OOP's

(Object oriented Programming Structure / System)

-> OOP is Programming Paradigm / methodology
(Programming Paradigm is an approach to solve Problem using some Programming language or also we can say it is method to solve a Problem)

-> there are lot's of types of Programming Paradigm (approach to solve Problems) (way to solve a Problem)
* object oriented Paradigm.
* Procedural Paradigm.
* functional
* logical
* Structured.

-> 6 main Pillars of OOP's

- Class
- Object & methods
- Inheritance.
- Polymorphism.
- Abstraction.
- Encapsulation.

* Class :-

- Class is collection of objects.
- Class is not a real world Entity, it is just a template, blueprint or Prototype.
- Class does not occupy memory.

Ex :- we can not see Class in real world. it simply just categorized objects.

Ex :- Animal

tiger dog cat.

Syntax :- Access modifier class Classname {

// class body.

}

→ "By default Access modifier of class is default"

* Methods :-

→ "A set of code which perform a particular task"

→ Advantages of method.

1. Code Reusability.
2. Code Optimization.

Syntax :-

lower case ↓ Upper case →

Access modifier return type methodName (parameters)

{

}

* Object :-

→ Object is an Instance of class.

→ Object is real world Entity.

→ Object occupies memory.

Page No.
Date : / /

→ Object consist of :- Identity. (Name)
(unique for all)
- State / Attribute :- age, color.
- Behavior :- Eat, run

→ How to create an object. (methods to create an object)

- new keyword
- new Instance() method.
- clone() method.
- deserialization
- factory method.

→ Object creation using new keyword.
(Class → Animal, object Name → A1)

1) Declaration :- Animal A1 ;
2) Instantiation :- A1 = new Animal()
3) Initialization :- ↗

Null is assigned to the memory when object is declared.

→ In Initialization memory is allocated for an object. Here new keyword is used to create an object.

→ Initialization By a constructor. (the 'new' keyword is followed by a call to a constructor. this call Initializes the new object)
- Here all state & behaviour of an object is loaded in the memory.

Syntax :-

Animal A1 = new Animal ( ) ;

→ By using . operator we can call methods of object.

A1 . run ( ) ;
↓
(methos inside Animal class)

* How to initialize a object.
(How to put values in objects)

- By using refererxe variable
- By using constructor.
- By using method.