

Programming Fundamentals (CL-1002)

Lab 11

Deadline: Saturday December 11, 2021 (02:00 PM After noon) (Submit on Google Classroom)

Points: 100

Instructions:

1. Solve each problem in separate file, Name the code file with problem no (Task_01, Task_02,.)
2. Copy these files (Task_01, Task_02,.) in a folder and name the folder like that K21XXXX. where XXXX is your 4-digit Student Id.
3. Now compress that folder using WinRAR software and submit on google-classroom.
4. Do not attach .exe file, otherwise it will show a threat or virus and not allow me to download.
5. Make sure you must Press the Turn-In button after uploading the solution folder. Otherwise, it will not be submitted.

Task_01:

Write a program to implement the exchange or swap the values of 3 variables{a,b,c}. To implement this, you need to write a function called swaped().

```
void swaped(int *aPtr, int *bPtr, int *cPtr);
```

```
such that; b ----> temp
```

```
a ----> b
```

```
c ----> a
```

```
temp -> a
```

Task_02:

Write a program that calculates the sum of all the elements in array using pointers

Task_03:

Write a program that finds the second highest number in a float type array of 20 elements using pointer.

Task_04:

Write a program that implements the function(WordCount).

```
int WordCount(char *Text, int *size);
```

Task_05:

Write a program that implements the SortFunction that takes **argument pointer to an array**, **size of the array** and the **order in which it is going to be sort**. Such as, 1 for Ascending order and 2 for Descending orde. Finally, print this array in Main() to check.

```
void SortFunction(int *arr, int *size, int order);
```

Task_06:

Write a program that takes N no of **character** in an array. Now you need to correct the array and convert it into the Sentence Case. To correct that, you need to pass that array to a function using pointer.

```
void SentenceCase(char *Text, int *size);
```

In the end you need to print the array in Main() to check.

Sentence Case: You capitalize just the first letter of the first word in sentence. The rest of the words and letters in the title should not be capitalized. Also the first letter after the fullstop(.)

Task_07:

You need to implement the the following 2 struct.

```
struct Student{}; struct Register{};
```

Student contains attribute StudentId, FirstName, LastName, cellNo, email.

Register contains attribute CourseId, CourseName.

Task_08:

Using question 7, Now you need to inherit the Register struct in Student struct. It means that student struct holds the variable of Register struct variable. After that you need to take input for 5 students and then print them

[Hint: Declare array of struct Student std[5]; for 5 students]

Task_09:

Write a program that ask the user to enter the total 'N' no of characters in user's name {First Name + Last Name} to create a **dynamic array of characters**. After create a dynamic array of that 'N' no of characters using malloc or calloc function. Finally copy your full name in it that has already been taken from the user before

Dynamic Array = "Muhib Ahmed";

Task_10:

Using Qus. 9, **resize that dynamic array of character** and **append** the array with your studentId. That student id must be taken input from the user.

DynamicArray = "Muhib Ahmed"; // Before

DynamicArray = "K211234 Muhib Ahmed"; // After the text append

Enjoy Coding