```
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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  Natural language support but running in an English locale

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Type 'demo()' for some demos, 'help()' for on-line help, or
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Type 'q()' to quit R.

[Previously saved workspace restored]

> rm(list = ls())
> x0 <- c(103.4,172.9,103.8,174,196.9,39.1,22.3,52.7,14.8,73.5,80.5,2.2,53.3,84.9,4.9,25.3,85.2,5
4.2,0,46.7,83.6,42.9,0,129.1,78.9,52.6,63.7,103.1,160,230.6,41.7,58.8,171,165.9,101.8,17.2,86.6,1
38.8,33.2,21.7,99.6,28.7,0.6,51.3,64.9,2.4,36.5,139.1,44.8,5.2,97.6,121.8,2.4,4.6,30.8,44.3,0,8,3
4.7,0,0,0,0.6,3.5,0.4,20.4,6.3,19.5,25.3,130,56.2,156.4,41.5,11.3,42.2,100.8,6.8,7.2,123.7,83.5,1
.4,77,80.9,18.8,12.4,89.2,72.1,1.2,3.2,64.9,40.8,0,0,68.4,26,0,6.8,75.7,23.6,0,50.7,102.8,60.2,98
.2,4.1,0,178.7,200,22.7,74.7,27.2,63.8,31.7,4.6,100.8,71.4,11.2,20.4,73.6,102.2,14.8,63.9,142.1,2
6.5,124.8,76.4,56.5,100.3,78.9,2,55.3,107.5,91,31.9,59.4,77.1,35.1,137,113.2,112,55.7,70,135.5,21
.5,39.3,4.4,7.6,14,0,6.5,2.6,27,93.2,0.6,36.2,71,62.2,0,112.8,77.2,4.3,26,73.7,67.6,176,169.8,160
.4,1.4,105,69,53.9,109.4,105.3,138.3,29.5,68.9,76.8,50.9,0,65.3,51.5,4.8,10.4,174.8,102.8,0.2,25,
101,19.8,7.3,157.1,72.4,2.6,16.8,64,0,0.6,46.5,66.7,9.2,23.9,0,1.8,73.2,12.4,19.8,109.4,32.8,112.
7,95.2,71.1,66.9,118.3,32.3,42.2,58.3,35.5,18.4,37.9,98.2,0,7.2,82.5,5.1,0,23.1,71,0,0,72.2,51.9,
0,6,53.9,72.2,24.4,0,3.6,99.8,22.7,12.4,102,107.6,54.4,5.4,169.7,88.2,89.5,10.2,139.9,103,14.5,17
.8,39.9,12.7,0.4,64.7,4.6,0.2,14.5,20.8,1.6,0,61.1,7.3,6,7,4.6,7.4,16.2,0.8,0.8,5.2,0.8,3.4,1.8,0
,20.2,0.6,0,23.7,123.1,57.3,41.9,46.4,5.4,59.9,92.4,130.1,8.4,0,16.2,25.1,0,3.7,1.5,12.4,0,4.4,4.
2)
> x1 <- c(35.5,0.2,9.2,0,0,0,0,0,0,0,0,2.6,0.4,1.4,0.4,29.4,2.5,45.5,138.2,75.3,181.1,36.9,89.1,1
60.5,38.3,36.5,42.3,69,53.6,0,17.6,109.9,25.3,0,9.2,39.3,1.2,0,75.1,2.6,1.6,13.4,6.7,39.9,58.5,11
0.9,12.5,3.1,26.9,74.6,6,0,7.2,18.2,0,0,50.6,45.5,13.3,61.6,7.6,48.5,22.2,58.5,2.7,2.8,8.7,4.1,0.
2,48.4,19.6,1.2,1,53.9,68.1,0,13,28.9,28.1,1,6.4,20.6,1.8,3.8,5.1,12.8,0.2,4,0,0,0,0,2.6,2,0.8,23
.2,66,75.4)
> x <- c(x0,x1)
> y0 <- c(0.014,0.22775,0.92925,0.985,0.059,0.02875,0.23725,0.38275,0.04425,0.9715,0.96975,0.0145
,0.65475,0.99725,0.632,0.436,0.95025,0.99925,0.047,0.90075,0.9985,0.99875,0,0.9875,0.955,0.8365,0
.00075,0.011,0.7665,0.00025,0.07825,0,0,0.0325,0.2595,0.00025,0.00625,0.9985,0.991,0.0005,0.8755,
0.98975,0.00125,0.0045,0.93625,0.08625,0,0.00125,0.7375,0.02075,0,0.00425,0.056,0,0,0,0,0,0,0,0,0
.018,0,0,0.001,0.56475,0,0,0.145,0,0,0,0.018,0,0.00075,0.03175,0,0.02525,0.77925,0.58425,0.001,0.
45525,0.9925,0.9745,0.09525,0.865,0.9995,0.868,0.04575,0.9765,0.99925,0.29675,0.30275,0.996,0.999
25,0.127,0.43875,0.999,0.98675,0.0035,0.47125,0.995,0.96525,0.003,0.41375,0,0,0.03875,0,0,0.22475
,0.5935,0.00475,0.01375,0.9995,0.8485,0,0.49325,0.99425,0.194,0.002,0.90875,0.858,0,0,0,0,0,0,0,0
,0,0,0,0,0,0,0.002,0,0,0,0,0,0,0,0,0,0.3425,0.00175,0,0.09675,0.8805,0.12125,0.00025,0.82975,0.97
225,0.01125,0.0005,0.9725,0.46675,0,0,0.10425,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0.042,0.644
5,0.04025,0.00025,0.89725,0.93225,0.02875,0.95475,0.9955,0.02,0.9135,0.9715,0.01075,0.00075,0.938
5,0.99925,0.0025,0.48725,0.03025,0,0.05725,0.42575,0,0,0.14,0.0005,0.00075,0.80125,0.36525,0.0022
5,0.356,0.948,0.68375,0.00125,0.909,0.96625,0.96325,0.00775,0.76425,0.9985,0.839,0.0245,0.9515,0.
9995,0.69225,0.38375,0.99975,0.99975,0.89875,0.96975,0.99975,0.99975,0.99225,0.762,0.99225,0.9997
5,0.97975,0.025,0.997,0.99925,0.89075,0.00175,0.0575,0.016,0.0165,0.86725,0.998,0.00375,0.00225,0
.9735,0.24225,0.00025,0.045,0.9935,0.1295,0,0.907,0.9835,0.049,0,0.95825,0.339,0.00275,0,0,0,0,0,
0,0,0,0,0,0,0,0,0,0,0,0.00025,0,0,0,0,0,0,0,0,0,0.00175,0,0,0.0265,0,0,0)
> y1 <- c(0.389,0,0,0,0.13875,0,0,0,0.017,0,0,0,0,0,0,0,0,0,0,0,0,0,0.0055,0.9955,0.16225,0.00025
,0.038,0.92875,0.03925,0,0.416,0.81175,0.00375,0,0.27475,0.2215,0,0.00075,0.25875,0,0,0,0,0,0,0.0
0025,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0.00375,0,0.344,0.63625,0,0.008,0.71275,0.713,0.03575,0.
975,0.99675,0.02875,0,0.293,0.941,0.0005,0,0.97525,0.7665,0,0.00025,0.8685,0.058,0.0005,0.00025,0
.12825,0.0685,0,0,0.12025,0,0,0.0005,0.40275)
> 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 = 7922643, p-value = 6.741e-07
alternative hypothesis: true rho is not equal to 0
sample estimates:
      rho
0.2459939

> # ---- 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:
 0.1532527 0.3311938
sample estimates:
      rho
0.2459939

>
```