Assignment 5

Topics: Function, Array and Pointers - I

Section A5.1: [Functions]

- A5.1a: Write a C program to create a function that takes two integers as arguments and returns their sum. Call the function from 'main()' and display the result.

- A5.1b: Write a function that takes an integer and returns whether the number is even or odd. Call the function in 'main()' and print the result.

- A5.1c: Create a program that calculates the factorial of a number using a function. The function should accept an integer as input and return the factorial.

- A5.1d: [Bonus] Write a function that takes three integers as input and returns the largest of the three. Use the function in the 'main()' program to find the largest of three user-entered numbers.

Section A5.2: [1D Arrays]

- A5.2a: Write a C program that declares an array of size 10 and initializes it with numbers from 1 to 10. Print all the elements of the array.

- A5.2b: Create a program that reads 5 integers from the user, stores them in an array, and then prints them in reverse order.

- A5.2c: Write a program that takes 10 integer inputs from the user and calculates the sum of all even numbers in the array.

- A5.2d: [Bonus] Create a program that finds the maximum and minimum values from an array of integers provided by the user. Use two functions, one for finding the maximum and one for finding the minimum.

Section A5.3: [Pointers]

- A5.3a: Write a program that declares an integer variable and a pointer. Assign the address of the variable to the pointer, then print the value of the variable using the pointer.

- A5.3b: Create a C program that swaps the values of two variables using pointers (no direct swapping in 'main()').

- A5.3c: Write a function that takes a pointer to an integer and increments the value of the integer by 1. Call the function in 'main()' and print the updated value.

- A5.3d: [Bonus] Create a program that reads an integer array from the user and prints the elements using a pointer (without using array indexing). Traverse the array using pointer arithmetic.