Programming Fundamentals (CL-1002)
Lab Task 05
Deadline: October 09, 2021 (02:00 PM After noon) (Submit on Google Classroom)
<u>Points: 90</u>

Instructions:
1. Solve each problem in separate file, Name the code file with problem no (Task_01, Task_02,.)
2. Copy these files (Task_01, Task_02,.) in a folder and name the folder like that K21XXXX. where XXXX is your 4-digit Student Id.
3. Now compress that folder using WinRAR software and submit on google-classroom.
4. Do not attach .exe file, otherwise it will show a threat or virus and not allow me to download.
5. Make sure you must Press the Turn-In button after uploading the solution folder. Otherwise, it will not be submitted.

Task_01: Write a Program that takes 2 number and an operator like (+,-,*,/,%,>,<) and perform the basic operations using ternary operator.

Task_02: You need to write a program that takes a number and find whether it's completely divisible by 11 and 13 or not. If it completely divisible by 11 and 13 display the message "COMPLETE DIVISIBLE" otherwise "NOT COMPLETE DIVISIBLE".

Task_03: Take year as an input and prints whether it's a leap year or not. Use ternary operator to solve it.

Task_04: You need to take the date in 3 variables (dd,mm,yyyy). After taking input from the user verify that date and month must lie within the range i-e, (dd: 01-31, mm: 1-12 and year is of 4-digits). If any one of these went wrong display the message IN VALID Date otherwise display date like that

        Expected Input: Date(dd) = 11
                     Month(mm) = 04
                     year(yyyy) = 2021
      Expected Output:
               April 11,2021

Task_05: Given as input an integer number in seconds, print as output the equivalent time in hours, minutes and seconds. Recommended output format is something like
           "7322 seconds is equivalent to 0 days, 2 hours 2 minutes 2 seconds"

Task_06: You need to write a program that diplays the option to user to select any one. In this user first select the option and then program asks the user for input based on the option he/ she selects to perfrom the operation using a switch case operator.

```
---------------------------------------------
|  Options  |   Operation                   |
---------------------------------------------
|    1      |   Addition(+)                 |
|    2      |   Multiplication(*)           |
|    3      |   Mode(%)                     |
|    4      |   PreIncrement(++)            |
|    5      |   PostDecrement(--)           |
|    6      |   Greater Than(>)             |
|    7      |   Greater and Equals to(>=)   |
|    8      |   Less Than(<)                |
|    9      |   Less and Equal to (<=)      |
|   10      |   Is Equal to (==)            |
|   11      |   Not Equal To(!=)            |
|   12      |   Power(x^y)                  |
|   13      |   Square Root(x)              |
---------------------------------------------
```

Task_07:

You need to develop a grade predictor specially designed for Freshman Student to predict the grade for each course for the 1st semester. Suppose you have 5 courses in the semester. The predictor takes input the expected marks (out of 100) for each course and evaluate. Each course carries the maximum 100 marks. Problem is that you need to list the grades of each course at-once in the end like that;

Expected Grades on given input marks:

Calculus:	A
Pak-Studies:	B-
English Communication:	C
Programming Fundamentals:	A+
Ethics or Islamic Studies:	D

Grade	G.Points	Mark
A+	4.00	90 to 100
A	4.00	87 to 90
A-	3.67	83 to 86
B+	3.33	79 to 82
B	3.00	75 to 78
B-	2.67	71 to 74
C+	2.33	67 to 70
C	2.00	63 to 66
C-	1.67	59 to 62
D+	1.33	55 to 58
D	1.00	50 to 54
F	0	0 to 49

Task_08:

Using the logic of Question 06, Now you need to calculate the SGPA for a Freshman. Here also you need to take the marks (out of 100) and Credit Hours from the user for 5- courses. But this time rather than displaying their grades you need to store the grade points for each course individually in a variable(5-variables). Finally use these grade-points to calculate his/ her SGPA.

```
Expected Grades on given input marks:
           Course Name              G.Points   CreditHours
           -------------------------------------------
           Calculus:                  4.00       4
           Pak-Studies:               2.67       3
           English Communication:     2.00       3
           Programming Fundamentals:  4.00       4
           Ethics or Islamic Studies: 1.00       3
```

```
Formula:
           GPA= (4)(4) + (2.67)(3) + (2.00)(3) + (4.00)(4) + (1.00)(3)
                -----------------------------------------------------
                              4+3+3+4+3

           GPA = 2.88
```

Task_09: Write a program which takes input a number and convert it to different money notes (100, 10, 5, 3, 2, 1). For example, input is 125, the output should be:

"There are 1, 100 bills, 2, 10 bills, 1, 5 bills, 0, 3 bills, 0, 2 bills, 0, 1 bill"

Enjoy Coding