
Lab 13

Functions & Pointers

1. Write a program to declare an integer variable and a pointer, pointing to the value of this integer variable, and finally prints the value of the variable and the address of the pointer that points to that variable.
2. Create a function **Display()** and declare three variables and three pointers of types **int**, **char** and **float** in it. You can initialize the variables with any values of your choice. After variable initialization, assign addresses of those variables to the corresponding declared pointers. At the end, you need to print the following values
 - values stored in all variables
 - values stored in pointers
 - addresses of all the variables
 - addresses of all the pointers
 - sizes of all the variables
 - sizes of all the pointers
3. Write a function **Adder()** that receives a pointer to an integer array as input, and uses this pointer to return the sum of elements of the array.
You can initialize the array with random values using `rand()` function.
4. In this task, your job is to create a function **Swaply()** that takes three arguments **num1**, **num2**, and **product**. The first argument should be passed by reference, second argument should be passed by pointer, and third argument should be passed by value. Your **Swaply** function should first swap the values of **num1** and **num2** with each other, and then compute the product of most significant digits of them. You have to store the multiplication result in **product** variable. In the end, you need to display the values of all three variables inside your **Swaply** method as well as in your main function.
Note: You are not allowed to create any other variable or pointer inside your **Swaply** method.
5. Write a function **MeanMin2()** that will take an array as argument and computes the mean of two smallest numbers in the array. Make sure you do not use Array subscript notation to iterate over the array.
6. Write a method **SortTheEvens()**, that first shifts all the even numbers of an input array to the left side in that array and then sorts all even numbers. You are not allowed to use direct indexing and can only use `++` and `--` operators.
For Example: `ptr++` is allowed and `*(ptr + 3)` is not allowed.

Submission Instructions:

1. Save all **.cpp** files with your roll no and task number
e.g. i19XXXX_Task01.cpp
2. Now create a new folder with name *ROLLNO_LAB13* **e.g. i19XXXX_LAB13**
3. Move all of your **.cpp** files to this newly created directory and compress it into **.zip** file.
4. Now you have to submit this zipped file on Slate.

THE END