

Simple Commands



SoftUni Team
Technical Trainers



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#prgm-for-qa

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First Steps in Coding

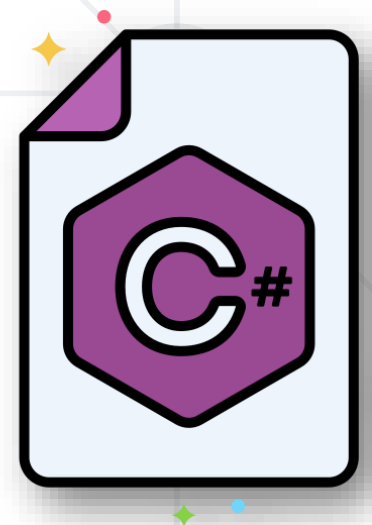
What is Coding?

- **Coding** means to give **commands** to tell the computer what to do
- Sample command:

```
Console.WriteLine("Hey, I am coding");
```

- A **computer program** is a sequence of commands (lines of code)

```
Console.WriteLine("First command");  
Console.WriteLine("Second command");  
Console.WriteLine("Third command");
```



What is Programming Language?

- Formalized **set of instructions** that a computer can **understand** and **execute**
- Examples: **C#, Java, Python, C++, JavaScript, C, etc.**

```
Console.WriteLine("C#");
```

```
System.out.println("Java");
```

```
print("Python")
```

```
console.log('JS')
```

```
cout << "C++" << endl;
```



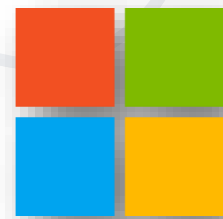
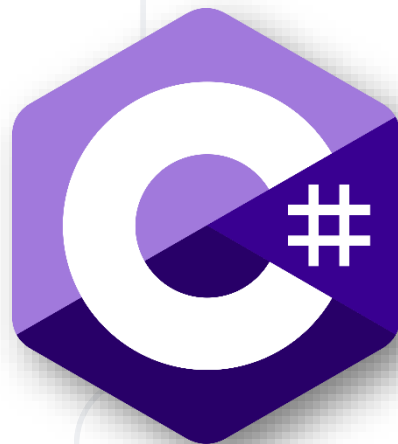
What is Coding Environment?

- **Software tool** or **platform** that provides programmers with the necessary tools and features to **write, test** and **debug** code efficiently
- **Coding Environment == Development Environment == IDE**
(Integrated Development Environment)
- Examples: **Visual Studio, IntelliJ IDEA, PyCharm, Visual Studio Code, Code Blocks, WebStorm, Eclipse**



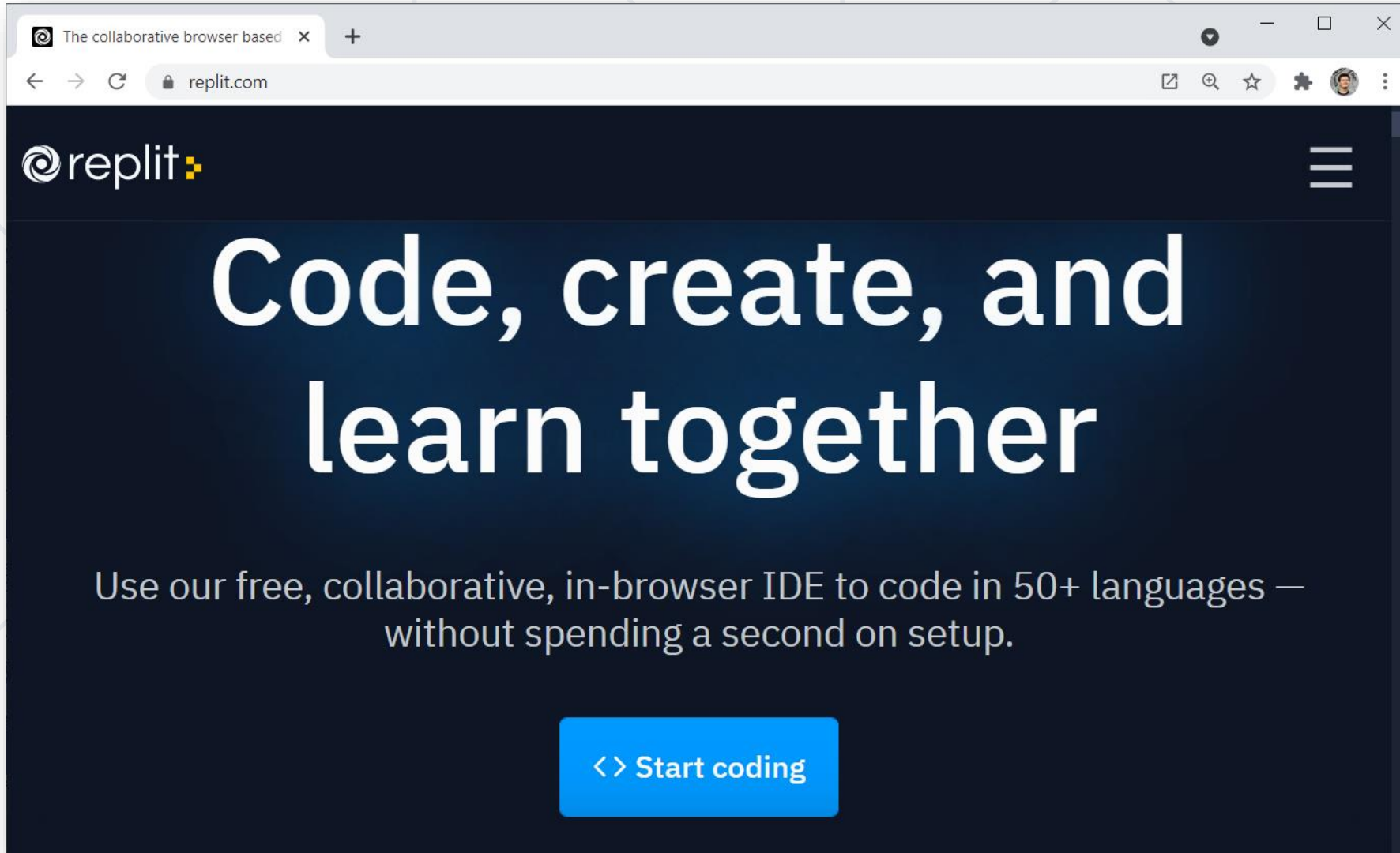
What is C#?

- **Modern, versatile** and **object-oriented programming** language
- Developed by **Microsoft** in the **early 2000s** as part of its **.NET initiative**
- Designed for building a wide range of applications, including **desktop software, web applications, mobile apps, cloud-based services** and **games**



Microsoft

Repl.it: An Online Coding Environment

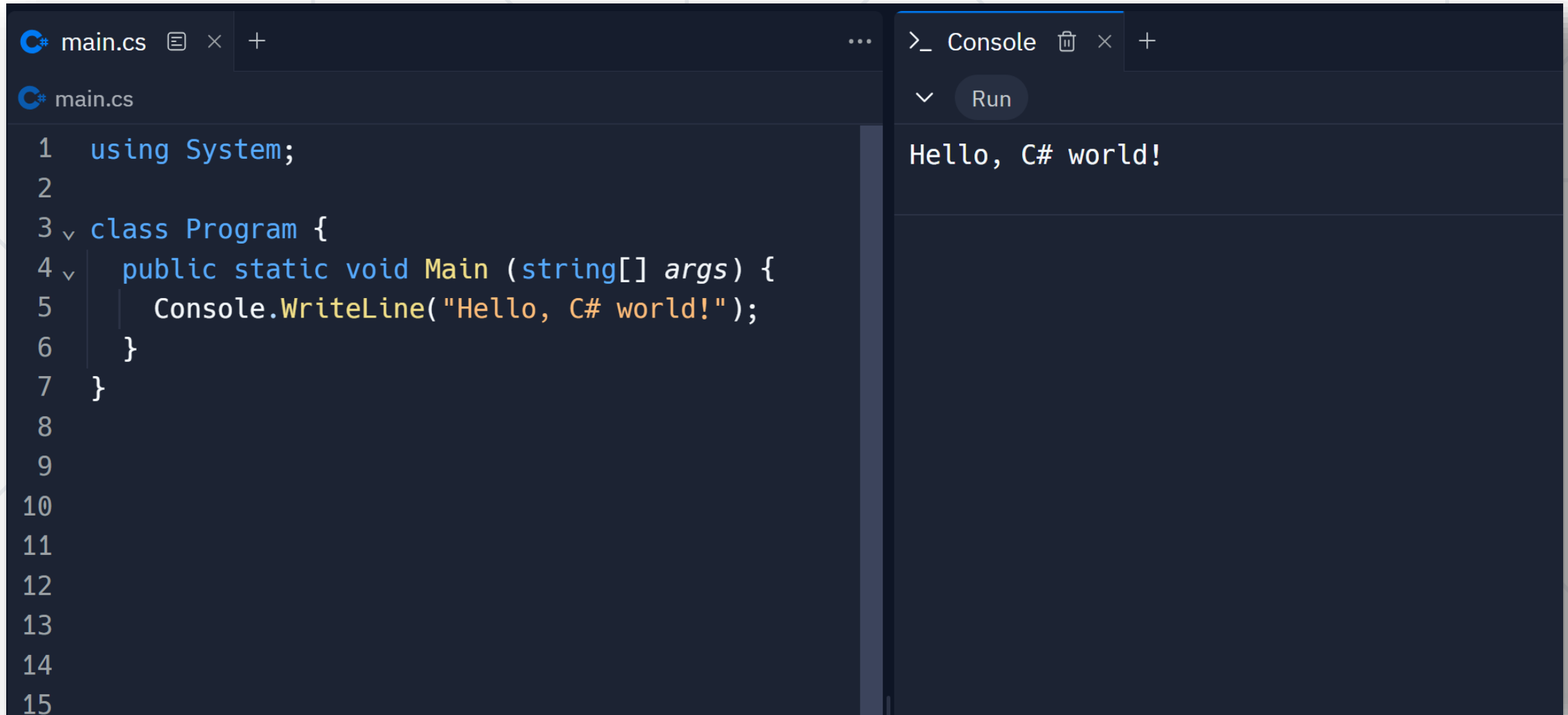


Register at:

<https://repl.it>

Write, compile
and run code in
C#, Java, JS,
Python

Repl.it: An Online Coding Environment



The screenshot displays the Repl.it online coding environment. On the left, a code editor window titled 'main.cs' contains the following C# code:

```
1 using System;
2
3 class Program {
4     public static void Main (string[] args) {
5         Console.WriteLine("Hello, C# world!");
6     }
7 }
8
9
10
11
12
13
14
15
```

On the right, a console window titled '> Console' shows the output of the program after clicking the 'Run' button:

```
Hello, C# world!
```

- **Calculate** an expression and print its value:

```
Console.WriteLine(5 + 5);
```

- **Check** if certain word contains another word

```
Console.WriteLine("softuni".Contains("uni"));
```

- **Print** the numbers from 1 to 100

```
for (int i = 1; i <= 100; i++)  
    Console.WriteLine(i);
```



Coding Concepts

- **Programming** means writing **computer programs** (commands)
 - Using certain **programming language**, such as C#, Java or Python
- **Algorithm** == a sequence of commands that achieves certain result
- Programming (coding) is performed by **programmers** (developers)
- Programmers use **IDE** (like Visual Studio or Eclipse or REPL.it) to:
 - **Write** the code
 - **Run** and test the code
 - Find a fix **bugs** (debug the code)

Computer Program – Example

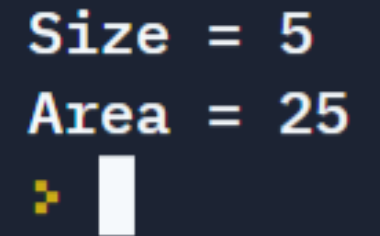
- Sample **C# program** (sequence of C# commands):

```
int size = 5;  
Console.WriteLine("Size = " + size);  
Console.WriteLine("Area = " + size * size);
```

```
Size = 5  
Area = 25  
> |
```

- Sample complete **C# program** (class + method + commands):

```
class Program {  
    public static void Main (string[] args) {  
        int size = 5;  
        Console.WriteLine("Size = " + size);  
        Console.WriteLine("Area = " + size * size);  
    }  
}
```



```
Size = 5  
Area = 25  
> |
```

Console-Based C# Program – Example

- C# program, which converts from **USD** to **EUR** (at fixed rate)

```
int dollars = int.Parse(Console.ReadLine());  
double euro = dollars * 0.883795087;  
Console.WriteLine("Euro: " + euro);
```



```
main.cs |> Console | Run  
1 using System;  
2  
3 class Program {  
4     public static void Main (string[] args) {  
5         int dollars = int.Parse(Console.ReadLine());  
6         double euro = dollars * 0.883795087;  
7         Console.WriteLine("Euro: " + euro);  
8     }  
9 }
```

5
Euro: 4.418975435

Console-Based C# Program – Example

- C# program, which converts from **inches** to **cm**

```
double inches = double.Parse(Console.ReadLine());  
double cm = inches * 2.54;  
Console.WriteLine("Cm: " + cm);
```



The screenshot shows a Visual Studio window with a C# file named `main.cs`. The code defines a `Program` class with a `Main` method that reads a value from the console, converts it from inches to centimeters, and prints the result. The console output shows the input `10` and the output `Cm: 25.4`.

```
main.cs [icon] x +  
main.cs  
1 using System;  
2  
3 class Program {  
4     public static void Main (string[] args) {  
5         double inches = double.Parse(Console.ReadLine());  
6         double cm = inches * 2.54;  
7         Console.WriteLine("Cm: " + cm);  
8     }  
9 }
```

Console [icon] x
Run
10
Cm: 25.4



Judge System

Testing the Program in the Judge System

- Test your code online in the SoftUni Judge system:

<https://judge.softuni.org/Contests/4621/Simple-Commands-Lab>

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/ [Programming Fundamentals and Unit Testing - Exercises](#) / Simple Commands - Lab

Simple Commands - Lab

Contest details

There is no description for the selected contest.

Allowed languages: | [C# code \(.NET 6\)](#) |

Contest participants: 0

Practice participants: 0

Problems

01. Hello C#

02. Print 5 * 5

03. Name and Expression

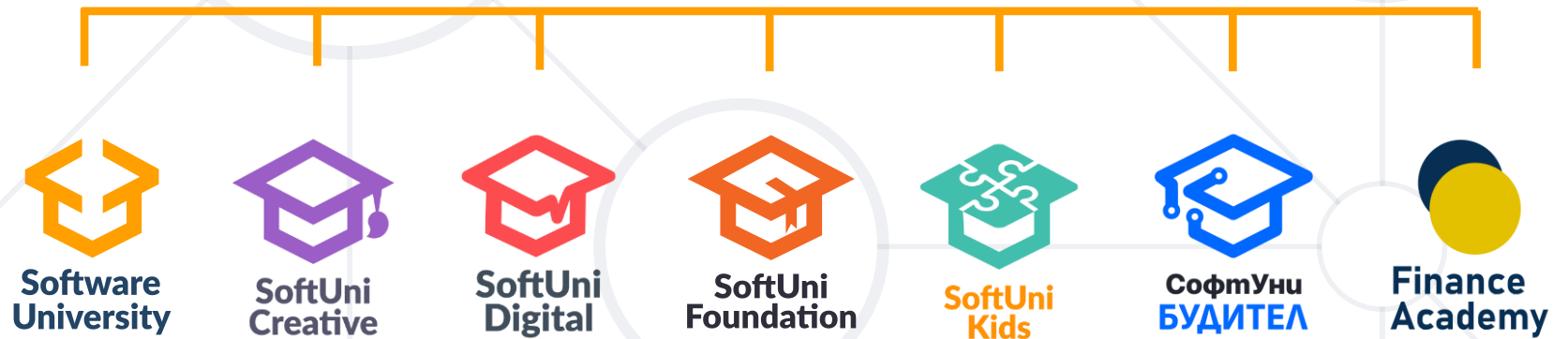
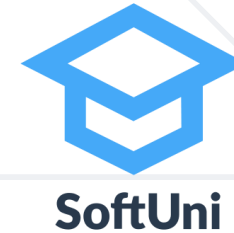
04. Calculations

05. Square of 7 * 7 Stars

- **Programming** means writing **computer programs**
- Programming (coding) is performed by **programmers** (developers)
- Programming languages are **set of instructions** that a computer can understand and execute



Questions?



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