Encapsulation Assignment Questions

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

Answer – 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 called as "Encapsulated class".

In encapsulation, the variables of a class will be hidden from other classes, and can be accessed only through the methods of their current class. Therefore , it is also known as data hiding.

2.What are the important features of Encapsulation?

Answer – 1. We can achieve security.

2.Echancement becomes easy.

3.Maintainbility and modularisation becomes easy.

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

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

Answer – Getter method are used to get the value from the instance variables of the class.

Syntax for getter method –

a. Compulsory the method name should start with get.
b. It should be public.
c. Return type should not be void.
d. Compulsory it should not have any argument.

Setter method are used to set the value to the instance variables of the class.

Syntax for setter method-

a. Compulsory the method name should start with set.
b. It should be public.
c. Return type should be void.
d. Compulsory it should have some argument.

Example:

class student

{

    Private String name;

    Private int id;

    //setters

```
   Public void setName (String name)

  {  this.name = name;}

   Public void setId (int id)

  { this.id = id; }

  //getters

  Public String getName () {

  Return name;}

  Public int getId ()  {

  Return id;}
}
```

Question 4.What is the use of this keyword explain with an example.

Answer – If both local variable and instance variable have the same name inside the method then it would result in a name class and JVM will always give preference for local variable.

This approach is called the "Shadowing problem"

```
class student

{

   Private String name;
```

```
  Private int id;

  Student ( String name, int id)
{   this.name = name;

    this.id = id;

}

Public void display()

{

  System.out.println("Name is " +name);

  System.out.println("Id is " + id);

}

 }}
```

As noticed in the above program , the variables name, id are local variables and these values should be assigned to instance variable of the student class.

Inside the method the JVM will always give preference only for local variables , this problem is termed as "Shadowing "

To resolve this problem we need to use "this" keyword.

Question 4. What is the advantage of Encapsulation?

Answer - 1. We can achieve security.

2.Echancement becomes easy.

3.Maintainbility and modularisation becomes easy.

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

Question 6. How to achieve encapsulation in java? Give an example.

Answer – To achieve encapsulation in java-

    a. Declare the variable of a class as private.
    b. Provide public setter and getter methods to modify and view the variables values.

Example –

Class student

{

    Private int id;

    Public getId() {

        Return id;

}

}