1. **Class and Object**

A class is a group of objects that has common properties. It is a template or blueprint from which objects are created.

class Student1{

int id;//data member (also instance variable)

String name;//data member(also instance variable)

public static void main(String args[]){

Student1 s1=new Student1();//creating an object of Student

System.out.println(s1.id);

System.out.println(s1.name);

}

}

**Inheritance**

Inheritance in java is a mechanism in which one object acquires all the properties and behaviors of parent object.

**class** Employee{

**float** salary=40000;

}

**class** Programmer **extends** Employee{

**int** bonus=10000;

**public** **static** **void** main(String args[]){

   Programmer p=**new** Programmer();

   System.out.println("Programmer salary is:"+p.salary);

   System.out.println("Bonus of Programmer is:"+p.bonus);

}

}

**Encapsulation**

Encapsulation in java is a *process of wrapping code and data together into a single unit*, for example capsule i.e. mixed of several medicines.

//save as Student.java

**public** **class** Student{

**private** String name;

**public** String getName(){

**return** name;

}

**public** **void** setName(String name){

**this**.name=name

}

}

1. Inheritance
   1. Single Level
   2. Multilevel
   3. Access Control and Inheritance:
2. Encapsulation