Abstract class & interface in Java

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Content

1. Intro to abstract class
2. Use of abstract class
3. Intro to interface
4. Use of interface
5. Advantage of interface

Abstract class

- why abstract ? -Define a class that declares the structure without providing complete implementation of every method
- If any method is declared as abstract, then the class must be declared as abstract

```
abstract class test {
        abstract type method1();

        void method2(){
                ........
        }
}
```

Example - abstractcl.java

Abstract class limitations

- Abstract class can not be instantiated
- Use of abstract class
- Constructor
- Partial implementation of abstract methods
- Object reference of Abstract class type

Example - abstimpl.java

Interface

- why interface ? -Define a class that declares the structure without providing complete implementation of any method
- Syntax -

```
access interface abc{
        type method1();
        type method2();
        type method3();
}
```

- Difference between abstract class & interface

Use of Interface

- Interface can not be instantiated
- Use of interface
- Partial implementation of interface
- Variables in interface

Example- human.java
interfacehu.java

Advantage of Interface

- Java supports multiple inheritance indirectly
- Interface supports inheritance
- Interface supports multiple inheritance

Example- minherit.java
interfaceinherit.java
interfaceMinherit.java

Dynamic Method Lookup

- Dynamic method lookup is the process of determining which method definition a method signature denotes during runtime, based on the type of the object.

Example-   dynaLookup.java

Example -

Define an interface Motor with a data member – capacity and two methods such as run() and consume(). Define a Java class ‘Washing machine’ which implements this interface and write the code to check the value of the interface data member through an object of the class.

Thank you