OOPS-Features

FEATURES OF OOP:
->Object
->Class
->Data Hiding and Encapsulation
->Dynamic Binding
->Message Passing
->Inheritance
->Polymorphism

OBJECT: Object is a collection of number of entities. Objects take up space in the memory. Objects are instances of classes. When a
program is executed , the objects interact by sending messages to one another. Each object contain data and code to manipulate the
data. Objects can interact without having know details of each others data or code.

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. Eg: grapes bannans and orange are the member of class fruit.
Example:
Fruit orange;
In the above statement object mango is created which belong to the class fruit.
NOTE: Classes are user define data types.

DATA ABSTRACTION AND ENCAPSULATION: Combining data and functions into a single unit called class and the process is known as
Encapsulation.Data encapsulation is important feature of a class. Class contains both data and functions. Data is not accessible
from the outside world and only those function which are present in the class can access the data. The insulation of the data from
direct access by the program is called data hiding or information hiding. Hiding the complexity of proram is called Abstraction and
only essential features are represented.In short we can say that internal working is hidden.

DYNAMIC BINDING: Dynamic binding also called dynamic dispatch is the process of linking procedure call to a specific sequence of
code(method) at run-time. It means that the code to be executed for a specific procedure call is not known until run-time. Dynamic

binding is also known as late binding or run-time binding. It is related with polymorphism and inheritance.Dynamic binding(dispatch)
means that a block of code executed with reference to a procedure(method) call is determined at run time.Dynamic dispatch is generally
used when multiple classes contain different implementations of the same method. It provides a mechanism for selecting the function
to be executed from various function alternatives at the run-time. In C++, virtual functions are used to implement dynamic binding.

MESSAGE PASSING: The process by which one object can interact with other object is called message passing.It is a form of communication
between objects, processes or other resources used in object-oriented programming, inter-process communication and parallel computing.

INHERITANCE: It is the process by which object of one class aquire the properties or features of objects of another class. The
concept of inheritance provide the idea of reusability means we can add additional features to an existing class without modifying
it. This is possible by driving a new class from the existing one. The new class will have the combined features of both the classes.
Example: Robine is a part of the class flying bird which is again a part of the class bird.

POLYMORPHISM: A greek term means ability to take more than one form. An operation may exhibite different behaviours in different
instances. The behaviour depends upon the types of data used in the operation.
Example:
Operator Overloading
Function Overloading