Starter Demos

Paulo Vieira

2020

DEMO #1 - Disassembler

```
Console.WriteLine("Hello World!");
```

Anatomy of a C# Application

```
using System;

namespace _1Dissassembler
{
    class Program
    {
        static void Main(string[] args)
        {
            Console.WriteLine("Hello World!");
        }
    }
}
```

Anatomy of a C# Application

```
using System;
```

- The **System** namespace contains fundamental classes and base classes that define commonly-used value and reference data types, events and event handlers, interfaces, attributes, and processing exceptions.

Anatomy of a C# Application

```
namespace _1Dissassembler{}
```

- C# programs are organized using namespaces.
- Namespaces are used both as an "internal" organization system for a program, and as an "external" organization system: a way of presenting program elements that are exposed to other programs.

Anatomy of a C# Application

```
class Program{}
```

- A class is a data structure that may contain data members, function members, and nested types.
- Class types support inheritance, a mechanism whereby a derived class can extend and specialize a base class.

Anatomy of a C# Application

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

DEMO #2 - Data Types

```
uint naturalNumber = 23;
int population = 66_000_000;
double weight = 1.88;
decimal price = 4.99M;
float realNumber = 2.3F;
string fruit = "Apples";
char letter = 'Z';
bool happy = true;
```

DEMO #3 - Loops and Collections

```
string[] names= new string[4];
List<string> namesList = new List<string>();
names[0] = "Pedro";
names[1] = "Jorge";
names[2] = "Carina";
names[3] = "Dora";
names[4] = "Luis";
namesList.Add("Catarina");
namesList.Add("Nuno");
namesList.Add("Nuno");
namesList.Add("Marco");
namesList.Add("Catarina");
```

DEMO #4 - Null Handling

```
int thisCannotBeNull = 4;
int? thisCouldBeNull = null;
```

DEMO #5 - Operators

```
Console.WriteLine($"x + y = {x + y}");
Console.WriteLine($"x - y = {x - y}");
Console.WriteLine($"x * y = {x * y}");
Console.WriteLine($"x / y = {x / y}");
Console.WriteLine($"x % y = {x % y}");
```