Structs

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What is Struct?

- Structs share most of the same syntax as classes

- More limited than classes

- Fields cannot be initialized

- Cannot declare a default constructor

- Structs are value types and classes are reference types.

- Can be instantiated without using a new operator

Definition and usage

```
 1  namespace test
 2  {
        2 references
 3      struct Bar
 4      {
 5          int a;
            1 reference
 6          public int A { get => a; set => a = value; }
 7      }
        0 references
 8      class Program
 9      {
            0 references
10          static void Main(string[] args)
11          {
12              Bar myBar = new Bar();
13              myBar.A = 123;
14          }
15      }
16  }
```

instantiated without using a new operator

```csharp
struct Bar
{
    1 reference
    public void Hello()
    {
        Console.WriteLine("Hello");
    }
}
0 references
class Program
{
    0 references
    static void Main(string[] args)
    {
        Bar myBar;
        myBar.Hello();
    }
}
```

Struct copy

```csharp
struct Bar
{
    int a;
    4 references
    public int A { get => a; set => a = value; }
}
0 references
class Program
{
    0 references
    static void Main(string[] args)
    {
        Bar myBar = new Bar();
        myBar.A = 123;
        Bar myCopy = myBar;
        myCopy.A = 456;
        Console.WriteLine(myBar.A); // 123
        Console.WriteLine(myCopy.A); // 456
    }
}
```