TEJ3M & TEJ4M Python Programming Assignment #1

IMPORTANT: YOU MUST HAVE A HEADER AT THE START OF YOUR PROGRAM. THIS INCLUDES THE DATE, YOUR NAME AND A SHORT DESCRIPTION OF YOUR PROGRAM. ALSO, PROPER COMMENTING IS EXPECTED THROGHOUT YOUR PROGRAM.

You are to create a program which has a menu. The user is given the option to choose 1 of 5 choices. The program is run according to which number is chosen.

For **choice #1**, the user can calculate the average of 5 numbers after being prompted to enter in 5 numbers. **Challenge:** Give the option for the user to choose how many numbers they want to calculate the average for, and then find the average.

For **choice #2**, the user will be given an option to dress according to the weather. The user will be prompted to enter in a temperature in °C, and then a corresponding message will be outputted. For example, if the weather is less than °0, the user will be told to wear a winter jacket, hat and gloves. If the weather is between °0 and °15, the user will be told to wear a fall jacket, a scarf and rain boots. If the weather is greater than °15, the user is told to wear a t-shirt, shorts and running shoes. **Challenge:** The user enters the temperature in °F and then converted to °C, and then the option is given for what to wear.

For **choice #3**, the user will be asked to enter in a length and a width of a rectangle. The area is calculated and then outputted. **Challenge:** The user is given a choice for calculating the area of a rectangle, circle or triangle and then the user is asked input appropriate values.

For **choice #4**, the user will be asked to enter in a degree in Celsius and then degrees Fahrenheit is calculated and outputted. **Challenge:** The user is given a choice to either convert from Celsius to Fahrenheit or vice versa. Then the appropriate values are calculated and outputted.

For **choice #5**, the user is given a goodbye message before being given the option to exit. **Challenge:** The user is given the option to stay in the program or exit.

Sample Output:

Main Menu
Please choose 1 of the 5 options below:
1. Calculate the Average
2. Weather Program
3. Calculate the Area
4. Convert between Celsius & Fahrenheit
5. Exit the program

TEJ3M & TEJ4M Programming Rubric

Category		Level 1 (50-59%)	Level 2 (60-69%)	Level 3 (70-79%)	Level 4 (80-100%)
Knowledge & Understanding	• **Correct use of Variables** Meaningful names, proper scope and data type	• Variables have meaningless names and are used improperly	• Variables have names that connect to their use and are mostly used well	• Variables follow naming conventions and their use is consistently correct	• Variables are consistently used with exceptional skill
	• **Control Structures** Sequence, Selection, and Repetition	• Many significant errors in use of control structures	• There are some errors in the syntax or implementation of control structures	• Control structures are used effectively to accomplish specific tasks	• Creative and skilful use of control structures
Thinking & Problem Solving	• **Logical Program Structure**	• There are significant logical errors present throughout the code; very little evidence of a plan	• Some logical errors present, but most of the code has a clear purpose	• There are very few logical errors and a clear overall structure	• Logic is flawless and the structure is sound
	• **Critical/Creative Thinking Processes**	• There is no clear path to a solution	• Missing some of the steps needed to reach the solution	• There is a clear path to the solution even if it's not complete	• The solution has been attained
Application	• **Specifications** Does it work? (This category counts double.)	• The program is producing incorrect results.	• The program produces correct results but does not display them correctly.	• The program works and produces the correct results and displays them correctly. It also meets most of the other specifications.	• The program works and meets all of the specifications.
	• **Code Efficiency**	• Huge and appears to be patched together.	• Brute force and unnecessarily long.	• The code is fairly efficient without sacrificing readability and understanding.	• The code is cleverly efficient and remains clear.
Communication	• **Internal Documentation**	• Only header comments OR Only a few basic body comments are included	• Header comments and body comments that divide code segments are included	• Header and body comments are present but mostly just restate the code	• Header and body comments clearly explain what the code is accomplishing and how
	• **Readability** Including white space and nesting	• The code is poorly organized and very difficult to read.	• The code is readable only by someone who knows what it is supposed to be doing.	• The code is fairly easy to read.	• The code is exceptionally well organized and very easy to follow.

Comments:

Average Level: _____

Final Percentage:_____