FACULTY OF ENGINEERING & TECHNOLOGY

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Topics Covered

Abstract Class
Encapsulation

Abstract Class

A class which contains the **abstract** keyword in its declaration is known as abstract class.
Abstract classes may or may not contain *abstract methods*, i.e., methods without body (public void get();)
But, if a class has at least one abstract method, then the class **must** be declared abstract.
If a class is declared abstract, it cannot be instantiated.
To use an abstract class, you have to inherit it from another class, provide implementations to the abstract methods in it.
If you inherit an abstract class, you have to provide implementations to all the abstract methods in it.

Abstract Methods
If you want a class to contain a particular method but you want the actual implementation of that method to be determined by child classes, you can declare the method in the parent class as an abstract.
abstract keyword is used to declare the method as abstract.
You have to place the **abstract** keyword before the method name in the method declaration.
An abstract method contains a method signature, but no method body.
Instead of curly braces, an abstract method will have a semoi colon (;) at the end.

Encapsulation

- *Binding (or wrapping) code and data together into a single unit are known as encapsulation*.
  - For example, a capsule, it is wrapped with different medicines.
- A java class is the example of encapsulation.
- Java bean is the fully encapsulated class because all the data members are private here.

Capsule

Encapsulation

To achieve encapsulation in Java −
Declare the variables of a class as private.
Provide public setter and getter methods to modify and view the variables values.

Benefits of Encapsulation
The fields of a class can be made read-only or write-only.
A class can have total control over what is stored in its fields.