**Object Oriented Programming In C#**

Object Oriented Programming (OOP) is one of the most popular programming languages.

## OOP Features

Object Oriented Programming (OOP) is a programming model where programs are organized around objects and data rather than action and logic.  
  
OOP allows decomposition of a problem into a number of entities called objects and then builds data and functions around these objects.

1. The software is divided into a number of small units called objects. The data and functions are built around these objects.
2. The data of the objects can be accessed only by the functions associated with that object.
3. The functions of one object can access the functions of another object.

## Class

A class is the core of any modern Object Oriented Programming language such as C#.

**class** Employee

{

}

## Object

Objects are the basic run-time entities of an object oriented system. They may represent a person, a place or any item that the program must handle.  
  
"An object is a software bundle of related variable and methods."

All the programming languages supporting Object Oriented Programming will be supporting these three main concepts,

1. Encapsulation
2. Inheritance
3. Polymorphism

Abstraction

Abstraction is "To represent the essential feature without representing the background details."  
  
Abstraction lets you focus on what the object does instead of how it does it.  
  
Abstraction provides you a generalized view of your classes or objects by providing relevant information.  
  
Abstraction is the process of hiding the working style of an object, and showing the information of an object in an understandable manner.  
  
**Real-world Example of Abstraction**

Suppose you have an object Mobile Phone.  
  
Suppose you have 3 mobile phones as in the following:  
  
Nokia 1400 (Features: Calling, SMS)  
Nokia 2700 (Features: Calling, SMS, FM Radio, MP3, Camera)  
Black Berry (Features:Calling, SMS, FM Radio, MP3, Camera, Video Recording, Reading E-mails)  
  
Abstract information (necessary and common information) for the object "Mobile Phone" is that it makes a call to any number and can send SMS.

## Encapsulation

Wrapping up a data member and a method together into a single unit (in other words class) is called Encapsulation.

Encapsulation is like enclosing in a capsule. That is enclosing the related operations and data related to an object into that object.  
  
Encapsulation is like your bag in which you can keep your pen, book etcetera. It means this is the property of encapsulating members and functions.

## Inheritance

When a class includes a property of another class it is known as inheritance.

Inheritance is a process of object reusability.