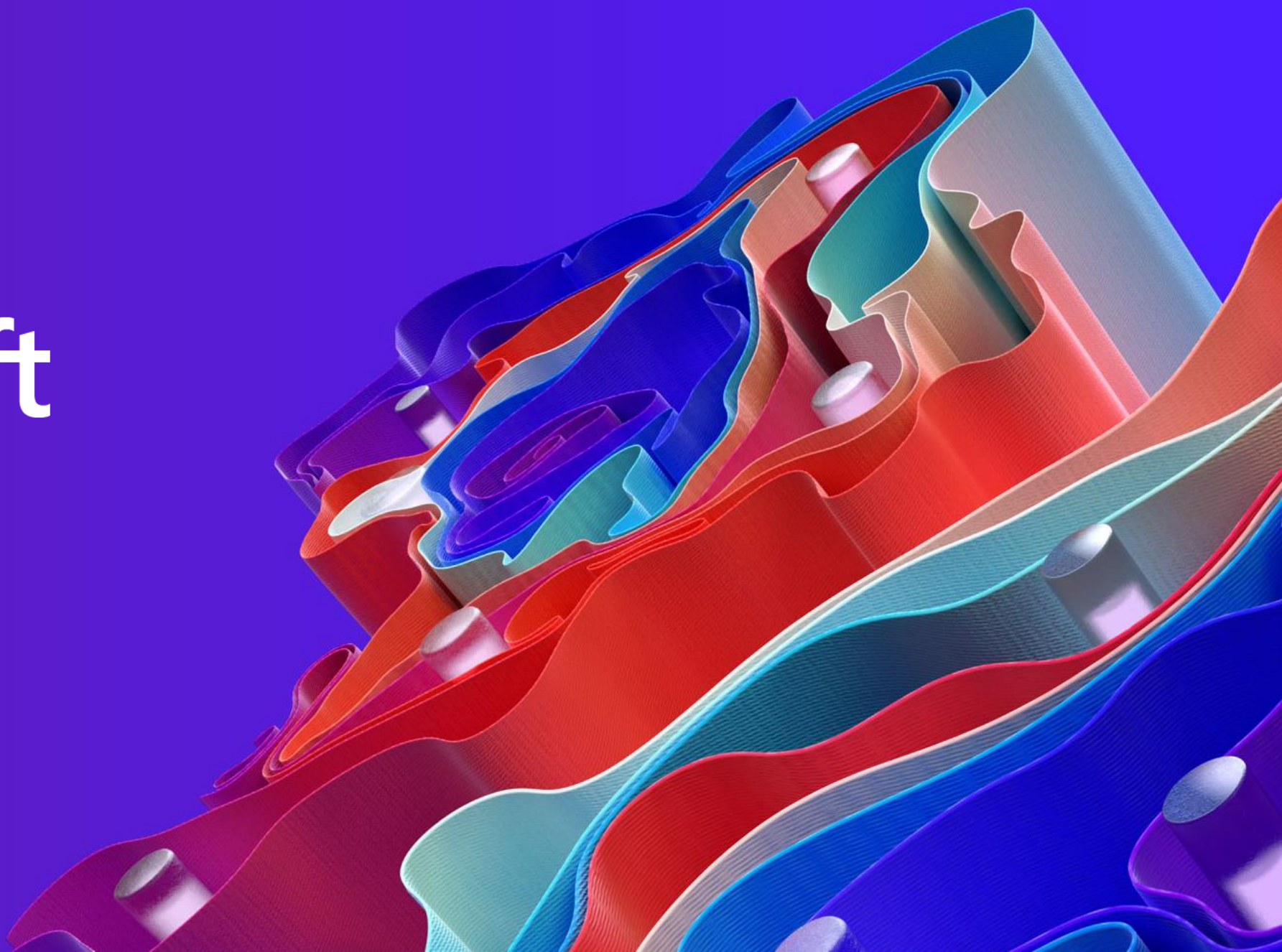




Microsoft Build





Get started with popular programming languages: Intro to Python and C#

Presented by: James Montemagno @jamesmontemagno
Christopher Harrison @geektrainer

Hosted by: Brian Clark @_clarkio

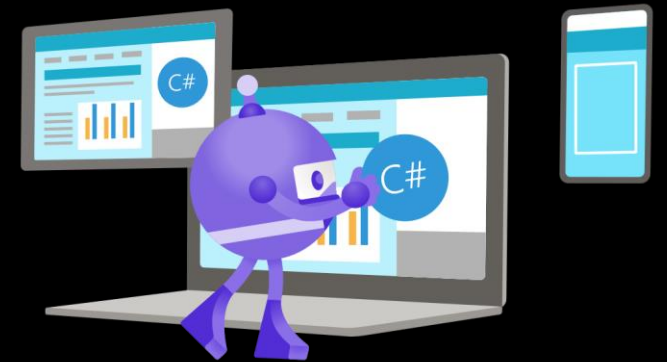


Introduction to C#

James Montemagno @jamesmontemagno

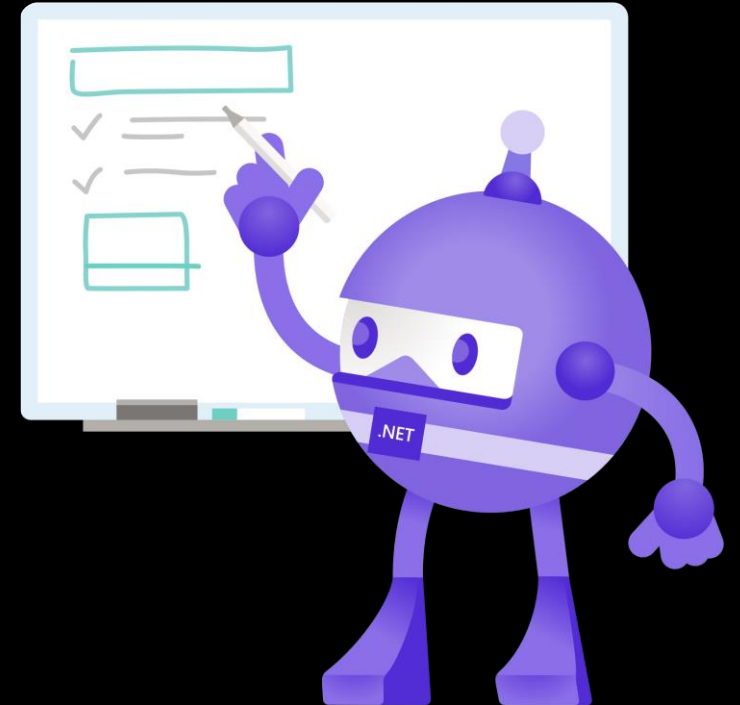
What is C#?

- Modern, innovative, open-source, cross-platform programming language
- Object-oriented
- One of the most loved languages
- One of the top languages used in GitHub projects

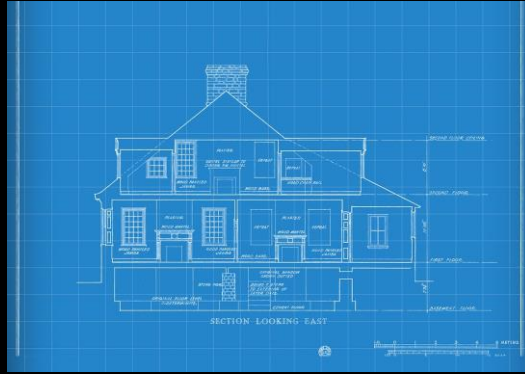


What is a programming language?

- Enable you to write instructions for the computer to carry out
- Each language has its own syntax
- The instructions you write in a language: source code or code



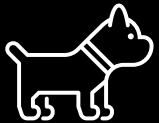
Intro to Object Oriented Programming (OOP) in C#



Record



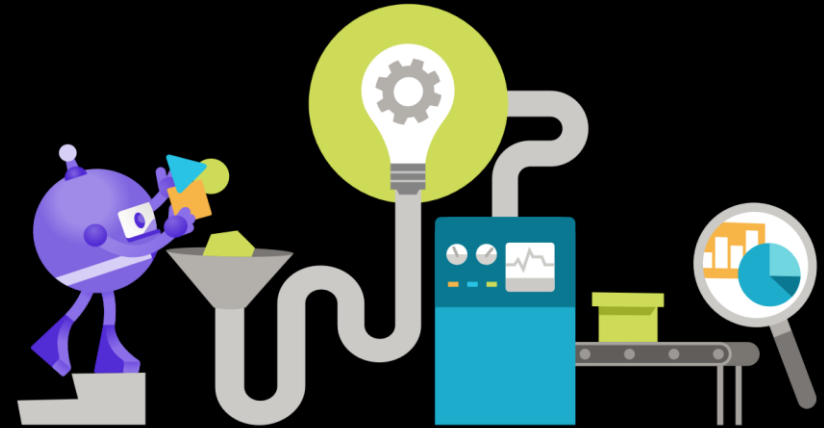
Object



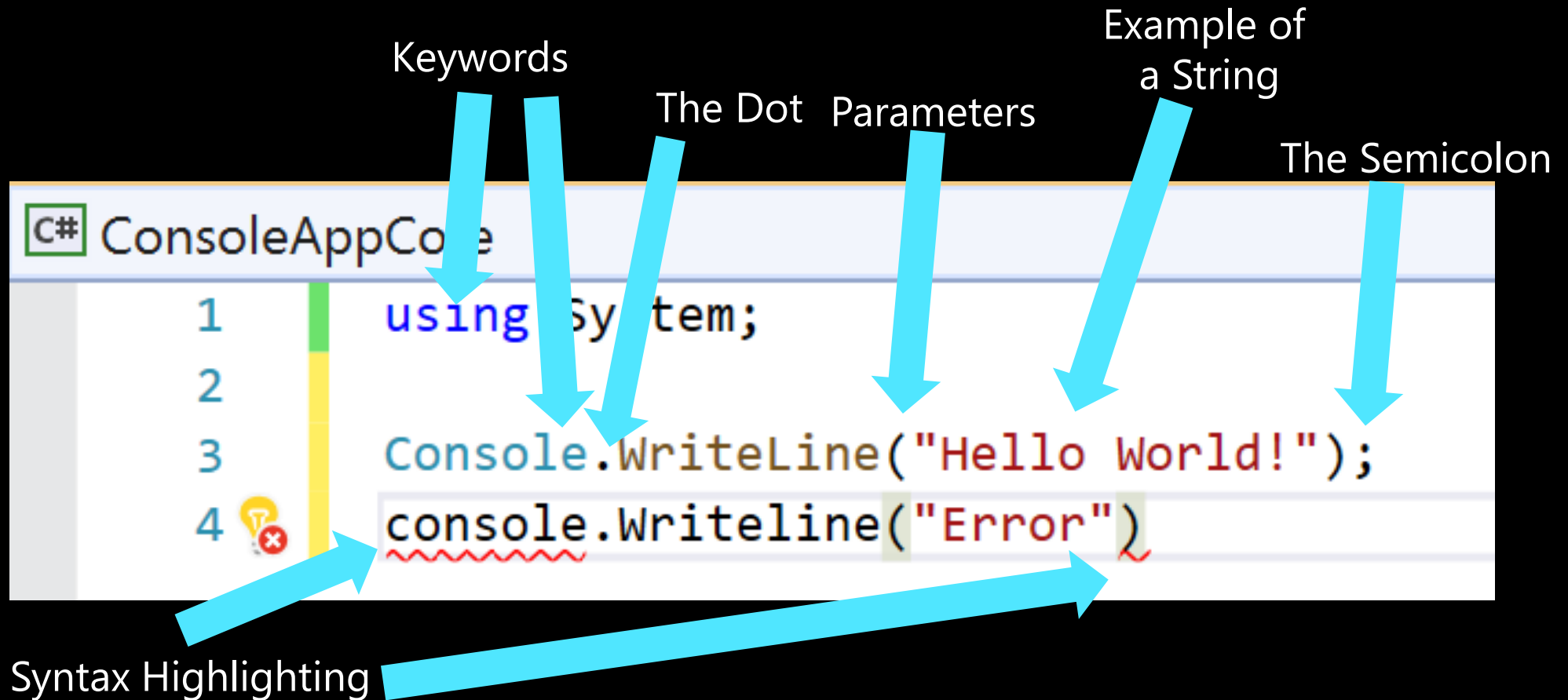
- Properties: attributes of an object. E.g. breed, size, weight, color, etc.
- Methods: behaviors or what an object can do. E.g. bark, sit, fetch, run.

What is a compiler?

- A special program that converts your source code to a format that the computer can understand and execute
- The C# compiler is called Roslyn
- C# is a compiled language
- The compiler analyzes your code. If there's something wrong, it will produce a list of errors.



C# Syntax



Literal Values

What they are

- Hard coded value
- Value never changes

Types Include

- String ("this is a string")
- Char ('a')
- int (500)
- decimal (48.6)
- bool (True)

Variables

Properties of Variables

- Temporary values stored in memory
- Must be declared first
- Has a data type (e.g. string, char, int, decimal, bool)
- Has a name
- Can read value and write value

Naming of Variables

- Can contain alphanumeric characters and _
- Cannot contain special characters (e.g. # or &)
- Must begin with a letter or _
- Cannot be a C# keyword (e.g. string)
- Case sensitive, in camel case (thisIsCamelCase)
- Append words to make meaningful
- Don't include data type

Arithmetic operators

Binary

- + (addition)
- - (subtraction)
- * (multiplication)
- / (division)
- % (remainder)

Unary

- + (plus)
- - (minus)
- ++ (increment)
- -- (decrement)

Boolean expressions


Comparison operators

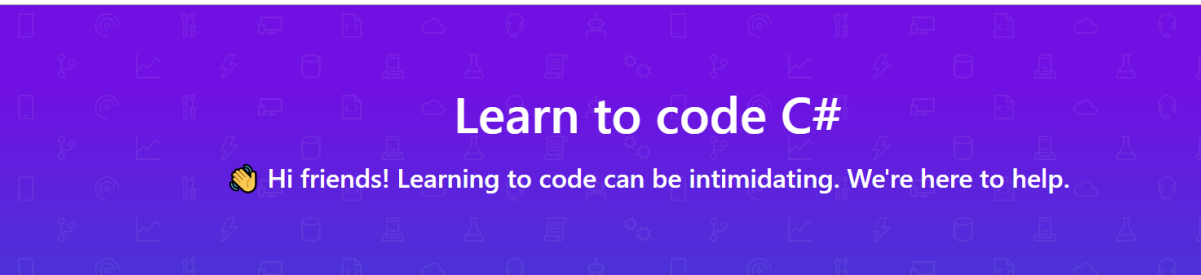
- < (less than)
- > (greater than)
- <= (less than or equal)
- >= (greater than or equal)

Equality operators

- == (equals)
- != (different than)

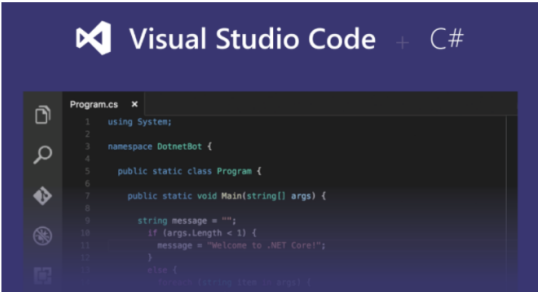
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Learn to code C#

👋 Hi friends! Learning to code can be intimidating. We're here to help.



Visual Studio Code + C#

```
1 using System;
2
3 namespace DotNetBot {
4
5     public static class Program {
6
7         public static void Main(string[] args) {
8
9             string message = "";
10            if (args.Length < 1) {
11                message = "Welcome to .NET Core!";
12            }
13            else {
14                // ...
15            }
16        }
17    }
18 }
```

Dev tools made for you

There's no better place to get started than with the world's most used [developer tools](#). Get the .NET Coding Pack for Visual Studio Code, which gives you everything you need to get started learning C# for **free**.

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 Microsoft Learn

Let's Code



Introduction to Python

Christopher Harrison @geektrainer

What's Next?

Dive deeper into Python and C#

Learn Python with a Space theme: <https://aka.ms/ClassifySpaceRocksWithPython>

Learn the basics of Python: <https://aka.ms/FirstStepsWithPython>

Learn the basics of C#: <https://aka.ms/LearnCSharpCollection>

Learn .NET with VS Code: https://aka.ms/LearnToCode_DotNet

Keep learning with us:

Student Zone GitHub: <http://aka.ms/StudentsAtBuild>

Student Zone Learn Collection: <https://aka.ms/StudentZoneOnLearn>

Check out the rest of the Student Zone!

Student Zone Sessions: <https://aka.ms/StudentZone2021>

