**Polymorphism**

**polymorphism in csharp is a concept by which we can perform a single action by different ways.**

real word example:

1) father->son->husband->teacher

**Types of polymorphism**

1)static / compile time polymorphism

: the mechanism of linking a function with an object during compile time is called

static OR early binding Polymorphism.

Techniques:

1)Method OR Function Overloading

2)Operator Overloading

**Method OR Function Overloading:**

-you can have multiple definitions for the same function name in the same scope.

-the definition of the function must differ from each other by the types and/ or the number of arguments in the argument list.

-you cannot overload function declaration that differ only by return type.

**Operator Overloading:**

-The concept of overloading a function also can be applied operators.

-Operator overloading gives the ability to use same operator to do various operations.

-It provides additional capabilities to C# operator when they are applied to user defied data type.

-it enables to make user-defined implementation of various operations where one or both of the operands are of a user-defined class.

-only the predefined set of c # operators can be overloaded.

**Dynamic OR runtime Polymorphism**

**- Run Time polymorphism is achieved by method “Overriding”.**

**-Method overriding allows us to have virtual and abstract methods in the base using derived classes with the same name and the same parameter.**

**Method Overring**

**-If derived class defines same method as define in its base class, it is known as method overriding in C#.**

**-It is used to achieve runtime polymorphism.**

**-it enables you to provide specific implementation of the method of child class which is already provided by its base class.**

**-to perform method overriding in C#, you need to use Virtual keyword with base class method and override keyword with derived class method.**

**-A method declared using the virtual keyword is referred to as a virtual method.**

**-In the derived class you need to declare the inherited virtual method using the override keyword.**

**-In derived class , you need to declare the inherited virtual method using the override keyword which is mandatory for any virtual method that is inherited in the derived class.**

**-the override keyword override the base class method in the derived class.**