



CLASE 2 SEMANA 9

Pensamiento Computacional

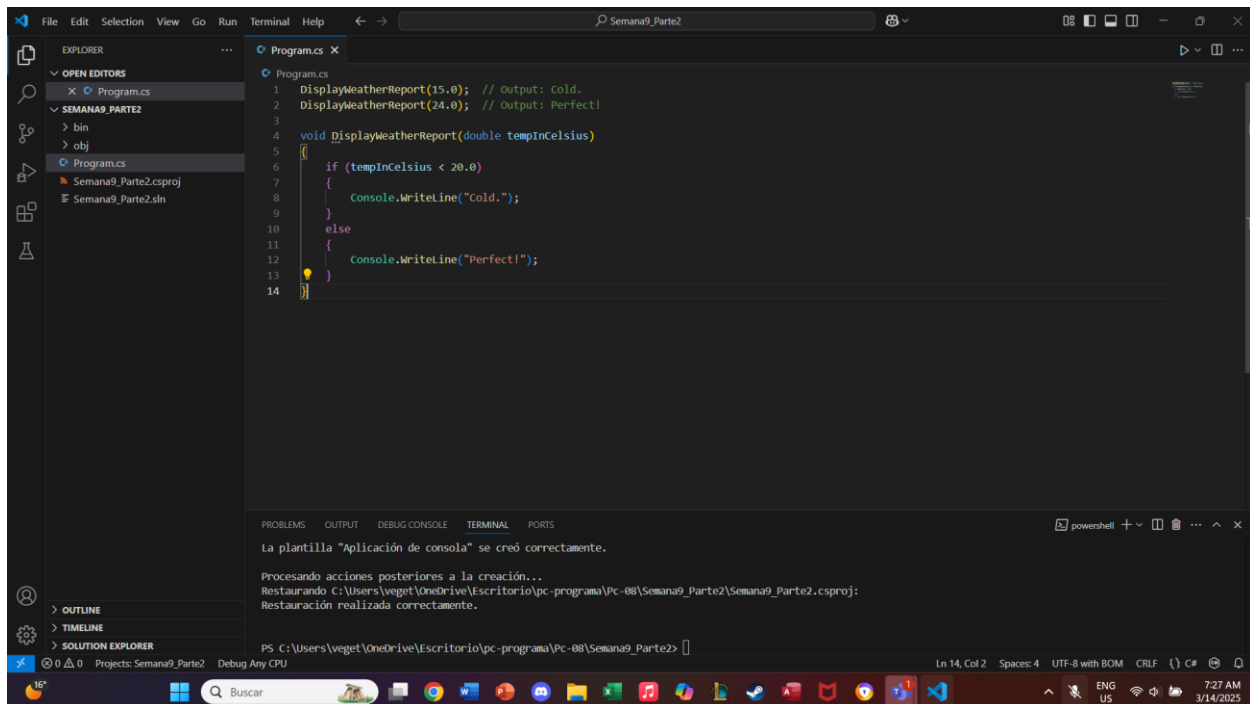


14 DE MARZO DE 2025

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Carne: 1032625

1. If else



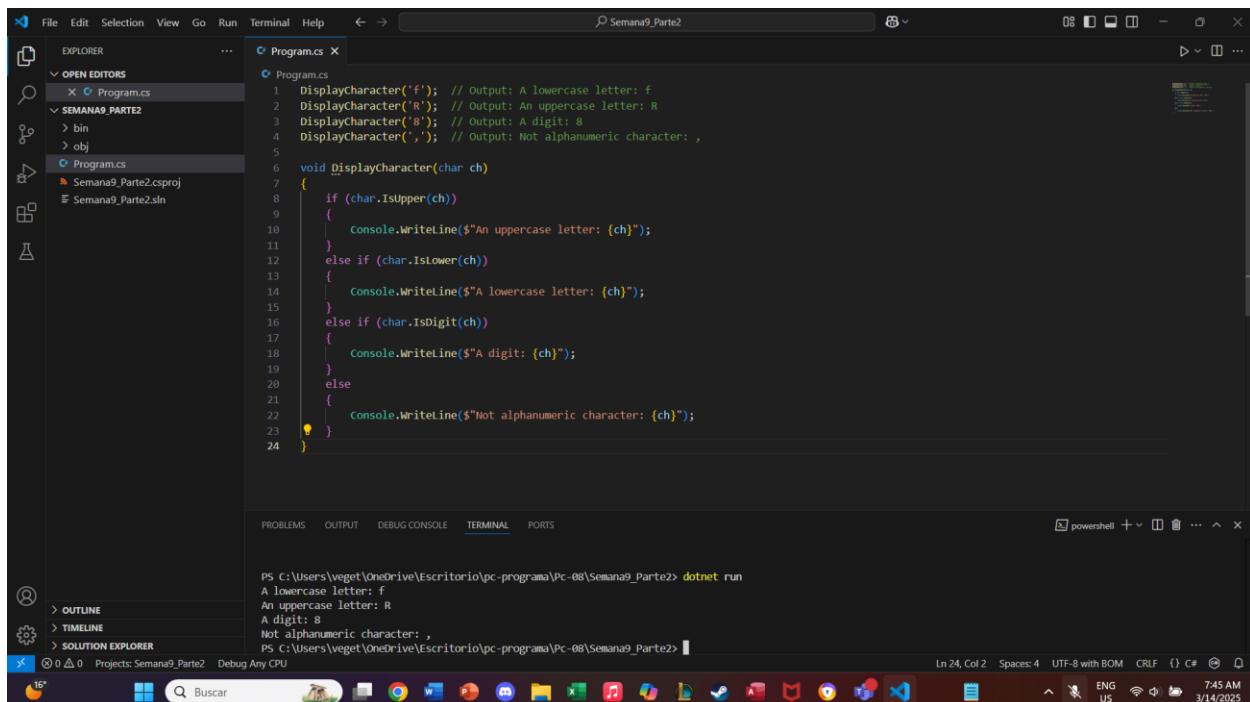
The screenshot shows the Visual Studio IDE with a C# program named `Program.cs` open. The program contains an `if-else` statement that checks if a temperature is below 20.0 degrees Celsius. If it is, it prints "Cold."; otherwise, it prints "Perfect!". The code is as follows:

```
1 DisplayWeatherReport(15.0); // Output: Cold.  
2 DisplayWeatherReport(24.0); // Output: Perfect!  
3  
4 void DisplayWeatherReport(double tempInCelsius)  
5 {  
6     if (tempInCelsius < 20.0)  
7     {  
8         Console.WriteLine("Cold.");  
9     }  
10    else  
11    {  
12        Console.WriteLine("Perfect!");  
13    }  
14 }
```

The terminal window at the bottom shows the output of the program:

```
La plantilla "Aplicación de consola" se creó correctamente.  
  
Procesando acciones posteriores a la creación...  
Restaurando c:\Users\veget\OneDrive\Escritorio\pc-programa\PC-08\Semana9_Parte2\Semana9_Parte2.csproj:  
Restauración realizada correctamente.  
  
PS C:\Users\veget\OneDrive\Escritorio\pc-programa\PC-08\Semana9_Parte2>
```

2. Else if



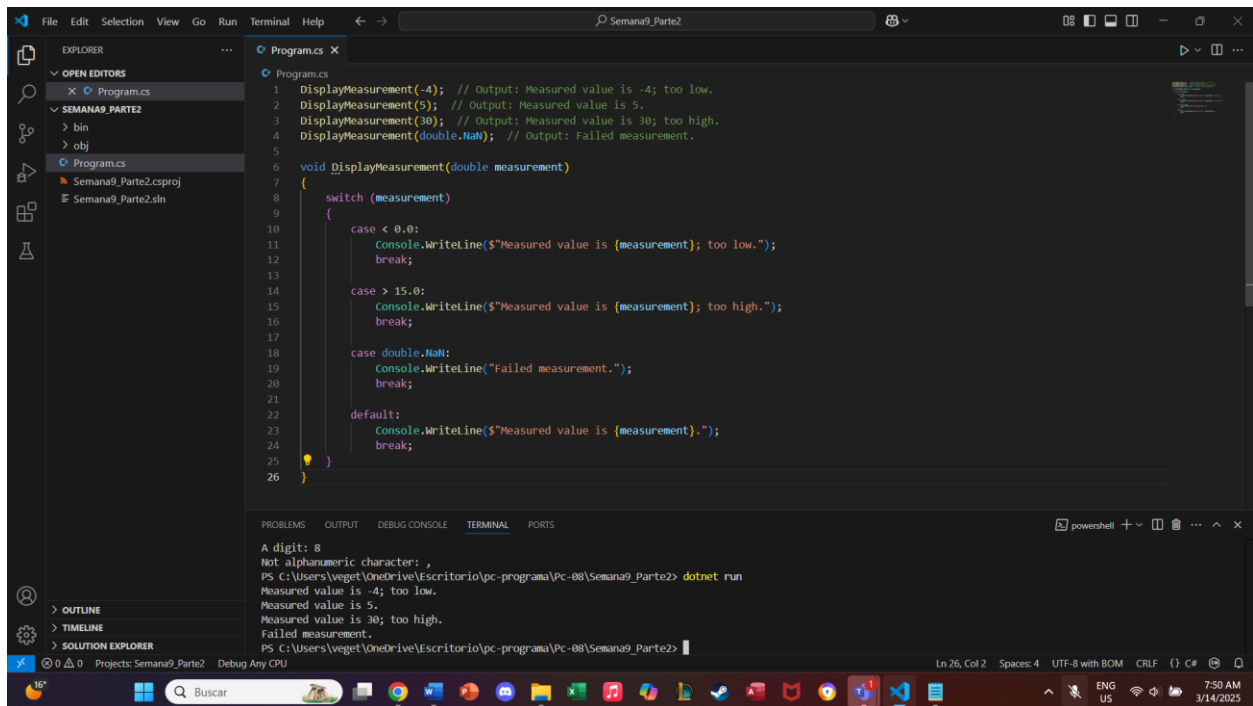
The screenshot shows the Visual Studio IDE with a C# program named `Program.cs` open. The program contains an `else-if` statement that checks if a character is an uppercase letter, a lowercase letter, a digit, or not alphanumeric. The code is as follows:

```
1 DisplayCharacter('f'); // Output: A lowercase letter: f  
2 DisplayCharacter('R'); // Output: An uppercase letter: R  
3 DisplayCharacter('8'); // Output: A digit: 8  
4 DisplayCharacter(','); // Output: Not alphanumeric character: ,  
5  
6 void DisplayCharacter(char ch)  
7 {  
8     if (char.IsUpper(ch))  
9     {  
10        Console.WriteLine($"An uppercase letter: {ch}");  
11    }  
12    else if (char.IsLower(ch))  
13    {  
14        Console.WriteLine($"A lowercase letter: {ch}");  
15    }  
16    else if (char.IsDigit(ch))  
17    {  
18        Console.WriteLine($"A digit: {ch}");  
19    }  
20    else  
21    {  
22        Console.WriteLine($"Not alphanumeric character: {ch}");  
23    }  
24 }
```

The terminal window at the bottom shows the output of the program:

```
PS C:\Users\veget\OneDrive\Escritorio\pc-programa\PC-08\Semana9_Parte2> dotnet run  
A lowercase letter: f  
An uppercase letter: R  
A digit: 8  
Not alphanumeric character: ,  
PS C:\Users\veget\OneDrive\Escritorio\pc-programa\PC-08\Semana9_Parte2>
```

3. Switch case



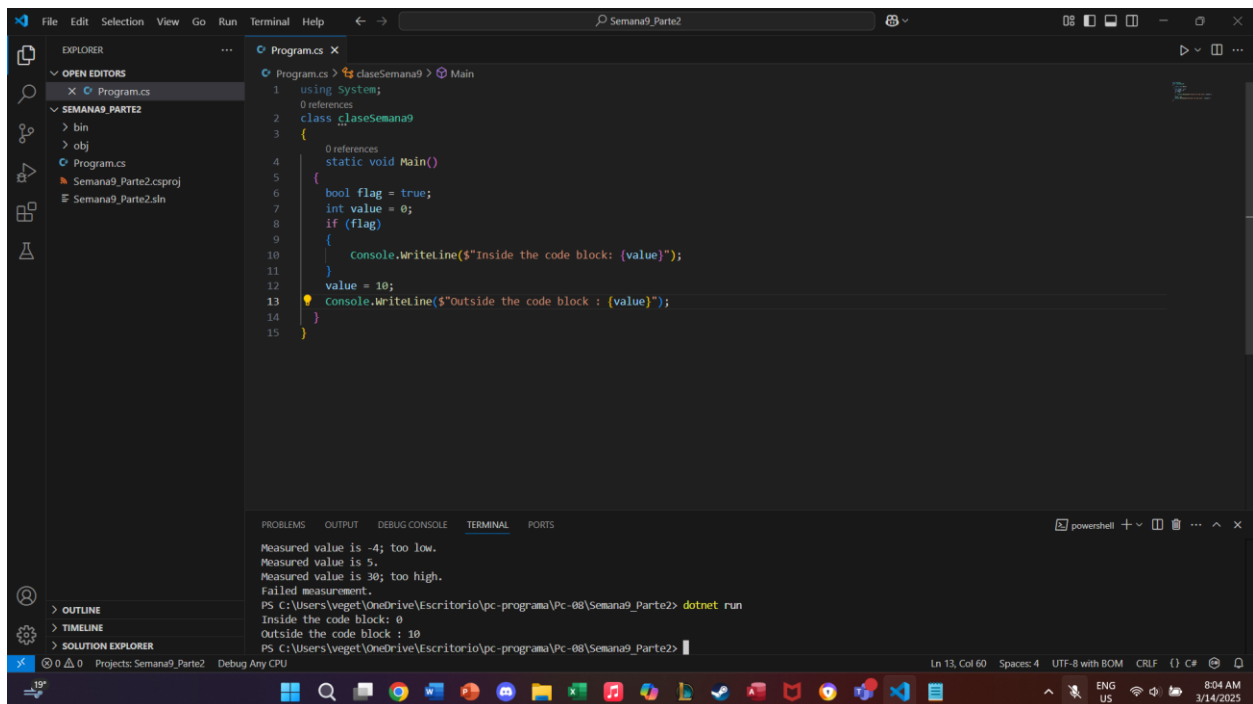
The screenshot shows the Visual Studio IDE with a C# file named `Program.cs` open. The code implements a `DisplayMeasurement` method that uses a `switch` statement to validate input values. The terminal window at the bottom shows the output of the program after running with `dotnet run`.

```
1 DisplayMeasurement(-4); // Output: Measured value is -4; too low.
2 DisplayMeasurement(5); // Output: Measured value is 5.
3 DisplayMeasurement(30); // Output: Measured value is 30; too high.
4 DisplayMeasurement(double.NaN); // Output: Failed measurement.
5
6 void DisplayMeasurement(double measurement)
7 {
8     switch (measurement)
9     {
10         case < 0.0:
11             Console.WriteLine($"Measured value is {measurement}; too low.");
12             break;
13
14         case > 15.0:
15             Console.WriteLine($"Measured value is {measurement}; too high.");
16             break;
17
18         case double.NaN:
19             Console.WriteLine("Failed measurement.");
20             break;
21
22         default:
23             Console.WriteLine($"Measured value is {measurement}.");
24             break;
25     }
26 }
```

Terminal Output:

```
A digit: 8
Not alphanumeric character: ,
PS C:\Users\veget\OneDrive\Escritorio\pc-programa\PC-08\Semana9_Parte2> dotnet run
Measured value is -4; too low.
Measured value is 5.
Measured value is 30; too high.
Failed measurement.
PS C:\Users\veget\OneDrive\Escritorio\pc-programa\PC-08\Semana9_Parte2>
```

4. Scope



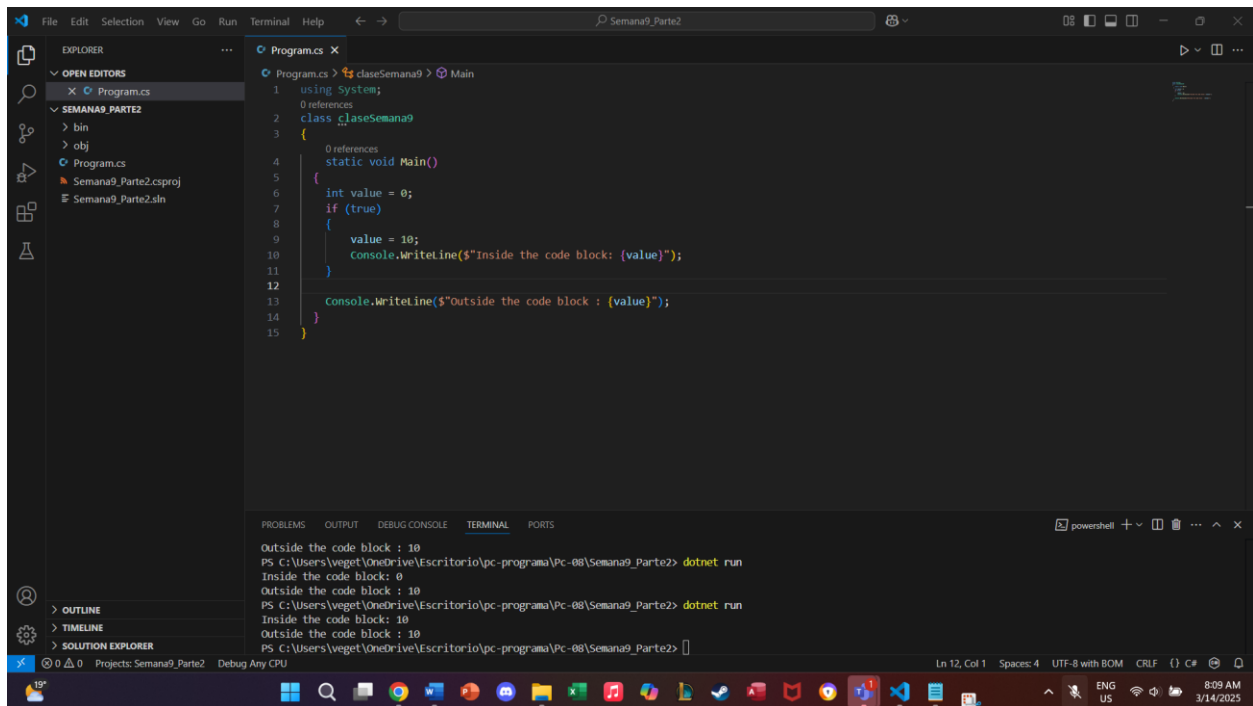
The screenshot shows the Visual Studio IDE with a C# file named `Program.cs` open. The code demonstrates variable scope by using a `using System;` directive and a `class` definition. Inside the `Main` method, a `bool` variable `flag` is declared and used to control a code block. The terminal window at the bottom shows the output of the program after running with `dotnet run`.

```
1 using System;
2 class ClaseSemana9
3 {
4     static void Main()
5     {
6         bool flag = true;
7         int value = 0;
8         if (flag)
9         {
10             Console.WriteLine($"Inside the code block: {value}");
11         }
12         value = 10;
13         Console.WriteLine($"Outside the code block: {value}");
14     }
15 }
```

Terminal Output:

```
Measured value is -4; too low.
Measured value is 5.
Measured value is 30; too high.
Failed measurement.
PS C:\Users\veget\OneDrive\Escritorio\pc-programa\PC-08\Semana9_Parte2> dotnet run
Inside the code block: 0
Outside the code block: 10
PS C:\Users\veget\OneDrive\Escritorio\pc-programa\PC-08\Semana9_Parte2>
```

5. Código corregido

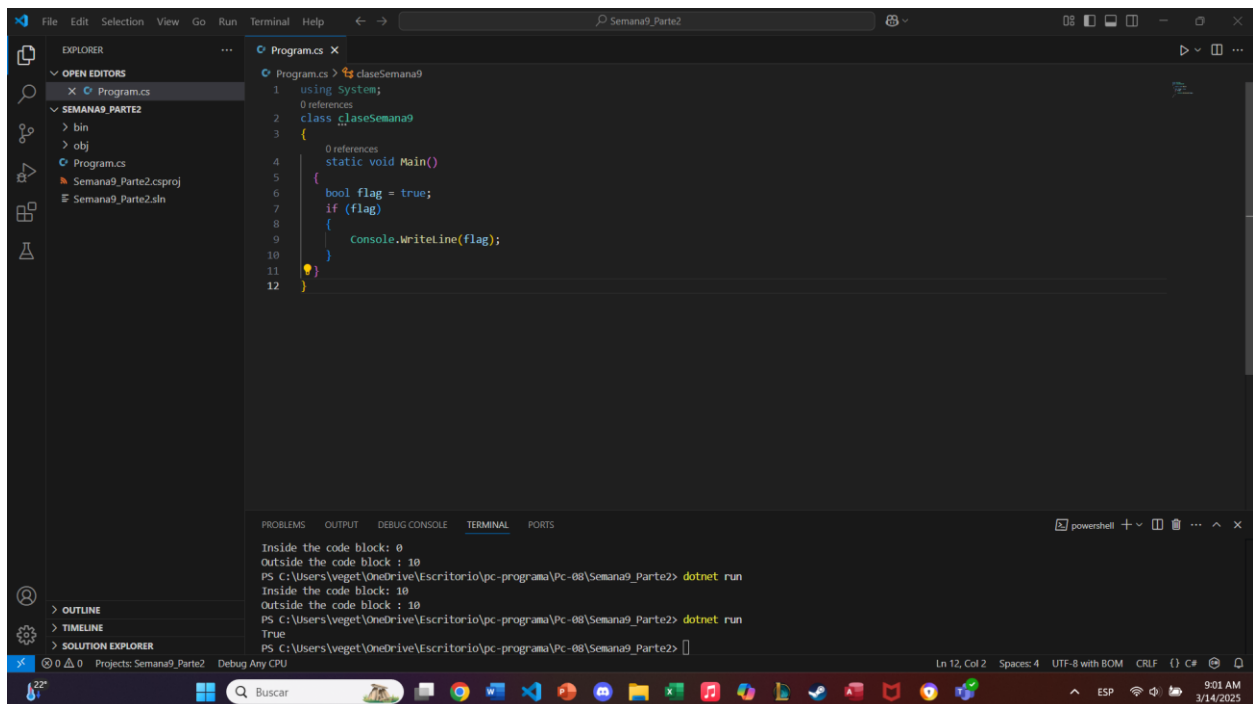


```
1 using System;
2 class ClaseSemana9
3 {
4     static void Main()
5     {
6         int value = 0;
7         if (true)
8         {
9             value = 10;
10            Console.WriteLine($"Inside the code block: {value}");
11        }
12
13        Console.WriteLine($"Outside the code block: {value}");
14    }
15 }
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

Outside the code block : 0
PS C:\Users\veget\OneDrive\Escritorio\pc-programa\PC-08\Semana9_Parte2> dotnet run
Inside the code block : 0
Outside the code block : 10
PS C:\Users\veget\OneDrive\Escritorio\pc-programa\PC-08\Semana9_Parte2> dotnet run
Inside the code block : 10
Outside the code block : 10
PS C:\Users\veget\OneDrive\Escritorio\pc-programa\PC-08\Semana9_Parte2> |

6. Uso de un if con un valor booleano

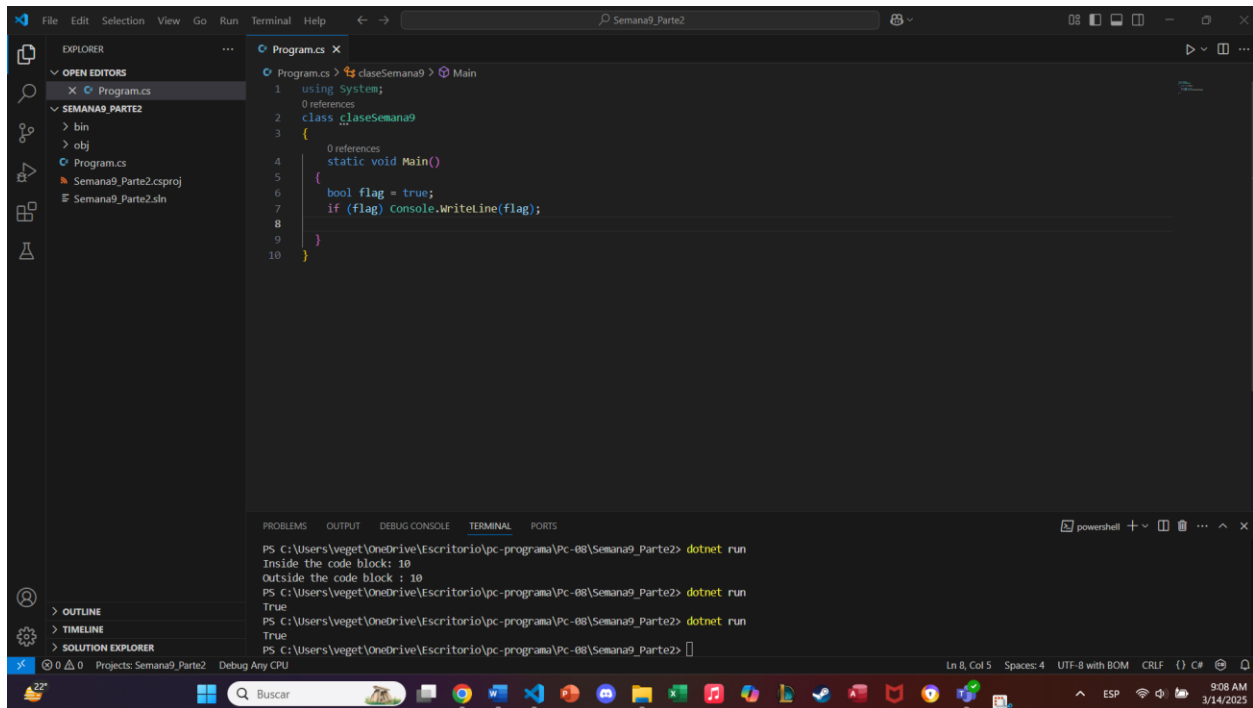


```
1 using System;
2 class ClaseSemana9
3 {
4     static void Main()
5     {
6         bool flag = true;
7         if (flag)
8         {
9             Console.WriteLine(flag);
10        }
11    }
12 }
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

Inside the code block: 0
outside the code block : 10
PS C:\Users\veget\OneDrive\Escritorio\pc-programa\PC-08\Semana9_Parte2> dotnet run
Inside the code block: 10
outside the code block : 10
PS C:\Users\veget\OneDrive\Escritorio\pc-programa\PC-08\Semana9_Parte2> dotnet run
True
PS C:\Users\veget\OneDrive\Escritorio\pc-programa\PC-08\Semana9_Parte2> |

7. Legibilidad de instrucciones if, en este caso se puede ejecutar todo en una línea ya que la instrucción es pequeña, si esta fuera más grande no se podría y las llaves serían necesarias



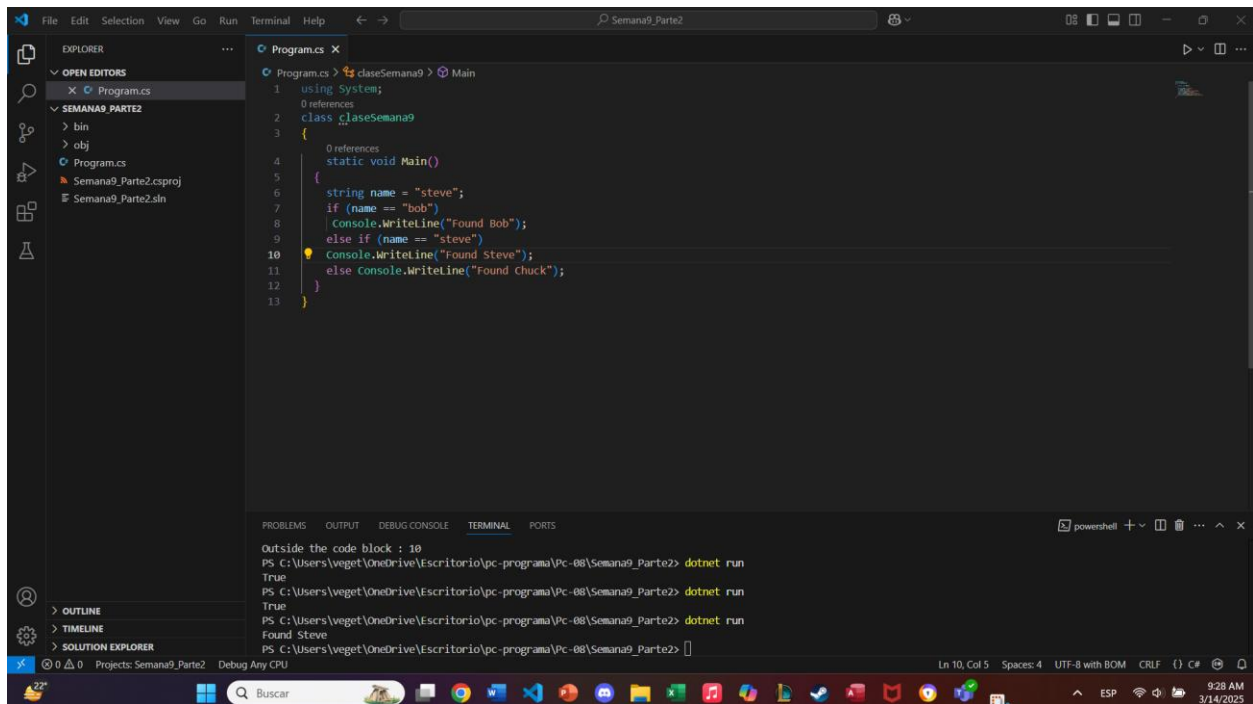
The screenshot shows the Visual Studio IDE with a C# file named Program.cs. The code defines a class `claseSemanas` with a static `Main` method. Inside `Main`, a `bool` variable `flag` is set to `true`, and a single-line `if` statement is used to write the value of `flag` to the console. The terminal shows the output of running the program, which is `True`.

```
1 using System;
2 class claseSemanas
3 {
4     static void Main()
5     {
6         bool flag = true;
7         if (flag) Console.WriteLine(flag);
8     }
9 }
10
```

Terminal output:

```
PS C:\Users\veget\OneDrive\Escritorio\pc-programa\PC-08\Semana9_Parte2> dotnet run
Inside the code block: 10
Outside the code block : 10
PS C:\Users\veget\OneDrive\Escritorio\pc-programa\PC-08\Semana9_Parte2> dotnet run
True
PS C:\Users\veget\OneDrive\Escritorio\pc-programa\PC-08\Semana9_Parte2> dotnet run
True
PS C:\Users\veget\OneDrive\Escritorio\pc-programa\PC-08\Semana9_Parte2>
```

8. Legibilidad de instrucciones if



The screenshot shows the Visual Studio IDE with a C# file named Program.cs. The code defines a class `claseSemanas` with a static `Main` method. Inside `Main`, a `string` variable `name` is set to `"steve"`, and a multi-line `if-else` statement is used to write the value of `name` to the console. The terminal shows the output of running the program, which is `Found Steve`.

```
1 using System;
2 class claseSemanas
3 {
4     static void Main()
5     {
6         string name = "steve";
7         if (name == "bob")
8             Console.WriteLine("Found Bob");
9         else if (name == "steve")
10            Console.WriteLine("Found Steve");
11         else Console.WriteLine("Found Chuck");
12     }
13 }
```

Terminal output:

```
outside the code block : 10
PS C:\Users\veget\OneDrive\Escritorio\pc-programa\PC-08\Semana9_Parte2> dotnet run
True
PS C:\Users\veget\OneDrive\Escritorio\pc-programa\PC-08\Semana9_Parte2> dotnet run
True
PS C:\Users\veget\OneDrive\Escritorio\pc-programa\PC-08\Semana9_Parte2> dotnet run
Found Steve
PS C:\Users\veget\OneDrive\Escritorio\pc-programa\PC-08\Semana9_Parte2>
```