

Appendix 6: Program: Correlation t Test Statistic

The following program can be used to calculate the t-test statistic for a hypothesis test for the correlation coefficient r . The program will also give the P-Value of the test statistic. The following formula is programmed:

$$t = \frac{r}{\sqrt{\frac{1-r^2}{n-2}}}$$

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PROGRAM:CORRELAT
:ClrHome
:Disp "ENTER R"
:Input R
:Disp "ENTER N"
:Input N
:Disp "ENTER Tail(s)"
:Disp " 1-LEFT"
:Disp " 2-TWO"
:Disp " 3-RIGHT"
:Input S
:R/√((1-R²)/(N-2))|| T
:If S=1
:Then
:tcdf(-1E99,T,(N-2))|| P ← 2nd, DISTR, 5:tcdf(
:End ← PRGM, CLT, 7:End
:If S=2
:Then
:If T<0
:Then
:tcdf(-1E99,T,(N-2))|| P
:P*2|| P
:End
:If T>0
:Then
:tcdf(T,1E99,(N-2))|| P
:P*2|| P
:End
:End
:If S=3
:Then
:tcdf(T, 1E99,(N-2))|| P
:End
:ClrHome
:Disp "T="
:Disp T
:Disp "P VAL="
:Disp P
:

```