Programming Fundamentals

Exercise 1

Write a program that prompts the user to enter two positive integers and finds their greatest common divisor.

Sample input:

Num1 = 16 Num2 = 24 GCD is 8	Num1 = 24 Num2 = 48 GCD is 24	Num1 = 15 Num2 = 45 GCD is 15

Exercise 2

Create a game where the user rolls a dice 10 times. Each time, the dice randomly generates a number between 1 and 6. Based on the number rolled, the program gives the player feedback using a switch case.

Feedback for Rolls:

- If the number is 1, tell the player they need to roll better.
- If the number is 6, congratulate them on rolling the highest number.
- For all other numbers, print a message telling them the number they rolled.

Instructions:

- Use a 'for' loop to simulate 10 dice rolls.
- Use a switch case to give feedback based on the result of each roll.
- Generate random dice rolls between 1 and 6.

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Lab-solutions/misc/Lab4 on ♦ main [!]
❯ ./Task5.exe
Roll 1: 5 - You rolled 5.
Roll 2: 2 - You rolled 2.
Roll 3: 5 - You rolled 5.
Roll 4: 2 - You rolled 2.
Roll 5: 3 - You rolled 3.
Roll 6: 5 - You rolled 5.
Roll 7: 6 - Congratulations! You rolled the highest number.
Roll 8: 4 - You rolled 4.
Roll 9: 5 - You rolled 5.
Roll 10: 6 - Congratulations! You rolled the highest number.
```

Exercise 3

Write a C++ program that takes a number as input and prints its multiplication table up to 10.
Sample Output:
Print the multiplication table of a number upto 10:

Input a number: 5
5 x 1 = 5
5 x 2 = 10
5 x 3 = 15
5 x 4 = 20
5 x 5 = 25
5 x 6 = 30
5 x 7 = 35
5 x 8 = 40
5 x 9 = 45
5 x 10 = 50

Exercise 4

Write a C++ program to compute the sum of the two given integers and count the number of digits in the sum value. (without using any library function)

Sample Run :

Num1 = 15 Num2 = 25 Sum = 40 Total Digits of Sum is 2	Num1 = 15 Num2 = 250 Sum = 265 Total Digits of Sum is 3	Num1 = 100 Num2 = 901 Sum = 1001 Total Digits of Sum is 4