

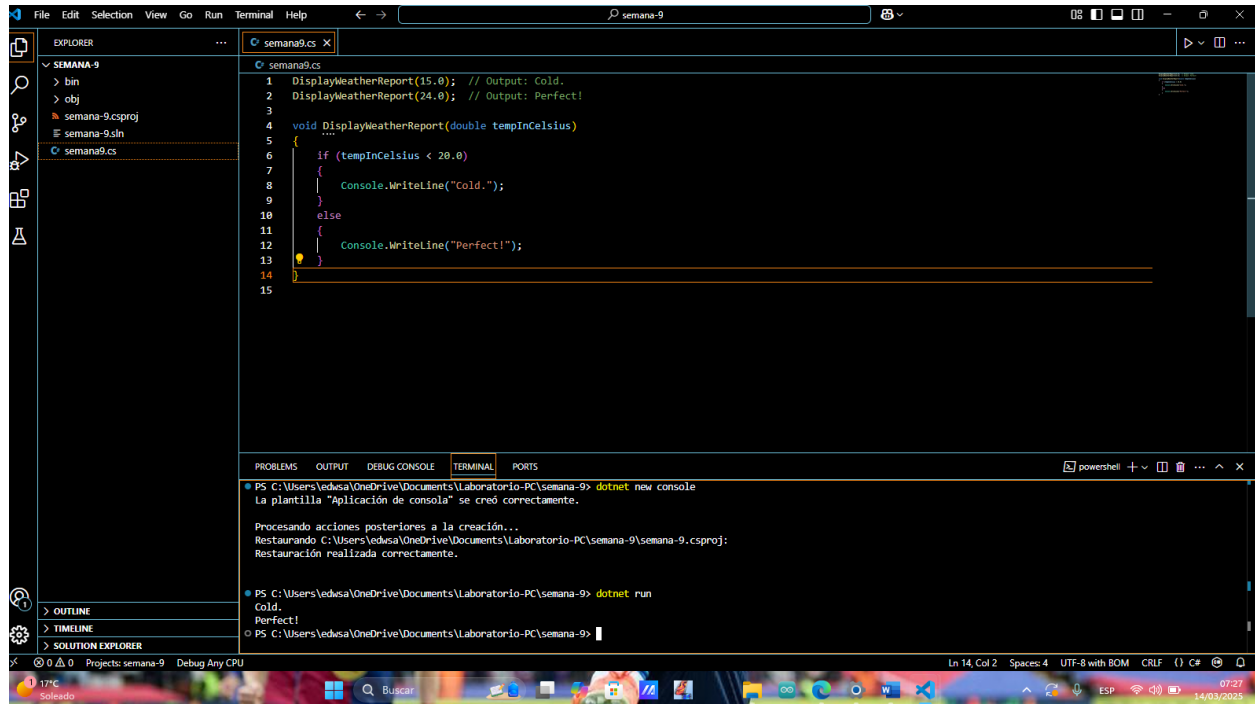
Universidad Rafael Landívar
Facultad de Ingeniería
Licenciatura en Ingeniería en Informática y Sistemas
Pensamiento Computacional
Docente: Ing. Luis Enrique Aguilar Rojas

Actividad 3 - Semana 9

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Guatemala 13 de marzo de 2024

1) Instrucción if-else



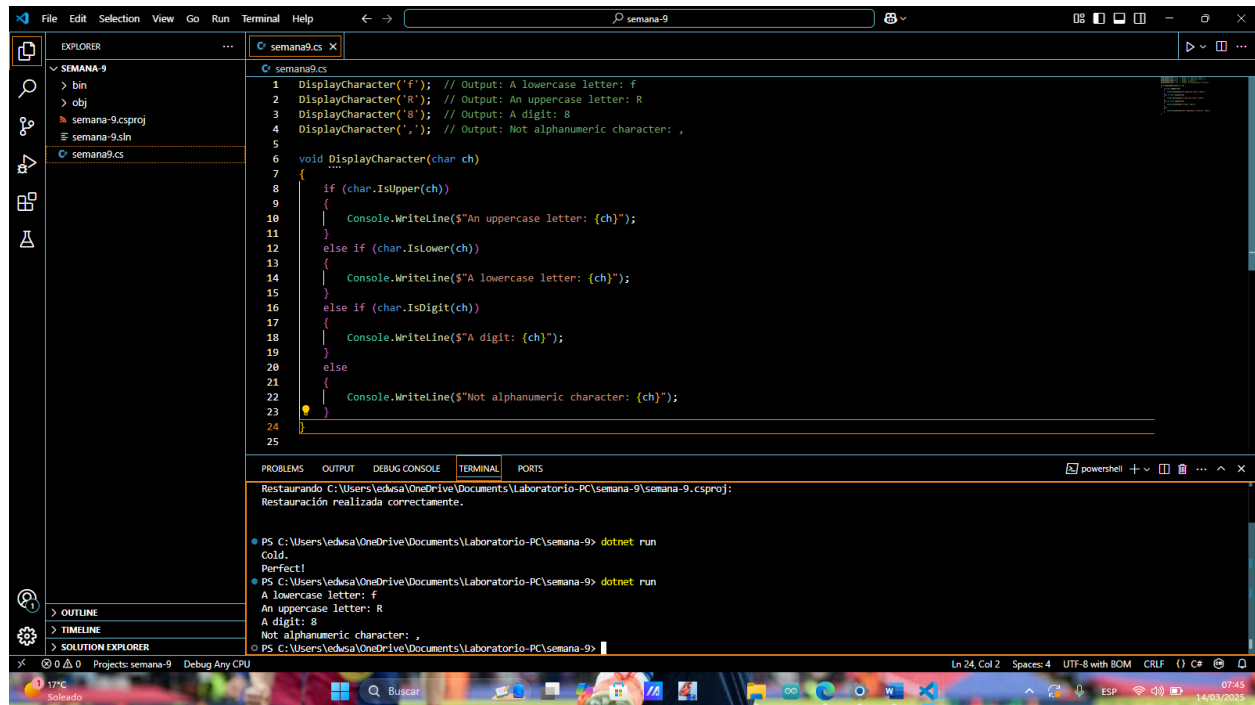
The screenshot shows the Visual Studio IDE with a C# project named 'semana-9'. The file explorer on the left shows the project structure. The main editor displays the code for 'semana9.cs'.

```
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 }  
15
```

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

```
PS C:\Users\vedesa\OneDrive\Documents\Laboratorio-PC\semana-9> dotnet new console  
La plantilla "Aplicación de consola" se creó correctamente.  
  
Procesando acciones posteriores a la creación...  
Restaurando C:\Users\vedesa\OneDrive\Documents\Laboratorio-PC\semana-9\semana-9.csproj:  
Restauración realizada correctamente.  
  
PS C:\Users\vedesa\OneDrive\Documents\Laboratorio-PC\semana-9> dotnet run  
Cold.  
Perfect!  
PS C:\Users\vedesa\OneDrive\Documents\Laboratorio-PC\semana-9>
```

2) Ejemplo Else-If



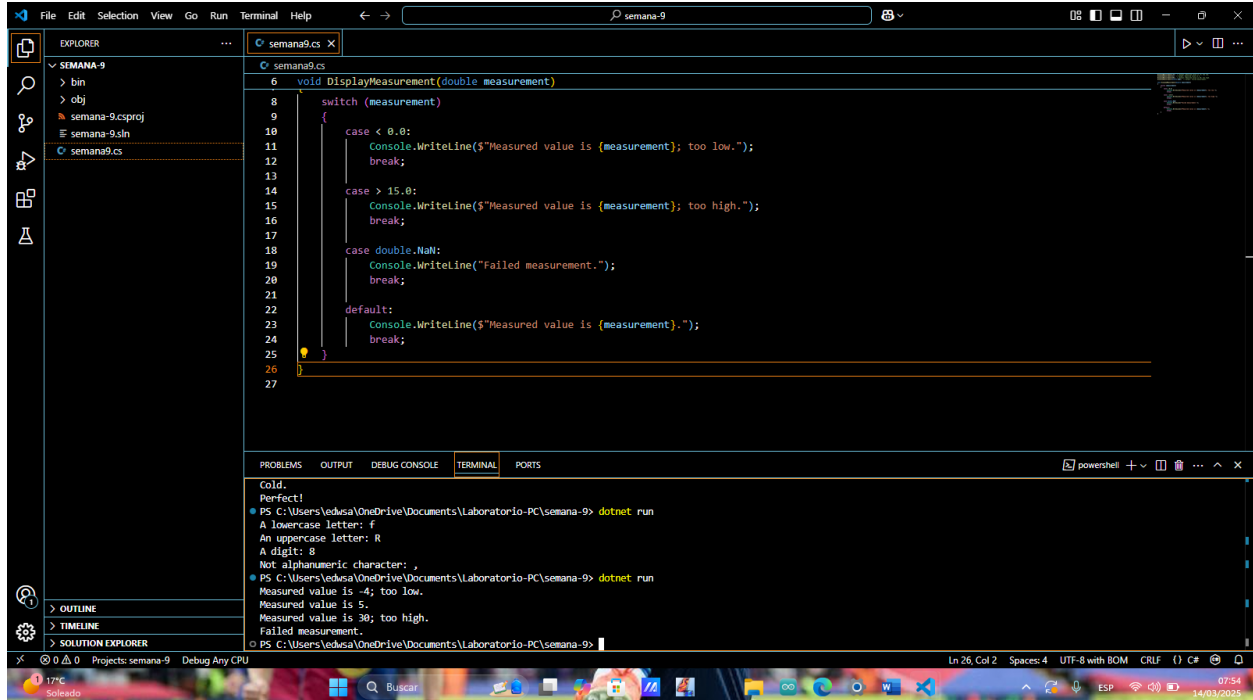
The screenshot shows the Visual Studio IDE with a C# project named 'semana-9'. The file explorer on the left shows the project structure. The main editor displays the code for 'semana9.cs'.

```
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 }  
25
```

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

```
Restaurando C:\Users\vedesa\OneDrive\Documents\Laboratorio-PC\semana-9\semana-9.csproj:  
Restauración realizada correctamente.  
  
PS C:\Users\vedesa\OneDrive\Documents\Laboratorio-PC\semana-9> dotnet run  
Cold.  
Perfect!  
PS C:\Users\vedesa\OneDrive\Documents\Laboratorio-PC\semana-9> dotnet run  
A lowercase letter: f  
An uppercase letter: R  
A digit: 8  
Not alphanumeric character: ,  
PS C:\Users\vedesa\OneDrive\Documents\Laboratorio-PC\semana-9>
```

3) Switch



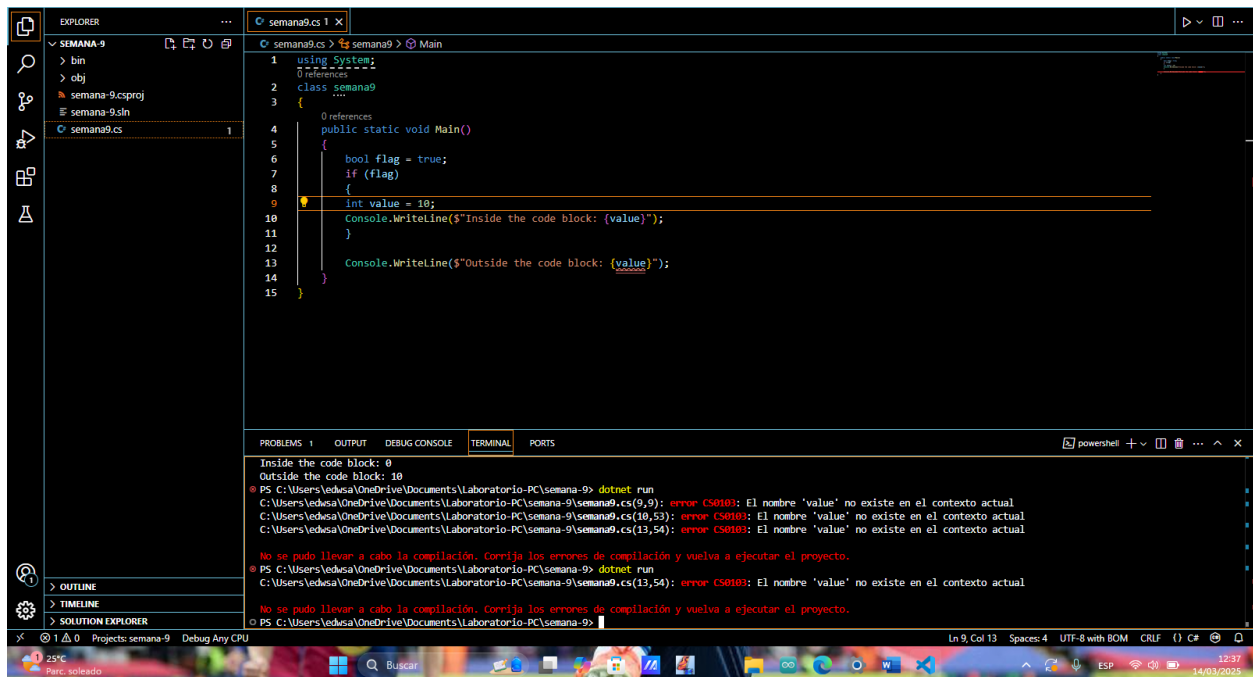
The screenshot shows the Visual Studio IDE with a C# file named `semana9.cs`. The code defines a `DisplayMeasurement` method that uses a `switch` statement to handle different measurement values. The terminal output shows the results of running the program with various inputs.

```
6 void DisplayMeasurement(double measurement)
7 {
8     switch (measurement)
9     {
10         case < 0.0:
11             Console.WriteLine($"Measured value is {measurement}; too low.");
12             break;
13         case > 15.0:
14             Console.WriteLine($"Measured value is {measurement}; too high.");
15             break;
16         case double.NaN:
17             Console.WriteLine("Failed measurement.");
18             break;
19         default:
20             Console.WriteLine($"Measured value is {measurement}.");
21             break;
22     }
23 }
24
25
26
27
```

Terminal Output:

```
Cold.
Perfect!
PS C:\Users\Vedesa\OneDrive\Documents\Laboratorio-PC\semana-9> dotnet run
A lowercase letter: f
An uppercase letter: R
A digit: 8
Not alphanumeric character: ,
Measured value is -4; too low.
Measured value is 5.
Measured value is 30; too high.
Failed measurement.
PS C:\Users\Vedesa\OneDrive\Documents\Laboratorio-PC\semana-9>
```

4) Valor de value adentro del bloque if y afuera del bloque (adicional: el error que se tiene al no darle valor a Value afuera del bloque)



The screenshot shows the Visual Studio IDE with a C# file named `semana9.cs`. The code defines a `Main` method that uses an `if` statement to check a `flag` variable. The terminal output shows the compilation errors that occur when the program is run.

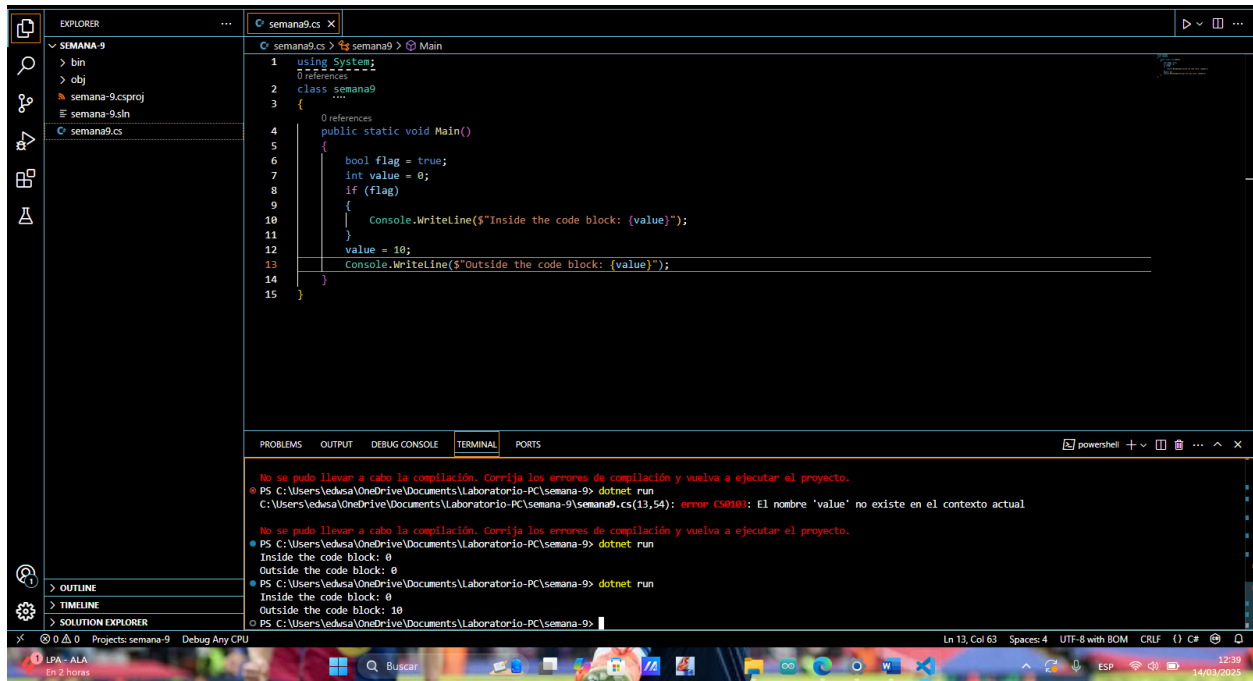
```
1 using System;
2 class Program
3 {
4     public static void Main()
5     {
6         bool flag = true;
7         if (flag)
8         {
9             int value = 10;
10            Console.WriteLine($"Inside the code block: {value}");
11        }
12        Console.WriteLine($"Outside the code block: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

Terminal Output:

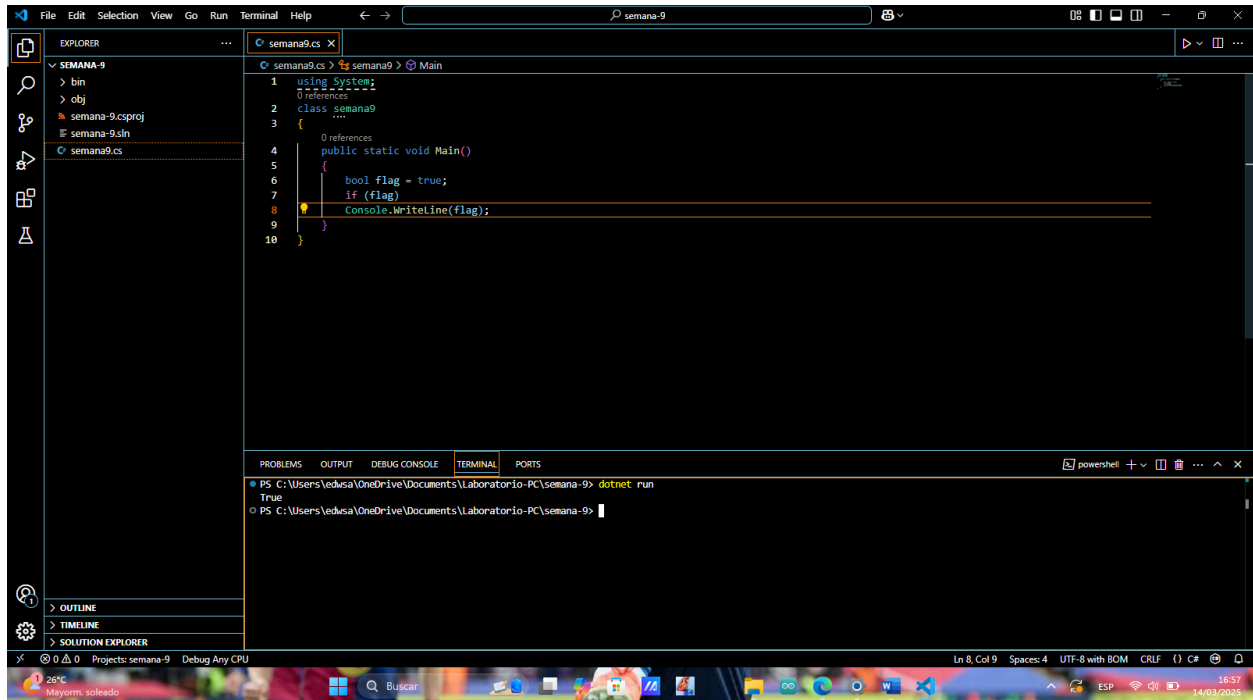
```
Inside the code block: 0
Outside the code block: 10
PS C:\Users\Vedesa\OneDrive\Documents\Laboratorio-PC\semana-9> dotnet run
C:\Users\Vedesa\OneDrive\Documents\Laboratorio-PC\semana-9\semana9.cs(9,9): error CS0103: El nombre 'value' no existe en el contexto actual
C:\Users\Vedesa\OneDrive\Documents\Laboratorio-PC\semana-9\semana9.cs(10,53): error CS0103: El nombre 'value' no existe en el contexto actual
C:\Users\Vedesa\OneDrive\Documents\Laboratorio-PC\semana-9\semana9.cs(13,54): error CS0103: El nombre 'value' no existe en el contexto actual

No se pudo llevar a cabo la compilación. Corrija los errores de compilación y vuelva a ejecutar el proyecto.
PS C:\Users\Vedesa\OneDrive\Documents\Laboratorio-PC\semana-9> dotnet run
C:\Users\Vedesa\OneDrive\Documents\Laboratorio-PC\semana-9\semana9.cs(13,54): error CS0103: El nombre 'value' no existe en el contexto actual

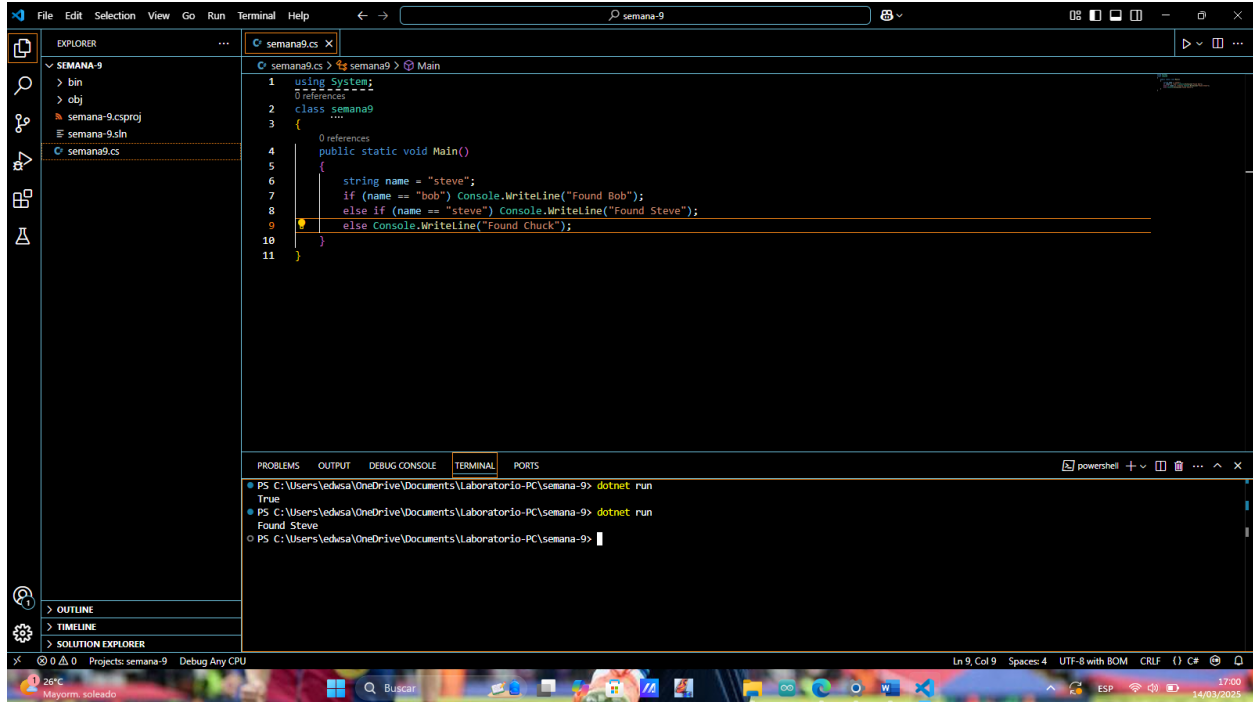
No se pudo llevar a cabo la compilación. Corrija los errores de compilación y vuelva a ejecutar el proyecto.
PS C:\Users\Vedesa\OneDrive\Documents\Laboratorio-PC\semana-9>
```



5) Uso de un if simple



6) Uso de if, else, else-if sin reading conventions

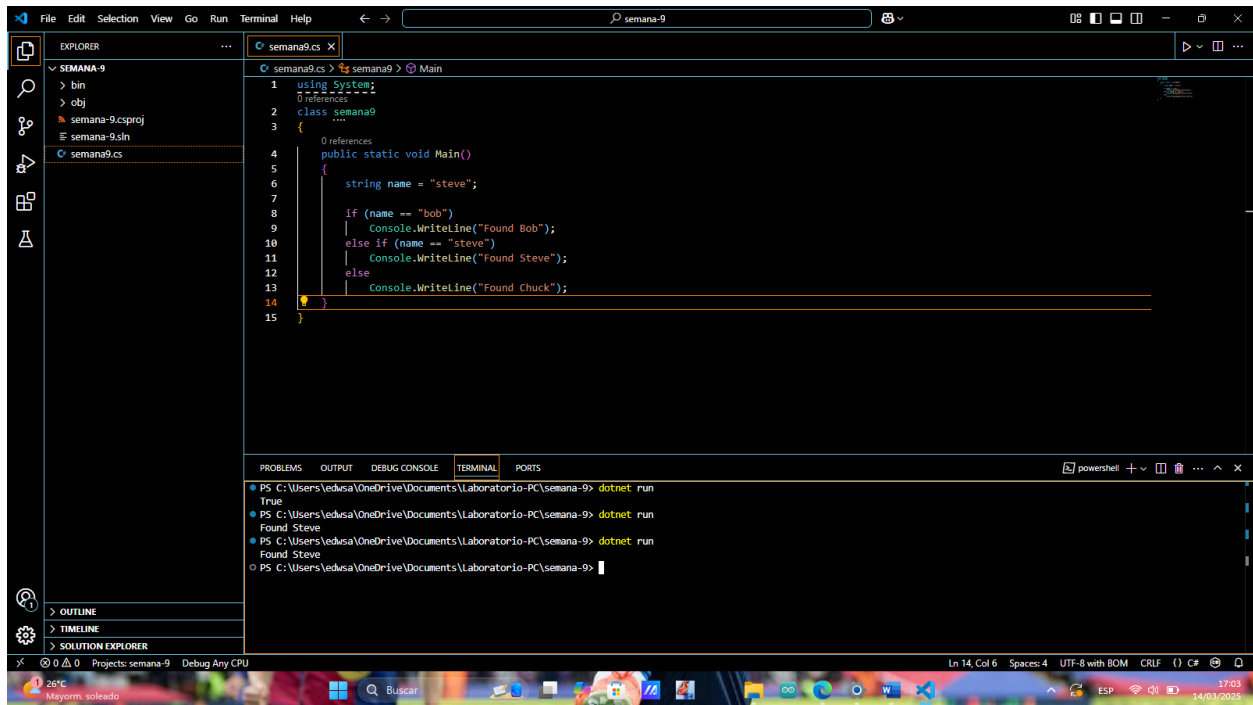


```
1 using System;
2 class semana9
3 {
4     public static void Main()
5     {
6         string name = "steve";
7         if (name == "bob") Console.WriteLine("Found Bob");
8         else if (name == "steve") Console.WriteLine("Found Steve");
9         else Console.WriteLine("Found Chuck");
10    }
11 }
```

Terminal Output:

```
PS C:\Users\vedesa\OneDrive\Documents\Laboratorio-PC\semana-9> dotnet run
True
PS C:\Users\vedesa\OneDrive\Documents\Laboratorio-PC\semana-9> dotnet run
Found Steve
PS C:\Users\vedesa\OneDrive\Documents\Laboratorio-PC\semana-9>
```

7) Uso de if, else, else-if con reading conventions



```
1 using System;
2 class semana9
3 {
4     public static void Main()
5     {
6         string name = "steve";
7
8         if (name == "bob")
9         {
10            Console.WriteLine("Found Bob");
11        }
12        else if (name == "steve")
13        {
14            Console.WriteLine("Found Steve");
15        }
16        else
17        {
18            Console.WriteLine("Found Chuck");
19        }
20    }
21 }
```

Terminal Output:

```
PS C:\Users\vedesa\OneDrive\Documents\Laboratorio-PC\semana-9> dotnet run
True
PS C:\Users\vedesa\OneDrive\Documents\Laboratorio-PC\semana-9> dotnet run
Found Steve
PS C:\Users\vedesa\OneDrive\Documents\Laboratorio-PC\semana-9> dotnet run
Found Steve
PS C:\Users\vedesa\OneDrive\Documents\Laboratorio-PC\semana-9>
```