Getting Started with C# Programming

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Creating Hello World

In Visual Studio

- Create a new project
- Select Templates > Visual C# > Windows > Classic Desktop
- Select Console Application
- Choose a name and location and click OK

Microsoft Visual Studio

File

New Project

Quick Launch (Ctrl+Q)

? ☐ ✕

▷ Recent

◢ Installed

◢ Templates
　◢ Visual C#
　　◢ Windows
　　　Universal
　　　Windows 8
　　　Classic Desktop
　　Web
　　Android
　　Cloud
　　Cross-Platform
　　Extensibility
　▷ iOS
　　LightSwitch
　　Office/SharePoint
　　Silverlight
　　Test
　　WCF
　　Workflow
　▷ Other Languages
　▷ Other Project Types
　　Modeling Projects

▷ Online

.NET Framework 4.6 ▾   Sort by: Default ▾

Search Installed Templates (Ctrl+E)

C#	Windows Forms Application	Visual C#
C#	WPF Application	Visual C#
C#	Console Application	Visual C#
C#	Shared Project	Visual C#
C#	Class Library	Visual C#
C#	Class Library (Portable)	Visual C#
C#	WPF Browser Application	Visual C#
C#	Empty Project	Visual C#
C#	Windows Service	Visual C#
C#	WPF Custom Control Library	Visual C#
C#	WPF User Control Library	Visual C#

Type: Visual C#

A project for creating a command-line application

Click here to go online and find templates.

Name: HelloWorld

Location: C:\Projects\   Browse...

Solution name: HelloWorld   ☑ Create directory for solution
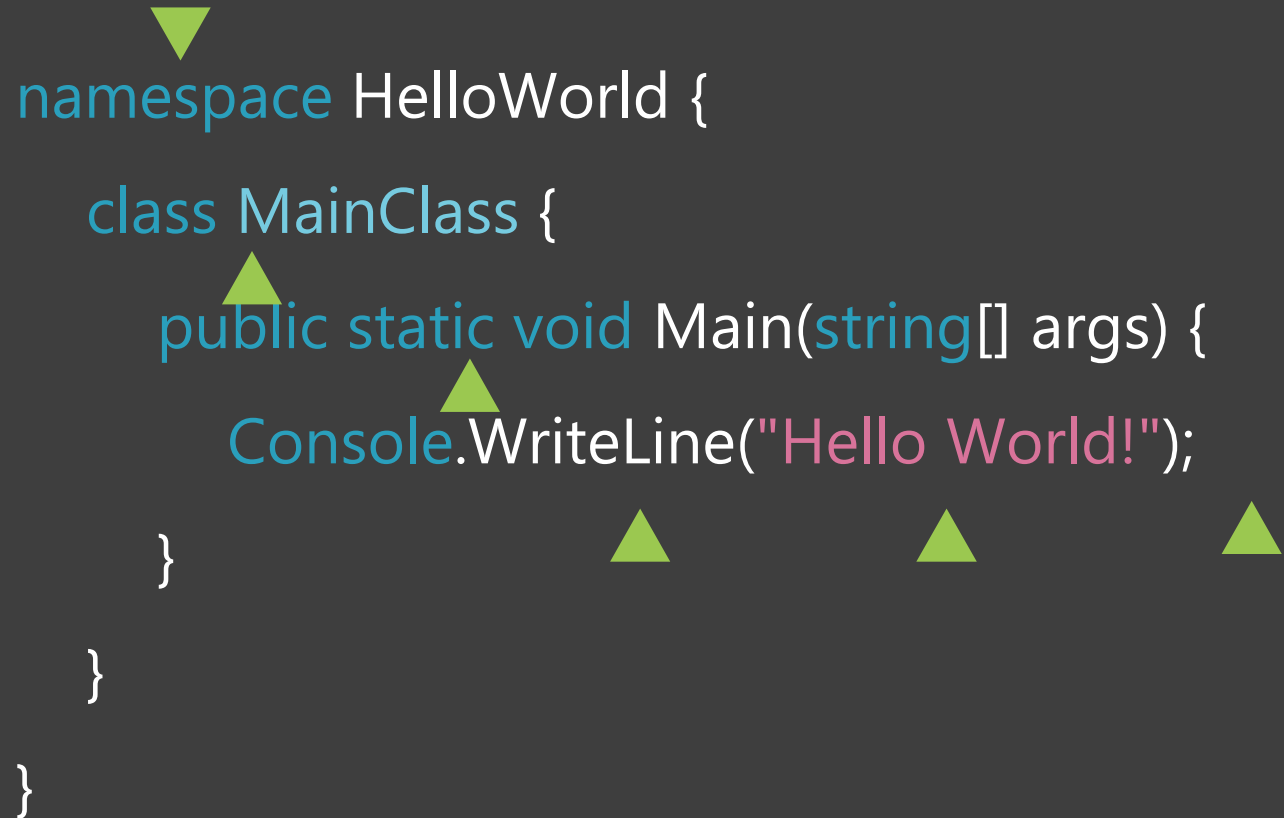   ☐ Add to source control

OK   Cancel

Task Runner Explorer   Error List   Output

```
public static void Main(string[] args)
{
    Console.WriteLine("Hello World!");
}
```

Creating Hello World

Every program begins with Main

Taking Apart Hello World

```csharp
namespace HelloWorld {

    class MainClass {

        public static void Main(string[] args) {

            Console.WriteLine("Hello World!");

        }

    }

}
```

Demo

Hello World

Statements and Expressions

A statement is an instruction to the C# compiler

All statements end with a semi-colon " ; "

Most of the time "white space" (tabs, spaces, new lines) doesn't matter

An expression is a statement that evaluates to a value

- 3 + 2;

Demo

White Space

```csharp
public static void Main(string[] args) {

    Console.WriteLine("Hello World!");

    Console.WriteLine(1 + 2);

}
```

Hello World!
3

Press any key to continue...

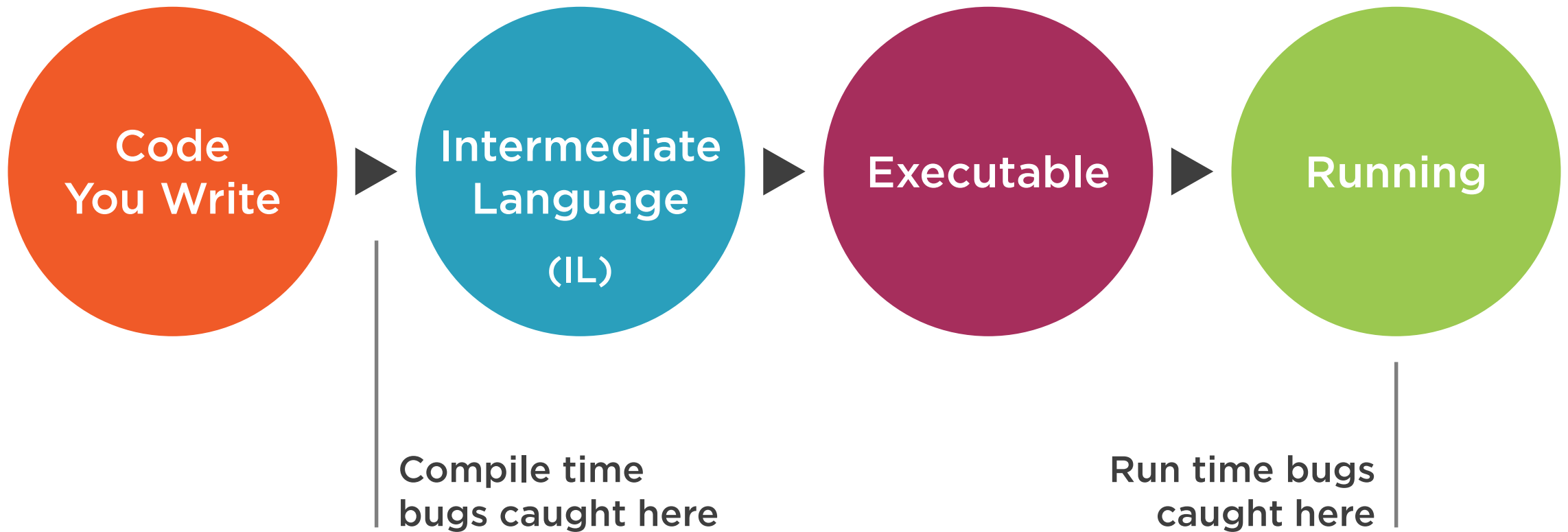# There Are Bugs, and Then There Are Bugs...

Bugs (errors) come in two flavors:

- Compile Time Bugs

- Run Time Bugs

If you are going to have a bug, you *really* want it to be a compile time bug

A Word About Compiling

**Code
You Write**

**Intermediate
Language

(IL)**

Executable

Running

Compile time
bugs caught here

Run time bugs
caught here

The Compiler Is Your Friend.

When you are uncertain,
ask the compiler.

Summary

Statements are instructions.
They end with a semi-colon;

White space (spaces, tabs, new lines)
are usually ignored

Compile-time bugs are better than
run-time bugs

"Save time, don't put the bugs in"

– Pat Johnson