Programming Fundamentals Lab

Lab 08 **Marks 100**

Instructions

Work on this lab individually. You can use your books, notes, handouts etc. but you are not allowed to borrow anything from your peer student.

Submission

Put all the files of your solution in a zipped folder labeled with your roll number.
Upload the zipper file solution(s) folder at Google classroom (https://classroom.google.com) by Thursday, April 16, 2020 before 05:00 PM. No submission will be accepted after this deadline.

Please use your email account at PUCIT domain and the following code to join the class:

Code: 2oosi22

What you have to do

Program the following tasks in your Microsoft C++ compiler and then compile and execute them. The name of your files will be according to the task given in this lab. Solve all these questions using **for loop**.

Task 1 [30]

Write a program that asks the user to **enter an item's wholesale cost** and its **markup percentage**. It should then display the item's **retail price**. For example:

- If an item's **wholesale cost** is **5.00** and its **markup percentage** is **100**, then the item's **retail price** is **10.00**.
- If an item's **wholesale cost** is **5.00** and its **markup percentage** is **50**, then the item's **retail price** is **7.50**.

The program should have a function named **calculateRetail** that **receives** the **wholesale cost** and the **markup percentage as arguments**, and display the **retail price** of the item. Call your function **(calculateRetail)** from **main** and test its functionality.

Task 2 [30]

The formula for converting a **temperature** from **Fahrenheit to Celsius** is

$$C = \frac{5}{9}(F - 32)$$

where **F** is the **Fahrenheit temperature** and **C** is the **Celsius temperature**. Write a function named **celsius** that accepts a **Fahrenheit temperature** as an **argument**. The function should display the **temperature**, **converted to Celsius**. Demonstrate the function by calling it in a **loop** that **displays a table** of the **Fahrenheit temperatures 0 through 20** and their **Celsius** equivalents.

Task 3 [40]

Write a program that **computes** and **displays** the **charges** for a **patient's hospital stay**. First, the program should ask if the patient was **admitted** as an **in-patient** or an **out-patient**. If the patient was an **in-patient**, the following data should be entered:

1. The number of days spent in the hospital
2. The daily rate
3. Hospital medication charges
4. Charges for hospital services (lab tests, etc.)

The program should ask for the following data if the patient was an **out-patient**:

1. Charges for hospital services (lab tests, etc.)
2. Hospital medication charges

The program should use **two functions** to **calculate the total charges**. **One** of the functions should **accept arguments** for the **in-patient data**, while the other function **accepts arguments** for **out-patient** information. Both functions should display **the total charges**. Write your **main** function and test the functionality of your application.

☺ ☺ ☺ **BEST OF LUCK** ☺ ☺ ☺