OPP – Summary

Classes model real-world objects and define:

* **Attributes** (state, properties, fields)
* **Behavior** (methods. Operations)

Classes in C# can have members:

* Fields, constants, methods, properties, indexers, events, operators, etc.
* Inner types (inner classes, structures, interfaces, delegates, ...)

Class members can be:

* **Public** – accessible from any class
* **Protected** - accessible from the class itself and all its descendent classes
* **Private** – accessible form the class itself only
* **Internal** – accessible form the current assembly

**Constructors** are special methods

* Invoked at the time of creating a new instance of an object
* Used to initialize the fields of the instance

**Properties** expose object`s data to the world and control how the data is manipulated.

Properties work as a pair of methods (Getter and setter).

**Enumerations** are types that hold a value from a fixed set of named constants.

OOP fundamental principles are: inheritance, encapsulation, abstraction, polymorphism.

* Inheritance allows inheriting members from another class
* Abstraction and encapsulation hide internal data and allow working through abstract interface
* Polymorphism allows working with objects through their parent interface and invoke abstract actions