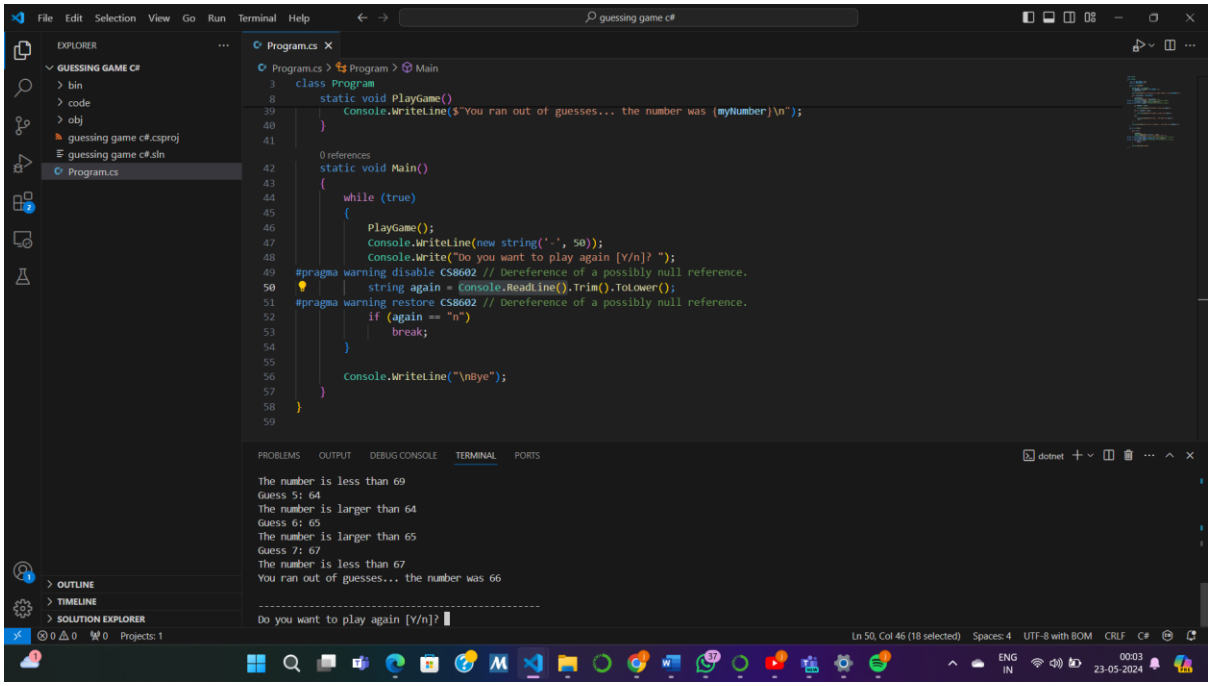
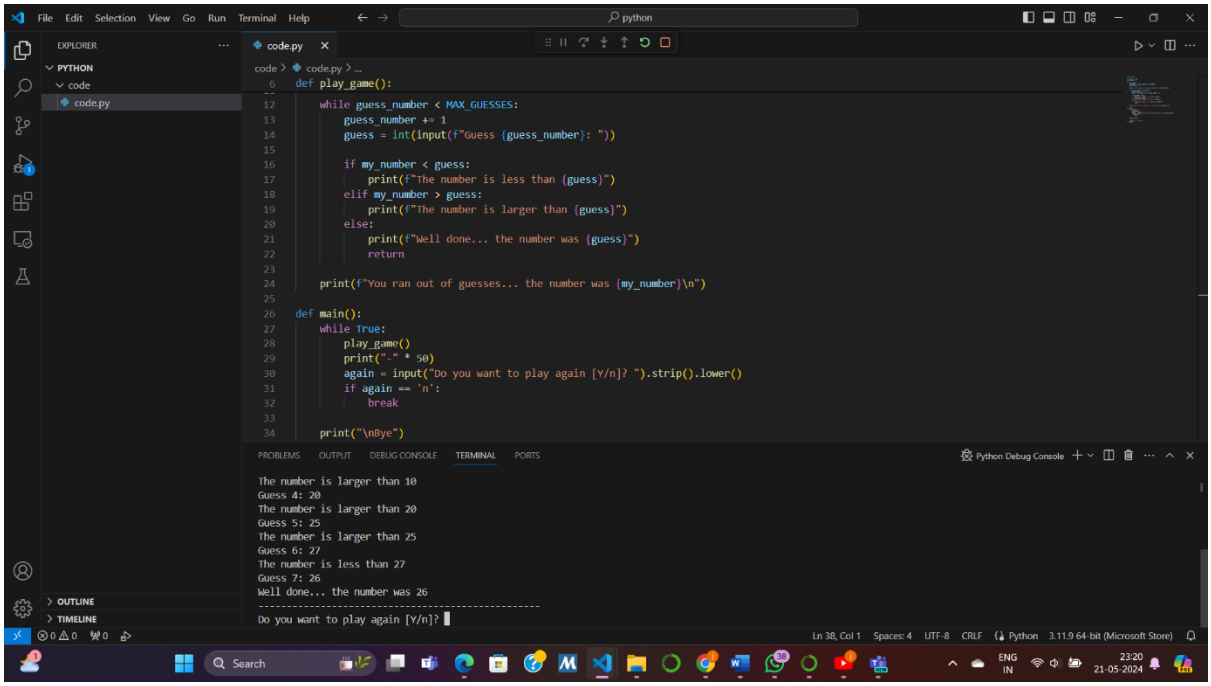
COMPARIONS BETWEEN CSHARP AND PYTHON

Let us look at the codes we provided

C#



Python



WE CAN COMPARE THESE CODES ON THE BASIS OF A FEW PARAMETERS :

Imports and Constants

Python: Uses import random for random number generation.

C#: Uses using System; for basic functionality and Random class for random number generation.

Function Definitions

Python: Functions are defined using def keyword. Example: def play_game():.

C#: Methods are defined using static void. Example: static void PlayGame().

Random Number Generation

Python: random.randint(1, MAX_NUMBER).

C#: rand.Next(1, MAX_NUMBER + 1).

Input and Output

Python: Uses input() for reading user input and print() for output.

C#: Uses Console.ReadLine() for input and Console.WriteLine() for output.

String Formatting

Python: Uses f-strings for formatting. Example: print(f"I am thinking of a number between 1 and {MAX_NUMBER}\n").

C#: Uses $ before the string for interpolation. Example: Console.WriteLine($"I am thinking of a number between 1 and {MAX_NUMBER}\n");.

Conditional Statements

Python: Uses if, elif, and else for conditionals.

C#: Uses if, else if, and else.

Looping

Python: Uses while loop. Example: while guess_number < MAX_GUESSES:.

C#: Uses while loop in the same way. Example: while (guessNumber < MAX_GUESSES).

Main Function

Python: Checks if __name__ == "__main__": to run the main function.

C#: Uses static void Main() as the entry point.

Running the application

We generally use ‘dotnet run’ to execute the csharp code. While we can use f5 shortcut to run the python code.

Summary

Both the Python and C# versions of the game are structurally similar but differ in syntax and some built-in functions. Python's code is generally more concise and easier to read due to its high-level nature, while C# is more verbose and requires explicit type declarations and method structures.