MATH 4773 Laboratory 11: The Analysis of Variance

Learn how to perform 2 – way ANOVA

# Objectives

1. Learn the basic model
2. Perform a case study

### Tasks

All output made please copy and paste into this word file under the question. If you have a table to paste please use “courier new” font. The Lab code file should have all the code you used to answer the questions at the top of the document and all my code at the bottom. At the completion of the lab save the R file as a .txt and the word fie as a .pdf. Place both in the dropbox before due date.

* Task 1
  + Download from CANVAS the zipped data files, “Dataxls”
  + Unzip the contents into a directory on your desktop (call it LAB)
  + Download the file “Lab11.R”
  + Place this file with the others in LAB11.
  + Start Rstudio
  + Open “lab11.r” from within Rstudio (this is an exemplar file).
  + Using hash commenting and at the top of Lab 11 place the task number eg #Task 1
  + Go to the “session” menu within Rstudio and “set working directory” to where the source files are located.
  + Copy and paste the working directory by issuing the command getwd(): under #Task 1
* Task 2
  + Using the package “s20x” load the data “arousal.df”.
  + Write a paragraph on what the data and experiment concerns.
  + Make an interaction plot with gender on the horizontal axis – place here:
  + Do the same but with “picture” on the horizontal axis – place here:
  + What do you conclude from the pictures?
  + Give the ANOVA table here for the interactive model:
  + Interpret the output.
  + Give the point and 95% interval estimate for male:landscape-female:landscape – place here
  + Interpret the interval