

ASSIGNMENT-16(9FEB)

Q. What is Encapsulation in java? Why is it called Data hiding?

Ans- Binding of data and corresponding methods into a single unit is called "Encapsulation". If any java class follows data hiding and abstraction then such class is referred to as Encapsulation Class. Encapsulation= Data Hiding + Data Abstraction

Q. What are the important features of Encapsulation?

Ans- It restrict the direct access to some components of the object, so users cannot access state values for all of the variables of a particular object. It can be used to hide both data members and data functions or methods associated with an instantiated class or object.

Q. What are getter and setter method in java Explain with an example.

Ans- Setter methods are used to set the value to the instance variables of the class.

Getters methods are used to get the value from the instance variables of the class.

```
Example- class Student{
    private int age;
    private String name;
    public void setAge(int age){
        this.age=age;
    }
    public void setName(String name){
        this.name=name;
    }
    public int getAge(){
        return age;
    }
    public String getName(){
        return name;
    }
}

public class Encapsulation {
    public static void main(String[] args) {
        Student obj= new Student();
        Student obj2= new Student();
        obj.setAge(22);
        obj2.setAge(18);
        obj.setName("AMIT");
        obj2.setName("KHUSHI");
        int std1=obj.getAge();
        String std2=obj.getName();
        int std4=obj2.getAge();
    }
}
```

```

        String std3=obj2.getName();
        System.out.println(std2+" "+std1);
        System.out.println(std3+" "+std4);
    }
}

```

Q. What is the use of this keyword explain with example?

Ans- If both local variable and instance variable have the same name inside the method then it would result in a name-clash and jnum will always give preference for local variable. We can use this keyword for the solution of this problem clash.

Q. What is the advantage of Encapsulation?

Ans- We can achieve security.

Enhancement becomes easy

Maintainability and modularisation becomes easy.

It provides flexibility to the user to use the system very easily.

Q. How to achieve Encapsulation in java? Give an example.

Ans-

```

class Student{
    private int age;
    private String name;
    public void setAge(int age){
        this.age=age;
    }
    public void setName(String name){
        this.name=name;
    }
    public int getAge(){
        return age;
    }
    public String getName(){
        return name;
    }
}

public class Encapsulation {
    public static void main(String[] args) {
        Student obj= new Student();
        Student obj2= new Student();
        obj.setAge(22);
        obj2.setAge(18);
    }
}

```

```
obj.setName("AMIT");  
obj2.setName("KHUSHI");  
int std1Age=obj.getAge();  
String std1Name=obj.getName();  
int std2Age=obj2.getAge();  
String std2Name=obj2.getName();  
System.out.println(std1Name+" "+std1Age);  
System.out.println(std2Name+" "+std2Age);  
    }  
}
```