

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(1.2854949,1.209113965,1.189677773,1.905436402,0.413277413,0.392760935,0.309990278,0.634
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23,0.643736569,0.425657205,0.963682701,0.814153934,1.081638951,1.117525699,1.240305766,0.74416572
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968,4.766832706,2.891967342,2.878879035,3.755085355,2.534851761,1.643024667,1.951877772,3.3795506
58,2.848475585,3.450140419,3.071618946,1.413464961,2.186047302,2.866554561,2.095188989,0.88349979
4,1.745506236,1.761033726,0.867926071,1.296021164,1.673043078,0.951861057,1.093375579,1.407809137
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.432803099,0.851305847,0.835377291,0.586473849,0.649649918,0.4692569,0.336510853,0.249178358,0.51
7538215,0.406679531,0.384014795,1.080398999,1.516789392,0.878430358,0.647322522)
> x1 <- c(1.101343413,1.600820241,0.766483806,1.328307017,1.332776401,0.517540325,1.159529082,0.7
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3842299,0.890495071,1.125246129,0.802640229,0.823822137,0.589796514,0.557814066,0.370454683,0.457
513858,0.592467912,0.300068697,0.519977769,0.380555222,0.245983203,0.265176483,0.409737615,1.0656
77893,1.12529707,0.695353537,0.926196919,0.704512401,0.567903532,0.374785389,0.141975439,0.140709
354,0.580549993,0.398517609,0.042775925,0.750330929,0.842954547,0.499020372,0.894933747,0.5886366
29,0.758325898,0.813300117,0.514216306,0.344321431,0.677240845,0.659087882,1.217130399,2.07164870
8,1.118011744,1.013577772,0.767883846,0.465292964,0.531679505,0.645073694,0.497705289,0.376522186
,0.433254693,0.487732464,0.610173322,0.857398203,0.845572101,0.745811224,0.758693638,1.54196265,1
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```

```
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14506,1.313205083,1.124086275,0.778222239,1.070609775,1.308063146,0.836170263,0.797293361,1.61194
2406,1.739051371,2.111038622,2.168241726,2.241188619,3.003026338,1.938105865,1.84672204,1.5648280
13,1.437202099,1.400612527,1.007152146,0.65653736,0.660031418,0.782568446,0.977162307,0.623120526
,0.413501347,0.70868882,0.806191851,0.360519312,0.353912014,0.241807478,0.318015113,0.335353522,0
.419724834,0.301873874,0.254137729,0.354184905,0.433283085,0.710727193,0.825021948,0.771173984,0.
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96589121)
> x <- c(x0,x1)
> y0 <- c(18.3649968,14.02035381,8.574023717,8.662705879,8.177981309,7.572595814,5.689852363,7.45
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339249,10.04734957,9.035997978,8.787349807,10.07286554,10.05935453,9.169488099,9.575984064,11.464
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,2.969882051,3.354694387,3.253172982,1.31660562,1.398878493,2.364732473,2.401128696,1.514061277,1
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428,94.53018385,90.63568549,95.00134897,97.21503347,92.28141542,95.02344215,97.32229127,117.47337
79,115.4878285,112.2000308,115.4602723,117.7404934,119.2618542,120.6860006,120.0910029,118.602703
7,114.6014652,125.598643,130.5671262,131.683768,137.8704408,140.153928,96.44825884,98.39401594,99
.09773151,101.4953819,6.949047896,101.0073097,5.786272768,100.8347815,103.0024498,100.3405994,100
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,1.286627201,2.092446369,1.731940964,2.92284355,3.797653131,3.900508268,3.942495257,5.307440166,5
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990306437,6.834954934,7.783117964,6.869299856,6.317708947,7.994934642,8.026785347,6.732098983,6.4
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1,0.928840807,0.777377919,0.8147675,0.946368589,1.042837265,1.433495889,1.21447726,1.261408921,1.
372836307,1.220191484,1.13976682,1.317480753,1.068240662,1.058146556,1.25481989)
> y1 <- c(1.477577699,1.548139983,1.083953804,1.670902581,2.235917763,4.351617301,3.138304752,3.3
6039292,1.934425259,0.940123794,1.971040508,2.400668636,1.71920131,1.139408938,2.105169418,2.6402
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5116,1.684387808,2.231295874,1.654331879,1.342317682,1.568879865,2.084781876,0.839500747,1.431711
8,2.755637561,3.031018479,2.998284514,2.459981146,1.014935566,0.966568977,1.347356459,1.182776175
,0.674938151,0.667261375,0.133051913,1.1353221,1.577723405,2.041164573,2.190474259,2.115932215,1.
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29482989,0.733431316,1.030386122,1.031086678,0.774651784,1.018308771,1.148632175,1.257796408,1.20
6863139,1.089743895,1.084638604,1.1200613,0.884129345,0.888671471,1.333365372,1.763415361,107.322
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51193,0.861810967,0.947636297,1.324247808,0.773521174,0.158186845,0.393290963,0.272008171,0.31629
2354,0.12785032,0.386273904,0.877960931,0.877120672,0.582501026,0.557667303,0.614301152,0.6896370
24,0.924413966,0.502141747,0.234361225,0.636411245,0.413748368,0.236060298,0.304829944,0.14521456
5,0.201455371,0.557965646,1.071396791,1.074993245,0.780897246,2.689916817,6.863089058,9.831094699
)
```

```
> 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 = 6856078, p-value < 2.2e-16
alternative hypothesis: true rho is not equal to 0
sample estimates:
      rho
0.5603961

> # ---- 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:
 0.4902199 0.6253122
sample estimates:
      rho
0.5603961
```

>