**Day 1 :**

Package is a collection of classes and interfaces. Package is like a folder or directory.

Object : object is any real-world entity.

Property or state -🡪 have-🡪 variable / fields

Person

Behaviour -🡪does/do -🡪 method/function

Bank

Animal

Customer

Employee

Object is a concept.

Class : blue print of object or template of object or user defined data types which help describe the object.

Constructor:

**Encapsulation: :** Binding or wrapping data(variable) and code(methods) in a single unit is known as Encapsulation. Example : class

According encapsulation variable must be private and need to provide helper method to set the value with conditions.

JavaBean class: This class is known as **pure Encapsulation class**

1. All variable must be private
2. For each variable we need to provide setter and getter method.
3. Setter method is use to set the value and getter method is use to get the value.
4. Inside setter method write condition to set the value.

By default in java every class extends pre defined class ie **Object.**

class Object {

}

Class A {}

Class B extends A{}

**Inheritance** : Inheritance is use to inheritance property and behaviour of old class to new class.

1. Single inheritance : one super class and one sub class

Class A {}

Class B extends A{}

1. Multilevel inheritance: one super class and n number of sub classes connected one by one

Class A {}

Class B extends A {}

Class C extends B{}

Class D extends C {}

1. Hierarchical inheritance : one super class and n number of sub classes connected directly to super class.

Class A {}

Class B extends A{}

Class C extends A{}

Class D extends A{}

1. Multiple inheritance : more than one super class and one sub class

Class A {}

Class B {}

Class C extends A,B{} : java doesn’t support this type of inheritance. Java support this type of inheritance using **interface**.

OOPs relationship

Manager/Developer **Is a** Employee

Manager **Has a** Address

Class Employee {

Id,name,salary

}

Class Manager extends Employee{

numberOfEmp;

Address add = new Address();

}

Class Developer extends Employee{

projectName;

}

Class ProjectManager extends Manager{

clientInfo;

}

Class Address {

City,state,picode etc

}