**ENCAPSULATION ASSIGNMENT**

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

**Ans:** Encapsulation in Java refers to integrating data (variables) and code (methods) into a single unit. In encapsulation, a class's variables are hidden from other classes and can only be accessed by the methods of the class in which they are found.

**2. What are the important features of Encapsulation?**

**Ans:** A class can have complete control over its data members and data methods.

**3. What are the getter and setter methods in Java, Explain with an example?**

**Ans:** Getter and Setter methods in Java are used to retrieve or update the value of an object's private fields. The main idea behind these methods is to provide controlled access to an object's attributes and ensure that they are modified or retrieved in a safe and controlled manner.

Example: public class BankAccount {

private double balance;

public double getBalance() {

return balance;

}

public void setBalance(double balance) {

this.balance = balance;

}

}

**4. What is use of ‘this’ keyword explain with an example?**

**Ans:** ‘This’ keyword is used for JVM to know that if there is instance variable of the same name as that of local variable.

**5. What is the advantage of Encapsulation?**

**Ans:** The main advantage of encapsulation is that it provides a level of protection and security for an object's data by hiding it from the outside world and making it inaccessible except through a defined interface (i.e. the object's methods).

**6. How to achieve encapsulation in Java? Give an example?**

**Ans:** To achieve encapsulation in Java, you need to follow these steps:

Declare the class variables as private: The variables that you want to encapsulate should be declared as private so that they cannot be accessed directly from outside the class.

Provide public getter and setter methods: To access and modify the values of the private variables, you need to provide public getter and setter methods. The getter methods should return the value of the private variable, and the setter methods should take a parameter and set the value of the private variable.

Example:

public class Student {

private String name;

private int age;

public String getName() {

return name;

}

public void setName(String name) {

this.name = name;

}

public int getAge() {

return age;

}

public void setAge(int age) {

this.age = age;

}

}