Programming Fundamentals (CL-1002)

Lab 07

Deadline: October 31, 2021 (02:00 PM After noon) (Submit on Google Classroom)

Points: 90

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 asks the user, how many times 'T' he/she wants to input a number. Now take T integers from the user and count if the number is below Zero, IsEqual to Zero and greater than Zero.

Task_02: Write a program that checks a number is prime or not. If a number is prime then print that number in reverse order upto to -3.

Expected input: 3

Expected Output: 7 is a prime number

7,6,5,4,3,2,1,0,-1,-2,-3

Task_03: Asks the user to enter a character.

If a user enters an alphabet, then saves in a character variable (a-z) or (A-Z).

If user enters a number, then saves it to an integer type variable.

If user doesn't enter other than that, then ask again until he/she doesn't enter a character or number

Task_04: Write a program that takes an integer of 8-decimal places. Also make sure that the number must be in combination of 1 and 0. Now you need to convert that binary number into a decimal number

Expected Input: 10110101

(1*2^7) + (1*2^6) + (1*2^5) + (1*2^4) + (1*2^3) + (1*2^2) + (1*2^1) + (1*2^0)

Expected Output: 181

Task_05: Write a program to generate a series for N=3 to 10 elements. Where F(0)=2 and F(1)=3.

Series: 2, 3, _ , _ , _ , _ , _ , _ , _ , _

$$F_n = F_{n-1} + F_{n-2}$$

Task_06: You need to program a small game for 2 players. Each of player is given 3 chances to input a number of your own choice from 0 – 100 one by one.

If the number you entered is an ASCII code of (a-z) that ascii number will be count as score.

If the number you entered is an ASCII code of (A-Z) that ascii number will be twice and added to your score.

If you repeat the same number again, your score will become half

Incase, you enter the number that not lies in (a-z) or (A-Z), you get a chance to re-enter it again.

In the end, compare the scores of both players and prints the message, Player1 or Player2 Wins.

Also, asks the user do you wish to continue or not, press y to continue and n to quit the game.

Task_07: Design a program to Login to ATM.

Your PIN code is of four-character Alpha-Numeric with at least 1 special case character. On menu screen as you press 1: Login Press 2: Reset Password and Press 3: Close Application.

When you press 1, it asks your PIN code. You have only 3 attempts to login otherwise it blocks you.

On Press 2, system generates a random number and prints on screen, you need to enter that number again to reset your password.

On Press 3, program will quit.

Task_08: Mr. Shahzad assigned you a task in which he instructs you to teach multiplication table to your brother/sister. For this purpose, you write a program which generates two random numbers within range (1-10) for (example x and y) and display x*y in such way that the smallest number appears first. Your written code should ask your brother/sister to input his/her answer. Then your code should compare the entered answer and returns a message with wrong (along with correct answer) or correct on the screen.

As your brother/sister enter -1 then your code will terminate by displaying the total number of correct and wrong answers. Your output may be as follows:

Task_09: You are supposed to make a Quiz program of at least 5 questions. Following are rules for the game:

For correct answer, prize money is 10,000 rupees

For wrong answer, deduction is of 5,000 rupees

If question one is wrong, player will be out of the game

After starting the game, if amount becomes 0, player will be out of the game

There will be only 4 options for each question

Enjoy Coding