Setting up C# Development Environment

To write and compile C# programs on Ubuntu 22.04, you can use the .NET SDK, which is a free, open-source, and cross-platform framework for building modern, cloud-based, and internet-connected applications. Here are the steps to set up your environment and write/compile C# programs:

Setting up C Development Environment

- Install .NET SDK

Compiling Execution

- Create a New Project
- Compiling the C program
- Execution

Install .NET SDK:

Open a terminal and follow these steps to install the .NET SDK:
First let us add the Microsoft package repository

```
$ wget https://packages.microsoft.com/config/ubuntu/22.04/packages-microsoft-prod.deb -O packages-microsoft-prod.deb
$ sudo dpkg -i packages-microsoft-prod.deb
```

Next let us install the .NET SDK, next run the following commands in the terminal.

```
$ sudo apt update
$ sudo apt install -y apt-transport-https
$ sudo apt update
$ sudo apt install -y dotnet-sdk-7.0
```

Compiling & Execution

Create a New Project:

Enter the following command to create a new project, the last parameter is your Project Name.

```
$ dotnet new console -n HelloCSharp
```

You can see a HelloCSharp folder created in your current directory. It will contain a file **Program.cs** that has a simple Hello World program. You can edit this file to write your own program.

Let us write the following code in the **Program.cs** file.

```
using System;

class Program
{
    static void Main()
    {
        Console.WriteLine("Hello, Ubuntu 22.04!");
    }
}
```

Now save the file.

Compiling the C# program

To compile the C# program, use the following command:

```
$ dotnet build -o out HelloCSharp.csproj
```

Execution

To execute the C# program, use the following command:

```
$ ./out/HelloCSharp
```