NOTAS - GITHUB - COPILOT

Resumen

Este documento contiene notas de pruebas realizadas en GitHub Copilot en Visual Studio (VS) y Visual Studio Code (VSC).

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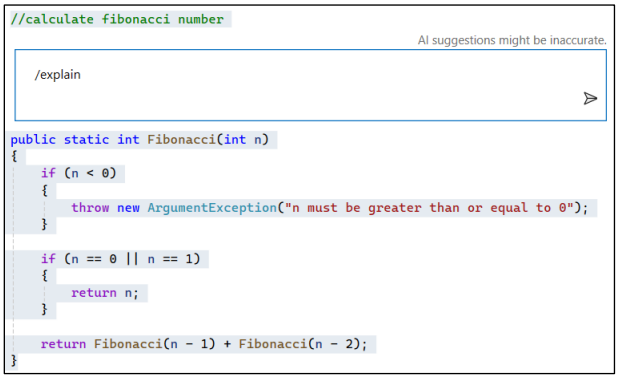
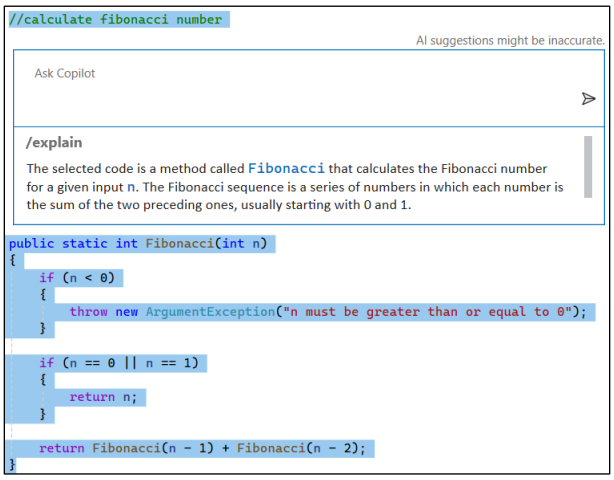
1 CONTENIDO

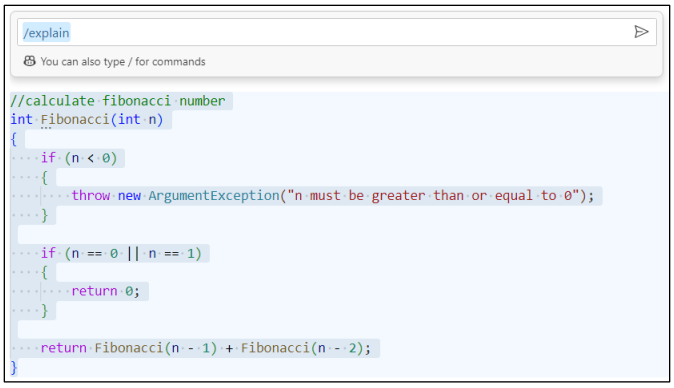
2 EXPLICAR CÓDIGO

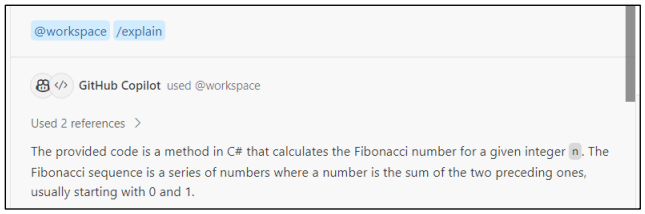
VS





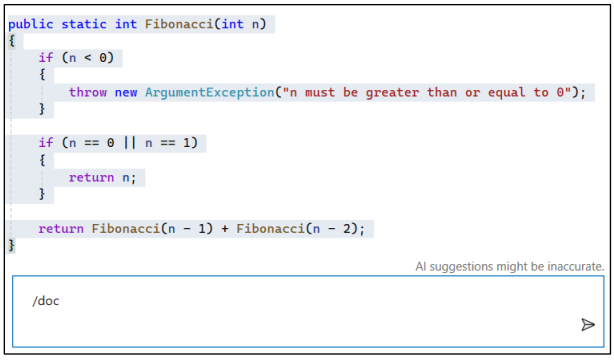
VSC

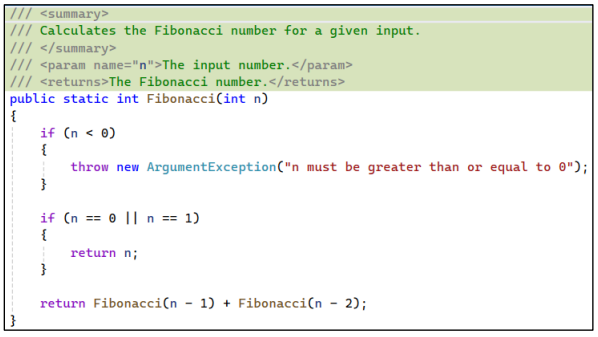




3 DOCUMENTAR CÓDIGO

VS





VSC

```
/// <summary>
/// Calculates the Fibonacci number at the given index.
/// </summary>
/// <param name="n">The index of the Fibonacci number to calculate.</param>
/// <returns>The Fibonacci number at the given index.</returns>
int Fibonacci(int n)
{
    if (n < 0)
    {
        throw new ArgumentException("n must be greater than or equal to 0");
    }

    if (n == 0 || n == 1)
    {
        return 0;
    }

    return Fibonacci(n - 1) + Fibonacci(n - 2);
}
```

4 OPTIMIZAR CÓDIGO

VS

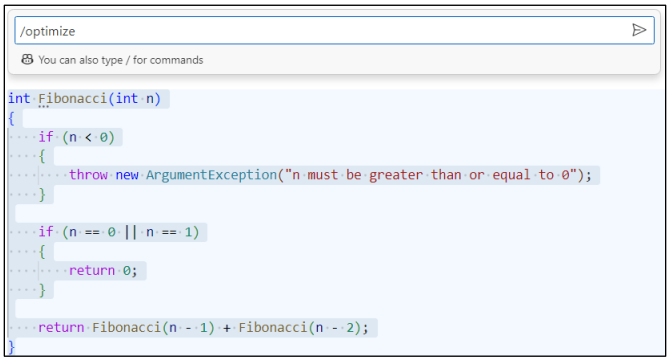
```
public static int Fibonacci(int n)
{
    if (n < 0)
    {
        throw new ArgumentException("n must be greater than or equal to 0");
    }

    if (n == 0 || n == 1)
    {
        return n;
    }

    return Fibonacci(n - 1) + Fibonacci(n - 2);
}
```

AI suggestions might be inaccurate.

/optimize

```
private static Dictionary<int, int> memo = new Dictionary<int, int>();

public static int Fibonacci(int n)
{
    if (n < 0)
    {
        throw new ArgumentException("n must be greater than or equal to 0");
    }

    if (n == 0 || n == 1)
    {
        return n;
    }

    if (memo.ContainsKey(n))
    {
        return memo[n];
    }

    int result = Fibonacci(n - 1) + Fibonacci(n - 2);
    memo[n] = result;

    return result;
```

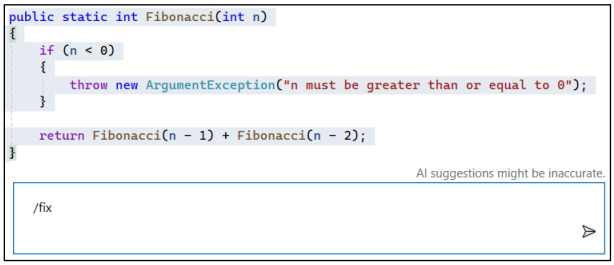
VSC




```
Dictionary<int, int> memo = new Dictionary<int, int>();

int Fibonacci(int n)
{
    if (n < 0)
    {
        throw new ArgumentException("n must be greater than or equal to 0");
    }

    if (n == 0 || n == 1)
    {
        return n;
    }

    if (memo.ContainsKey(n))
    {
        return memo[n];
    }

    int result = Fibonacci(n - 1) + Fibonacci(n - 2);
    memo[n] = result;
    return result;
```

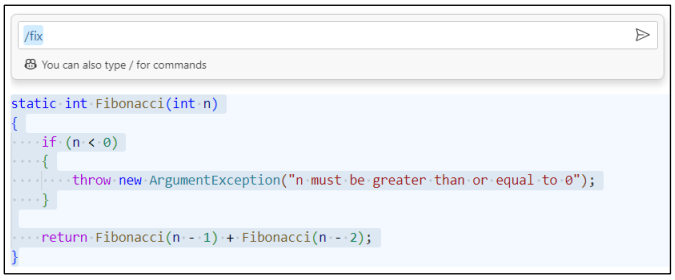
5 CORREGIR ERRORES

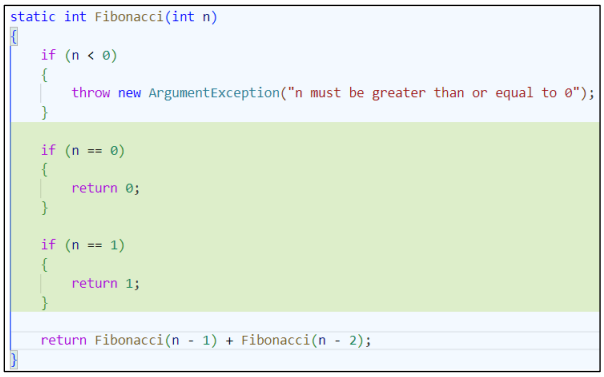
1 VS



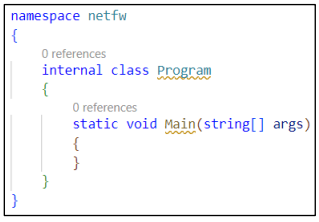

```
public static int Fibonacci(int n)
{
    if (n < 0)
    {
        throw new ArgumentException("n must be greater than or equal to 0");
    }

    if (n == 0)
    {
        return 0;
    }

    if (n == 1)
    {
        return 1;
    }

    return Fibonacci(n - 1) + Fibonacci(n - 2);
}
```

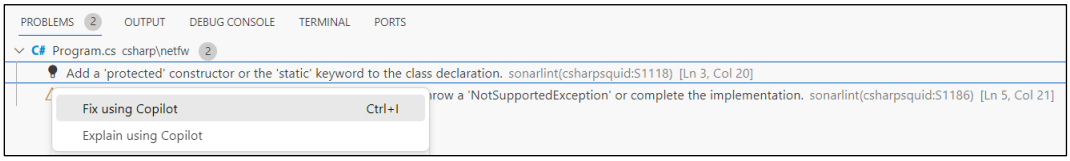
1 VSC

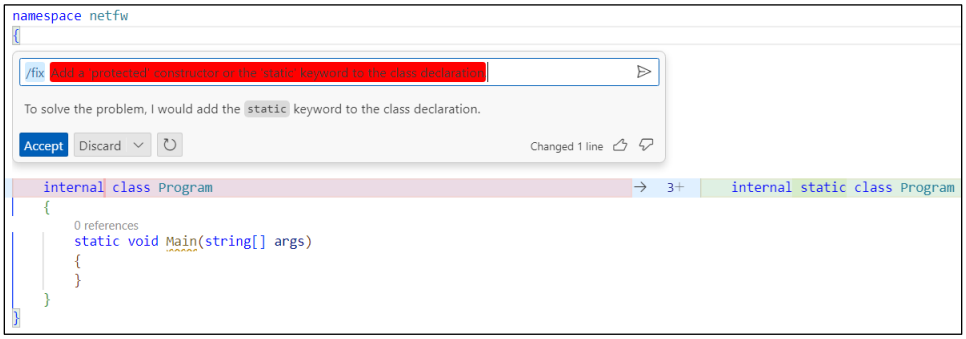




2 VSC

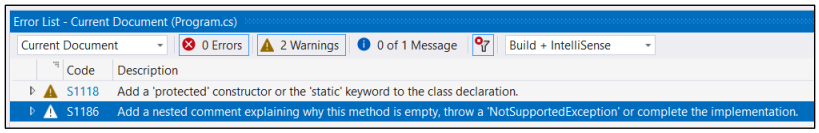






6 EXPLICAR ERRORES

VS


Error List - Current Document (Program.cs)
Current Document
0 Errors
2 Warnings
0 of 1 Message
Build + IntelliSense
Code
Description
S1118
Add a 'protected' constructor or the 'static' keyword to the class declaration.
S1186
Add a nested comment explaining why this method is empty, throw a 'NotSupportedException' or complete the implementation.

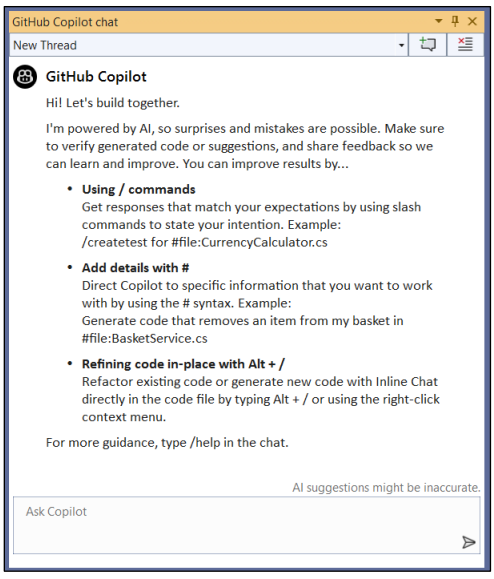

Program.cs /explain Add a 'protected' constructor or the 'static' keyword to the class declaration.
References
GitHub Copilot
In C#, the protected keyword is used to specify that access is limited to the containing class or types derived from the containing class. A protected constructor in a class means that the class cannot be instantiated from outside, but can be extended, and the derived classes can call the base class constructor.
On the other hand, the static keyword on a class means that the class cannot be instantiated or extended. It can only contain static members. This is useful when you want a class to just provide some functionality, but it doesn't have or need any state.
Here's how you can add a protected constructor to your class:
namespace TestCopilot
{
internal class Program
{
protected Program()
{
// constructor logic here
}
static void Main(string[] args)
{
}
}
}
Insert in new file
Preview
And here's how you can make your class static:
namespace TestCopilot
{
internal static class Program
{
static void Main(string[] args)
{
}
}
}
Insert in new file
Preview
Remember, if you make your class static, you cannot have instance constructors (like a protected constructor) in it.
What is the purpose of a `protected` constructor in a base class?
Can a `static` class have instance methods or properties?
References

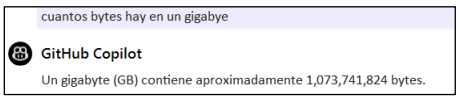
VSC


PROBLEMS 2
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
Program.cs csharp\netfw 2
Add a 'protected' constructor or the 'static' keyword to the class declaration. sonarlint(csharpsquid:S1118) [Ln 3, Col 20]
row a 'NotSupportedException' or complete the implementation. sonarlint(csharpsquid:S1186) [Ln 5, Col 21]
Fix using Copilot Ctrl+I
Explain using Copilot

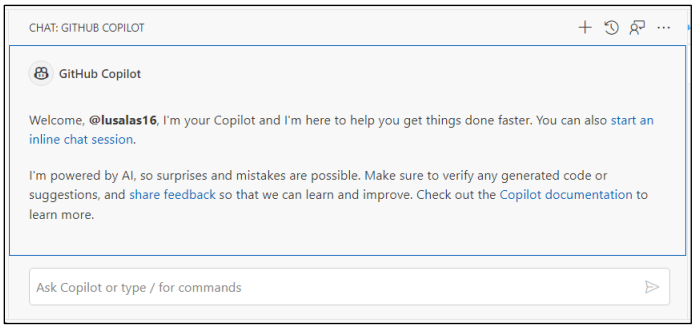
7 CONSULTAS EN VENTANA

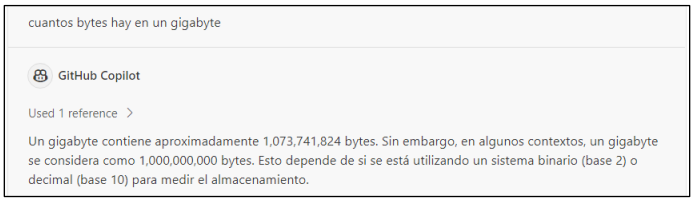
VS

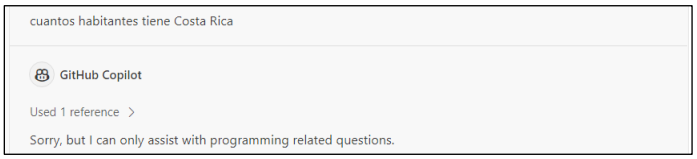




VSC

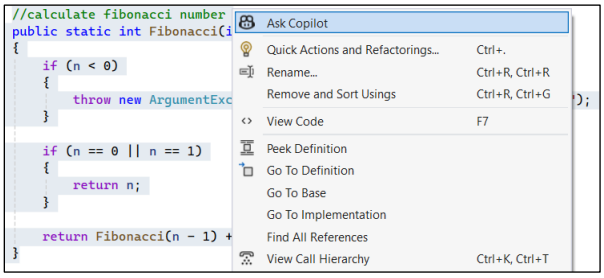


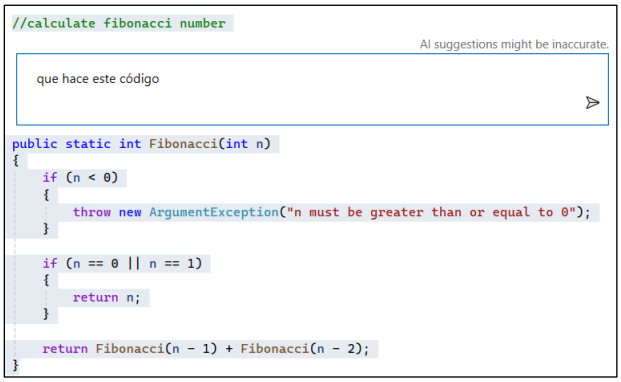


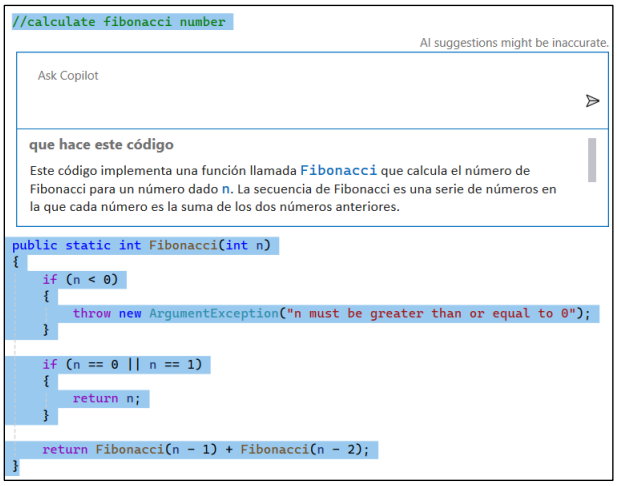


8 CONSULTAS EN CONTEXTO

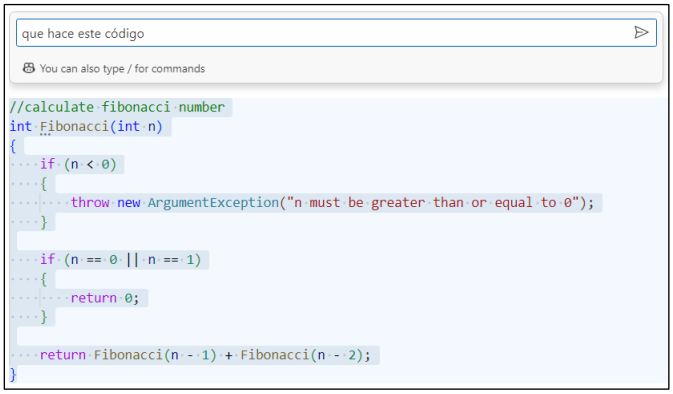
VS




//calculate fibonacci number
AI suggestions might be inaccurate.
que hace este código
public static int Fibonacci(int n)
{
if (n < 0)
{
throw new ArgumentException("n must be greater than or equal to 0");
}
if (n == 0 || n == 1)
{
return n;
}
return Fibonacci(n - 1) + Fibonacci(n - 2);
}

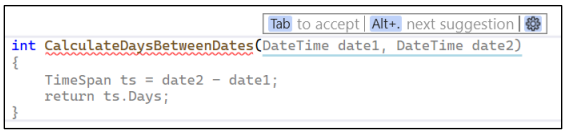

//calculate fibonacci number
AI suggestions might be inaccurate.
Ask Copilot
que hace este código
Este código implementa una función llamada Fibonacci que calcula el número de Fibonacci para un número dado n. La secuencia de Fibonacci es una serie de números en la que cada número es la suma de los dos números anteriores.
public static int Fibonacci(int n)
{
if (n < 0)
{
throw new ArgumentException("n must be greater than or equal to 0");
}
if (n == 0 || n == 1)
{
return n;
}
return Fibonacci(n - 1) + Fibonacci(n - 2);
}

VSC

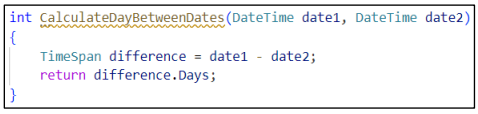

que hace este código
You can also type / for commands
//calculate fibonacci number
int Fibonacci(int n)
{
if (n < 0)
{
throw new ArgumentException("n must be greater than or equal to 0");
}
if (n == 0 || n == 1)
{
return 0;
}
return Fibonacci(n - 1) + Fibonacci(n - 2);
}

9 GENERAR CÓDIGO EN TIEMPO REAL

VS



VSC



10 GENERAR CÓDIGO DESDE COMENTARIO

VS

```
//calculate fibonacci number
public static int Fibonacci(int n)
{
    if (n < 0)
    {
        throw new ArgumentException("n must be greater than or equal to 0");
    }

    if (n == 0 || n == 1)
    {
        return n;
    }

    return Fibonacci(n - 1) + Fibonacci(n - 2);
}
```

```
//calculate fibonacci number
public static int Fibonacci(int n)
{
    if (n < 0)
    {
        throw new ArgumentException("n must be greater than or equal to 0");
    }

    if (n == 0 || n == 1)
    {
        return n;
    }

    return Fibonacci(n - 1) + Fibonacci(n - 2);
}
```

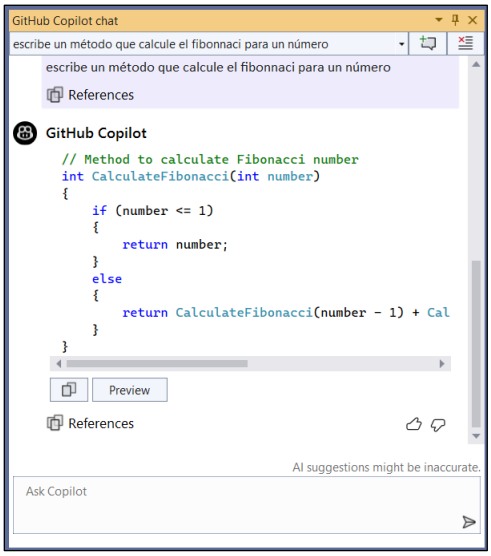
VSC

```
//calculate fibonacci number
int Fibonacci(int n)
{
    if (n < 0)
    {
        throw new ArgumentException("n must be greater than or equal to 0");
    }

    if (n == 0)
    {
        return 0;
    }

    if (n == 1)
    {
        return 1;
    }

    return Fibonacci(n - 1) + Fibonacci(n - 2);
}
```

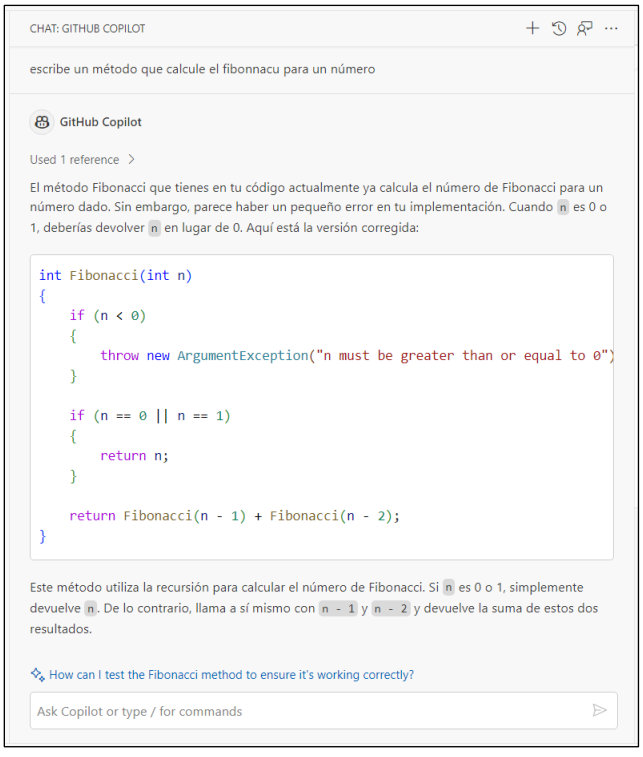
```
//calculate fibonacci number
int Fibonacci(int n)
{
    if (n < 0)
    {
        throw new ArgumentException("n must be greater than or equal to 0");
    }

    if (n == 0)
    {
        return 0;
    }

    if (n == 1)
    {
        return 1;
    }

    return Fibonacci(n - 1) + Fibonacci(n - 2);
}
```

11 GENERAR CÓDIGO DESDE CONSULTA

VS

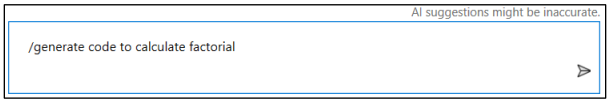


VSC



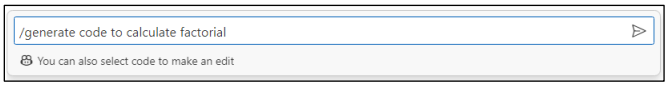
12 GENERAR CÓDIGO POR COMANDO

VS



```
static int CalculateFactorial(int n)
{
    if (n == 0)
        return 1;
    else
        return n * CalculateFactorial(n - 1);
}
```

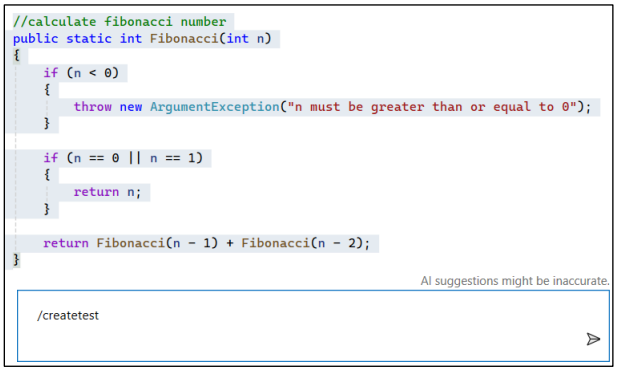
VSC




```
int CalculateFactorial(int number)
{
    if (number == 0)
        return 1;

    int factorial = 1;
    for (int i = 1; i <= number; i++)
    {
        factorial *= i;
    }

    return factorial;
}
```

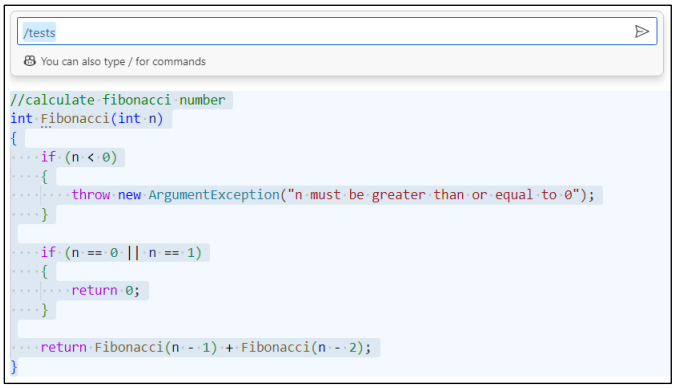
13 GENERAR CASOS DE PRUEBA

VS




```
+using NUnit.Framework;
+
+namespace TestCopilot.Tests
+{
+    public class ProgramTests
+    {
+        [Test]
+        public void Fibonacci_ReturnsCorrectResult()
+        {
+            // Arrange
+            int n = 5;
+            int expected = 5;
+
+            // Act
+            int result = Program.Fibonacci(n);
+
+            // Assert
+            Assert.AreEqual(expected, result);
+        }
+    }
+}
```

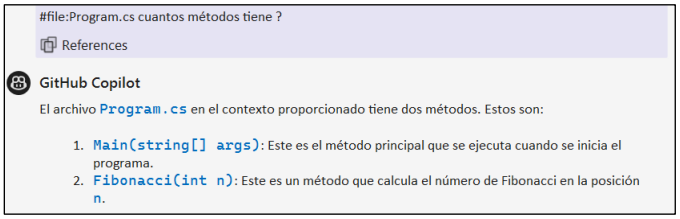
VSC



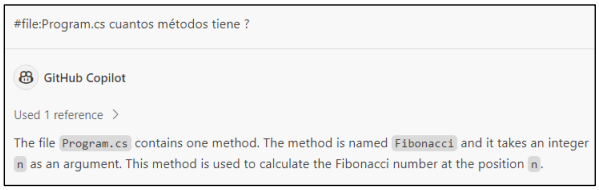

```
[Fact]
0 references
public void TestFibonacci()
{
    // Arrange
    int n = 6;
    int expectedFibonacci = 5;

    // Act
    int actualFibonacci = Fibonacci(n);

    // Assert
    Assert.Equal(expectedFibonacci, actualFibonacci);
}
```

14 CONSULTAS A ARCHIVOS

VS



VSC



15 CONSULTAS A IDE

VS

/askvs How do I connect Visual Studio to a Git Repository?

References

GitHub Copilot

To connect Visual Studio to a Git repository, follow these steps:

1. Open Visual Studio.
2. Click on the `Team Explorer` tab. If it's not visible, you can open it by going to `View > Team Explorer`.
3. In the `Team Explorer` window, click on the `Manage Connections` button.
4. Click on the `Connect` button under the `Local Git Repositories` section.
5. Click on the `Clone` button.
6. Enter the URL of the Git repository you want to connect to in the `URL` field.
7. Specify the local path where you want to clone the repository in the `Path` field.
8. Click on the `Clone` button to clone the repository and connect Visual Studio to it.

Please note that you need to have Git installed on your machine to use Git features in Visual Studio.

How do I commit changes in Visual Studio?

How do I push changes to the remote repository from Visual Studio?

References

VSC

@vscode How do I connect Visual Studio Code to a Git Repository?

GitHub Copilot used @vscode

To connect Visual Studio Code to a Git repository, you can use the **Git: Open Repository** command (`git.openRepository`). This command will prompt you to select a local directory which is a Git repository and open it in VS Code.

If you want to initialize a new Git repository in your current workspace, you can use the **Git: Initialize Repository** command (`git.init`). This command will create a new Git repository in your workspace.

Show "Git: Open Repository"

Show "Git: Initialize Repository"