1. What is encapsulation in java? why is it called data hiding?

   Encapsulation is a fundamental principle in Java that combines data and methods within a class to provide data hiding and controlled access to the class's internal state.

   It called data hiding because it shields the internal data of an object from direct external access.

2. What are the important features of encapsulation?

   Data hiding,access control are some important features of encapsulation.

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

   Getter and setter are method used for accessing and modifying the values of private variables of a class.

```
public class Person {
    private String name;
    private int age;


    public String getName() {
        return name;
    }

    public void setName(String newName) {
        name = newName;
```

```
    }

    public int getAge() {
        return age;
    }

    public void setAge(int newAge) {
        if (newAge >= 0) {
            age = newAge;
        }
    }
}
```

4. What is the use of this keyword explain with example?
   This keyword can be used to refer to the instance variable.

```
public class MyClass {
    private int value;

    public void setValue(int value) {
        this.value = value;
    }
}
```

5. What is the advantage of encapsulation?

Data hiding,access control are advantage of encapsulation.

6. How to achieve encapsulation in java? give an example.
   By using private variable and setter and getter method.

```
public class Person {
    private String name;
    private int age;


    public String getName() {
        return name;
    }

    public void setName(String newName) {
        name = newName;
    }


    public int getAge() {
        return age;
    }


    public void setAge(int newAge) {
        if (newAge >= 0) {
            age = newAge;
```

```
            }
        }
    }
```