

# Practical Sheet in C# - Practical 1

## Setup the IDE (If not installed in your PC)

1. Go to the - [Free Developer Software & Services - Visual Studio \(microsoft.com\)](https://visualstudio.microsoft.com/)
2. Download the visual studio 2022 community version and install it on the pc.

## Create the Console Application

Note\* -

- Create a console application that displays a list of available questions as a menu. Each question should have a meaningful message and a number that the user can enter to select the question.
- After displaying the menu, prompt the user to enter the number of the method they want to run. If the user enters a number that is not available, display a message informing them that the provided number is invalid and prompt them to select a method from the menu.
- Once the method finishes running, the menu should be displayed again so the user can choose another question or exit the program.
- The user can enter "0" to stop the program.
- Sample of the menu

```
Available Methods:
1. Find the largest number among three numbers
2. Calculate the sum of digits of a number
3. Check if a string is a palindrome
4. Print the first 10 numbers of the Fibonacci sequence
5. Check if a number is a prime number
0. Exit

Enter the number of the method you want to run (or 0 to exit):
```

### Questions

1. Create a new console application named "Project 001".
2. Write a method in the program class that prints "Hello, World!" to the console.
3. Write a method that asks for the user's name and prints a personalized greeting.
4. Write a method that takes two integer inputs from the user and prints their sum.
5. Write a method that converts a temperature from Celsius to Fahrenheit.
6. Write a method that asks the user for an integer and prints whether it is even or odd
7. Create a new class named Calculator
8. In the calculator class create an "Add" method to calculate sum of two number.

9. In the calculator class create an "Subtract" method to Subtract a number from another number.
10. In the calculator class create an "Multiply" method to multiply two numbers.
11. In the calculator class create an "Divide" method to divide two numbers. (in this method need to ensure that the provided number is not zero)
12. Create an instance of calculator in the program class.
13. Get two numbers from the user and the arithmetic operation keyword from the user and perform the arithmetic operation using the created method and console the answer with proper messages.

Example: ask for the first number from user and then ask an arithmetic operation (+, -, \*, /) then ask the second number and console the result.

Sample Output: 2 + 3 = 5

14. Write a C# method that takes a number input from the user and checks if it is a prime number.
15. Write a C# method that takes a non-negative integer from the user and prints its factorial.
16. Write a C# method that takes a string from the user and counts the number of vowels in the string.
17. Write a C# method that generates a random number between 1 and 100 and asks the user to guess the number. Provide feedback whether the guess is too high, too low, or correct. I need to ask again and again until the user correctly guesses the number.
18. Write a C# method that takes a number from the user and prints its multiplication table up to 15. ()
19. Write a C# method that takes a string and a character from the user and counts how many times the character occurs in the string.
20. Write a C# method that takes two numbers from the user and calculates their Greatest Common Divisor (GCD).