

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

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

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

```
> # Load necessary libraries
> library(ggplot2)
>
> # Given data
> x10 <-
c(0.1998,0.7984,0.9022,0.1694,0.7773,0.6136,0.1334,0.4933,0.81,0.6674,0.5471,0.51,0.7342,0.6938,0.7515,0.8105,0.5394
,0.6291,0.6934,0.5108,0.5695,0.8298,0.7173,0.837,0.8268,0.592,0.5959,0.4094,0.2439,0.2666,0.5741,0.5003,0.6586,0.498
7,0.4033,0.373,0.3201,0.2025,0.2045,0.5595,0.4012,0.6651,0.4224,0.3262,0.38,0.591,0.2508,0.1428,0.665,0.735,0.112,0.
588,0.863,0.2824,0.711,0.5034,0.4271,0.835,0.2747,0.2696,0.632,0.1422,0.3899,0.9447,0.9966,0.9958,0.9638,0.9596,0.96
29,0.9617,0.9687,0.9971,0.9941,0.9907,0.9825,0.9879,0.9512,0.9938,0.9886,0.9735,0.9167,0.9988,0.9994,0.9888,0.9963,0.
9883,0.998,0.9983,0.9922,0.9853,0.8634,0.9979,0.9957,0.9031,0.9868,0.9522,0.9683,0.9578,0.9963,0.663,0.6209,0.5102,
0.864,0.279,0.3096,0.834,0.1297,0.4315,0.1632,0.8517,0.7305,0.2261,0.5231,0.4265,0.7709,0.2502,0.7832,0.709,0.9942,0.
9951,0.7644,0.9814,0.9282,0.9882,0.9474,0.9974,0.9954,0.9932,0.9781,0.9952,0.956,0.9918,0.9981,0.9779,0.9493,0.9177
,0.9944,0.9956,0.948,0.9877,0.9681,0.9666,0.9816,0.9976,0.911,0.3521,0.2223,0.1248,0.1169,0.1096,0.6151,0.1582,0.442
7,0.913,0.5359,0.8511,0.9542,0.6817,0.9131,0.9884,0.855,0.8146,0.9829,0.9068,0.9611,0.9778,0.8729,0.9849,0.9455,0.86
,0.44,0.8959,0.8755,0.4355,0.7795,0.6969,0.3697,0.5881,0.7769,0.7821,0.998,0.9926,0.825,0.979,0.922,0.6956,0.9402,0.
9914,0.982,0.9805,0.964,0.9782,0.9122,0.9695,0.9765,0.9457,0.8404,0.864,0.592,0.1934,0.2192,0.109,0.1155,0.1579,0.15
42,0.5523,0.9898,0.9083,0.9894,0.9765,0.8888,0.9754,0.9986,0.936,0.7402,0.2608,0.9263,0.957,0.5037,0.8014,0.5735,0.3
183,0.5044,0.9489,0.9791,0.8802,0.9602,0.9589,0.7726,0.9645,0.9967,0.8928,0.8456,0.8318,0.9106,0.7539,0.9557,0.7984,
0.9277,0.9368,0.8344,0.7867,0.3065,0.9757,0.9619,0.5057,0.9108,0.765,0.6935,0.744,0.957,0.9595,0.9535,0.948,0.9061,0.
7408,0.9234,0.9883,0.8021,0.6644,0.6001,0.9894,0.9707,0.8354,0.9103,0.8334,0.8657,0.7722,0.9711,0.801,0.2141,0.2304
,0.1615,0.1226,0.11,0.5772,0.1721,0.434,0.637,0.2033,0.1047,0.1202,0.72,0.853,0.2042,0.973,0.2714,0.2393,0.4373,0.55
01,0.6631,0.4037,0.555,0.8217,0.1372,0.785,0.2844,0.8252,0.8225,0.402)
> x11 <-
c(0.6661,0.4012,0.9915,0.4793,0.7874,0.3182,0.792,0.6786,0.758,0.3249,0.2631,0.9906,0.2307,0.9011,0.4817,0.8776,0.95
06,0.6604,0.7232,0.6653,0.7192,0.7919,0.973,0.2054,0.7857,0.8328,0.5034,0.3522,0.2317,0.4079,0.3833,0.9343,0.1716,0.
7287,0.8388,0.2396,0.6431,0.5095,0.1351,0.3502,0.6454,0.3468,0.9064,0.9563,0.4029,0.9072,0.7949,0.2899,0.6808,0.9237
,0.4509,0.9153,0.9572,0.5306,0.731,0.6845,0.6434,0.798,0.9719,0.989,0.4961,0.5065,0.1934,0.2147,0.2385,0.191,0.2335,
0.6721,0.3529,0.2532,0.3559,0.3159,0.2552,0.3816,0.4667,0.229,0.161,0.2838,0.6778,0.8062,0.2843,0.7177,0.5261,0.6694
,0.4303,0.5838,0.2683,0.8808,0.8673,0.3931,0.6766,0.4489,0.7119,0.4406,0.8671,0.7942,0.5261,0.73,0.7603,0.5905,0.719
9,0.9595,0.597,0.54,0.8909,0.9547,0.9866,0.8403,0.9292,0.9288,0.9573,0.969,0.9962,0.1421,0.1846,0.4873,0.3272,0.4697
,0.2874,0.9256,0.6616,0.9528,0.9723,0.8161,0.9325,0.9671,0.9079,0.9612,0.9969,0.9212,0.6725,0.9663,0.8308,0.9231,0.9
781,0.9079,0.9659,0.9936,0.931,0.8371,0.2768,0.767,0.7711,0.492,0.3285,0.1895,0.877,0.3473,0.9429,0.52,0.9848,0.9848
,0.6371,0.9301,0.8105,0.9089,0.8174,0.9649,0.8412,0.8947,0.8214,0.8656,0.7067,0.875,0.9795,0.7286,0.7339,0.1207,0.63
69,0.5984,0.3499,0.1635,0.1231,0.7207,0.152,0.8564,0.2288,0.8344,0.5591,0.6062,0.28,0.2448,0.5919,0.2568,0.8484,0.61
35,0.985,0.9597,0.7312,0.7741,0.744,0.5041,0.9194,0.9856,0.8777,0.9925,0.9957,0.9529,0.9362,0.8737,0.9983,0.8698,0.9
985,0.1779,0.6325,0.3816,0.3004,0.2294,0.2643,0.845,0.1576,0.3952,0.9915,0.9431,0.9862,0.9236,0.7573,0.9404,0.9992,0.
9019,0.8628,0.6666,0.5277,0.7438,0.5014,0.4296,0.6617,0.9908,0.3933,0.4568,0.1535,0.8307,0.3147,0.36,0.1928,0.1949,
0.7464,0.2267,0.7227,0.4006,0.821,0.9885,0.7006,0.8456,0.8133,0.9621,0.7937,0.9986,0.2238,0.8602,0.5864,0.5194,0.288
,0.2814,0.8908,0.2825,0.8242,0.2047,0.5621,0.989,0.6562,0.7312,0.5915,0.9674,0.4919,0.9979,0.9404,0.7525,0.9244,0.88
72,0.8341,0.9363,0.9969,0.7886,0.647,0.855,0.9537,0.9986,0.9221,0.9639,0.9313,0.9826,0.9583,0.9994,0.4599,0.5678,0.3
225,0.6407,0.6073,0.6263,0.6294,0.4954,0.3867,0.3503,0.9463,0.7987,0.5312,0.6162,0.5575,0.7986)
> x12 <-
c(0.6242,0.9271,0.628,0.5459,0.1864,0.881,0.101,0.1205,0.679,0.1192,0.4062,0.607,0.4527,0.178,0.756,0.952,0.1145,0.6
63,0.986,0.3869,0.5299,0.6086,0.5232,0.69,0.5333,0.6952,0.7922,0.4502,0.4174,0.9791,0.9655,0.9678,0.9829,0.91,0.9858
,0.9851,0.9518,0.8713,0.3744,0.7399,0.8914,0.657,0.7258,0.4716,0.9251,0.6851,0.9781,0.9352,0.9821,0.9986,0.95,0.9792
,0.966,0.991,0.9662,0.9995,0.9977,0.9866,0.9951,0.9881,0.9127,0.9908,0.997,0.9803,0.9,0.1899,0.188,0.984,0.2909,0.84
48,0.7802,0.7787,0.7627,0.9982,0.9429,0.9879,0.996,0.9536,0.9758,0.9734,0.979,0.9668,0.9977,0.1162,0.7333,0.7301,0.1
58,0.3819,0.2602,0.5523,0.4701,0.8982,0.13,0.7294,0.7236,0.26,0.511,0.3945,0.4246,0.6968,0.8526,0.9697,0.9962,0.9949
,0.9273,0.9731,0.9815,0.9518,0.9701,0.997,0.2003,0.7867,0.7018,0.4264,0.358,0.292,0.6447,0.1953,0.769,0.4074,0.9257,
0.9352,0.5151,0.8433,0.6491,0.4271,0.5819,0.9295,0.1969,0.956,0.1325,0.3211,0.3025,0.4095,0.3302,0.2206,0.3005,0.24,
0.1386,0.1616,0.3202,0.3146,0.4069,0.2836,0.2314,0.3455,0.1465,0.5015,0.5596,0.1303,0.3764,0.356,0.858,0.2421,0.4227
,0.1538,0.921,0.1113,0.2871,0.2751,0.3559,0.2676,0.1946,0.279,0.2094,0.1208,0.1583,0.309,0.3145,0.3735,0.3116,0.2,0.
```

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3523,0.2583,0.1146,0.1875,0.3213,0.3429,0.4371,0.3536,0.2365,0.352,0.2309,0.1041,0.1663,0.3413,0.3018,0.4631,0.2992,
0.2333,0.3506,0.1248,0.7199,0.7467,0.2357,0.5266,0.4142,0.1423,0.2956,0.7373,0.893,0.992,0.9895,0.9489,0.8992,0.8538
,0.9494,0.9457,0.9941,0.9786,0.9326,0.9372,0.9631,0.8949,0.9684,0.9698,0.9221,0.8244,0.9973,0.996,0.9802,0.99,0.9701
,0.993,0.9968,0.9821,0.9706,0.8009,0.9954,0.9922,0.8878,0.9614,0.8751,0.9439,0.9064,0.9942,0.1058,0.4359,0.4686,0.12
33,0.2549,0.2309,0.697,0.1452,0.3676,0.1444,0.4567,0.4686,0.1424,0.3207,0.2969,0.769,0.2064,0.3797,0.565,0.3132,0.21
81,0.1055,0.1056,0.878,0.845,0.1023,0.372,0.1914,0.7528,0.7331,0.3588,0.3842,0.3095,0.7511,0.243,0.7014,0.6999,0.985
3,0.9911,0.8553,0.934,0.8342,0.9833,0.8714,0.9914,0.9963,0.9877,0.9877,0.9798,0.9264,0.981,0.9988,0.9536,0.9267,0.62
4,0.3226,0.2113,0.1785,0.805,0.708,0.8702,0.11,0.5274,0.9512)
> x13 <-
c(0.9966,0.998,0.9514,0.9908,0.9729,0.9668,0.9867,0.9988,0.9441,0.7154,0.9106,0.9216,0.7419,0.8919,0.9671,0.8626,0.7
795,0.6708,0.99,0.9752,0.6966,0.9198,0.84,0.3606,0.829,0.9667,0.9504,0.9041,0.9175,0.9253,0.8343,0.9201,0.9538,0.866
,0.7352,0.9866,0.861,0.9856,0.9566,0.8318,0.9518,0.9976,0.8933,0.7751,0.687,0.2232,0.1675,0.2296,0.753,0.58,0.477,0.
888,0.7182,0.863,0.502,0.8421,0.7258,0.4456,0.8037,0.9865,0.6006,0.6492,0.7637,0.6831,0.6721,0.8831,0.7321,0.8664,0.
8859,0.7317,0.7136,0.1721,0.8601,0.6952,0.2466,0.4135,0.2862,0.2667,0.5929,0.7804,0.7806,0.604,0.7879,0.4871,0.4603,
0.6923,0.9564,0.426,0.5885,0.606,0.2348,0.1196,0.2239,0.67,0.617,0.5506,0.691,0.6023,0.2232,0.4416,0.5612,0.2751,0.3
89,0.2702,0.9388,0.2692,0.4618,0.2125,0.6886,0.496,0.6637,0.2502,0.1674,0.9713,0.2059,0.7901,0.61,0.2221,0.1146,0.24
4,0.743,0.613,0.4946,0.821,0.3701,0.1453,0.6396,0.6377,0.4407,0.2441,0.1422,0.4708,0.349,0.8728,0.1409,0.6931,0.4999
,0.6092,0.1282,0.832,0.2992,0.1666,0.8676,0.2688,0.8442,0.835,0.4338,0.4661,0.4036,0.1622,0.2807,0.7953,0.5485,0.962
9,0.9778,0.6256,0.9295,0.8226,0.5299,0.785,0.9663,0.5937,0.9661,0.977,0.8274,0.8217,0.6929,0.791,0.8338,0.9857,0.191
,0.7842,0.6676,0.481,0.3079,0.2212,0.4327,0.3675,0.8761,0.5098,0.2259,0.4357,0.4562,0.4253,0.5653,0.5993,0.3552,0.30
74,0.5348,0.9147,0.9323,0.5123,0.803,0.6309,0.8209,0.5978,0.8884,0.2574,0.8206,0.7093,0.3767,0.3896,0.2105,0.871,0.4
627,0.901,0.3214,0.8785,0.8847,0.3546,0.5876,0.3983,0.8197,0.3874,0.8734,0.1977,0.1078,0.2325,0.3088,0.2432,0.4275,0.
8031,0.2212,0.3466,0.5657,0.1855,0.5612,0.5388,0.4023,0.6059,0.9033,0.3932,0.3428,0.4659,0.8522,0.8665,0.5346,0.587
3,0.4104,0.891,0.7414,0.9769,0.888,0.5531,0.7571,0.8831,0.7966,0.8795,0.9883,0.7886,0.598,0.8582,0.5108,0.7492,0.900
9,0.7722,0.8732,0.9811,0.7914,0.695,0.1366,0.5857,0.4716,0.3536,0.1432,0.1024,0.6245,0.1262,0.8277,0.5626,0.2791,0.6
125,0.4815,0.5117,0.6593,0.9833,0.3995,0.4848,0.6339,0.9728,0.977,0.7014,0.8537,0.7598,0.8833,0.7516,0.9124,0.8996,0.
8395,0.8649,0.7581,0.8632,0.99,0.7894,0.6879,0.2028,0.1498,0.2997,0.1625,0.2595)
> x14 <-
c(0.3113,0.7305,0.1385,0.2681,0.1019,0.6328,0.2659,0.3826,0.1526,0.1286,0.3402,0.1338,0.6207,0.4082,0.939,0.9268,0.6
553,0.6809,0.5817,0.2769,0.8613,0.9583,0.8818,0.9912,0.9945,0.9582,0.8994,0.845,0.9979,0.8146,0.9974,0.3182,0.5937,0.
5861,0.4393,0.2726,0.3465,0.8824,0.2168,0.4926,0.961,0.3661,0.1313,0.2446,0.789,0.917,0.5225,0.1022,0.3522,0.2515,0.
1863,0.3339,0.1893,0.2434,0.3478,0.8071,0.1536,0.3396,0.1953,0.3587,0.7757,0.5973,0.3762,0.2387,0.9165,0.3168,0.959
6,0.4253,0.2473,0.5653,0.2427,0.2892,0.4427,0.9808,0.2007,0.3994,0.1236,0.6746,0.2397,0.417,0.1443,0.1272,0.6799,0.1
463,0.6025,0.884,0.5726,0.2615,0.2671,0.127,0.1087,0.5161,0.1382,0.5345,0.4516,0.7606,0.9843,0.8163,0.7733,0.6507,0.
9618,0.7195,0.9975,0.3672,0.206,0.5531,0.1662,0.2722,0.3578,0.9668,0.142,0.3136,0.1845,0.7819,0.3585,0.5707,0.2202,0.
1656,0.8348,0.1841,0.6703,0.2118,0.5732,0.9856,0.7075,0.7939,0.5809,0.9533,0.5451,0.9975,0.5344,0.2419,0.5868,0.338
1,0.422,0.5676,0.9775,0.2928,0.3745,0.8318,0.9322,0.9972,0.924,0.9455,0.8728,0.9611,0.9325,0.9987,0.4572,0.4267,0.34
24,0.6358,0.4822,0.6433,0.7287,0.4857,0.3318,0.2074,0.8371,0.5231,0.4422,0.3733,0.3028,0.6757,0.3636,0.7856,0.1853,0.
7476,0.684,0.239,0.354,0.3184,0.661,0.2431,0.6065,0.1516,0.7367,0.6294,0.1483,0.3305,0.3215,0.1216,0.1995,0.4908,0.
9809,0.9283,0.9717,0.9612,0.8697,0.9694,0.9881,0.9129,0.8685,0.5808,0.9495,0.9474,0.664,0.8098,0.5023,0.9697,0.7087,
0.979,0.638,0.2551,0.2761,0.2785,0.1389,0.888,0.7475,0.1037,0.8166,0.7086,0.9432,0.9946,0.8835,0.9368,0.8348,0.9735,
0.8871,0.9991,0.9941,0.9492,0.9894,0.9715,0.8866,0.9784,0.9957,0.9586,0.8647,0.1736,0.8037,0.9712,0.6186,0.7421,0.64
07,0.5059,0.5612,0.9939,0.4488,0.7177,0.8587,0.6046,0.6273,0.5219,0.7774,0.4383,0.7835,0.7246,0.9511,0.9655,0.8613,0.
8497,0.7098,0.9369,0.8764,0.9907,0.806,0.4902,0.2451,0.1933,0.1536,0.1154,0.6664,0.1789,0.593,0.208,0.8132,0.7045,0.
4491,0.4304,0.2706,0.5003,0.6762,0.8561,0.9211,0.9926,0.9848,0.869,0.9263,0.8958,0.9271,0.9358,0.9948,0.2242,0.772,
0.7013,0.3906,0.3446,0.3016,0.707,0.2196,0.739,0.1389,0.948,0.1288,0.2086,0.2119,0.3118,0.1928,0.1329)
> x15 <-
c(0.2613,0.848,0.52,0.2646,0.1597,0.152,0.1559,0.923,0.1874,0.5246,0.2514,0.6504,0.636,0.2517,0.4828,0.409,0.2967,0.
3347,0.4976,0.622,0.5251,0.4309,0.1555,0.2536,0.1593,0.2361,0.2007,0.7049,0.1098,0.339,0.3744,0.1187,0.2392,0.2257,0.
1186,0.1526,0.2669,0.1628,0.6432,0.7316,0.1532,0.5398,0.4162,0.1648,0.3174,0.5381,0.7714,0.5608,0.6506,0.6931,0.694
7,0.7421,0.919,0.5508,0.6275,0.93,0.4983,0.3814,0.1773,0.1694,0.1632,0.206,0.2147,0.6062,0.1455,0.4363,0.4942,0.1324
,0.367,0.311,0.1409,0.2252,0.3677,0.6163,0.2997,0.5178,0.7187,0.6336,0.7588,0.7888,0.5035,0.5043,0.1887,0.5831,0.653
3,0.2074,0.3998,0.3638,0.1626,0.2489,0.4679,0.1468,0.806,0.134,0.1912,0.2304,0.3243,0.3078,0.1423,0.2657,0.1257,0.81
3,0.1447,0.1583,0.1615,0.2774,0.2054,0.1175,0.2658,0.634,0.2161,0.1197,0.1024,0.815,0.88,0.694,0.917,0.2713,0.1512,0.
856,0.1362,0.2454,0.2589,0.3575,0.2663,0.1674,0.2323,0.8064,0.9892,0.9855,0.9342,0.8649,0.7845,0.9242,0.8934,0.9914
,0.9858,0.9405,0.965,0.9713,0.9159,0.9779,0.9822,0.9404,0.8445,0.9944,0.9881,0.9733,0.9826,0.9554,0.9872,0.9952,0.96
88,0.9477,0.7113,0.9858,0.9869,0.8284,0.9212,0.8143,0.8924,0.8222,0.9867,0.954,0.3369,0.3641,0.1035,0.2,0.2059,0.748
,0.1301,0.2941,0.1152,0.2566,0.2697,0.1252,0.1465,0.1747,0.848,0.1114,0.2125,0.1448,0.727,0.1266,0.1467,0.1662,0.229
,0.2007,0.1241,0.208,0.4441,0.8814,0.859,0.4739,0.7198,0.5762,0.8411,0.4968,0.7849,0.7235,0.9892,0.9906,0.8043,0.947
1,0.846,0.9685,0.8861,0.9918,0.9967,0.9814,0.9871,0.9902,0.9524,0.9848,0.9989,0.9715,0.9275,0.4109,0.8938,0.9578,0.4
754,0.7853,0.5938,0.9572,0.5634,0.9018,0.9312,0.995,0.9973,0.9491,0.9875,0.9654,0.9571,0.9807,0.9985,0.1159,0.7735,0.
5631,0.3673,0.1768,0.1162,0.4903,0.2461,0.7574,0.9639,0.7637,0.9355,0.9358,0.7493,0.9025,0.9819,0.8834,0.8137,0.343
5,0.8027,0.7717,0.3779,0.5217,0.4695,0.2845,0.3693,0.6542,0.6714,0.9933,0.982,0.717,0.9372,0.8513,0.4373,0.847,0.978
3,0.8899,0.776,0.8235,0.8642,0.7175,0.8537,0.9166,0.7681,0.6557,0.595,0.3035,0.6211,0.3472,0.1235,0.1032,0.3462,0.66
,0.9524,0.9773,0.7495,0.9717,0.9278,0.7956,0.9337,0.9977,0.8588,0.7043,0.9392,0.6443)
> x16 <-
c(0.911,0.8909,0.6493,0.9045,0.995,0.7895,0.7276,0.8325,0.7919,0.7229,0.9302,0.7547,0.9003,0.9325,0.8021,0.754,0.966
9,0.9223,0.9522,0.9125,0.7376,0.9207,0.9899,0.8157,0.7186,0.5226,0.9742,0.9531,0.759,0.8244,0.7328,0.7873,0.6402,0.9
451,0.1413,0.4289,0.3432,0.3521,0.1678,0.1343,0.5507,0.2399,0.6761,0.2702,0.8069,0.7129,0.6705,0.4391,0.258,0.9746,0.
3926,0.8713,0.3118,0.6834,0.5594,0.6587,0.3907,0.2895,0.9185,0.2518,0.6521,0.1529,0.61,0.6764,0.4054,0.31,0.1878,0.
5477,0.4154,0.8673,0.1096,0.4907,0.2666,0.475,0.777,0.599,0.2296,0.932,0.6533,0.2309,0.7151,0.6964,0.3701,0.3403,0.2
951,0.1458,0.2157,0.6296,0.3449,0.8808,0.8973,0.5945,0.5771,0.3645,0.6205,0.6349,0.952,0.988,0.4422,0.2882,0.241,0.1
488,0.1216,0.1782,0.1657,0.5456,0.2911,0.1135,0.26,0.2396,0.267,0.3693,0.3205,0.2013,0.2105,0.1518,0.6742,0.6448,0.3
104,0.3131,0.1725,0.8538,0.3928,0.8106,0.1334,0.757,0.1195,0.2147,0.169,0.2849,0.6212,0.158,0.1938,0.1883,0.5878,0.6
692,0.4519,0.2532,0.2022,0.4499,0.3045,0.8881,0.2532,0.1462,0.2554,0.3035,0.3193,0.5087,0.2555,0.2224,0.4008,0.2476,
0.6717,0.8454,0.456,0.4942,0.2305,0.894,0.5618,0.9693,0.66,0.223,0.2364,0.1717,0.1106,0.846,0.6921,0.1145,0.7078,0.1
```

```
275,0.2097,0.3739,0.3436,0.2094,0.1233,0.6463,0.4279,0.9046,0.8902,0.5237,0.7646,0.849,0.8187,0.8672,0.9843,0.751,0.6903,0.9309,0.6111,0.8578,0.9496,0.8381,0.9249,0.99,0.8648,0.7825,0.4836,0.9598,0.9209,0.6232,0.6149,0.5802,0.6449,0.4906,0.9189,0.504,0.5562,0.4397,0.5194,0.4663,0.6017,0.7963,0.3845,0.6258,0.76,0.4086,0.2053,0.1731,0.907,0.976,0.1345,0.1168,0.4345,0.2643,0.188,0.3154,0.1772,0.2566,0.323,0.6157,0.1623,0.3009,0.797,0.3566,0.1437,0.1728,0.1012,0.1126,0.1855,0.1193,0.3413,0.1971,0.8459,0.6436,0.4598,0.3426,0.2789,0.1753,0.5605,0.8375,0.4689,0.858,0.8576,0.624,0.442,0.4591,0.9485,0.336,0.8477,0.719,0.339,0.1089,0.1678,0.712,0.862,0.2742,0.905,0.2578,0.8335,0.3689,0.8114,0.5084,0.4168,0.5807,0.9876,0.4947,0.4572,0.964,0.5347,0.1856,0.3406,0.885,0.955,0.6025,0.1032,0.5306,0.708,0.3501,0.881,0.1629,0.649,0.843,0.3759,0.786,0.2746,0.1133,0.6477,0.2292,0.3407,0.1372)
```

```
> x17 <-
```

```
c(0.1218,0.5046,0.1741,0.5885,0.2281,0.5908,0.9189,0.5951,0.5051,0.3454,0.8105,0.4931,0.9853,0.4195,0.2148,0.5067,0.2668,0.3491,0.4683,0.9565,0.2305,0.3699,0.969,0.4772,0.1671,0.2692,0.944,0.981,0.5088,0.1088,0.4403,0.1172,0.4099,0.874,0.4515,0.3848,0.221,0.873,0.2526,0.9798,0.4048,0.7528,0.9702,0.7045,0.7233,0.5174,0.8711,0.7178,0.9885,0.257,0.1764,0.2081,0.3506,0.3355,0.4802,0.518,0.2647,0.3259,0.92,0.6772,0.2357,0.244,0.12,0.1026,0.1275,0.1508,0.4692,0.2707,0.8407,0.6519,0.3365,0.4206,0.3999,0.1431,0.2907,0.6025,0.851,0.671,0.3662,0.2248,0.1577,0.1499,0.154,0.2407,0.7129,0.4254,0.414,0.3982,0.4226,0.4355,0.5644,0.6659,0.314,0.5161,0.7512,0.5707,0.7161,0.7537,0.6601,0.8137,0.9035,0.6058,0.9809,0.9048,0.9698,0.9657,0.8657,0.9752,0.9856,0.9213,0.8592,0.2662,0.6644,0.8305,0.5639,0.483,0.25,0.8694,0.496,0.9705,0.104,0.4827,0.3059,0.223,0.1721,0.1466,0.1524,0.2356,0.4586,0.805,0.4333,0.1908,0.1438,0.1222,0.1113,0.1324,0.1523,0.4103,0.9557,0.5623,0.8937,0.9351,0.8105,0.9366,0.9922,0.8763,0.6629,0.233,0.5902,0.8296,0.5054,0.4178,0.2381,0.8376,0.5596,0.9734,0.7542,0.9566,0.9964,0.8873,0.9474,0.8356,0.9814,0.917,0.9993,0.982,0.8002,0.9761,0.9047,0.6976,0.8896,0.9933,0.8881,0.6883,0.1604,0.7484,0.96,0.5944,0.6643,0.4986,0.501,0.5215,0.9889,0.6927,0.9514,0.98,0.8453,0.8766,0.7767,0.9048,0.8629,0.9904,0.794,0.5007,0.3444,0.2071,0.21,0.1618,0.1637,0.2683,0.5515,0.597,0.2367,0.2049,0.1465,0.111,0.929,0.4934,0.99,0.7504,0.898,0.9855,0.9864,0.8447,0.9204,0.9399,0.887,0.9382,0.9946,0.711,0.2813,0.2175,0.1083,0.1135,0.1088,0.1273,0.1701,0.4295,0.2089,0.6948,0.74,0.3193,0.4158,0.3794,0.4482,0.243,0.6752)
```

```
> x1 <- c(x10,x11,x12,x13,x14,x15,x16,x17)
```

```
> x2 <-
```

```
c(0.4291,0.2221,0.2596,0.1317,0.1502,0.1219,0.1121,0.9954,0.7372,0.8971,0.9281,0.866,0.1239,0.9047,0.8189,0.9646,0.2133,0.132,0.1764,0.4569,0.912,0.2829,0.2376,0.1332,0.476,0.2046,0.3461,0.6307,0.2118,0.6887,0.2865,0.1516,0.807,0.2449,0.3365,0.951,0.6413,0.239,0.6206,0.9427,0.4008,0.783,0.2267,0.224,0.1468,0.9935,0.92,0.1798,0.3444,0.5039,0.6121,0.1759,0.2962,0.3905,0.9729,0.9307,0.1098,0.1605,0.1021,0.3202,0.956,0.3965,0.8525,0.1782,0.9949,0.1227,0.823,0.1603,0.1326,0.1107,0.4663,0.8915,0.9971,0.2245,0.9786,0.9976,0.6752,0.9034,0.9941,0.1162,0.3744,0.999,0.1116,0.1814,0.1019,0.978,0.104,0.1107,0.1759,0.9858,0.448,0.7447,0.8394,0.1122,0.1462,0.1473,0.132,0.7256,0.566,0.1416,0.9745,0.1005,0.7479,0.1658,0.1053,0.884,0.708,0.2171,0.7717,0.1137,0.708,0.1348,0.2767,0.944,0.5377,0.2142,0.211,0.7005,0.9573,0.4981,0.801,0.3239,0.7446,0.2057,0.859,0.838,0.8837,0.122,0.1791,0.1122,0.1234,0.5443,0.2365,0.607,0.1788,0.9374,0.9088,0.1407,0.984,0.938,0.5035,0.809,0.1645,0.1629,0.9085,0.651,0.225,0.8685,0.924,0.988,0.954,0.4757,0.1508,0.1527,0.2636,0.2878,0.1543,0.9795,0.1279,0.8781,0.2811,0.977,0.2352,0.8515,0.9816,0.1365,0.838,0.2596,0.2151,0.3722,0.1016,0.2302,0.1587,0.348,0.1455,0.1928,0.1711,0.88,0.904,0.1,0.1094,0.9763,0.5028,0.599,0.6784,0.97,0.794,0.91,0.2647,0.767,0.6248,0.3551,0.9642,0.353,0.1275,0.2618,0.7589,0.1434,0.872,0.715,0.994,0.2724,0.1911,0.5506,0.3578,0.5411,0.1681,0.6251,0.953,0.1464,0.8244,0.2253,0.789,0.6466,0.971,0.4618,0.1094,0.8001,0.1497,0.6792,0.1248,0.2335,0.3209,0.1369,0.131,0.72,0.1178,0.6736,0.3178,0.848,0.981,0.907,0.689,0.193,0.6994,0.881,0.1052,0.4796,0.8967,0.853,0.1568,0.1704,0.3143,0.1047,0.1309,0.3431,0.7398,0.3591,0.1844,0.1408,0.7752,0.9869,0.65,0.8492,0.9752,0.4065,0.1295,0.9844,0.2191,0.1872)
```

```
> ks.test(x1, x2, alternative = "two.sided", exact=FALSE)
```

Asymptotic two-sample Kolmogorov-Smirnov test

data: x1 and x2

D = 0.21646, p-value = 6.017e-10

alternative hypothesis: two-sided

Warning message:

In ks.test.default(x1, x2, alternative = "two.sided", exact = FALSE) :

p-value will be approximate in the presence of ties

```
> # Create data frames for plotting
```

```
> df_qty <- data.frame(AlphaMissenseScore = x1, Group = " Other Nonpolar")
```

```
> df_other <- data.frame(AlphaMissenseScore = x2, Group = " rQTY-code")
```

```
> df <- rbind(df_other, df_qty)
```

```
>
```

```
> # Density Plot
```

```
> ggplot(df, aes(x = AlphaMissenseScore, color = Group)) +
```

```
+ geom_density() +
```

```
+ labs(title = "Density Plot of AlphaMissense Scores",
```

```
+ x = "AlphaMissense Score",
```

```
+ y = "Density",
```

```
+ color = "Group") +
```

```
+ theme_minimal()
```

```
>
```

```
>
```