

## **LAB#10 EXERCISES**

### **STRINGS**

#### **QUESTION#1**

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.

#### **QUESTION#2**

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.

#### **QUESTION#3**

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.

#### **QUESTION # 4**

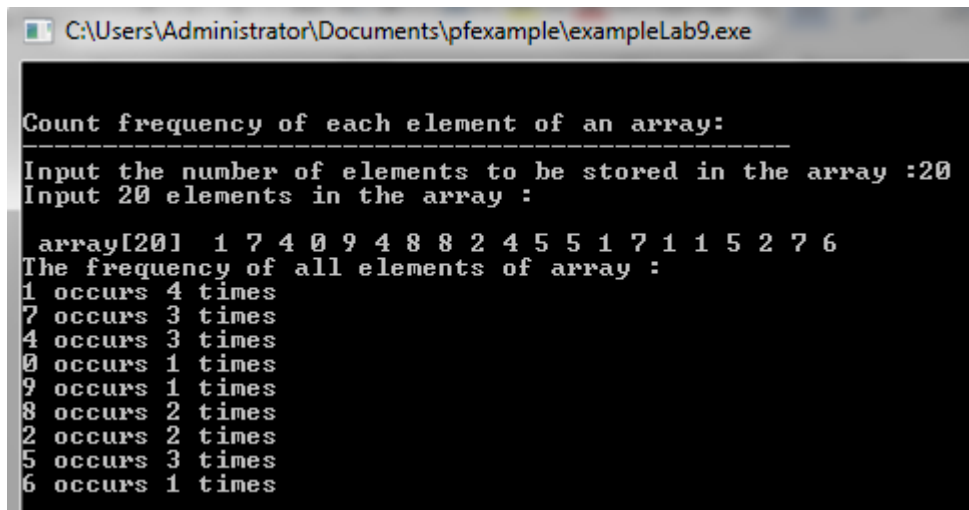
Salesflow is one of leading software house they are starting their recruitment process for three different following positions:

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.

### QUESTION # 5

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.



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

Count frequency of each element of an array:
-----
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
```

### QUESTION # 6

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

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

## **Filing**

### **QUESTION #7**

You are required to write a program for your cafeteria owner which can reads the products' prices continuously and stores in a text file only those that cost more than PKR100 and less than PKR200. If the user enters -1, the insertion of prices should terminate.

### **QUESTION #8**

You are about to write a program for writing some data into a file. your program reads a file name and, if the file does not exist, the program then creates it and then writes the string **One** into it. If in case it exists, then the program asks the user to overwrite it. If the answer is positive, the program should write the string **One** into it; otherwise, the program prompts the user to enter another file name in order to repeat the same procedure.

### **QUESTION #9**

Using C, create a file named budge.txt that contains three equal-length columns of numbers, like this:

```
-462.13 486.47 973.79
755.42 843.04 -963.67
442.58 -843.02 -462.86
-233.93 -821.67 399.59
-379.65 -556.37 837.46
55.18 -144.93 -93.15
533.73 804.64 -66.25
-922.12 914.68 -264.67
-600.27 -838.59 747.02
-962.97 49.96 -677.79
```

Now write a program named budget.c that reads this file and adds up the numbers in each column.

The program's output should look like this:

Column sums are: -1774.16   -105.79   429.47

### QUESTION #10

Write a C++ Program to Count Digits, Alphabets and Spaces using File Handling