Abstraction And Encapsulation

M.Thirupathi Devi
-Id:1361879

Agenda

- Abstraction
- Syntax of abstraction
- Questions on Abstraction
- Encapsulation
- Example of Encapsulation
- Questions on Encapsulation

Abstraction

- Definition:-Abstracion means hiding the data.

  Abstraction is one of the OOP's concept.
- If we declare any method as abstract method, then we no need to define that method.
- If any class contains abstract method then it should be declared as abstract class.
- We can't create object for abstract class.
- But abstract class can be instantiated with it's sub classes which are not abstract.
- If any class extends abstract class then it should override all abstract methods in that parent class otherwise it should be declared as abstract class

Abstraction

- Syntax:-

```
abstract classname{
 abstract returntype methodname(arguments);

 returntype method2(arguments){
  //method definition
 }
}
```

Abstraction

- Questions:-

1)Could you differentiate an Interface and an Abstract class?
2)Can there be any abstract method without abstract class?
3)Can you use abstract and final both with a method?
4)Can abstract class have constructors in Java?
5)Can abstract class implements interface in Java? does they require to implement all methods?
6) Can abstract class have static methods in Java?
7)Is it necessary for abstract class to have abstract method?
8)When do you favor abstract class over interface?
9)Can abstract class contains main method in Java ?
10)Can we declare abstract methods as private?
11)If abstract class and interface have same methods which don’t need implementation then what will you prefer among abstraction and encapsulation?

Encapsulation

- Definition:-Encapsulation is a technique of making fields private and access them through public methods.
- Encapsulation prevents the code and data being accessed by other code defined outside the class.
- Encapsulation provides:
- Maintainability
- Flexibility
- Extensibility

Encapsulation

- Encapsulation is achieved through setter and getter methods.
- Ex:-public class Ex{

```
private int x;
 private char y;
 public int getX()
 {
      return x;
  }
  public int getY()
 {
      return y;
  }
  public void setX(int v1){
    x=v1;
  }
     public void setY(int v2){
    y=v2;
  }
```

Encapsulation

- Questions:-

  1) What is difference between Encapsulation And Abstraction?

  2)What are the features of encapsulation ?

Thank You