

◆ **Statement:**

"**Abstraction allows making relevant information visible and encapsulation enables a programmer to implement the desired level of abstraction.**"

✅ **Meaning:**

This statement connects **abstraction** and **encapsulation** — both are core principles of **Object-Oriented Programming (OOP)**.

◆ **1. Abstraction – *What it does?***

- Shows **only the necessary details** to the user.
- **Hides unnecessary internal code** or logic.
- Helps the user focus on **what the object does**, not *how* it does it.

Example:

When you drive a car:

- You use the steering, brake, and accelerator.
 - You don't need to know how the engine or brake system works.
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◆ **2. Encapsulation – *How abstraction is achieved?***

- Encapsulation is the process of **binding data + methods** together inside a class.
- It **hides the internal details** using access modifiers (private, protected, etc.).
- This allows the programmer to control **how much information is visible** outside the class.


Example:

```
class BankAccount {  
    private double balance; // internal detail hidden  
  
    public void deposit(double amount) {  
        balance += amount; // abstraction: only deposit method is shown  
    }  
}
```

- balance is hidden (encapsulation).
 - User interacts with only deposit() (abstraction).
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◆ **So, what does the original line mean?**

- **Abstraction** defines *what* the user should see (relevant details).
- **Encapsulation** controls *how* to show only that part and hide the rest.

 In short:

● *Abstraction* = "Show only what's necessary"

● *Encapsulation* = "Hide the rest and protect the data"