

OOPS-Features->Object->Class->Abstraction->Encapsulation->Inheritance->Polymorphism

1)Object:-Objects are instances of classes.-They hold the data variables and member functions declared in class.-They are the variables of type class.-They can be created and destroyed at run-time.-Object creation occupies memorylocation. 2)class-Class is a collection of objects of similar type. -Objects are variables of the type class.-Once a class has been defined, we can create any number of objects belonging to that class. -A class provides the blueprints or template for objects.-A class can be public or private or protected.3)Abstraction:-As per dictionary, abstraction is the quality of dealing with ideas rather than events.-In Object-oriented programming, abstraction is a process of hiding the implementation details from the user, only the functionality will be provided to the user.-In Java, abstraction is achieved using Abstract classes and interfaces.4)Encapsulation:- Encapsulation is the mechanism that binds together code and the data it manipulates, and keeps both safe from outside interference and misuse.-It is a protective wrapper that prevents the code and data from being accessed by other code defined outside the wrapper.-In java the basis of encapsulation is the class.5)Inheritance:-Inheritance is a process by which one object acquires the properties of another object.- extends is the keyword used to inherit the properties of a class.-The class which inherits the properties of other is known as subclass (derived class, child class) and the class whose properties are inherited is known as superclass (base class, parent class).-With the use of inheritance the information is made manageable in a hierarchical(top-down) order.6)Polymorphism:-Polymorphism is the ability of an object to take on many forms.-More generally, the concept of Polymorphism is often expressed by the phrase one interface, multiple methods.-This helps reduce the complexity by allowing the same interface to be used to specify a general class of action.-Polymorphism is implemented by two ways,compile-time(Static) Polymorphism and run-time(Dynamic) Polymorphism.