Assignment06:

1. (5 points) What is SAS expression? SAS expressions are used for doing what?

2. (5 points) Compare between WHERE and IF statements.

3. (5 points) Write the type of SAS operators in expressions with example(s).

4. (5 points) What is the order of SAS arithmetic operations?

5. (20 points) After done the **Demo: Using Expressions to Create New Columns** under Computing New Columns section of **Lesson 4: Preparing Data**, write SAS code to answer the following questions using the resulting OUTPUT DATA. Write the answer or include the OUTPUT DATA screen image showing the answer.

   a. Storms that lasted 11 days in year 1980, count and names.
   b. Storms where the variable 'Basin' is 'EP' in year 1980, count and names.
   c. Storms where the variable 'Type' is 'NR' in year 1981, count and names.
   d. Name of storm with the highest value of 'MaxWindMPH' in year 1981.

6. (15 points) After done the **Demo: Using Date Functions** under Computing New Columns section of **Lesson 4: Preparing Data**, write SAS code to answer the following questions using the resulting OUTPUT DATA. Write the answer or include the OUTPUT DATA screen image showing the answer.

   a. What is the name of storm with the highest Cost value?
   b. What is the name of oldest storm?
   c. What is the name of storm that the Anniversary is 9/26?

7. (10 points) After done the **Demo: Processing Multiple Statements with IF-THEN/DO** under Conditional Processing section of **Lesson 4: Preparing Data**, write SAS code to answer the following questions using the resulting OUTPUT DATA. Write the answer or include the OUTPUT DATA screen image showing the answer.

a. How many SAS tables are created in OUTPUT DATA and how many rows are in each table?
b. Make table by 'Season' for each table using PROC FREQ. Name the value(s) of 'Season' with the lowest frequency in each table.

8. (5 points) After done the Open Level 1: Processing Statements with IF-THEN/ELSE under Conditional Processing section of Lesson 4: Preparing Data, write SAS code and run to take the screen shot of the contents in RESULTS panel, opened in SAS Studio. What is the frequency of **Preserve**? Write the answer or include the RESULTS screen image showing the answer.

9. (10 points) Using the SAS dataset SASHELP.HEART, write SAS code to do the following tasks.

a. Write a DATA step to read your SAS dataset and create a new subset with females only using WHERE statement.
b. Write a DATA step to read your SAS dataset, create a new dataset including 3 columns, Height, Weight, and a new column 'BMI' created using a SAS Function with Height, Weight according to the formula in CDC (https://www.cdc.gov/healthyweight/assessing/bmi/adult_bmi/index.html#Interpreted).

10. (10 points) Using the SAS dataset you used for Assignment02-#10, Assignment03-#3, Assignment05 #9 again, write a pseudocode and the SAS code to do the following tasks.

a. Write a DATA step to read your SAS dataset, create a new dataset including 2 columns, your original variable and a new column created using IF-THEN statement with your chosen variable.
b. Write a DATA step to read your SAS dataset, create a new dataset including 2 columns, your original variable and a new column created using IF-THEN/ELSE statement with your chosen variable.

11. (5 points) After finishing 'Lesson 4: Essentials' in Section3, take a screen shot, i.e., the whole screen with all 3 components in red box (**your name**, **check marks** for finished Lessons, and **Progression Bar**).

12. (5 points) Take the Quiz 'Assignment06 – #12', **closed book**. Note that your score itself is not graded. This is to check the weak/confused/less understood areas, so it can be addressed during the workshop time.

13. (extra 5 points) Discussion 06.