

Objectives:

Using the **FisherZTransform** applet, the student will be able to perform standard calculations involving Hypothesis Test and Confidence Interval about ρ (correlation coefficient).

Functionality:

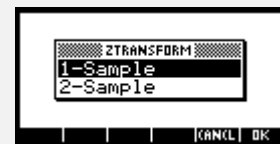
When the student presses **START**, the screen will display the message on the right.



To initiate a fresh calculation, press the screen key labelled **OK**. The list box which appears can be used to choose between a hypothesis test or a confidence interval.



The next choice is about number of samples or data pairs we need. These are:

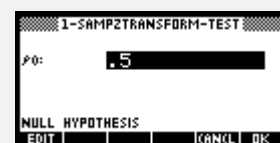
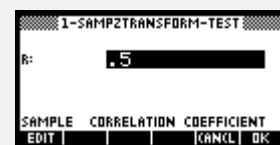
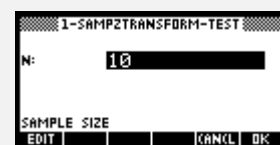
**1-Sample**

This tests the significance of a single sample correlation coefficient ρ [(X, Y) data pairs].

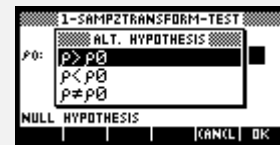
2-Sample

This tests the significance of the difference between two sample correlation coefficients. [(X1,Y1) and (X2,Y2) data pairs].

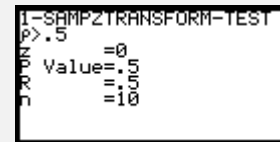
Once the test, the applet will request the required information. As can be seen, the required input is the sample size, the sample correlation coefficient and the population correlation coefficient under null hypothesis for **1-Sample** option.



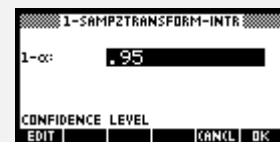
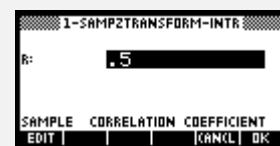
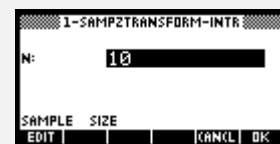
If a hypothesis test is chosen then the next choice will be of an alternate hypothesis.



The output showing the value of the z value of the test sample correlation coefficient, the probability of finding this value given the population correlation coefficient, the sample correlation coefficient and the sample size.



If the original choice was for a Confidence Interval then there will be no request for an alternate hypothesis. There will also be slightly less information required in some cases. For example there will be no request for a population correlation coefficient under null hypothesis for reasons that are hopefully obvious.



The output is as shown right, giving the minimum value (Left), the maximum value (Right), the range (Δ) and the sample size (n) for the confidence interval (in this case using 0.95 level).

