Assignment 5- Chapter 11 – Arrays

Objectives: The objectives of this assignment are:

1. Write a complete assembly program including arrays.

Exercise 1:

Write an assembly program that performs the following tasks:

- Prompt the user to enter a series of integers to populate an array.
- Use a subprogram to determine and count the number of even numbers and the number of odd numbers in the array.
- Display the counts of even and odd numbers to the user.

Detailed Requirements:

- Your program should allow the user to specify the number of elements in the array.
- The program should read integers from the user as input and store them in an array.
- Implement a subprogram that:
  - Accepts the array and its size as parameters.
  - Iterates through the array to check each element.
  - Counts how many elements are even and how many are odd.
- The main program should call the subprogram and display the results (i.e., the count of even numbers and odd numbers).

Exercise 2:

Write an assembly program that performs the following:

1. **Input**: A predefined array of integers stored in memory.
2. **Algorithm**: Implement the Bubble Sort algorithm to sort the array in ascending order.
3. **Output**: The sorted array stored back in memory.

Detailed Requirements:

1. Initialize the Array: Define an array of integers in your program. You can choose any set of unsorted integers as a test case.
2. Sorting Process:
   - Use the Bubble Sort algorithm:
     - Compare adjacent elements in the array.
     - Swap them if they are in the wrong order.
     - Repeat this process for all elements until the array is sorted.

Deliverables:

- Your assembly code (.asm) files.
- A screenshot of your code running, proving it works, or showing how far you got.
- The path on the server where it can be found. (run `pwd` to get this)