List of Concepts Involved:

- Need of Encapsulation
- What is Encapsulation?
- Private members
- Shadowing Problem and this keyword
- Setters and Getters

Need of Encapsulation

- To the outside world, the data should not be exposed directly.
- In order to provide the controlled access, we need to use “Encapsulation”.

What is Encapsulation?

- 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 referred as "Encapsulated class".
  Encapsulation = Data Hiding + abstraction.

Every data member inside the class should be declared as private, and to access this private data we need to have setter and getter methods.

Advantages of Encapsulation

a. We can achieve security.
b. Enhancement becomes easy.
c. Maintainability and modularisation becomes easy.
d. It provides flexibility to the user to use the system very easily.

Private members

- Our internal data should not go to the outside world directly, that is, outside people should not access our internal data directly.
- By using private modifiers we can implement "data hiding".

Example

```
class Account
{
 private double balance;
 }
```

- Advantage of Data Hiding is security.
- Recommended modifier for data members is private.