1.What is Encapsulation in Java? Why it is called Data hiding?

Ans: It a technique with this we can wrapping the data members, methods, constructor in a single unit.

If a field is declared private in the class then it can't be accessed by anyone outside of the class and hides the fields within the class. That's why it is called Data hiding.

2. What are the important features of Encapsulation?

Ans:

Better Control: Encapsulation provides ultimate control over the data members and data methods inside the class.

Getter and Setter: The standard IDEs provide in-built support for 'Getter and Setter' methods, which increases the programming pace.

Security: Encapsulation prevents access to data members and data methods by any external classes. The encapsulation process improves the security of the encapsulated data.

Flexibility: Changes made to one part of the code can be successfully implemented without affecting any other part of the code.

Data Hiding in Java: Data hiding is a procedure done to avoid access to the data members and data methods and their logical implementation. Data hiding can be done by using the access specifiers. We have four access specifiers, which are as follows.

3. What are getter and setter methods in java with example.

Ans: Getter is a method in java used to get or fetch the value of the data members or variables and Setter is a method in java used to set the value of the data members or variables.

```
class Student {
   private int age;
   private String name;

   public int getAge() {
      return age;
   }
   public void setAge(int age) {
      this.age = age;
   }
   public String getName() {
      return name;
   }
```

```
    public void setName(String name) {
        this.name = name;
    }
    public void studentDetails() {
        System.out.println(name + " and " + age + " " + rollNo);
    }
}
```

4. What does the use of this keyword explain with example?

Ans: this keyword refers to current object, the object whose method or constructor is being called.

```
class Student {
    private int age;
    private String name;

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

    public void setName(String name) {
        this.name = name;
    }
    public void studentDetails() {
        System.out.println(name + " and " + age + " " + rollNo);
```

5. What is the advantage of Encapsulation?

Ans: The main advantage of Encapsulation is to security the data.

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6. How to achieve encapsulation in java?

Ans: Declaring the variables of a class as private.

Providing public setter and getter methods to modify and view the variables values.

```
class Student {
   private int age;
   private String name;

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

   public void setName(String name) {
      this.name = name;
   }
   public void studentDetails() {
      System.out.println(name + " and " + age + " " + rollNo);
```

In this example we have a class Student and in the class we have 2 private variables. We provide getter and setter methods for age, name.