

Universidad Rafael Landívar.

Facultad de Ingeniería.

Licenciatura en Ingeniería en Informática y Sistemas.

Pensamiento Computacional

**Docente:** Ing. Luis Rojas

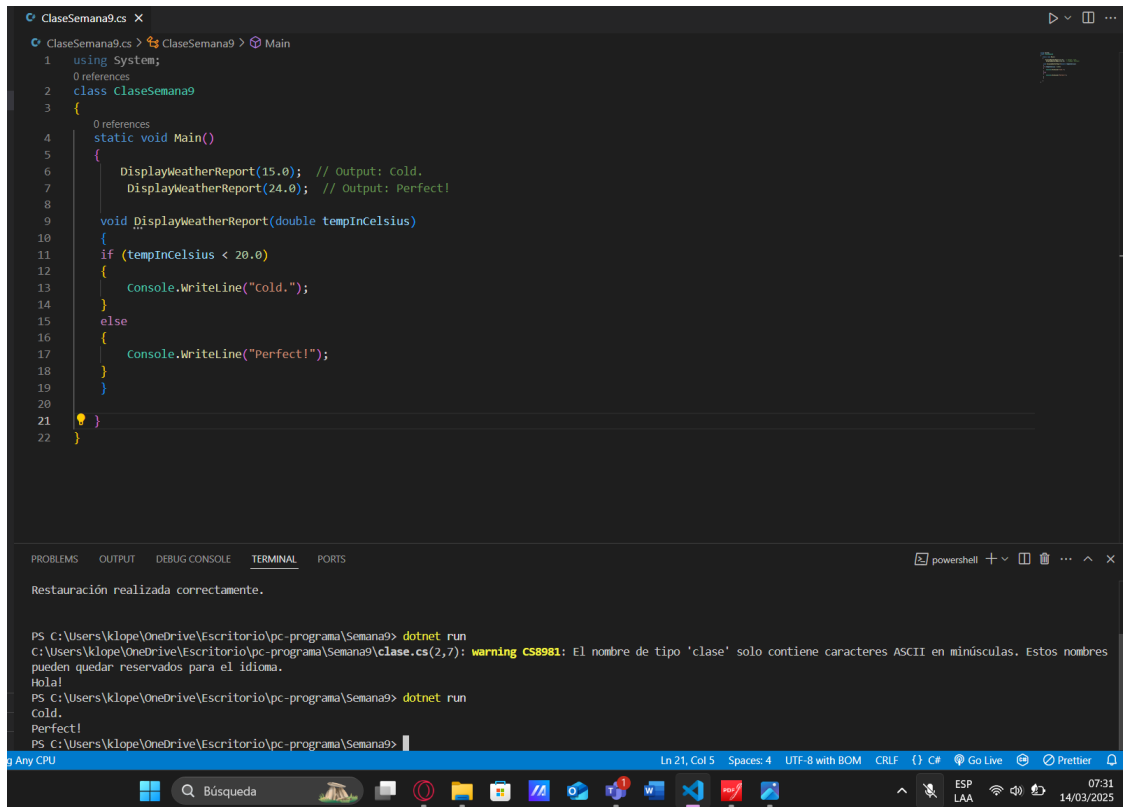
### **Actividad 3 -Semana 9**

**Estudiante:** López Castillo, Kenneth Isaías Yahid

**Carné:** 1138025

Guatemala, 14 de marzo de 2025

## 1. If-else



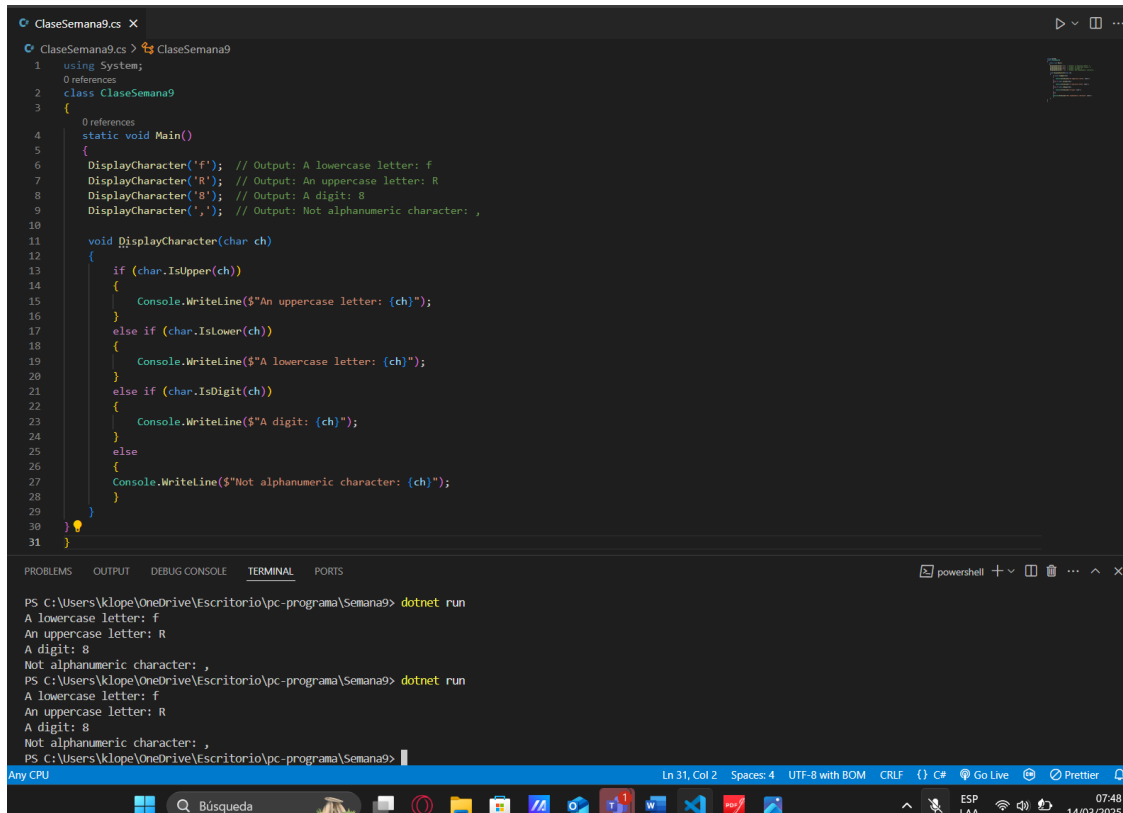
The screenshot shows a Visual Studio window with a C# file named `ClaseSemana9.cs`. The code defines a class `ClaseSemana9` with a static `Main` method. Inside `Main`, two calls to `DisplayWeatherReport` are made with temperatures 15.0 and 24.0. The `DisplayWeatherReport` method uses an `if-else` statement to check if the temperature is below 20.0. If true, it prints "cold."; otherwise, it prints "Perfect!". The terminal at the bottom shows the output of running the program: "cold." and "Perfect!". A warning message is also visible in the terminal: "warning CS8981: El nombre de tipo 'clase' solo contiene caracteres ASCII en minúsculas. Estos nombres pueden quedar reservados para el idioma."

```
1 using System;
2 class ClaseSemana9
3 {
4     static void Main()
5     {
6         DisplayWeatherReport(15.0); // Output: Cold.
7         DisplayWeatherReport(24.0); // Output: Perfect!
8
9         void DisplayWeatherReport(double tempInCelsius)
10        {
11            if (tempInCelsius < 20.0)
12            {
13                Console.WriteLine("cold.");
14            }
15            else
16            {
17                Console.WriteLine("Perfect!");
18            }
19        }
20    }
21 }
22 }
```

Restauración realizada correctamente.

PS C:\Users\klope\OneDrive\Escritorio\pc-programa\Semana9> dotnet run  
C:\Users\klope\OneDrive\Escritorio\pc-programa\Semana9> warning CS8981: El nombre de tipo 'clase' solo contiene caracteres ASCII en minúsculas. Estos nombres pueden quedar reservados para el idioma.  
Hola!  
PS C:\Users\klope\OneDrive\Escritorio\pc-programa\Semana9> dotnet run  
cold.  
Perfect!  
PS C:\Users\klope\OneDrive\Escritorio\pc-programa\Semana9>

## 2. Else if

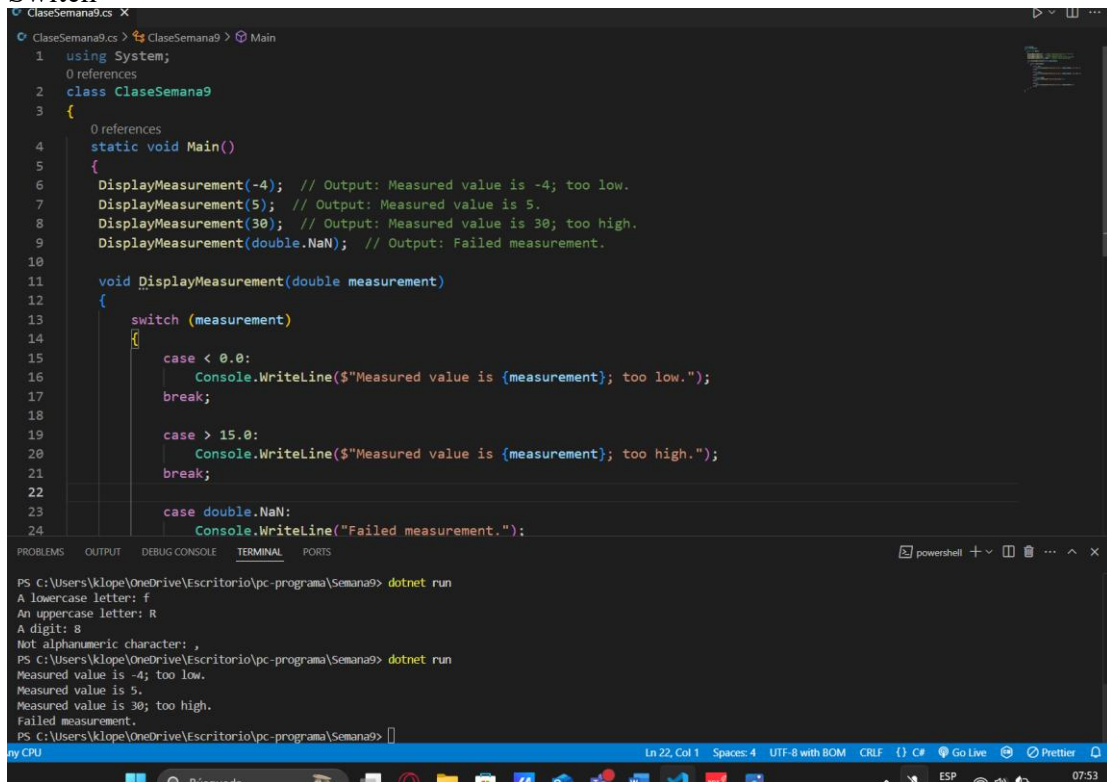


The screenshot shows a Visual Studio window with a C# file named `ClaseSemana9.cs`. The code defines a class `ClaseSemana9` with a static `Main` method. Inside `Main`, four calls to `DisplayCharacter` are made with characters 'f', 'R', '8', and ','. The `DisplayCharacter` method uses an `else if` statement to check the character type: uppercase letter, lowercase letter, digit, or not alphanumeric. The terminal at the bottom shows the output of running the program: "A lowercase letter: f", "An uppercase letter: R", "A digit: 8", and "Not alphanumeric character: ,".

```
1 using System;
2 class ClaseSemana9
3 {
4     static void Main()
5     {
6         DisplayCharacter('f'); // Output: A lowercase letter: f
7         DisplayCharacter('R'); // Output: An uppercase letter: R
8         DisplayCharacter('8'); // Output: A digit: 8
9         DisplayCharacter(','); // Output: Not alphanumeric character: ,
10    }
11
12    void DisplayCharacter(char ch)
13    {
14        if (char.IsUpper(ch))
15        {
16            Console.WriteLine($"An uppercase letter: {ch}");
17        }
18        else if (char.IsLower(ch))
19        {
20            Console.WriteLine($"A lowercase letter: {ch}");
21        }
22        else if (char.IsDigit(ch))
23        {
24            Console.WriteLine($"A digit: {ch}");
25        }
26        else
27        {
28            Console.WriteLine($"Not alphanumeric character: {ch}");
29        }
30    }
31 }
```

PS C:\Users\klope\OneDrive\Escritorio\pc-programa\Semana9> dotnet run  
A lowercase letter: f  
An uppercase letter: R  
A digit: 8  
Not alphanumeric character: ,  
PS C:\Users\klope\OneDrive\Escritorio\pc-programa\Semana9> dotnet run  
A lowercase letter: f  
An uppercase letter: R  
A digit: 8  
Not alphanumeric character: ,  
PS C:\Users\klope\OneDrive\Escritorio\pc-programa\Semana9>

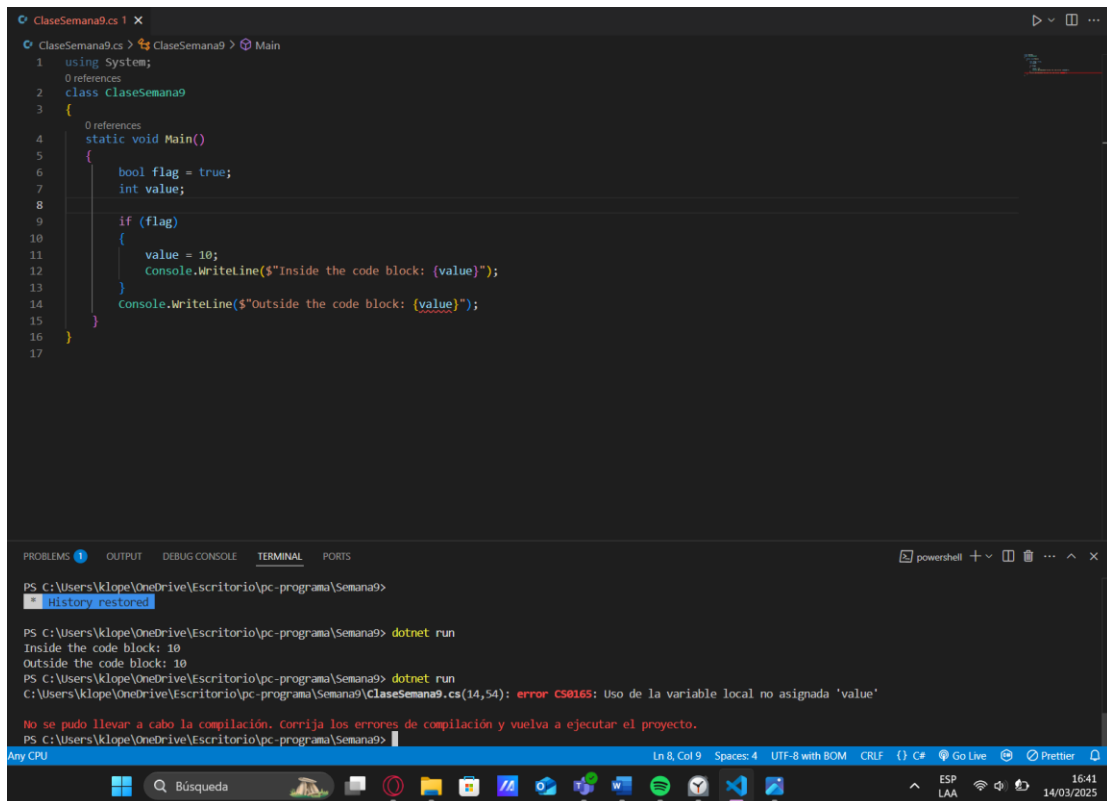
### 3. Switch



```
ClaseSemana9.cs X
ClaseSemana9 > Main
1 using System;
2 class ClaseSemana9
3 {
4     static void Main()
5     {
6         DisplayMeasurement(-4); // Output: Measured value is -4; too low.
7         DisplayMeasurement(5); // Output: Measured value is 5.
8         DisplayMeasurement(30); // Output: Measured value is 30; too high.
9         DisplayMeasurement(double.NaN); // Output: Failed measurement.
10
11     void DisplayMeasurement(double measurement)
12     {
13         switch (measurement)
14         {
15             case < 0.0:
16                 Console.WriteLine($"Measured value is {measurement}; too low.");
17                 break;
18
19             case > 15.0:
20                 Console.WriteLine($"Measured value is {measurement}; too high.");
21                 break;
22
23             case double.NaN:
24                 Console.WriteLine("Failed measurement.");
25         }
26     }
27 }

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
PS C:\Users\klope\OneDrive\Escritorio\pc-programa\Semana9> dotnet run
A lowercase letter: f
An uppercase letter: R
A digit: 8
Not alphanumeric character: ,
PS C:\Users\klope\OneDrive\Escritorio\pc-programa\Semana9> dotnet run
Measured value is -4; too low.
Measured value is 5.
Measured value is 30; too high.
Failed measurement.
PS C:\Users\klope\OneDrive\Escritorio\pc-programa\Semana9>
```

### 4. Declaración de variables

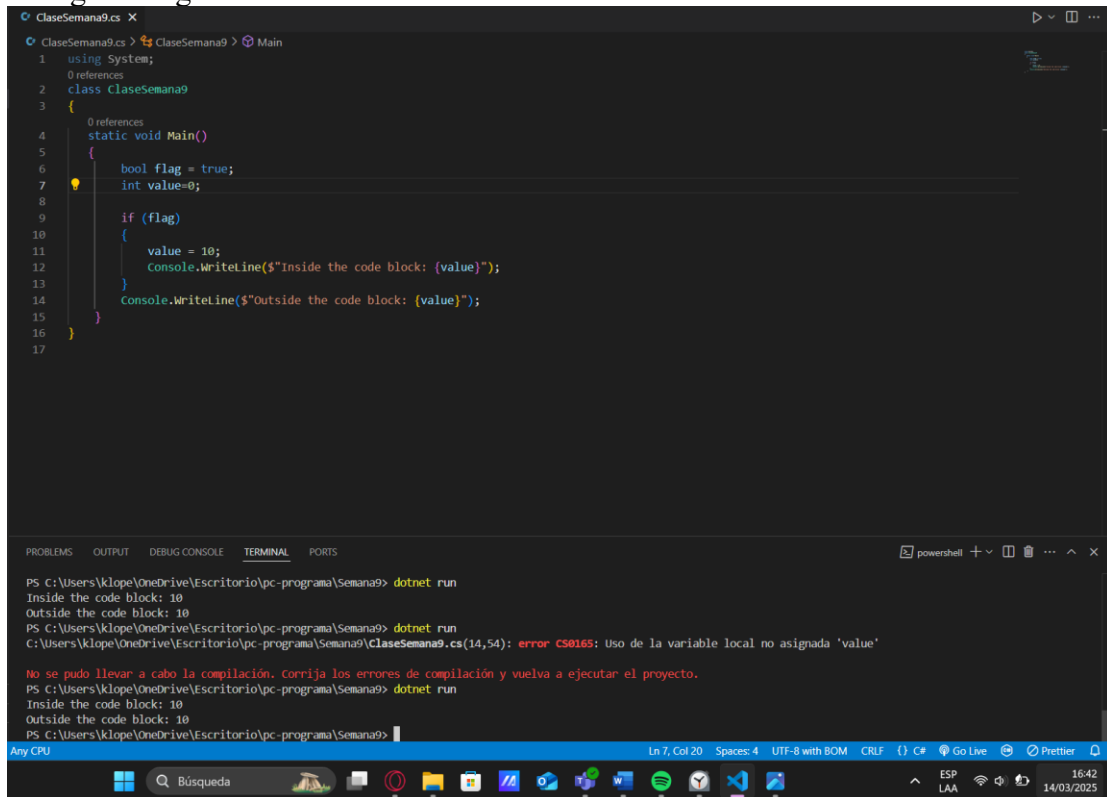


```
ClaseSemana9.cs X
ClaseSemana9 > Main
1 using System;
2 class ClaseSemana9
3 {
4     static void Main()
5     {
6         bool flag = true;
7         int value;
8
9         if (flag)
10         {
11             value = 10;
12             Console.WriteLine($"Inside the code block: {value}");
13         }
14         Console.WriteLine($"Outside the code block: {value}");
15     }
16 }
17

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
PS C:\Users\klope\OneDrive\Escritorio\pc-programa\Semana9>
History restored
PS C:\Users\klope\OneDrive\Escritorio\pc-programa\Semana9> dotnet run
Inside the code block: 10
Outside the code block: 10
PS C:\Users\klope\OneDrive\Escritorio\pc-programa\Semana9> dotnet run
C:\Users\klope\OneDrive\Escritorio\pc-programa\Semana9\ClaseSemana9.cs(14,54): error CS0165: Uso de la variable local no asignada 'value'

No se pudo llevar a cabo la compilación. Corrija los errores de compilación y vuelva a ejecutar el proyecto.
PS C:\Users\klope\OneDrive\Escritorio\pc-programa\Semana9>
```

## 5. Código corregido



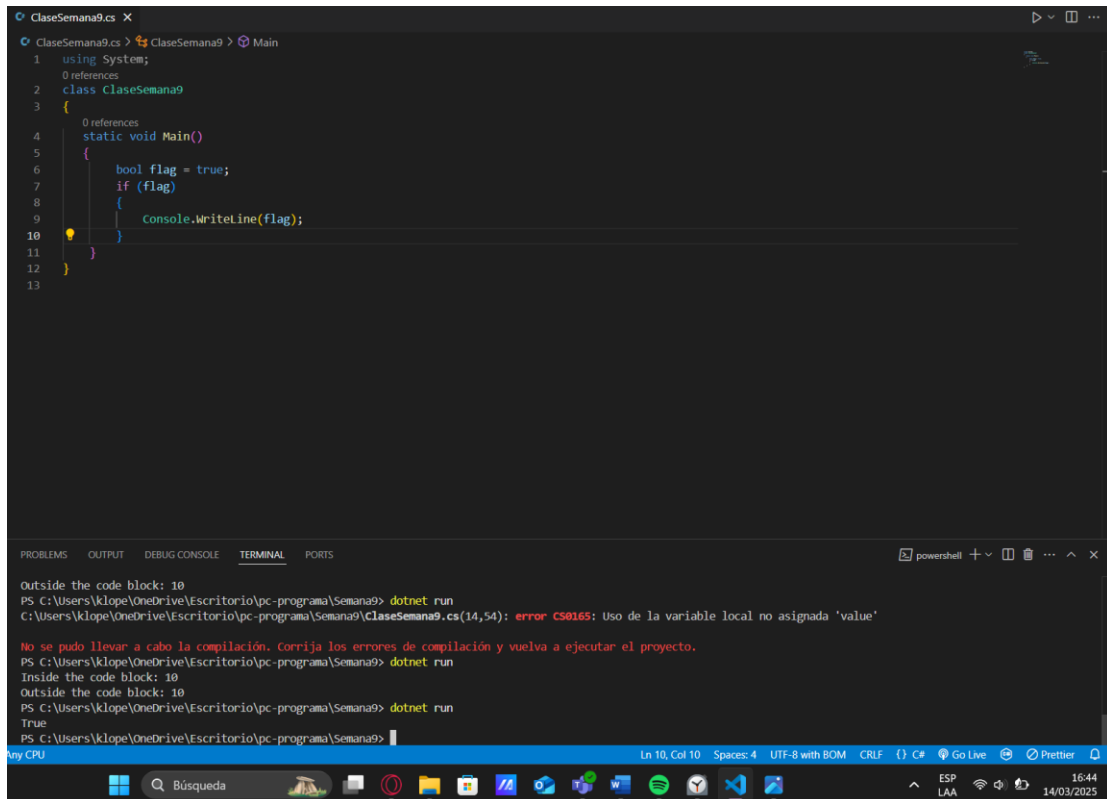
```
ClaseSeman9.cs X
ClaseSeman9.cs > ClaseSeman9 > Main
1 using System;
2 class ClaseSeman9
3 {
4     static void Main()
5     {
6         bool flag = true;
7         int value=0;
8
9         if (flag)
10        {
11            value = 10;
12            Console.WriteLine($"Inside the code block: {value}");
13        }
14        Console.WriteLine($"Outside the code block: {value}");
15    }
16 }
17
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

PS C:\Users\klope\OneDrive\Escritorio\pc-programa\Semana9> dotnet run  
Inside the code block: 10  
Outside the code block: 10  
PS C:\Users\klope\OneDrive\Escritorio\pc-programa\Semana9> dotnet run  
C:\Users\klope\OneDrive\Escritorio\pc-programa\Semana9\ClaseSeman9.cs(14,54): error CS0165: Uso de la variable local no asignada 'value'  
  
No se pudo llevar a cabo la compilación. Corrija los errores de compilación y vuelva a ejecutar el proyecto.  
PS C:\Users\klope\OneDrive\Escritorio\pc-programa\Semana9> dotnet run  
Inside the code block: 10  
Outside the code block: 10  
PS C:\Users\klope\OneDrive\Escritorio\pc-programa\Semana9>

Any CPU Ln 7, Col 20 Spaces: 4 UTF-8 with BOM CRLF {} C# Go Live Prettier 16:42 14/03/2025

## 6. Valores booleanos con if



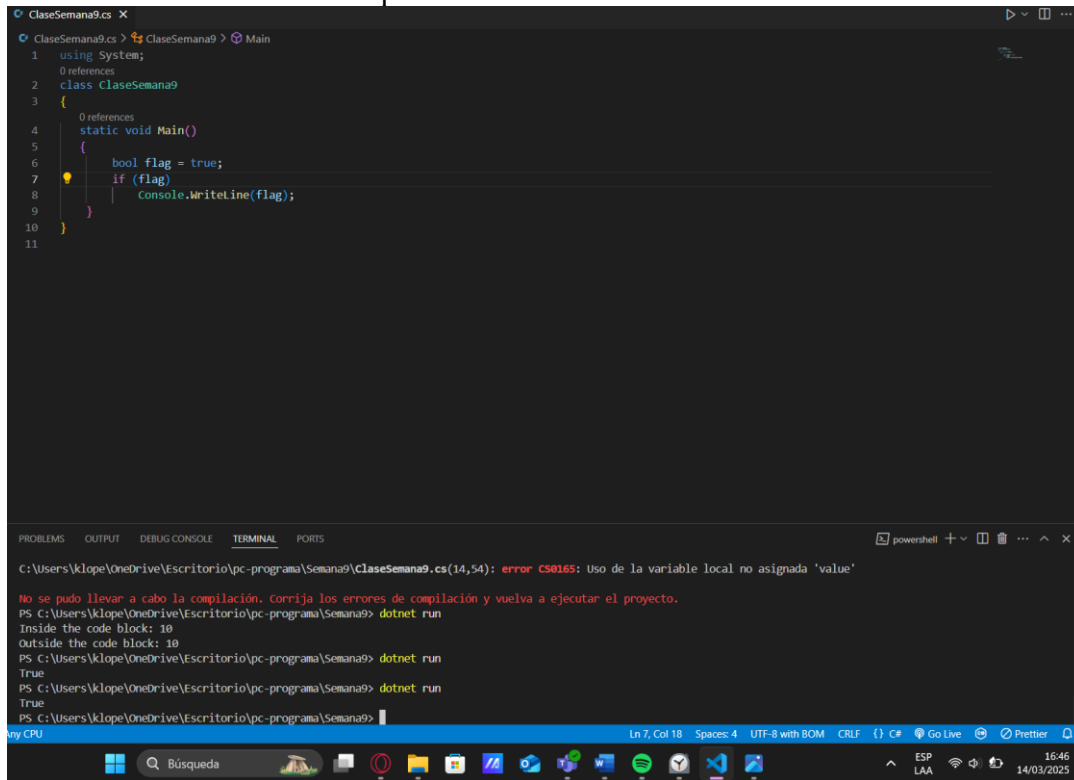
```
ClaseSeman9.cs X
ClaseSeman9.cs > ClaseSeman9 > Main
1 using System;
2 class ClaseSeman9
3 {
4     static void Main()
5     {
6         bool flag = true;
7         if (flag)
8         {
9             Console.WriteLine(flag);
10        }
11    }
12 }
13
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

Outside the code block: 10  
PS C:\Users\klope\OneDrive\Escritorio\pc-programa\Semana9> dotnet run  
C:\Users\klope\OneDrive\Escritorio\pc-programa\Semana9\ClaseSeman9.cs(14,54): error CS0165: Uso de la variable local no asignada 'value'  
  
No se pudo llevar a cabo la compilación. Corrija los errores de compilación y vuelva a ejecutar el proyecto.  
PS C:\Users\klope\OneDrive\Escritorio\pc-programa\Semana9> dotnet run  
Inside the code block: 10  
Outside the code block: 10  
PS C:\Users\klope\OneDrive\Escritorio\pc-programa\Semana9> dotnet run  
True  
PS C:\Users\klope\OneDrive\Escritorio\pc-programa\Semana9>

Any CPU Ln 10, Col 10 Spaces: 4 UTF-8 with BOM CRLF {} C# Go Live Prettier 16:44 14/03/2025

## 7. Eliminación de llaves en bloques de if



The screenshot shows a Visual Studio editor with a C# file named `ClaseSemana9.cs`. The code is as follows:

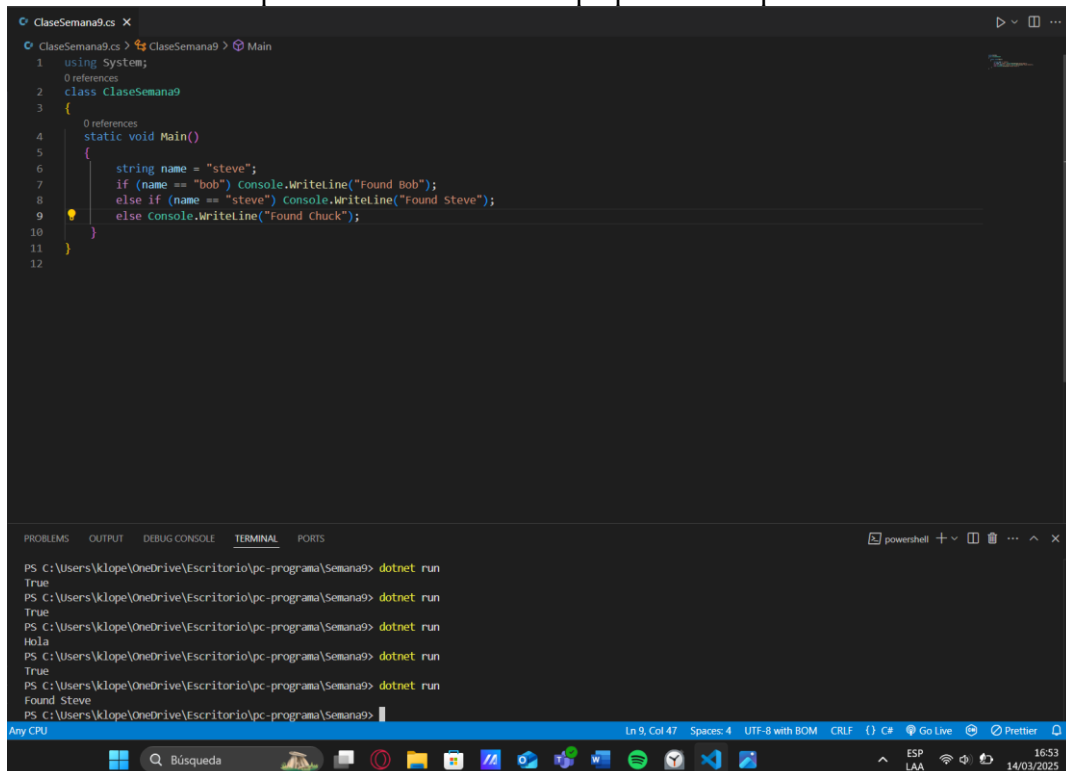
```
1 using System;
2
3 class ClaseSemana9
4 {
5     static void Main()
6     {
7         bool flag = true;
8         if (flag)
9             Console.WriteLine(flag);
10    }
11 }
```

The terminal window shows the following output:

```
C:\Users\klope\OneDrive\Escritorio\pc-programa\Semana9\ClaseSemana9.cs(14,54): error CS0165: Uso de la variable local no asignada 'value'
No se pudo llevar a cabo la compilación. Corrija los errores de compilación y vuelva a ejecutar el proyecto.
PS C:\Users\klope\OneDrive\Escritorio\pc-programa\Semana9> dotnet run
Inside the code block: 10
Outside the code block: 10
PS C:\Users\klope\OneDrive\Escritorio\pc-programa\Semana9> dotnet run
True
PS C:\Users\klope\OneDrive\Escritorio\pc-programa\Semana9> dotnet run
True
PS C:\Users\klope\OneDrive\Escritorio\pc-programa\Semana9>
```

## 8. Instrucción de if en una sola línea

Debido a que la instrucción en el if en este caso es pequeña se puede poner todo en una misma línea. Solo aplica si la instrucción es pequeña. Aunque dificulta la lectura.



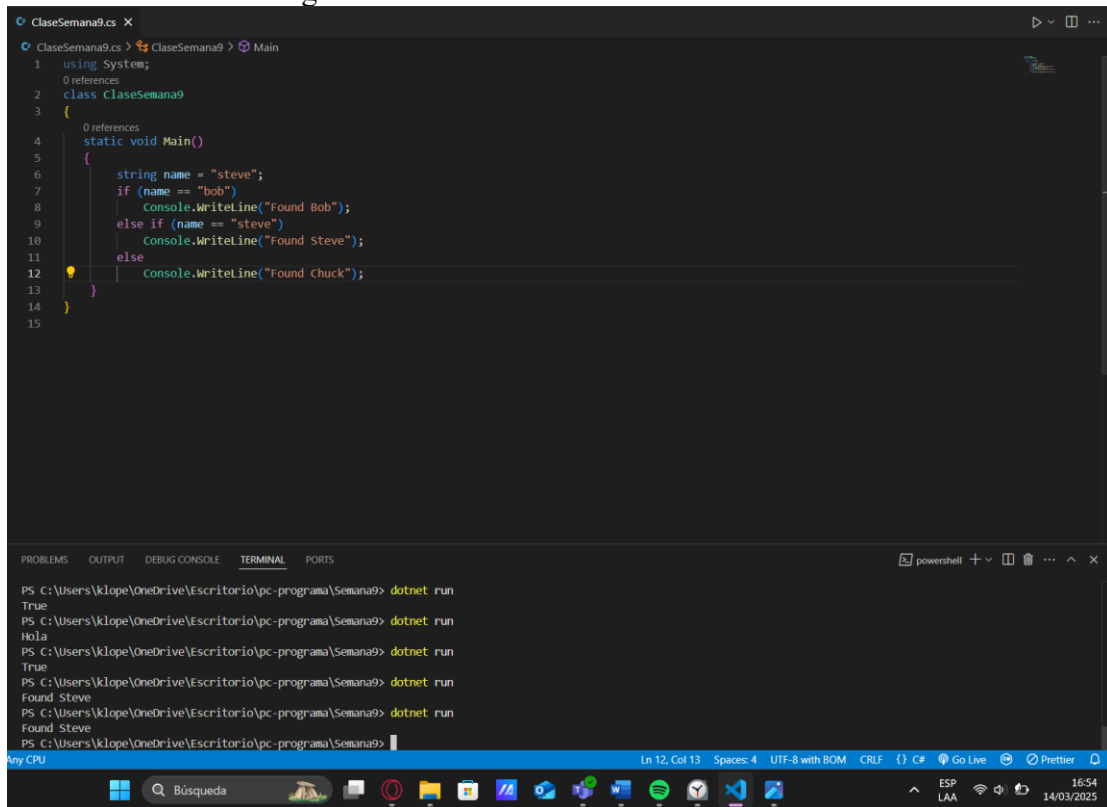
The screenshot shows a Visual Studio editor with a C# file named `ClaseSemana9.cs`. The code is as follows:

```
1 using System;
2
3 class ClaseSemana9
4 {
5     static void Main()
6     {
7         string name = "steve";
8         if (name == "bob") Console.WriteLine("Found Bob");
9         else if (name == "steve") Console.WriteLine("Found Steve");
10        else Console.WriteLine("Found Chuck");
11    }
12 }
```

The terminal window shows the following output:

```
PS C:\Users\klope\OneDrive\Escritorio\pc-programa\Semana9> dotnet run
True
PS C:\Users\klope\OneDrive\Escritorio\pc-programa\Semana9> dotnet run
True
PS C:\Users\klope\OneDrive\Escritorio\pc-programa\Semana9> dotnet run
Hola
PS C:\Users\klope\OneDrive\Escritorio\pc-programa\Semana9> dotnet run
True
PS C:\Users\klope\OneDrive\Escritorio\pc-programa\Semana9> dotnet run
Found Steve
PS C:\Users\klope\OneDrive\Escritorio\pc-programa\Semana9>
```

## 9. Orden correcto de código



```
ClaseSeman9.cs X
ClaseSeman9.cs > ClaseSeman9 > Main
1 using System;
  0 references
2 class ClaseSeman9
3 {
  0 references
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
12            Console.WriteLine("Found Chuck");
13    }
14 }
15
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS C:\Users\klope\OneDrive\Escritorio\pc-programa\Semana9> dotnet run
True
PS C:\Users\klope\OneDrive\Escritorio\pc-programa\Semana9> dotnet run
Hola
PS C:\Users\klope\OneDrive\Escritorio\pc-programa\Semana9> dotnet run
True
PS C:\Users\klope\OneDrive\Escritorio\pc-programa\Semana9> dotnet run
Found Steve
PS C:\Users\klope\OneDrive\Escritorio\pc-programa\Semana9> dotnet run
Found Steve
PS C:\Users\klope\OneDrive\Escritorio\pc-programa\Semana9>
```

Any CPU Ln 12, Col 13 Spaces: 4 UTF-8 with BOM CRLF {} C# Go Live Prettier

Búsqueda

ESP LAA 16:54 14/03/2025