Assignment 1 Part 2
Analytical Methods Fall 2015

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Problem 1: Donation dataset

You conducted an experiment related to donation behavior. 50 subjects reported how much they would donate to three different charities. Subsequently, they answered three attitudinal questions (on a scale 1-5) regarding each charity. You captured the data, but the software you plan to use for analysis requires the donation data (and attitudinal question blocks of three) to be sorted in descending order, such that the donation with the highest amount is in Column 1, the second in Column 2, and the third in Column 3. **Optionally**, you should also make the three attitudinal blocks to be ordered in this way.

Open the data "myDonations.dat" and sort the 50 observations as specified. Use the Logic writeup for help. Again, you only need to sort the donation amounts, but **optionally** you can take a shot at rearranging the attitude blocks as well. **Hint**: Use the functions `flipdim`, `sortrows`, and `zeros`.

Once this is complete, report the average of each of Columns 1, 2, and 3. You should report only three numbers (the averages). You can do this in Excel.

Problem 2: Cycles and conditional statements

Code in MATLAB and report the value of the following formulas:

- $\sum_{i=0}^{12} 6i - 3$
- $\prod_{i=1}^{9} (6i - 3)$
- $\sum_{i=0}^{11} [7 + 3\Phi(i)]$, where $\Phi(x) = 1$ if x is greater than 5, and $\Phi(x) = -1$ otherwise.
- $\sum_{i=3}^{9} [8 + 2\Phi(i) - (4\Gamma(i) - 1)]$, where $\Gamma(x) = 1$ if x is even, and $\Gamma(x) = 0$ if x is odd.
  (Use $\Phi(x)$ as in the previous problem)

- Hint 1: The last two operations require the use of *both* a cycle and conditional statements within the cycle.
- Hint 2: You may want to use the function `rem` to compute the summation involving $\Gamma(x)$.