```
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(0.983,0,0.06,0.212,0.041,0.184,0.046,0.997,1,0.999,0,0,1,1,0,0.024,0.998,0,0.025,1,0.00
3,0.847,1,0.89,1,0.925,0.342,1,0.005,0.58,0.996,0.999,0.958,0.001,0.084,0.92,0.946,0,0.001,0.045,
0.989,0.998,0.989,0.998,1,1,1,0.999,0.017,1,1,1,0.18,1,0,0.975,1,0.986,0.999,0.002,0.998,0,1,0.98
9,0,1,0.948,0.002,0.029,0.999,0.999,0.742,0.997,0.997,1,0.917,0.917,0.064,1,1,0.056,0.001,0.001,0
.003,1,1,0.003,1,1,0.558,0.004,0.249,1,1,1,0.998,1,1,1,1,0.988,0.033,0.995,0.765,0.995,0.005,0.99
9,0.907,1,0.548,0.269,0.032,0.97,0.918,0.998,0.001,0.573,0.998,0.997,0,0.625,0.037,0.003,0,0,0.76
8,0.021,0.095,0.999,0.104,0.984,0.911,0.911,0.768,0.958,0.978,1,0.998,0.999,0.973,1,1,1,1,0.309,0
.112,1,1,1,0.004,0.998,0.99,0.201,0.999,0.22,0.986,0.864,0.995,1,0.902,0.997,0.009,1,1,1,1,1,1,1,
1,0,0.013,0.996,0.883,0,0,0.948,0.004,0.482,0.01,0.064,0.999,0.994,0.999,0.998,0.05,0.091,1,1,0.9
92,0.166,0.047,0.057,0.99,0.021,0.998,1,0.997,0.982,0.918,0.93,0.951,0.029,1,0.787,0,0.035,0.009,
0.999,0.999,1,1,0.999,1,1,0.999,0.988,0.948,1,0.014,0.107,0,0.996,0.001,0.005,0.001,0.461,0.053,0
.996,0.962,1,0.987,0.956,1,0.999,1,0.999,1,0.459,0.129,0.711,0.157,0.006,0.028,0.951,0.994,0.001,
0.046,0.047,0.939,0.002,1,0,0,0.238,0.991,1,0.804,1,0.926,0.096,0.996,0.997,0.009,0.126,0.002,0,0
.999,0.999,0.845,0,0.002,0.011,1,0,0.001,0.006,0.035,0.001,1,1,0.139,1,0.001,0.449,0,0.97,0.999,1
,0.996,0.998,0.992,1,1,0.998,1,0.997,0.998,1,1)
> x1 <- c(0.994,1,1,0.998,0.999,0.82,0.016,0.004,1,0.011,1,0.988,0.853,1,0.998,0.099,0,0.001,0.00
5,0.071,0.999,0.784,0.001,0.727,1,0.609,0.999,0.008,0.187,0.483,1,1,1,1,1,0.012,1,0.001,1,0.299,1
,0.965,0.965,0.997,0,1,0.609,0.853,0,1,1,0.978,0.071,0.999,1,0.001,0.998,0.429,1,0.047,1,0.318,0.
996,0.931,1,0.836,1,0.999,1,0.025,0.999,0.839,0.044,0.984,0.753,0.988,0.002,0.999,0.284,0,0.93,0.
075,1,0.994,0.998,0.002,0.551,0.586,0,1,0.045,1,1,1,0.521,0.027,1,0.996,1,1,0.005,0.999,1,0.998,1
,0.053,0.998,0.001,0.28,0,0.003,1,0,0.989,0.673,0.781,0.655,0.999,1,1,0,1,0.812,0.982,0.939,0,1,0
.985,0.999,0.991,0.107,1,0.995,0.994,1,0,1,0.984,1,1,0.353,1,0.995,0.995,0.057,0.001,0.047,0.005,
0.005,0.994,0.756,0.653,0.756,1,0.997,0.12,0.978,0.075,0.003,0.592,0.525,0.575,1,0.029,0.992,0.04
6,0.995,0.999,1,1,1,1,0.939,0.863,1,0.258,0.999,0.996,0.997,0.99,0.009,1,1,1,1,1,1,0.288,1,0.996,
0.27,1,1,1,0.129,1,1,0.985,0.022,1,1,1,1,0.91,1,1,1,0.999,1,0,1,0.348,0,1,1,1,1,1,1,1,0.324,0.828
,1,1,1,1,0.006,0,0.453,1,1,1,0.848,1,0.121,1,1,1,1,1,1,1,1,1,0.093,0.978,1,1,1,1,1,0.007,0.207,0.
882,0.894,0.646,0.997,0.462,1,1,1,1,0.245,0.987,1,0.999,0.989,0.999,0.999,1,1,1,0.988,0.016,0.856
,0.029,1,0.989,0.981,0.999,1,1,1,0.999,0.999,1,1,1,1,0.145,0.994,1,1,0.999,0.999,1,1,1,1,1)
> x2 <- c(1,0.849,1,1,0.999,0,1,0.997,1,0.993,0.995,0.057,1,1,0.019,0.637,0.001,1,1,1,1,1,1,1,0.0
16,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0.999,1,1,1,1,1,1,1,1,1,1,0.708,1,0.999,1,1,1,1,1,0.323,0.88
2,1,1,1,1,1,0.999,0.997,0.999,1,1,0.695,1,1,1,0.997,1,0.985,1,1,1,1,1,1,1,1,1,0.999,0.994,1,1,0.9
88,0.988,0.662,1,1,1,1,1,1,1,0.999,0.999,0.702,0.998,0.998,0.549,0.383,0.048,1,0.769,1,1,0.805,0.
673,0.991,0,0.998,0.917,1,0.998,1,1,0.86,0.895,0.019,0.88,0.977,1,1,1,1,0.66,1,0.998,1,1,1,0.047,
0.923,1,1,1,0.779,0.203,0.626,0.957,0.9,0.907,0.061,1,1,0.608,1,0.941,0.908,0.986,0.982,0.999,0.0
01,1,0.992,0.992,1,0.47,0,0.298,1,0.998,0.661,1,1,1,0.602,0.991,1,0.998,0.992,0.086,0.141,1,1,1,1
,0.998,0,1,1,1,1,1,1,1,1,1,0.998,0.998,1,1,1,1,1,0.999,0.999,1,0.805,1,1,1,1,1,1,1,0.595,0.002,1,1,
1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,1,1,1,1,1,1,1,1,0.267,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1
,1,1,1,1,0.006,1,1,1,1,1,1,1,1,1,0.96,1,1,1,1,0.992,0.001,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1)
> x3 <- c(1,0.992,0.999,1,1,0.972,0.998,0.887,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1)
> x <- c(x0,x1,x2,x3)
> y0 <- c(0.0875,0.0704,0.3871,0.0715,0.1469,0.1301,0.1004,0.2399,0.3157,0.3346,0.0847,0.0847,0.8
814,0.8814,0.1681,0.1328,0.7335,0.0643,0.2664,0.6552,0.0753,0.6001,0.5573,0.4044,0.7465,0.4289,0.
1064,0.4542,0.0847,0.1402,0.1569,0.6046,0.1506,0.6762,0.7613,0.8819,0.9112,0.2728,0.7036,0.5815,0
.4774,0.9592,0.4774,0.9592,0.9668,0.9668,0.9668,0.3383,0.1049,0.2685,0.5454,0.2061,0.0771,0.7721,
0.0686,0.1792,0.606,0.5154,0.4071,0.0689,0.9069,0.1025,0.8759,0.8952,0.0877,0.5874,0.5509,0.0712,
0.0831,0.9462,0.9462,0.2593,0.4151,0.4151,0.7638,0.7226,0.7226,0.1502,0.8679,0.8679,0.0743,0.0702
,0.0747,0.0898,0.5146,0.9853,0.1969,0.9744,0.9852,0.9327,0.3732,0.356,0.9929,0.4289,0.6004,0.6816
,0.175,0.7929,0.5143,0.7946,0.205,0.0706,0.2861,0.445,0.8598,0.1387,0.4225,0.3413,0.7539,0.1091,0
```

```
.0907,0.0881,0.1384,0.1776,0.2861,0.0795,0.1576,0.1245,0.1629,0.0601,0.1335,0.087,0.0796,0.0648,0
.0705,0.1256,0.1574,0.1903,0.5828,0.1611,0.4124,0.1809,0.1809,0.7403,0.682,0.6693,0.4343,0.1392,0
.458,0.3618,0.8299,0.9593,0.7287,0.0992,0.5504,0.073,0.8721,0.2207,0.1299,0.063,0.2674,0.1903,0.0
717,0.178,0.0875,0.8105,0.43,0.7746,0.9803,0.9577,0.9803,0.1253,0.7684,0.95,0.882,0.915,0.9077,0.
9077,0.9209,0.6918,0.1197,0.1229,0.7733,0.7994,0.09,0.1524,0.4232,0.0515,0.0936,0.0452,0.0773,0.8
838,0.9047,0.964,0.8035,0.2136,0.3951,0.6989,0.6201,0.3347,0.1018,0.104,0.6283,0.6028,0.3046,0.65
91,0.8274,0.5066,0.4361,0.1503,0.2503,0.4571,0.1488,0.7794,0.4268,0.0559,0.1087,0.0668,0.7441,0.7
648,0.863,0.8151,0.8389,0.6508,0.8117,0.8517,0.2186,0.1379,0.4101,0.0488,0.0678,0.0727,0.266,0.05
36,0.0685,0.0897,0.4139,0.1394,0.1547,0.0903,0.1774,0.3955,0.193,0.4633,0.6847,0.7442,0.5487,0.77
24,0.2417,0.1767,0.0994,0.145,0.1182,0.1016,0.6425,0.7328,0.065,0.0816,0.0782,0.3334,0.1191,0.357
,0.0728,0.0698,0.2233,0.7565,0.4982,0.26,0.3393,0.2273,0.1435,0.5971,0.7391,0.0683,0.0985,0.0744,
0.0749,0.7641,0.6607,0.1078,0.0698,0.0973,0.098,0.7277,0.0694,0.0866,0.1188,0.0703,0.0864,0.3017,
0.2698,0.1014,0.4373,0.1549,0.2356,0.0688,0.266,0.3563,0.3391,0.7231,0.9948,0.6107,0.7709,0.8988,
0.6275,0.7531,0.8192,0.5821,0.8099,0.9041)
> y1 <- c(0.7959,0.9433,0.8308,0.4849,0.6018,0.166,0.0905,0.1541,0.7114,0.1001,0.3914,0.4022,0.33
45,0.7707,0.8916,0.1337,0.0517,0.079,0.1289,0.6578,0.3637,0.5736,0.0909,0.184,0.6638,0.2145,0.266
,0.102,0.1915,0.1903,0.8999,0.1397,0.5328,0.7181,0.543,0.0773,0.4774,0.0675,0.9217,0.134,0.7027,0
.4233,0.4233,0.5384,0.1148,0.5836,0.1096,0.3546,0.0598,0.6505,0.8192,0.622,0.7843,0.81,0.5453,0.1
323,0.9398,0.0922,0.6408,0.1042,0.7682,0.4531,0.7019,0.9439,0.9276,0.373,0.8918,0.2318,0.966,0.09
04,0.8088,0.5337,0.1325,0.6355,0.7218,0.8627,0.1813,0.9895,0.1889,0.2971,0.1547,0.1121,0.6412,0.1
908,0.8134,0.0731,0.0742,0.0876,0.0722,0.5858,0.102,0.7919,0.926,0.6468,0.1362,0.1348,0.7452,0.47
66,0.5673,0.6823,0.0672,0.7492,0.8926,0.7773,0.919,0.1464,0.8577,0.1701,0.2428,0.0738,0.0867,0.94
97,0.0922,0.36,0.1245,0.6974,0.0714,0.6436,0.7827,0.7931,0.0651,0.9026,0.5922,0.4502,0.703,0.0624
,0.9831,0.8772,0.9814,0.3061,0.1123,0.8785,0.8624,0.802,0.9885,0.0716,0.9718,0.6705,0.9838,0.9536
,0.2481,0.9356,0.7678,0.7678,0.2598,0.3636,0.2056,0.1509,0.1509,0.7996,0.7424,0.183,0.1332,0.7091
,0.2884,0.192,0.7418,0.2767,0.1438,0.7921,0.6835,0.4273,0.7971,0.1445,0.2815,0.1015,0.7577,0.72,0
.4892,0.9117,0.797,0.785,0.2909,0.1512,0.3919,0.1153,0.1415,0.3973,0.5167,0.6297,0.1451,0.4927,0.
8236,0.4312,0.9586,0.9211,0.9457,0.2204,0.9751,0.6862,0.5014,0.87,0.9895,0.9559,0.1423,0.9893,0.9
59,0.2972,0.1844,0.5764,0.6664,0.9914,0.9788,0.3332,0.6886,0.9555,0.9818,0.3176,0.929,0.0674,0.35
96,0.1,0.0707,0.6841,0.6841,0.1786,0.6712,0.6712,0.3525,0.7705,0.2741,0.2396,0.8699,0.495,0.9816,
0.313,0.0759,0.0851,0.133,0.2681,0.5519,0.4956,0.1128,0.9547,0.3438,0.9907,0.9907,0.9859,0.992,0.
992,0.9775,0.9775,0.9806,0.9806,0.3505,0.4323,0.4985,0.975,0.9645,0.9629,0.476,0.0945,0.2732,0.63
7,0.4983,0.1838,0.5601,0.1582,0.4217,0.7842,0.9711,0.9851,0.4161,0.894,0.806,0.7086,0.9333,0.7582
,0.6404,0.865,0.8337,0.8366,0.4859,0.1153,0.6432,0.1239,0.6658,0.5289,0.2579,0.309,0.9302,0.902,0
.5938,0.7066,0.8311,0.8698,0.7971,0.8354,0.9692,0.3073,0.3963,0.9698,0.9851,0.7848,0.7848,0.9234,
0.9538,0.9041,0.9822,0.9399)
> y2 <- c(0.9211,0.8144,0.9955,0.9955,0.5401,0.0972,0.6782,0.6639,0.8456,0.2068,0.2278,0.1234,0.9
601,0.9601,0.1514,0.4763,0.1819,0.9955,0.9955,0.9851,0.9851,0.9851,0.9958,0.9958,0.1749,0.9948,0.
994,0.994,0.9935,0.9935,0.9958,0.9958,0.9934,0.9934,0.9938,0.979,0.979,0.9929,0.9929,0.9885,0.990
3,0.988,0.9716,0.9919,0.9917,0.9894,0.9894,0.9943,0.9968,0.9968,0.9965,0.9944,0.9944,0.2301,0.326
7,0.6555,0.9315,0.9303,0.4976,0.9528,0.9593,0.196,0.6242,0.9036,0.7702,0.9151,0.8814,0.8952,0.717
,0.5542,0.9722,0.944,0.9489,0.28,0.9407,0.695,0.695,0.266,0.7829,0.2204,0.891,0.6533,0.6533,0.943
,0.8819,0.8819,0.5366,0.8923,0.9796,0.9336,0.7102,0.9808,0.9808,0.7916,0.7916,0.7131,0.8974,0.961
1,0.9611,0.9853,0.9389,0.6316,0.5084,0.6905,0.6279,0.2032,0.5646,0.5646,0.1886,0.1612,0.2496,0.84
58,0.9212,0.9758,0.9852,0.6753,0.3391,0.4578,0.1005,0.9572,0.1978,0.8108,0.6727,0.967,0.9752,0.31
47,0.1682,0.1092,0.1713,0.5645,0.5544,0.705,0.7301,0.7776,0.0938,0.6756,0.4473,0.4398,0.5957,0.92
73,0.1298,0.6878,0.9607,0.9212,0.9265,0.52,0.2692,0.3025,0.1716,0.148,0.1339,0.0663,0.8066,0.9302
,0.1792,0.5531,0.8529,0.4078,0.7719,0.393,0.8323,0.1302,0.9919,0.9639,0.9887,0.5838,0.3865,0.1035
,0.9381,0.9103,0.5031,0.9701,0.9735,0.8559,0.3413,0.5414,0.4467,0.8844,0.3904,0.6079,0.2418,0.384
5,0.9377,0.5111,0.9772,0.9123,0.6226,0.0623,0.9567,0.9432,0.9353,0.968,0.9778,0.9834,0.9824,0.951
8,0.4146,0.4146,0.6376,0.7664,0.9742,0.9809,0.6859,0.2846,0.7809,0.983,0.2736,0.448,0.9639,0.8418
,0.4817,0.8365,0.9667,0.8368,0.6515,0.2472,0.9881,0.9884,0.9811,0.9891,0.99,0.9841,0.9859,0.9654,
0.9838,0.9684,0.9847,0.9834,0.9731,0.9561,0.9873,0.992,0.9862,0.993,0.9951,0.9922,0.9893,0.0809,0
.46,0.891,0.9921,0.8153,0.8715,0.9454,0.8307,0.1355,0.9761,0.9749,0.9767,0.984,0.9895,0.9777,0.97
19,0.9911,0.9691,0.9758,0.9803,0.9726,0.9842,0.9818,0.9608,0.9915,0.9923,0.986,0.9891,0.9945,0.99
89,0.9803,0.9803,0.0749,0.8173,0.7966,0.817,0.7941,0.7941,0.4972,0.3057,0.4134,0.1588,0.8532,0.91
82,0.7077,0.9744,0.3487,0.0563,0.9691,0.9725,0.9814,0.9761,0.9576,0.9585,0.9773,0.9558,0.9693,0.9
629,0.9629,0.9469,0.9842,0.977,0.9901)
> y3 <- c(0.9888,0.6097,0.809,0.9751,0.664,0.6442,0.4325,0.2947,0.9744,0.9883,0.9886,0.9812,0.957
4,0.9881,0.993,0.9894,0.9948,0.981,0.9887,0.9797,0.9959,0.9959,0.9892,0.9892,0.9906)
> y <- c(y0,y1,y2,y3)
> wilcox.test(x,y)

        Wilcoxon rank sum test with continuity correction

data:  x and y
W = 633231, p-value < 2.2e-16
alternative hypothesis: true location shift is not equal to 0

>
```