

Programming Fundamentals (CL-1002)

Lab 10

Deadline: Saturday December 04, 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:

As a programmer, you are required to create a program that takes the first and last name from a user. The program then combines both the inputs taken and prints the string backwards.

Task_02:

Each student is required to find out the maximum frequency of characters occurring in their name and the courses offered in Fall 2021. To find it, the student enters their name, courses offered and the program finds the maximum occurrences of a character in the name and course.

Course names should be used like Programming Fundamentals, Applied Physics, Pakistan Studies and so on.

Task_03:

Students are grouped in two to complete a lab task. Each student is required to enter a string of their own choice as an input to the program. The program will then display as a result whether both the strings are equal. If the strings are not equal, the program will display which of the string is greater.

Test cases:

1. Enter two strings that are same.
2. Enter two different strings.

Task_04:

Salesflow is one of leading software house they are starting their recruitment process for three different following positions:

1. Associate Developer
2. Assistant Developer
3. Trainee Engineer

There is defined criteria for recruitment process, if candidate clear the test with 50 marks, then he will be select for the post of trainee engineer, experience are not the requirement in it. if candidate secured 60 marks with one or more than one year of experience and 70 marks with 2 year or more than two years of experience, then he/she will be select as assistant and associate developer respectively. Write a function that will take a test marks from user and ask for experience (if its entered marks $x \geq 60$). After that, function will show the assigned position.

Task_05:

Write a function that prints all the unique values from a array and the number of times each value occurs. Below is an output sample. The main function takes a size of array as input and generate a random integer array with name "array1". Random number limit must be between 0 and 10. The 'main' function call a function with the named as "CountFrequency ()". that will find the occurrence of each value in array.

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C:\Users\Administrator\Documents\pfexample\exampleLab9.exe

Count frequency of each element of an array:
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Input the number of elements to be stored in the array :20
Input 20 elements in the array :

array[20]  1 7 4 0 9 4 8 8 2 4 5 5 1 7 1 1 5 2 7 6
The frequency of all elements of array :
1 occurs 4 times
7 occurs 3 times
4 occurs 3 times
0 occurs 1 times
9 occurs 1 times
8 occurs 2 times
2 occurs 2 times
5 occurs 3 times
6 occurs 1 times
```

Task_06:

Write the program which contain a function for finding solving the value of following formula:

$$1^3 + 2^3 + 3^3 + \dots + n^3$$

Enjoy Coding