

Universidad Rafael Landívar

Facultad de Ingeniería

Ingeniería en Informática y Sistemas

Pensamiento Computacional Sección 08

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Actividad 3 Semana 9

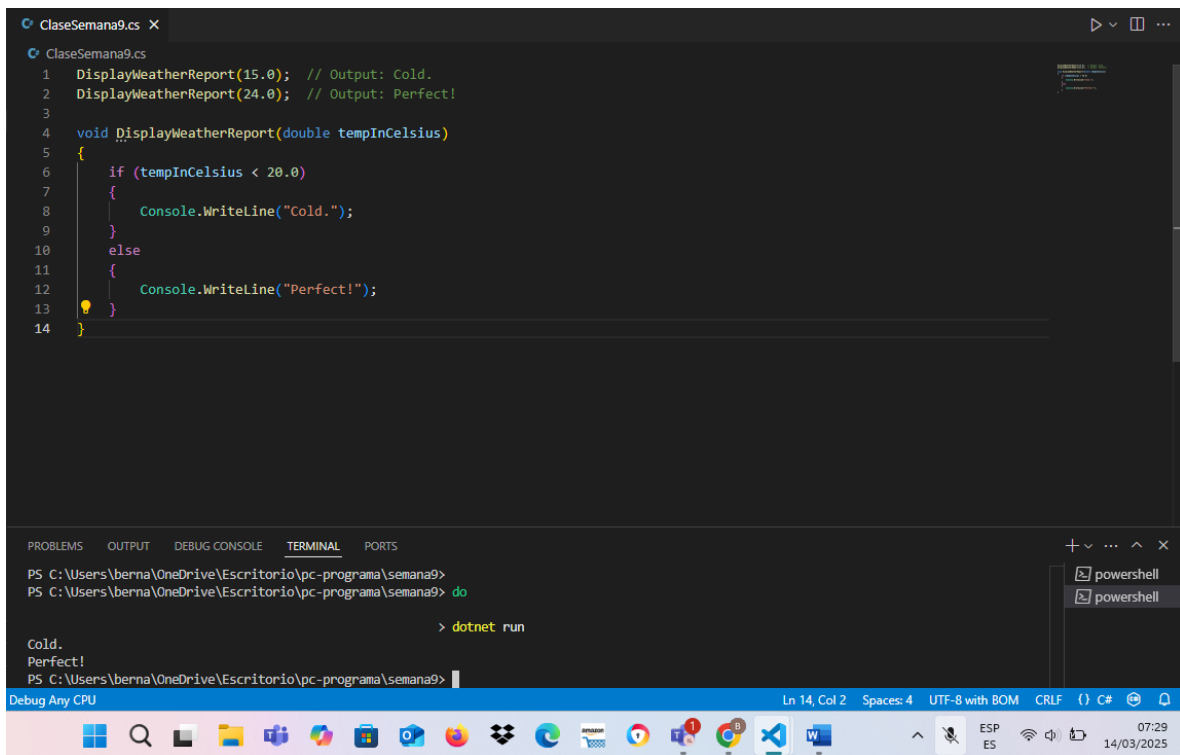
“Práctica if”

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1265425

Guatemala, 17 de marzo de 2025

1. If con else



The screenshot shows a Visual Studio window with a C# file named `ClaseSemana9.cs`. The code defines a method `DisplayWeatherReport` that takes a `double tempInCelsius` parameter. It uses an `if-else` statement to check if the temperature is less than 20.0. If true, it prints "Cold."; otherwise, it prints "Perfect!". The terminal shows the output of the program: "Cold." followed by "Perfect!".

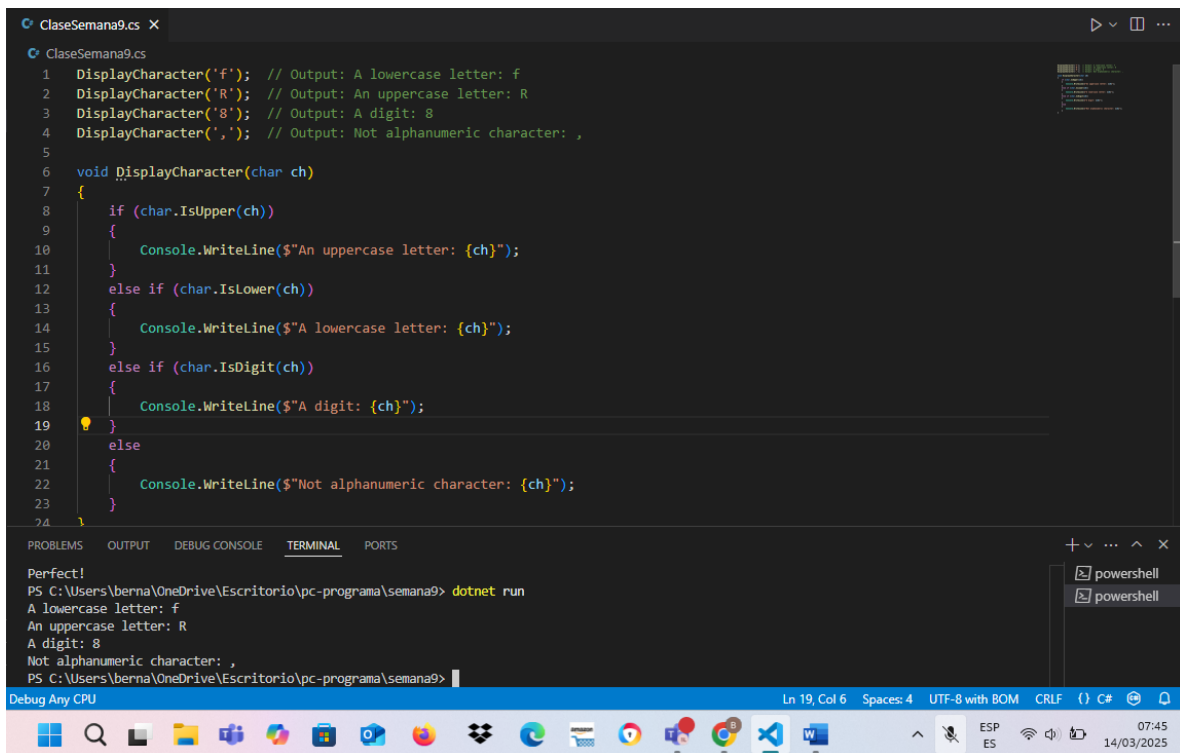
```
1 DisplayWeatherReport(15.0); // Output: Cold.
2 DisplayWeatherReport(24.0); // Output: Perfect!
3
4 void DisplayWeatherReport(double tempInCelsius)
5 {
6     if (tempInCelsius < 20.0)
7     {
8         Console.WriteLine("Cold.");
9     }
10    else
11    {
12        Console.WriteLine("Perfect!");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

Terminal output:

```
PS C:\Users\berna\OneDrive\Escritorio\pc-programa\semana9>
PS C:\Users\berna\OneDrive\Escritorio\pc-programa\semana9> dotnet run

Cold.
Perfect!
PS C:\Users\berna\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 method `DisplayCharacter` that takes a `char ch` parameter. It uses an `if-else-if` statement to check if the character is an uppercase letter, a lowercase letter, a digit, or not alphanumeric. The terminal shows the output of the program: "Perfect!" followed by "A lowercase letter: f", "An uppercase letter: R", "A digit: 8", and "Not alphanumeric character: ,".

```
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 }
```

Terminal output:

```
Perfect!
PS C:\Users\berna\OneDrive\Escritorio\pc-programa\semana9> dotnet run
A lowercase letter: f
An uppercase letter: R
A digit: 8
Not alphanumeric character: ,
PS C:\Users\berna\OneDrive\Escritorio\pc-programa\semana9>
```

3. Switch

```
ClaseSemana9.cs
ClaseSemana9.cs
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 }
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
grama\semana9> dotnet run
Measured value is -4; too low.
Measured value is 5.
Measured value is 30; too high.
Failed measurement.
PS C:\Users\berna\OneDrive\Escritorio\pc-programa\semana9>
```

Debug Any CPU Ln 26, Col 2 Spaces: 4 UTF-8 with BOM CRLF {} C# 07:53 14/03/2025

4. Error al intentar acceder a una variable fuera del bloque de código en el que se declara

```
ClaseSemana9.cs
ClaseSemana9.cs
1 bool flag = true;
2 if (flag)
3 {
4     int value = 10;
5     Console.WriteLine($"Inside the code block: {value}");
6 }
7 Console.WriteLine($"Outside the code block: {value}");
```

PROBLEMS 1 OUTPUT DEBUG CONSOLE TERMINAL PORTS

Filter (e.g. text, **/*.ts, !**/node_modules/**)

ClaseSemana9.cs 1

The name 'value' does not exist in the current context (CS0103) [Ln 7, Col 46]

9 Debug Any CPU Ln 7, Col 55 Spaces: 4 UTF-8 with BOM CRLF {} C# 17:01 17/03/2025

5. Mover la declaración de variable por encima del bloque de código, y error por no inicializar variable

```
ClaseSemana9.cs
1 bool flag = true;
2 int value;
3
4 if (flag)
5 {
6     Console.WriteLine($"Inside the code block: {value}");
7 }
8
9 value = 10;
10 Console.WriteLine($"Outside the code block: {value}");
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

Filter (e.g. text, **/*.ts, !**/node_modules/**)

Use of unassigned local variable 'value' (CS0165) [Ln 6, Col 49]

Debug Any CPU Ln 10, Col 55 Spaces: 4 UTF-8 with BOM CRLF C#

6. Inicializar una variable como parte de la declaración de variable

```
ClaseSemana9.cs
1 bool flag = true;
2 int value = 0;
3
4 if (flag)
5 {
6     Console.WriteLine($"Inside the code block: {value}");
7 }
8
9 value = 10;
10 Console.WriteLine($"Outside the code block: {value}");
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

PS C:\Users\berna\OneDrive\Escritorio\pc-programa\semana9> dotnet run

PS C:\Users\berna\OneDrive\Escritorio\pc-programa\semana9> & 'c:\Users\berna\.vscode\extensions\ms-dotnettools.csharp-2.63.32-win32-x64\debugger\x86_64\vsdbg.exe' --interpreter=vscode --connection=948a8872712743548151bcba01daf2f2

Inside the code block: 0

Outside the code block: 10

PS C:\Users\berna\OneDrive\Escritorio\pc-programa\semana9>

Debug Any CPU Ln 10, Col 55 Spaces: 4 UTF-8 with BOM CRLF C#

7. If con un bloque de código

```
ClaseSemana9.cs
1 bool flag = true;
2 if (flag)
3 {
4     Console.WriteLine(flag);
5 }
6
```

```
> & 'c:\Users\berna\.vscode\extensions\ms-dotnettools.csharp-2.63.32-win32-x64\debugger\x86_64\vsdbg.exe' --interpreter=vscode --connection=c44fe5292584469aa48fa4c47e7f4226'
True
PS C:\Users\berna\OneDrive\Escritorio\pc-programa\semana9>
```

Ln 6, Col 1 Spaces: 4 UTF-8 with BOM CRLF C#

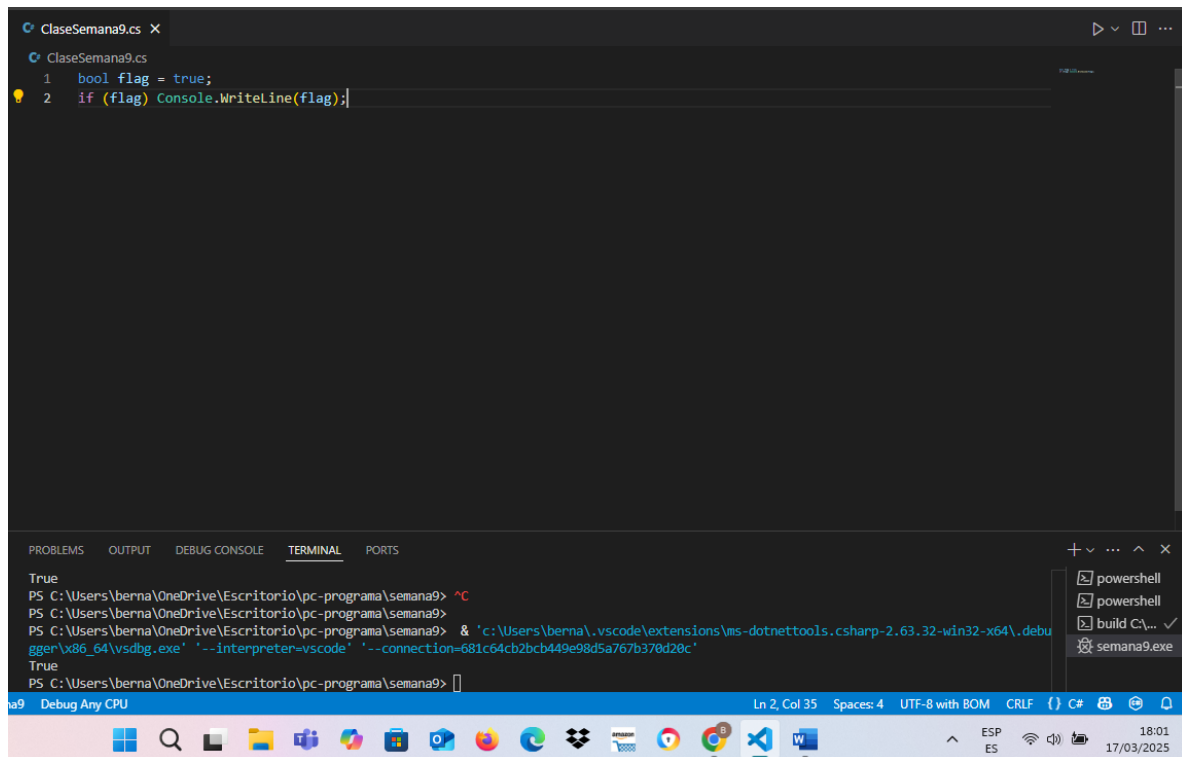
8. Como este bloque de código contiene solo una línea de código, se pueden quitar las llaves

```
ClaseSemana9.cs
1 bool flag = true;
2 if (flag) Console.WriteLine(flag);
3
```

```
True
PS C:\Users\berna\OneDrive\Escritorio\pc-programa\semana9> ^C
PS C:\Users\berna\OneDrive\Escritorio\pc-programa\semana9>
PS C:\Users\berna\OneDrive\Escritorio\pc-programa\semana9> & 'c:\Users\berna\.vscode\extensions\ms-dotnettools.csharp-2.63.32-win32-x64\debugger\x86_64\vsdbg.exe' --interpreter=vscode --connection=d1d982053fb3453d8ca837cc5715525f'
True
PS C:\Users\berna\OneDrive\Escritorio\pc-programa\semana9>
```

Ln 3, Col 29 Spaces: 4 UTF-8 with BOM CRLF C#

9. Como if y Console.WriteLine() son breves, se pueden combinar en una sola línea



The screenshot shows the Visual Studio Code editor with a file named `ClaseSemana9.cs` open. The code in the editor is as follows:

```
1 bool flag = true;  
2 if (flag) Console.WriteLine(flag);
```

Below the editor, the **TERMINAL** panel is active, displaying the following output:

```
True  
PS C:\Users\berna\OneDrive\Escritorio\pc-programa\semana9> ^C  
PS C:\Users\berna\OneDrive\Escritorio\pc-programa\semana9>  
PS C:\Users\berna\OneDrive\Escritorio\pc-programa\semana9> & 'c:\Users\berna\.vscode\extensions\ms-dotnettools.csharp-2.63.32-win32-x64\debugger\x86_64\vsdbg.exe' '--interpreter=vscode' '--connection=681c64cb2bcb449e98d5a767b378d28c'  
True  
PS C:\Users\berna\OneDrive\Escritorio\pc-programa\semana9> |
```

The status bar at the bottom indicates the file is at **Ln 2, Col 35**, with **Spaces: 4**, **UTF-8 with BOM**, and **CRLF** line endings. The language is set to **C#**. The taskbar at the bottom shows various application icons, and the system clock displays **18:01** on **17/03/2025**.