National University of Computer and Emerging Sciences Islamabad

Programming Fundamentals Lab FALL 2019

Lab Manual 05
Control Structures II

Lab Tasks

Problem 01
Take a number input from the user. Check the following cases:

1. If the number is greater than 50 and is a multiple of 5, output should be "Number is greater than 50 and is a multiple of 5
2. If the number is greater than 50 and is not a multiple of 5, output should be "Number is greater than 50 and is not a multiple of 5
3. If the number is less than 50 and is not a multiple of 5, output should be "Number is less than 50 but is not a multiple of 5"
4. If the number is less than 50 and a multiple of 5, output should be "Number is less than 50 and a multiple of 5

Problem 02
A bank charges $ 10 per month plus the following check fees for a commercial checking account:
$ .10 each for fewer than 20 checks.
$ .08 each for 20 to 39 checks.
$ .06 each for 40 to 59 checks.
$ .04 each for 60 or more checks.
The bank also charges an extra $ 15 if the balance of the account falls below $ 400 (before any check fees are applied). Write a program that asks for the beginning balance and the number of checks written. Compute and display the banks service fees for the month. You are required to do this task by using if, else if conditions.
you are not allowed to use compound statements in if condition.

Input Validation: Do not accept a negative value for the number of checks written. If a negative value is given for the beginning balance, display an urgent message indicating the account is overdrawn.

Problem 03
Code the above question using compound statements. You are not allowed to use else if statement.

Problem 04

Write a program that input two integer number and display results by performing the (+, -, ∗ , /) operations. It should check that divisor is not equal to zero? Secondly if user apply any operator other than that (+, -, ∗ , /) print error message? using if else

Problem 05

Implement the above question by using switch statement.

Problem 06

Write a program that reads the Grade of the Student and displays the Messages for performance as given in the Table.Use only Switch statement.
Hint: Use two character variables

Letter Grade	Message to be Print
A	Out-standing
A-	Excellent
B+	Very Good
B	Good
B-	Satisfactory
C+	Average
F	Below Average

Problem 07

Following is the old rhyme:

Thirty days hath September, April, June and November.
All the rest have 31, save February alone,
Which has 28 and, in leap year, 29.

Write a program that takes input for month and year from user. For month, user will enter an integer i.e. 1 for January and 2 for February, and for year user will enter another integer value.Your program should output the number of Days in the entered month.First, you need to check whether the entered year is a leap year or not.Leap Year repeats itself after 4 years so if the entered year is divisible by 4 then it is a Leap year.In leap Year February has 29 Days and for the rest of the years February has 28 days.Use switch statement to write the code.

Example:

User input year : 2018
User input month: 4
OUTPUT : The Number of days in April, 2018 are 30
User input year : 2012
User input month: 2
OUTPUT : The Number of days in February, 2012 are 29

Submission Instructions:

1. Save all **.cpp** files with your roll no and task number
   e.g. i19XXXX_Task05.cpp
2. Now create a new folder with name *ROLLNO_LAB05* **e.g. i19XXXX_LAB05**
3. Move all of your .cpp files to this newly created directory and compress it into **.zip file**.
4. Now you have to submit this zipped file on Slate.

THE END