National University of computer and emerging sciences

LAB MANUAL 6

CL118-PROGRAMMING FUNDAMENTALS

BSCS-SPRING-2021

SCHOOL OF COMPUTING FAST-NATIONAL UNIVERSITY OF COMPUTER AND EMERGING SCIENCES, ISLAMABAD CAMPUS

National University of computer and emerging sciences

LAB 06 CONTROL STRUCTURES (Switch Case and Ternary Operator)

Switch case statements are a substitute for long if statements that compare a variable to several integral values

- The switch statement is a multiway branch statement. It provides an easy way to dispatch execution to different parts of code based on the value of the expression.
- Switch is a control statement that allows a value to change control of execution.

Syntax

```
Switch(n){ // n can be a variable or an expression that results
           // in true or false
           Case 1:
                 // code to be executed if n=1
                break;
           Case 2:
                 // code to be executed if n=2
                break;
           .
           .
           .
           default:
           // code to be executed if n doesn't match any case above
           }
```

Multiple cases can be combined if all perform similar actions

```
Switch(n){ // n can be a variable or an expression that results
           // in true or false
           Case 1:
           Case 2:
           Case 3:
                 // code to be executed if n=1,2 or 3
                break;
           Case 4:
                 // code to be executed if n=2
                break;
           .
           .
           .
           default:
           // code to be executed if n doesn't match any case above
           }
```

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TASKS

Problem 1:

Write a program that reads two integers from user and prints whether the first number is largest, smallest or equal to the second number using nested switch case statements.

Problem 2:

Write a program that takes month number as input and prints the number of days in that month. The month is numbered from 1 to 12 (Jan to Dec). You may print 28 or 29 for February and there is no need to program for leap year.

The following traditional poem may help you remember the number of days in each month:

30 days hath September,
April, June and November;
All the rest have 31,
Excepting February alone, and that has 28
days clear,
And 29 in each
leap year

Problem 3:

Write a program to check whether an input is alphabet, digit or a special character using nested switch.

Problem 4:

Create a mini calculator that should perform basic arithmetic operations such as +, -, *, / and %. The calculator should ask user to enter two numbers and the desired operation to be performed. Based on the user's choice, perform the required operation and print the result.

Note: In case of division operation, the denominator must not be zero. Use switch case only.

Problem 5:

Note: You are only allowed to use nested ternary statements for this program

Write a program that reads score of a student in a subject and displays his grades according to the following criteria:

Score	Grade
>= 90	A+
80 – 89	A
70 – 79	B
60 – 69	C
50 – 59	D
< 50	F

Submission Instructions:

1. Save all .cpp files with your roll no and task number e.g. i20XXXX_Task01.cpp
2. Now create a new folder with name ROLLNO_LAB06 e.g. i20XXXX_LAB06
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 Google Classroom.