**Assignment 5**

### **Once you are done with, upload to eCentennial under Assessments / Assignment / Assignment 5**

### You must write the following code in a single project.

Declare the following arrays in your main method

int[] numbers = {0, 2, 3, 5, 7, 1, 1, 2, 5, 6, 7, 2, 5, 2};

string[] poem = "mary had a little lamb its fleece was white as snow".Split();

1. Write a method with the following specifications:  
   **name**: **DisplayMenu**  
   **arguments**: none  
   **return value**: none  
   **tasks**: display the following menu choice on the screen  
     
   Main Menu  
   1) Calculate Sum   
   2) Calculate Average  
   3) Display Numbers

4) Display Poem

5) Create Numbers Array  
0) To Exit  
  
Enter the number that corresponds to your choice:   
  
You may beautify the output to your own likings. You don’t have to implement the functionalities of the various menu choices at this stage  
Call this method from your main.

1. Modify your main method so that the above method is call repeatedly and the user can enter a menu choice. The program will terminate when the user enters 0. Any choice not listed should produce an error message. Because you will not be doing any arithmetic you may accept the user response either as an **int**, or a **char** or a **string**.
2. Write a method with the following specifications:  
   **name** : **CalculateSum**  
   **arguments** : a single int representing the number of inputs that will constitute the sum  
   **return value** : int representing the sum of all the user inputs  
   **displays** : only the prompt for the user inputs, but does not display the sum  **tasks** : prompt and accepts inputs (as many as specified by the argument), and sum them, Finally the method will return the sum of all the inputs (the sum)   
     
   In your main you will call this method when the user enters 1 in response to the menu choices. You will invoke this method with argument 5 and then display the resulting value from the method.
3. Write a method with the following specifications:  
   **name** : **CalculateAverage**  
   **arguments** : a single int representing the number of inputs that will constitute the average  
   **return value** : double representing the mathematical average of its inputs  
   **displays** : only the prompt for the user inputs, but does not display the average **tasks** : prompt and accepts inputs (as many as specified by the argument), and average them, Finally the method will return the average of all the inputs (the average)   
     
   In your main you will call this method when the user enters 2 in response to the menu choices. You will invoke this method with argument 5 and then display the resulting value from the method.
4. Write a method with the following specifications:  
   **name** : **DisplayIntArray**  
   **arguments** : an int array representing the numbers to display  
   **return value**: none  
   **displays** : all values of the array on a single line separated by a space **tasks** : display all values in the array

In your main you will call this method when the user enters 3 in response to the menu choices. You will invoke this method with argument set to the numbers array variable. Then you will reverse the array and call this method again.

1. Write a method with the following specifications:  
   **name** : **DisplayStringArray**  
   **arguments** : a string array representing the values to display  
   **return value**: none  
   **displays** : all values of the array on a single line separated by a space **tasks** : display all values in the array

In your main you will call this method when the user enters 4 in response to the menu choices. You will invoke this method with argument set to the poem array variable. Then you will sort the array and call this method again.

1. Write a method with the following specifications:  
   **name** : **CreateIntArray**  
   **arguments** : none  
   **return value**: an int array representing the created array  
   **displays** : only the prompt for the user inputs, but does not display the array **tasks** :

prompts and accepts an input for the array length, then create the array,

then using any loop structure prompt the user for a number and then assign to each element, finally return the array

In your main you will call this method when the user enters 5 in response to the menu choices. You will invoke this method and then pass the resulting array to the DisplayIntArray method.