```
R version 4.3.1 (2023-06-16 ucrt) -- "Beagle Scouts"
Copyright (C) 2023 The R Foundation for Statistical Computing
Platform: x86_64-w64-mingw32/x64 (64-bit)

R is free software and comes with ABSOLUTELY NO WARRANTY.
You are welcome to redistribute it under certain conditions.
Type 'license()' or 'licence()' for distribution details.

  Natural language support but running in an English locale

R is a collaborative project with many contributors.
Type 'contributors()' for more information and
'citation()' on how to cite R or R packages in publications.

Type 'demo()' for some demos, 'help()' for on-line help, or
'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.

[Previously saved workspace restored]

> rm(list = ls())
> x0 <- c(0.2921,0.2628,0.236,0.2495,0.2567,0.2233,0.2069,0.2341,0.2312,0.1935,0.1974,0.2273,0.21
57,0.1891,0.2106,0.2336,0.2172,0.21,0.2367,0.2454,0.2353,0.2403,0.2809,0.2889,0.2808,0.3204,0.354
8,0.3511,0.3766,0.3779,0.4069,0.396,0.4195,0.3809,0.3132,0.3294,0.3387,0.2871,0.2477,0.2678,0.243
9,0.2102,0.2237,0.2216,0.189,0.1794,0.2019,0.186,0.1541,0.1698,0.1833,0.1641,0.1391,0.1667,0.1711
,0.1403,0.1412,0.1704,0.1648,0.1411,0.1474,0.1759,0.1758,0.1583,0.1718,0.2147,0.2227,0.1925,0.223
2,0.2266,0.2456,0.213,0.1753,0.2005,0.2043,0.1594,0.1439,0.1766,0.1671,0.1201,0.1303,0.1534,0.129
3,0.0962,0.1267,0.1363,0.1098,0.1088,0.1366,0.1352,0.1171,0.1347,0.1547,0.1468,0.1432,0.1659,0.17
56,0.1651,0.1707,0.195,0.2003,0.1977,0.2058,0.1999,0.2202,0.2547,0.2786,0.267,0.2315,0.2421,0.279
3,0.2642,0.2453,0.2755,0.2894,0.2826,0.28,0.2752,0.2628,0.2879,0.29,0.2555,0.2561,0.2383,0.262,0.
2539,0.214,0.2192,0.2463,0.2251,0.1932,0.2188,0.2351,0.2034,0.1967,0.2337,0.2537,0.2913,0.2854,0.
254,0.2714,0.2711,0.2308,0.2183,0.23,0.2281,0.2309,0.2485,0.2427,0.2563,0.2726,0.2888,0.3033,0.31
67,0.3026,0.3371,0.3107,0.366,0.4338,0.5341,0.652,0.7678,0.8658,0.9739,0.9911,1.1587,1.2813,1.382
1,1.2406,1.2207,1.4214,1.4361,1.324,1.4665,1.6405,1.606,1.6387,1.5128,1.4026,1.185,1.0614,0.8949,
0.7076,0.6477,0.5619,0.4604,0.4164,0.3775,0.3229,0.3244,0.2993,0.2933,0.2969,0.2877,0.2896,0.2726
,0.2534,0.2451,0.2082,0.1928,0.1861,0.1699,0.1646,0.1927,0.1872,0.1581,0.1774,0.1963,0.1781,0.165
8,0.2032,0.2144,0.1899,0.2003,0.2314,0.2349,0.2282,0.2432,0.2624,0.2746,0.2989,0.314,0.2782,0.273
3,0.2918,0.2617,0.2239,0.2408,0.2423,0.2014,0.1963,0.2169,0.2038,0.1732,0.194,0.2038,0.1836,0.179
1,0.2091,0.1983,0.1648,0.1885,0.2035,0.1809,0.1753,0.2076,0.2064,0.1871,0.2126,0.2273,0.2106,0.18
37,0.2086,0.2261,0.2012,0.188,0.22,0.236,0.2043,0.2015,0.2486,0.2531,0.2431,0.2786,0.2762,0.2219,
0.2338,0.2464,0.2256,0.2021,0.2088,0.2092,0.1811,0.1738,0.1747,0.1593,0.1388,0.147,0.15,0.1266,0.
1246,0.1375,0.1238,0.1041,0.1295,0.142,0.1229,0.123,0.1451,0.1574,0.1529,0.1433,0.1631,0.1861,0.1
75,0.1678,0.2057,0.218,0.2051,0.2152)
> x1 <- c(0.2447,0.2344,0.2274,0.1836,0.2044,0.2133,0.1693,0.1553,0.1806,0.1647,0.1347,0.1484,0.1
458,0.1106,0.1051,0.1263,0.1184,0.0935,0.1139,0.1374,0.1328,0.1268,0.1182,0.0963,0.1155,0.1237,0.
0978,0.0885,0.1135,0.1085,0.0944,0.1081,0.1313,0.1297,0.1232,0.1522,0.1804,0.182,0.1728,0.1767,0.
1485,0.153,0.1467,0.1531,0.1302,0.1123,0.114,0.1078,0.0978,0.085,0.0934,0.0952,0.0918,0.106,0.103
6,0.1118,0.1039,0.0976,0.0962,0.0937,0.0988,0.1158,0.1126,0.1142,0.1425,0.1541,0.1518,0.1643,0.18
8,0.1943,0.1933,0.2155,0.2313,0.23,0.2359,0.2684,0.278,0.284,0.2896,0.2679,0.2771,0.262,0.2555,0.
2447,0.2232,0.2148,0.2153,0.193,0.1728,0.1792,0.1821,0.1551,0.1476,0.1645,0.1671,0.1356,0.1446,0.
1516,0.16,0.1551,0.1756,0.1895,0.2048,0.2344,0.2923,0.2291,0.1992,0.1977,0.1783,0.1796,0.2096,0.2
07,0.1874,0.2193,0.2467,0.2314,0.2434,0.2724,0.2603,0.2769,0.2624,0.2649,0.2447,0.2216,0.2327,0.2
193,0.1862,0.1961,0.1947,0.1666,0.1643,0.1607,0.1386,0.1206,0.1195,0.1144,0.1016,0.0972,0.0862,0.
0889,0.0966,0.0829,0.066,0.0872,0.0916,0.0754,0.0849,0.1053,0.1076,0.113,0.1324,0.1401,0.1427,0.1
523,0.1841,0.2046,0.2246)
> x <- c(x0,x1)
> y0 <- c(3,3,3,1,3,9,5,7,7,3,5,8,5,3,6,8,3,3,9,5,2,4,9,4,3,6,8,1,3,3,4,6,3,5,4,5,5,6,6,5,8,8,9,8
,5,8,8,8,8,9,8,7,7,8,8,9,9,8,6,9,9,7,8,7,8,7,8,7,8,8,6,5,5,8,7,7,7,8,4,7,8,5,3,9,9,4,4,9,9,4,4,9,
8,5,5,9,8,4,7,8,3,4,8,5,9,9,4,4,3,1,3,1,1,1,1,1,1,3,3,3,3,6,6,7,4,9,7,5,7,9,9,5,9,9,6,7,9,6,9,8,7
,8,9,5,7,6,7,5,5,9,3,5,2,2,3,1,1,1,1,1,1,1,1,8,1,5,1,1,3,3,3,1,2,5,1,5,4,2,1,4,1,2,1,1,1,1,2,4,3,
3,4,3,3,3,4,4,4,6,6,9,7,9,9,7,8,6,8,8,5,6,6,9,5,4,7,5,5,7,6,4,4,6,5,4,7,5,4,7,8,4,4,7,8,6,7,6,8,4
,5,8,4,4,7,8,6,7,8,9,3,9,8,4,8,9,7,5,6,7,8,6,6,8,4,7,4,3,2,5,6,4,7,8,6,6,9,6,1,9,9,5,3,9,8,3,8,9,
5,2,4,5,9,8,4,6,7,5,3,3,8,7)
> y1 <- c(6,9,9,4,3,7,5,1,7,6,4,7,9,6,4,9,9,7,7,9,8,9,9,8,9,9,9,9,5,9,6,5,7,7,9,7,7,7,2,6,8,5,7,8
,7,8,9,8,7,9,8,9,8,9,8,9,9,9,9,9,8,9,9,8,8,9,8,8,9,9,9,9,7,8,4,4,1,8,5,2,5,6,6,5,7,7,8,6,8,8,9,
7,8,9,8,9,8,9,8,8,9,8,8,8,7,8,8,8,7,7,9,9,7,8,7,8,8,9,6,5,8,7,7,7,9,5,8,8,9,9,6,8,9,9,6,9,9,7,7,9
,9,6,8,9,6,5,7,8,6,7,7,5,6,5,7,5)
> y <- c(y0,y1)
> cor.test(x, y,alternative = "two.sided", method = "spearman", exact=FALSE )
```

```
        Spearman's rank correlation rho

data:  x and y
S = 23828427, p-value < 2.2e-16
alternative hypothesis: true rho is not equal to 0
sample estimates:
       rho
-0.4979596

> # ---- Confidence interval ----
> if(!"RVAideMemoire" %in% installed.packages()){install.packages("RVAideMemoire")}
> library(RVAideMemoire)
*** Package RVAideMemoire v 0.9-83-3 ***
> spearman.ci(x,y)

        Spearman's rank correlation

data:  x and y
1000 replicates

95 percent confidence interval:
 -0.5756938 -0.4212781
sample estimates:
       rho
-0.4979596

>
```