```
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
'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.

[Previously saved workspace restored]

> rm(list = ls())
> x0 <- c(-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38
.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-3
8.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-
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6,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.
46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38
.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-3
8.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-38.46,-110.19,-110.19,-110.19,-110.
19,-110.19,-110.19,-110.19,-110.19,-110.19,-110.19,-110.19,-110.19,-110.19,-110.19,-110.19,-110.1
9,-110.19,-110.19,-110.19,-110.19,-110.19,-110.19,-110.19,-110.19,-110.19,-110.19,-110.19,-110.19
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10.19,-110.19,-110.19,-110.19,-110.19,-110.19,-110.19,-110.19,-110.19,-110.19,-110.19,-110.19,-11
0.19,-110.19,-110.19,-110.19,-110.19,-110.19,-110.19,-110.19,-110.19,-110.19,-110.19,-110.19,-110
.19,-110.19,-110.19,-110.19,-110.19,-110.19,-110.19,-110.19,-110.19,-110.19,-110.19,-110.19,-110.
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0.19,-110.19,-110.19,-110.19,-110.19,-110.19,-110.19,-110.19,-110.19,-110.19,-105.79,-105.79,-105
.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.
79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.7
9,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79
,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,
-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-1
05.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-10
5.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105
.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.
79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.7
9,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79,-105.79)
> x <- c(x0,x1)
> y0 <- c(383,383,310,304,297,248,243,234,635,635,635,635,635,598,598,343,345,343,345,343,343,327
,327,295,49.8,295,291,245,41.8,654,654,604,604,349,343,343,331,327,327,327,272,289,289,261,261,25
4,177,80.7,215,191,158,138,102,63.6,63.6,59,49.8,665,665,665,665,665,665,665,614,503,452,345,344,
333,332,325,306,296,266,252,249,220,179,85.3,46,41.4,662,610,610,610,610,609,608,344,343,343,333,
333,327,327,305,291,291,261,261,259,258,258,251,200,115,59,663,663,615,615,615,499,451,345,343,33
1,332,319,322,322,305,294,294,268,251,247,246,220,178,85.3,41.4,281,248,248,203,189,173,169,157,1
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56,151,134,123,90.3,89.5,406,387,387,387,387,386,386,348,347,347,347,347,347,346,230,230,230,230,
226,225,219,219,202,176,49.8,198,167,149,146,131,130,125,119,119,118,118,104,103,102,411,410,389,
389,368,368,368,368,274,220,227,226,220,219,219,217,201,201,174,174,160,161,161,140,138,85.3,80.7
,127,121,119,119,117,108,105,102,88.3,88.3,83.2,80.3,81.1,75.3,75.3,61.9,64,50.6,47.2,43.9,41.8,3
9.7,776,402,402,402,403,402,402,402,401,374,374,374,375,375,374,373,374,374,332,313,233,228,227,2
24,217,216,216,202,177,162,157,135,119,118,115,115,115,114,94.1,87.4,46,37.6,417,417,417,417,393,
395,394,367,367,367,367,367,367,367,232,227,227,225,219,219,217,217,202)
> y1 <- c(202,174,171,166,161,161,160,160,134,115,120,120,119,120,119,117,116,116,110,86.2,77,74,
59.8,59.4,58.1,774,425,425,420,402,401,374,373,373,373,372,372,333,286,228,227,227,222,217,215,21
6,215,204,199,180,176,161,154,154,135,120,120,120,120,117,116,116,104,87.4,83.6,71.5,63.1,46.8,45
.6,352,352,278,270,266,214,214,206,614,614,605,604,604,603,600,298,295,294,294,285,285,285,285,28
5,255,253,217,696,694,683,683,301,301,289,284,267,256,256,230,245,243,226,208,208,202,202,156,117
,115,86.6,77.8,68.6,53.1,43.9,39.7,704,704,703,695,694,694,693,693,691,477,309,288,288,281,277,27
8,260,222,200,166,121,99,91.2,71.1,51.9,45.6,696,684,684,684,684,683,683,300,300,289,289,285,279,
278,259,258,259,254,207,206,184,182,182,165,51.4,703,702,694,693,692,691,476,309,289,289,289,289,
282,279,261,251,232,205,199,175,165,122,99.5,91.2,69.4,53.9,51.9,45.6)
> 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 = 14772708, p-value = 3.525e-12
alternative hypothesis: true rho is not equal to 0
sample estimates:
      rho
0.3035193

> # ---- 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:
 0.2207166 0.3869620
sample estimates:
      rho
0.3035193

>
```