Acceptable behaviors for this assignment include:

- Consulting your textbook or other written material
- Asking your team members
- Asking your professor or TA

Note that consulting materials and asking others is only acceptable as long as they do not provide you with the solutions – you have to come to the solution on your own!

Unacceptable behaviors for this assignment include:

- Copying the solution(s) from a solution manual, book, other written material, or from other students
- Copying the solutions(s) from assignments submitted in previous semesters
- Providing the solutions to a classmate, student in other section, student in future section, or online solution banks
- Asking someone to complete the assignment for you

You will be creating a MATLAB script that will do the tasks described in #1 and #2 below. But first, you need to do the following:
- First step: Create a flowchart of your program. You will be submitting this electronically, so please go to www.draw.io or use any flowchart software of your choice. Please include a text box with your team number and team member names at the top.
- Second step: Include a line of code so that the first thing your program displays is this sentence: "We in team (TeamNumber), (Team Member Names), certify that we have completed this assignment in an honest manner." (For example: "We in team L01 (Francisca, Gomy, and Jack-Jack) certify that we have completed this assignment in an honest manner."). Your assignment will not be graded if this statement is missing.

1. The City Public Works department has provided data from a recent traffic study. They would like to look at the overall length of time it takes workers to commute to work from a sub-district called AdamTown and decide whether it needs infrastructure investment or not.

   Your task is to write a MATLAB script that will find basic statistical information of the data set to facilitate the decision-making process.

   The script should:
   a) Have a section that loads a data file. We posted a copy of the data on Courseweb, called AdamTown.dat, which has 100 data points.
   b) Have the script find the Mean of the dataset and display it to the screen. Do not use the "mean" command, instead program the equation shown in the text using a loop. When displaying the result to the screen, display something like "The mean of the data is __"
   c) Have the script find the Minimum and Maximum of the dataset and display it to the screen, without using the "min", "max" or "sort" commands. You should implement that using loops. When displaying the result to the screen, display something like "The min of the data is __"
   d) Use the "sort" command to sort the dataset into a new variable. Then have the script find the Median of this data and display it to the screen. Do not use the median command, instead have the program find the median from the sorted array. Make sure the script can find the median for either an odd or even set of data. When displaying the result to the screen, display something like "The median of the data is __"
   e) Have the script find the Variance of the dataset and display it to the screen but, do not use the var command, instead program the equation shown in the text using a loop. When displaying the result to the screen, display something like "The variance of the data is __"
   f) Have the script find the Standard Deviation of the dataset and display it to the screen. But do not use the std command, instead program the equation shown in the text. When displaying the result to the screen, display something like "The standard deviation of the data is __"

2. In a **separate section** of the **SAME M-File,** enter the following matrices and calculate the following operations and display the results to the screen. The code should store the result of the following six operations in a **2x3 cell array**. Name this cell array **Part2_ans**, where **Part2_ans{1,1}** should have the result from part a, **Part2_ans{1,2}** should have the result from part b, and so on. Also make sure to print the results to the screen for each one, as follows: "The result of section a is __", etc.

A = 2 -1 3   B = 3 5 2   C = -2
                                          -5
                                          -1

a) A*C =   b) A-B =   c) 3*A =
d) A.*B =   e) B.^A =   f) B*C =

Include a comment with your team number and team member names at the top.
Include comments, indentation, and whitespace so that your program is neat and understandable to anyone who reads it.

This is a group assignment. You need to submit the flowchart and the m-file. Name your files **InstructorLastName_ClassTime_HW3_TeamNumber**. For example, if you are in Dr. Mandala's 10am class, you should name your files Mandala_10am_HW3_Team5. Then, place your m-file and flowchart in a folder, and name your folder the same way.

You will need to submit a zipped folder. To do this, follow these steps: (1) Right click on the folder, go to "Send to", then "Compressed (zipped) folder" (see Image 1), (2) Name your zipped folder the same way you named your regular folder (**InstructorLastName_ClassTime_HW3_TeamNumber**).

Upload the zipped folder through your class computer using the official file submission link (found on the desktop of class computers in GSCC 138 or BEH 229 at the beginning of the class when this assignment is due).
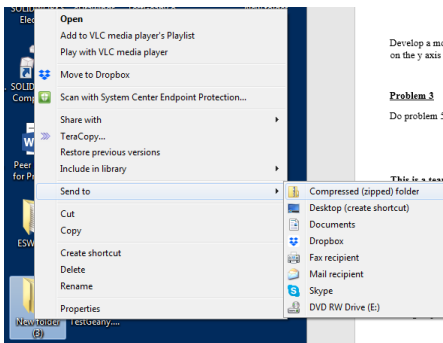

Image 1