

Encapsulation

Encapsulation is an OOPS principle. The process of binding data members and member functions and protecting data members is known as encapsulation.

Steps to achieve encapsulation:

1. Declare public class.
2. Declare private data members.
3. Declare public no-argument constructor.
4. Declare public getter and setter method to access and initialize private data members.
5. Declare getter method to access private data members.
6. Declare setter method to initialize private data members.

Example for Encapsulation

```
public class Student
{
    private String Name;
    private int id;
    private double marks;

    Student()
    {
        System.out.println("Constructor is running");
    }

    public void setName(String Name)
    {
        this.Name=Name;
    }
    public void setId(int id)
    {
        this.id=id;
    }
    public void setMarks(double marks)
    {
        this.marks=marks;
    }
    public String getName()
    {
        return Name;
    }
    public int getId()
    {
        return id;
    }
    public double getMarks()
    {
        return marks;
    }
}

public class EncapsulationMain2
{
    public static void main(String[] args)
```

```

{
    Student s=new Student();
    s.setName("Alex");
    s.setId(10);
    s.setMarks(65.5);
    System.out.println("Student Name"+s.getName());
    System.out.println("Student id"+s.getId());
    System.out.println("Student marks"+s.getMarks());
}
}

```

2. Write a program for encapsulation:

```

public class Vehicle
{
    private String regNo;
    private double insuranceNo;
    private String model;
    public Vehicle()
    {
        System.out.println("COnstructor is running");
    }
    public String getregNo()
    {
        return regNo;
    }
    public double getInsuranceNo()
    {
        return insuranceNo;
    }
    public String getModel()
    {
        return model;
    }
    public void setRegNo(String regNo)
    {
        this.regNo=regNo;
    }
    public void setInsuranceNo(double insuranceNo)
    {
        this.insuranceNo=insuranceNo;
    }
    public void setModel(String model)
    {
        this.model=model;
    }
}

public class EncapsulationMain1 {
    public static void main(String[] args)
    {
        Vehicle v=new Vehicle();
        v.setRegNo("KA-09");
        v.setModel("Audi");
        v.setInsuranceNo(1243524);
        String model=v.getModel();
        String RegNo=v.getregNo();
        double Insurance=v.getInsuranceNo();
    }
}

```

```
        System.out.println(model);  
        System.out.println(RegNo);  
        System.out.println(Insurance);  
    }  
}
```