,0,0,0,0,0,0,2,0,0,0,0,0,0,0,93.
333,0,0,47.727,0,0,0,0,0,0,0,0,0,0,5.556,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,83.333,0,16.667,83.333,8
0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,2.299,1.923,0,0,3.03,0,0,2.857,0,0,
0,0,0,0,0,0,0,3.425,0,0,0,4.11,0,0.685,52.055,0,0,0,0.68,0,0,25,0,0.676,0.671,0,0,2,0,0,0,0,0,0,0,2
0.667,0,0,0,0,0.667,0,1.333,46.667,0,0,0,0,0,0,0,0,0,0,22,0,0,64.667,0,0,2.667,0,0,0,0.671,3.333,0,
3.333,0,1.333,0,0,5.333,0,0.671,0,0,0,0,0,0,1.333,0,0,0,0,10.667,0,1.37,0,6.667,10,0,2.667,0,0,3.
333,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,11.333,1.333,0,0,0,11.333,0,2.667,0,0,2.667,0,0,0,0,0)
> y12 <- c(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,2,0,0,0,0,0,0,0,0,0,0.667,0,93.333,0.667,2,0.667,0,71.333,
4,0,0,0,10.667,0,0,0,0,0,0,0,0,0,0.667,0,0,0,1.333,6,28,0,0,0,0,31.333,0,0,2.797,0,0.667,0,0,0,4,0.
667,0,0.667,0.667,0.667,0.667,0,0,0,3.333,0,0,1.333,14,0,0,1.333,0,0.667,0,1.333,0,2,0,4.667,0,0,
0,0,2.013,0,0,4.698,0,0,0,0,0.667,0.667,0.667,0,0,0,0.671,39.333,0,0,0,0,1.333,0,0,0.667,0,0,0,98.6
67,0,0,0,0,0,0,0,0,0,20.667,0,0.667,0,0.667,18.919,0,6.711,2.013,1.351,0,4.054,0,0,0,0,0,0,0.676,0.67
1,0,0,0,0,0,0,17.333,0,0,0,0,0,0,0,0,4.667,0,1.333,2.013,0,0,0.676,0.676,1.361,0,0,0,0,0,0,0,0,0,0.68,0
,0,0,0,0,0,0,0.676,3.378,0,0,0,7.432,0,1.351,1.351,0,0.676,3.378,0,36.486,1.351,7.432,0,12.162,0,0,
0,0,0,0.676,0,39.189,0,0,0,0,0,0,0,4.054,0,0,0,18.243,0,0,0,0,0,13.699,0,0,0,0,0,0,0,9.589,0,28.082,0,4
.795,13.699,0,0.685,0,1.37,0,0,0,0,0.694,0,0,0,0,0,0,0,1.493,0,0,0,0.8,0,0,31.452,45.902,0,10.811,0
.935,10,1.064,0,0,0,1.299,0,0,1.961,0,0,0,0,1.754,0,0,1.818,0,0,1.852,1.961,0,0,0,0,0,0)
> 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
,2,1,2,1,1,1,1,1,1,1,2,9,5,5,9,4,5,7,4,8,9,6,8,9,7,7,8,5,8,9,9,9,9,9,8,9,9,9,9,9,8,9,7,6,9,9,9,9,
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
,5,6,8,8,5,5,6,8,5,4,8,8,5,5,3,5,4,5,5,6,3,2,2,1,1,2,1,1,2,1,1,3,9,4,5,9,4,5,7,4,7,9,6,8,8,8,7,8,
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
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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
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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
,3,7,8,3,4,4,7,9,2,4,7,3,4,7,6,4,5,6,4,4,4,5,4,4,5,4,7,4,3,7,2,7,9,1,7,7,3,3,4,9,6,2,6,6,4,5,8,5,
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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,9,9,9,8,9,7,7,9,9,9,9,9,9,8,7,9,9,4,5,7,7,4,4,7,9,6,9,6,9,6,7,9,6,5,6,9,9,6,7,7,5,8,5,7,5,6,7,3,
4,6,7,9,5,6,6,9,7,9,4,6,7,5,4,7,6,3,4,6,5,5,8,9,8,7,8,8,8,7,7,6,5,5,8,6,5,4,9,8,4,5,3,8,9,9,5,4,9,3
,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
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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,
8,8,8,9,8,8,8,8,9,8,9,7,5,7,5,7,8,3,8,9,8,5,8,8,8,7,9,8,8,8,8,8,9,8,9,8,8,7,9,8,8,8,9,9,5,8,9,5,6,7
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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
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,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,
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,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,
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,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 0.3469682 0.01600981 5.101425e-88  0.31521 0.3779503
Fisher Transform: TRUE
Confidence Interval: 95%
Number of Observations: 3894
>
```