|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **National University of Computer and Emerging Sciences, Lahore Campus** | | | | |
| C:\Users\saif\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Word\final design.jpg | **Course:** | **PF Lab** | **Course Code:** | **CL1002** |
| **Program:** | **BS (Data Science)** | **Semester:** | **Fall 2021** |
| **Duration:** | **45 Minutes** | **Total Marks:** | **10** |
| **Paper Date:** | **19-Nov-21** | **Weight** |  |
| **Section:** | **1A** | **Page(s):** | **2** |
| **Exam:** | **Quiz 1** | **Reg. No.** |  |
| **Instruction/Notes:** | Honesty always gives fruit and Dishonesty is always harmful. | | | |

**Question#1- [10 marks]**

Write a program that calculates the balance of a savings account at the end of a period. It should ask the user for the annual interest rate, the starting balance, and the number of months that have passed since the account was established. A loop should then iterate once for every month, performing the following:

A. Ask the user for the amount deposited into the account during the month. (Do not accept negative numbers.) This amount should be added to the balance.

B. Ask the user for the amount withdrawn from the account during the month. (Do not accept negative numbers.) This amount should be subtracted from the balance.

C. Calculate the monthly interest. The monthly interest rate is the annual interest rate divided by twelve. Multiply the monthly interest rate by the balance and add the result to the balance.

After the last iteration, the program should display the ending balance, the total amount of deposits, the total amount of withdrawals, and the total interest earned

**Question#2- [10 marks]**

Write a program that computes the cost of a long-distance call. The cost of the call is determined according to the following rate schedule:

A. Any call started between 8:00 am and 6:00 pm, Monday through Friday, is billed at a rate of $0.40 per minute.

B. Any call starting before 8:00 am or after 6:00 pm, Monday through Friday, is charged at a rate of $0.25 per minute.

C. Any call started on a Saturday or Sunday is charged at a rate of $0.15 per minute.

The input will consist of the day of the week, the time the call started, and the length of the call-in minutes.

The output will be the cost of the call.

The time is to be input in 24- hour notation, so the time 1:30 pm is input as 13:30

The day of the week will be read as

1: For Monday 2: For Tuesday 3: For Wednesday

4: For Thursday 5: For Friday 6: For Saturday

7: For Sunday

The number of minutes will be input as a value of type int. (You can assume that the user rounds the input to a whole number of minutes.) Your program should include a loop that lets the user repeat this calculation until the user says she or he is done.