03 object-oriented programming:

1. **What are the six combinations of access modifier keywords and what do they do?**

**Public:** accessible everywhere in you assembly or another assembly

**Private:** only accessible within the same class or struct

**Protected:** accessible within the same class and by derived class inheritance

**Internal:** accessible only in the same assembly

**Protected internal:** accessible within the same assembly or protected class in other assembly

**Private Internal:** accessible within the same assembly and from derived classes in the same assembly

1. **What is the difference between the static, const, and read-only keywords when applied to a type member?**

**Const:**

* cannot be changed after declaration
* can only be used with primitive types, string and other const values
* compile time only

**Readonly:**

* primary types, make the value immutable
* with reference type, make the reference immutable not the value
* runtime value
* any type
* can be set in a constructor
* Can be static
* Only set once either in declaration or in a constructor

**Static:**

* Shared across all instances of a class
* Value can change anytime
* Used with any type
* Can be modified through program execution:
  + Ex: public static int age = 0; public MyClass { age++:}

1. **What does a constructor do?**

Create instance, share same name with the class

Doesn’t have a return type

Default constructor: no parameter

Constructor with parameter can be overloaded

Static constructor initialize static member of the type, or parameter less

1. **Why is the partial keyword useful?**

Split large classes

Ex: like splitting declaration and implementation

Or better organization, separating properties in a file and methods in another

Or easier team collaboration

1. What is a tuple?

Is a datastructure that hold mutltiple values of different types:  
EX:   
(string, int) person = ("John", 25); *// Accessing values*

Console.WriteLine(person.Item1); *// "John"*

Console.WriteLine(person.Item2); *// 25*