

**Advanced Psychological Statistics**  
PSYCH-UA.11  
Department of Psychology  
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apply()

The “apply()” command allows you to run (that is apply) another command across all the relevant values of a variable/container.

Example – apply(df, 2, mean)

This gets the mean for each (numerical) column of data in the data frame “df”. The “2” is just a way of indicating “columns”. A “1” would indicate the rows of the data frame

partial.r()

A command to run a partial correlation. It is part of the “psych” package

Example – partial.r(df)

The output of the command above is a correlation matrix. Comparing the output here of the original (x,y) correlation while controlling for “z”, with the original x,y correlation (cor(x,y)) indicates the change as a result of controlling for “z”.

points()

Adds new plot points to an existing figure

Example – points(y,z, col = “???”, pch=”???”)

In the above case, lists “y” and “z” would be plotted on a figure that might have been created using “plot(x,y)”.

The argument “col=’???’” plots “y” and “z”, in this case in a color (presumably different from that used for “x” and “y”).

The argument “pch=’???’” is used to select different shape options. (The argument takes numbers from 0 to 25.)

psych

This (psych) is an R package that offers a variety of useful psychology-related statistics (including the partial correlation function partial.r()). Remember, when doing a correlation, the dependent variable comes first (e.g. “y”) and instead of a comma, the columns are separated by a tilde “~”. For example, partial .r (y~x+z)

### round()

“round” is a useful functions that rounds values to the number of decimal places requested. Leaving out a number listing (that is an argument) means no decimal places (an integer only).

Example – `round(mean(x))` finds the mean of x and rounds the value to an integer. The command `round(mean(x),2)`, does the same thing, but to the level of two values after the decimal place.

### runif()

“runif()” provides randomly selected values from a uniform distribution (a uniform distribution is where every value in the distribution has the same probability of selection as any of the others). This command is useful for obtaining a set of values based on desired probabilities

### Example

`runif(10, min = 0, max = 100)` generates 10 numbers from a uniform distribution where the lower boundary is 0 and the upper is 100

R allows for commands to be combined. For this assignment – “`round(runif(10, min = 0 , max = 100)`”