Post-Lab 04 Tasks

Instructions:

- The **post-lab** tasks are to be submitted at **bcsf19m002@pucit.edu.pk. The submission deadline is Monday, 11: 59 pm, 15-10-2023.**
- **You will do Q1 on a word document. Copy the table and fill it in with your answers.**
- For the post-lab submissions, **you must use your pucit email ids**. You should zip all of your work (**.c files only(not .exe) and word document for Q1**) into a folder named with your Roll No. and Lab No. e.g., **BITF22M001_L04**.
- The subject of the email should be '**Lab 04 Submission**'.
- All of your code must be **properly indented**.
- You must strictly follow the instructions. You will be penalized for not following the instructions.
- Any cheating or plagiarism case caught would be straight away 0.

1. Dry Run the following program and fill up the trace table:

```c
// for# 1
for (int x = 2; x <= 13; x += 2) {
    printf("%d, ", x);
}
// for# 2
for (int x = 5; x <= 22; x += 7) {
    printf("%d, ", x);
}
// for# 3
for (int x = 3; x <= 15; x += 3) {
    printf("%d, ", x);
}
// for# 4
for (int x = 1; x <= 5; x += 7) {
    printf("%d, ", x);
}
// for# 5
for (int x = 12; x >= 2; x -= 3) {
    printf("%d, ", x);
}
```

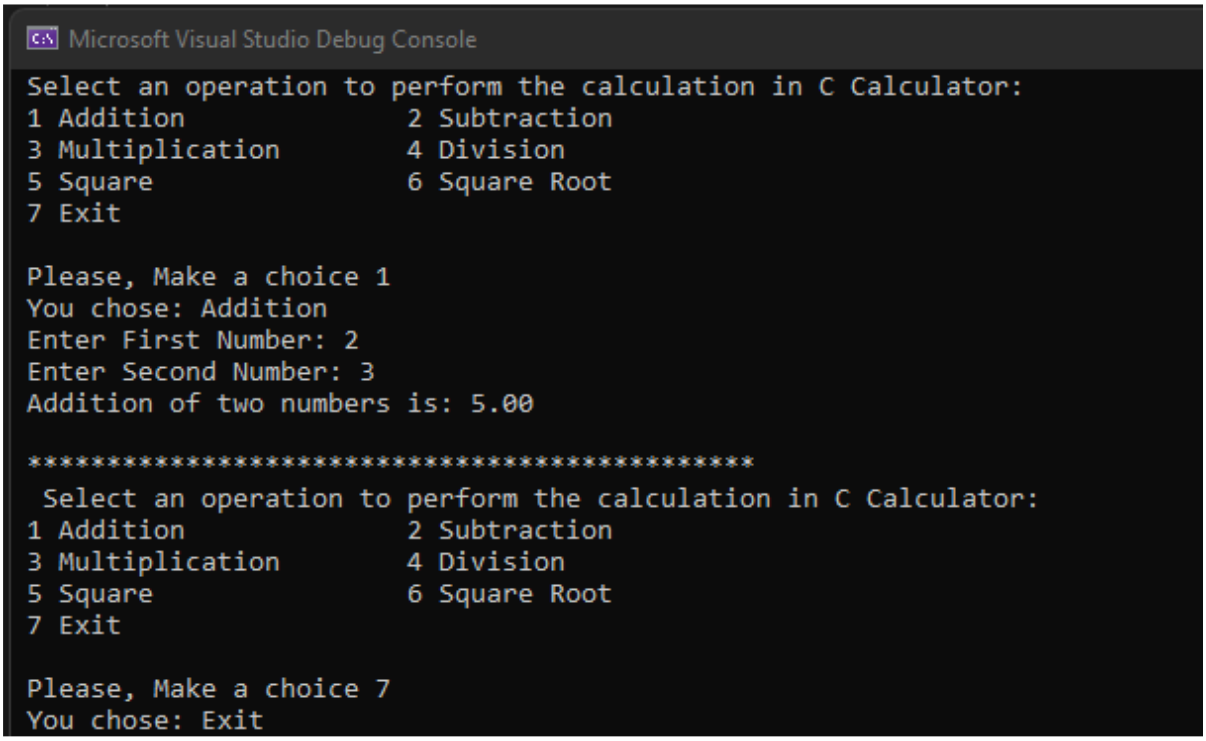
Loop #	No. of times the loop runs	Output
1		
2		
3		
4		
5		

('-=' works just like '+='. For example, x+=3 means x=x+3 and x-=3 means x=x-3. Similarly '*=' and '/=' operators also exist.)

2. Write a program that takes in a number from the user and calculates the sum of digits of the number. For example, if the user enters 1217, the program should print 11 (1+2+1+7). Hint: the logic is similar to reversed number logic.

3. Create a C program that:
   • Takes input of two integers.
   • Finds the sum of all numbers which are dividends of 4 and 16, between these two integers.
   • Print an appropriate message if no such dividend (number) exists in the range.
   • Display the Sum of all divisible on the Console as shown in figure.

4. Create a Console based calculator which:
   • Displays the menu on Console and takes an input from user as follows:



(Use #include<math.h> header file in order to implement power and sqrt functions. Example Usage: sqrt(num) and pow(num1, num2)) (Hint: 7 is the sentinel value in this question)