```
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]

> library(PResiduals)
> rm(list = ls())
> x0 <- c(59,72,62,79,82,29,24,25,14,39,41,4,39,56,5,20,58,39,0,31,57,23,0,54,57,28,28,78,71,89,2
6,49,72,67,50,14,46,61,17,21,50,22,1,31,35,2,21,56,26,5,51,68,3,6,30,32,0,8,27,0,0,0,2,5,1,12,7,2
4,17,76,44,73,40,11,53,47,4,10,65,34,2,54,55,10,8,48,52,1,2,46,28,0,0,52,18,0,7,54,18,0,40,72,45,
52,3,0,79,81,22,58,25,59,20,8,49,42,8,13,42,40,9,39,76,25,86,49,33,66,39,1,44,60,50,19,30,44,21,7
6,80,82,39,36,82,26,25,4,12,11,0,7,3,19,43,1,21,53,28,0,49,55,4,32,43,37,78,84,75,2,52,64,32,43,5
5,65,15,42,58,28,1,40,47,4,10,68,52,1,25,66,17,10,61,31,5,15,44,0,2,28,29,7,18,0,3,38,8,15,60,21,
60,56,41,76,78,20,51,61,18,11,37,52,0,7,57,4,0,20,49,0,1,40,37,0,9,44,55,20,0,3,50,14,5,46,59,39,
6,68,46,57,9,57,67,9,12,48,15,1,37,5,1,10,14,4,0,37,13,6,7,6,10,17,1,1,5,2,6,2,0,13,2,0,18,68,49,
27,55,5,39,44,51,6,0,9,12,0,3,2,11,0,6,5)
> x1 <- c(29,0,8,0,0,0,0,0,0,0,0,4,1,3,1,17,4,39,76,38,93,24,56,73,50,18,28,41,34,1,17,64,18,0,8,
37,2,0,42,8,2,16,7,30,55,55,12,7,16,55,5,1,5,12,0,0,36,42,10,73,6,39,18,40,3,2,5,4,1,30,24,1,1,26
,41,1,10,13,17,2,5,17,3,4,6,7,1,4,1,0,0,0,6,2,1,13,37,45)
> 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
,0,0,0,0,0,0,0.002,0,0,0,0,0,0,0,0,0.3425,0.00175,0,0.09675,0.8805,0.12125,0.00025,0.82975,0.97
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,
0,0,0,0,0,0,0,0,0,0,0,0.00025,0,0,0,0,0,0,0,0,0,0,0.00175,0,0,0.0265,0,0,0)
> y1 <- c(0.389,0,0,0,0.13875,0,0,0,0.017,0,0,0,0,0,0,0,0,0,0,0,0,0.0055,0.9955,0.16225,0.00025
,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
0025,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0.00375,0,0.344,0.63625,0,0.008,0.71275,0.713,0.03575,0.
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)
>
> z0 <- c(0.965,0.753,0.06375,0.6605,0.99925,0.92,0.213,0.98375,0.4155,0.01075,0.035,0.90375,0.21
85,0.00175,0.00075,0.24675,0.01625,0.00525,0.011,0.2355,0.0735,0.03625,0.01225,0.77425,0.7395,0.3
69,0.98975,0.99975,0.99825,0.99975,0.997,0.99925,0.9995,0.9445,0.96925,0.35925,0.99725,0.508,0.22
75,0.69525,0.3815,0,0.19125,0.95675,0.016,0.464,0.77375,0.99775,0.2385,0.76225,0.8525,0.96825,0.4
3625,0.02625,0.7445,0.99175,0.0095,0.00025,0.98225,0.90325,0.84925,0.00025,0.718,0.988,0.9425,0.0
595,0.2,0.9715,0.344,0.94225,0.99975,0.99975,0.365,0.99975,0.9995,0.9995,0.9945,0.3015,0.60025,0.
94375,0.00275,0.0795,0.09,0.3375,0.95925,0.389,0.0195,0.99125,0.8685,0.0275,0.0145,0.0155,0.01725
,0.01575,0.03525,0.0475,0.00475,0.057,0.04975,0.01075,0.918,0.90675,0.878,0.99775,0.866,0.963,0.9
9975,0.99975,0.99975,0.99675,0.434,0.349,0.70225,0.505,0.15325,0.1025,0.74825,0.84225,0.02125,0.6
11,0.9705,0.341,0.123,0.18975,0.9965,0.91575,0.99975,0.91675,0.9785,0.007,0.9475,0.99625,0.9995,0
```

```
.9575,0.9775,0.99975,0.976,0.7895,0.99975,0.997,0.99975,0.99975,0.99975,0.99125,0.88025,0.2075,0.
00325,0.44725,0.0705,0.92375,0.01025,0.03275,0.92525,0.9535,0.01775,0.06775,0.98675,0.00025,0.641
5,0.21725,0.031,0.33225,0.99525,0.99,0.99975,0.99975,0.99975,0.318,0.99975,0.89225,0.0625,0.9945,
0.99975,0.99475,0.5935,0.99975,0.8285,0.80875,0.99375,0.99975,0.07475,0.04425,0.99875,0.9995,0.16
25,0.69925,0.9845,0.803,0.28325,0.989,0.9145,0.11175,0.7945,0.01025,0.00175,0.19425,0.773,0.01225
,0.0285,0.25825,0.37625,0.0095,0.23725,0.99725,0.46275,0.416,0.9995,0.99975,0.99975,0.99975,0.896
5,0.93725,0.997,0.916,0.198,0.8295,0.7755,0.24425,0.0815,0.68975,0.03325,0.008,0.0175,0.05475,0.0
3825,0.00125,0.02125,0.05625,0.00775,0.0005,0.01825,0.9995,0.8415,0.00125,0.00575,0.937,0.98125,0
.00325,0.00425,0.489,0.27625,0.31475,0.15925,0.54575,0.93075,0.9995,0.9985,0.99875,0.11825,0.9047
5,0.9985,0.38725,0.01025,0.82125,0.49325,0.00025,0.42475,0.99525,0.03925,0.00175,0.483,0.512,0.00
5,0.044,0.153,0.52175,0.6185,0.99575,0.99975,0.9995,0.89125,0.25025,0.95275,0.953,0.9215,0.18425,
0.9845,0.99875,0.9,0.05925,0.99675,0.99975,0.9995,0.9995,0.99975,0.929,0.999,0.99975,0.99975,0.85
975,0.57525,0.9995,0.99975,0.00525,0.83975,0.9995,0.458,0.20825,0.9985,0.9995)
> z1 <- c(0.657,0.98525,0.99925,0.01475,0.02975,0.19325,0.707,0,0.0375,0.0575,0.3125,0.57525,0.00
725,0.26325,0.55825,0.9915,0.964,0.99975,0.99975,0.99975,0.99975,0.992,0.9995,0.86825,0.22925,0.9
9075,0.409,0.04475,0.98825,0.70475,0.01675,0.378,0.89775,0.00025,0.123,0.02,0,0.93525,0.901,0.710
75,0.9845,0.9925,0.99975,0.99975,0.99975,0.97775,0.999,0.93275,0.97175,0.71125,0.94,0.20525,0.520
5,0.019,0.0035,0.05325,0.996,0.863,0.994,0.99575,0.99325,0.99975,0.99,0.99725,0.9665,0.091,0.478,
0.45975,0.1705,0.71925,0.40925,0.17175,0.437,0.36675,0.027,0.0025,0.94525,0.162,0.0015,0.977,0.96
95,0.0015,0.95825,0.999,0.2085,0.81225,0.9995,0.7835,0.14725,0.955,0.2685,0.00675,0.36975,0.1325,
0.08825,0.975,0.99975,0.9915)
>
> z <- c(z0,z1)
> partial_Spearman(x | y ~ z)
                       est     stderr          p lower CI  upper CI
partial Spearman 0.4457569 0.04140399 1.7303e-20 0.361073 0.5231491
Fisher Transform: TRUE
Confidence Interval: 95%
Number of Observations: 398
>
```