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Abstraction

It is a process of hiding the complexity(logic).

Abstraction can be achieved using two ways:

1.One of them is “abstract class”.

abstract class:

1.It hides the logic or definition.

2. ”abstract” keyword is used to declare an abstract class.

3.0-100% abstraction can be achieved using abstract class.

4.Abstract method is declared by the keyword abstract.

5.it is terminated by ';'.

6.Definition of abstract method is not defined.

7.abstract method can be only declared inside an abstract class.

8.What is the difference between a concrete class and an abstract class?

Ans:

1.Concrete class: A class which contains the definition of all its data members is called as concrete class.

2.Abstract class: A class where definition of it data members are hidden is called as Abstract class.

*** A Concrete Class can extends an Abstract class.**

*** Inheritance is required to define the abstract methods declared inside an abstract class.**

8.An Abstract class cannot be instantiated. (No objects can be created).

9.An Abstract class can contain a concrete method.

10.An Abstract class can inherit another abstract class using extends.

11. It is not compulsory for a child abstract class to define the abstract methods declared inside the Parent abstract class.

13.**Syntax:**

```
abstract return_type class_name
{
        abstract return_type method_name();
}
```

```
abstract class AB1
{
        abstract void Java();//abstract method,
        abstract void Java2();
}
class Concrete extends AB1
{
        void Java()
        {
                System.out.println("Abstract method Java implemented inside 
Concrete Class");

        }

        void Java2()
        {
                System.out.println("Abstract method Java2 implemented inside 
Concrete Class");
        }
}
```

```
public class AbstractionClass
{

	public static void main(String[] args)
	{
		Concrete obj=new Concrete();
		obj.Java();
		obj.Java2();

	}

}
```

Output:

```
Abstract method Java implemented inside Concrete Class

Abstract method Java2 implemented inside Concrete Class
```

```
abstract class Pandu
{

	void read()//Concrete Method.
	{
		System.out.println("Machine can Read");
	}

	abstract void sing();
	abstract void dance();
	abstract void cook();

}
abstract class Pandi extends Pandu
{
	// void read()-->Definition Inherited from Pandu Class
	void sing()
	{
		System.out.println("Machine is Singing");
```

```
        }
        abstract void dance();
        abstract void cook();
}
class Bunty extends Pandi
{
        // void read()-->Definition Inherited from Pandu via Pandi Class.
        // void sing()-->Definition Inherited from Pandi Class.
        void dance()
        {
                System.out.println("Machine can Dance");
        }
        void cook()
        {
                System.out.println("Machine can Cook");
        }

}
public class AbstractClass2
{
        public static void main(String[] args)
        {
                Bunty obj=new Bunty();

                obj.read();
                obj.sing();
                obj.dance();
                obj.cook();
//              Pandu obj2=new Pandu(34);//Cannot create object of Abstract class.
        }
}
```

Output:

```
Machine can Read
Machine is Singing
Machine can Dance
Machine can Cook
```

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