

Interface



Course Code:

Course Title: Object Oriented Programming -1(JAVA)

Dept. of Computer Science
Faculty of Science and Technology

Lecturer No:		Week No:		Semester:	
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Lecture Outline



1. Interface
2. Attributes of interface
3. Method of interface

Interface



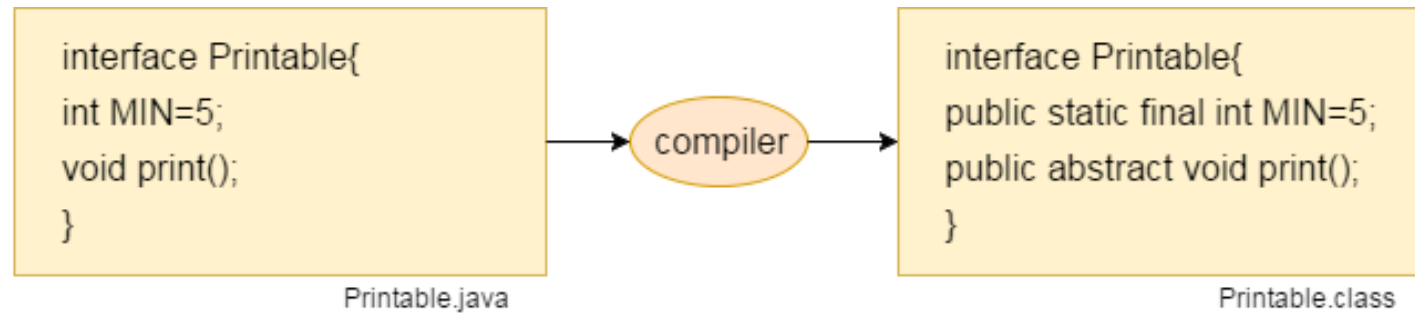
- Interface is just like an Abstract Class but it does not have any regular methods/non-Abstract methods in it.
- We can not create any objects of an interface, but we can take object reference.
- Interfaces are by default public.

Interface



- An interface may have attributes. But these attributes are automatically set to public, static and final all at the same time.
- An interface does not have any constructors.
- All the methods of an interface are by default public and abstract.

Interface





Interface

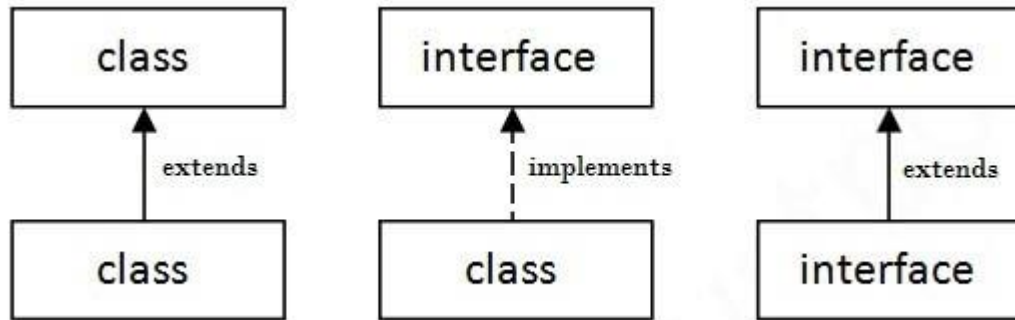
- As all the methods are by default abstract, they do not have any body/implementations.
- However, if we want to give body to any method of an interface, we have to declare the method as static.
- The keyword **interface** is used to denote interface.
- `public interface IMyInterface { . . . }`

Interface

- A Regular/Non-Abstract class can inherit more than one interface.
- An abstract class can inherit more than one interface.
- An interface can inherit more than one interface.
- So, in terms of Interface, Multiple Inheritance is possible.

	class	interface
class	extends	implements
interface	X	Extends

Interface, extends, and implements



- All of the followings are possible:
 - ✓ `interface IAlpha extends IBravo`
 - ✓ `interface IAlpha extends IBravo, ICharlie`
 - ✓ `public class Bravo implements IBravo`
 - ✓ `public class Bravo implements IBravo, ICharlie`
 - ✓ `public abstract class Alpha implements IAlpha`
- So, “class - abstract class - interface” any combination is possible here.



Interface

- What is the benefit of using an Interface instead of an Abstract Class?
 - We can inherit only one abstract class, but we can inherit multiple interfaces.
- Interface enables us to achieve another degree of abstraction by guiding a programmer about the methods that must be implemented in a program.



Books

1. Java Complete Reference, 7th Edition, By Herbert Schildt.
2. A Programmer's Guide to Java SE 8 Oracle Certified Associate, Khalid A. MughalRolf W. Rasmussen
3. Java How to Program Java, 9th Edition, By Deitel and Deitel.
4. The Java Language Specification, By J. Gosling, B. Joy, G. Steele, G.Bracha and A. Buckley
5. Introduction to Programming Using Java, 6th Edition, By David j. Eck
6. Head First Java, By Kathy Sierra and Bert Bates



References

1. 1. Java Complete Reference, 7th Edition, By Herbert Schildt.
2. A Programmer's Guide to Java SE 8 Oracle Certified Associate, Khalid A. MughalRolf W. Rasmussen
2. The Java Tutorials. <http://docs.oracle.com/javase/tutorial/>