

Assignment16

Ans 1. Encapsulation is the process by which data (variables) and the code that acts upon them (methods) are integrated as a single unit. By encapsulating a class's variables, other classes cannot access them, and only the methods of the class can access them. 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.

Ans 2. Features of encapsulation:

- Encapsulation protects an object from unwanted access by clients.
- Encapsulation allows access to a level without revealing the complex details below that level.
- It reduces human errors.
- Simplifies the maintenance of the application.

Ans 3. Getters and setters:

Getter is a method used to retrieve the value of the data members or variables .It starts with the word “get” and followed with the variable name.

Setter is a method in java used to update or set the value of the data members or variables. Setters sets the value for any variable used in a class's programs and starts with the word “set” followed by the variable name.

Ans 4."This" keyword is used to refer to the current object in a method or constructor. The most common use of the this keyword is to eliminate the confusion between class attributes and parameters with the same name, as a class attribute is shadowed by a method or constructor parameter.

Ans 5.Advantages of encapsulation:

- Encapsulation protects an object from unwanted access by clients
- Encapsulation allows access to a level without revealing the complex details below that level.
- Makes the application easier to understand.
- A class can have complete control over its data members and data methods.
- The class will maintain its data members and methods as read-only.
- Data hiding prevents the user from the complex implementations in the code.
- Simplifies the maintenance of the application

Ans 6.Encapsulation can be achieved by using :

- Declaring the variables of a class as private.
- Providing public setter and getter methods to modify and view the variables values.