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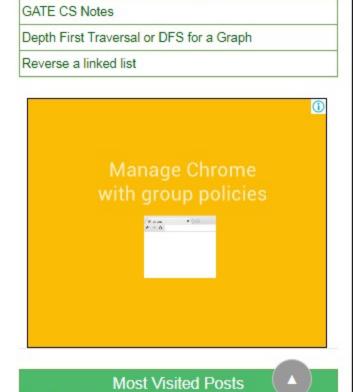
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```
Can we Overload or Override static methods in
java?
```

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Let us first define Overloading and Overriding Overriding: Overriding is a feature of OOP languages like Java that is related to run-time polymorphism. A subclass (or derived class) provides a specific implementation of a method in

superclass (or base class). The implementation to be executed is decided at run-time and decision is made according to the object used for call. Note that signatures of both methods must be same. Refer Overriding

in Java for details. Overloading: Overloading is also a feature of OOP languages like Java that is related to compile time (or static) polymorphism. This feature allows different methods to have same

name, but different signatures, especially number of input parameters and type of input

paramaters. Note that in both C++ and Java, methods cannot be overloaded according to return type. Can we overload static methods? amoronoco in impar paramiero. Per enampio, conocaer ino fenering cara program.

public static void foo() { System.out.println("Test.foo() called ");

// filename Test.java

public class Test {

Test.foo() called

Test.foo(int) called

```
public static void foo(int a) {
        System.out.println("Test.foo(int) called ");
    public static void main(String args[])
        Test.foo();
        Test.foo(10);
                                                                                Run on IDE
Output:
```

We cannot overload two methods in Java if they differ only by static keyword (number of

behaviour is same in C++ (See point 2 of this).

Can we overload methods that differ only by static keyword?

// filename Test.java public class Test { public static void foo() { System.out.println("Test.foo() called "); public void foo() { // Compiler Error: cannot redefine foo() System.out.println("Test.foo(int) called ");

parameters and types of parameters is same). See following Java program for example. This

```
public static void main(String args[]) {
        Test.foo();
Output: Compiler Error, cannot redefine foo()
Can we Override static methods in java?
We can declare static methods with same signature in subclass, but it is not considered
```

the method in the derived class hides the method in the base class.

overriding as there won't be any run-time polymorphism. Hence the answer is 'No'.

// Non-static method which will be overridden in derived class

/* Java program to show that if static method is redefined by a derived class, then it is not overriding. */

// Superclass class Base {

If a derived class defines a static method with same signature as a static method in base class,

// Static method in base class which will be hidden in subclass public static void display() { System.out.println("Static or class method from Base");

```
public void print() {
         System.out.println("Non-static or Instance method from Base");
// Subclass
class Derived extends Base {
    // This method hides display() in Base
   public static void display()
         System.out.println("Static or class method from Derived");
    // This method overrides print() in Base
    public void print() {
         System.out.println("Non-static or Instance method from Derived");
// Driver class
public class Test {
    public static void main(String args[ ]) {
       Base obj1 = new Derived();
       // As per overriding rules this should call to class Derive's static
       // overridden method. Since static method can not be overridden, it
       // calls Base's display()
       obj1.display();
       // Here overriding works and Derive's print() is called
       obj1.print();
Output:
 Static or class method from Base
 Non-static or Instance method from Derived
```

2) For instance (or non-static) methods, the method is called according to the type of object being referred, not according to the type of reference, which means method calls is decided at

run time.

```
3) An instance method cannot override a static method, and a static method cannot hide an
instance method. For example, the following program has two compiler errors.
```

/* Java program to show that if static methods are redefined by

// Static is added here (Causes Compiler Error)

System.out.println("Static method from Derived");

public static void display() {

public static void print() {

methods, unique to the subclass.

// Static method in base class which will be hidden in subclass

System.out.println("Static or class method from Base");

Following are some important points for method overriding and static methods in Java.

1) For class (or static) methods, the method according to the type of reference is called, not

according to the abject being referred, which means method call is decided at compile time.

a derived class, then it is not overriding but hidding. */ // Superclass class Base {

```
// Non-static method which will be overridden in derived class
     public void print() {
         System.out.println("Non-static or Instance method from Base");
// Subclass
class Derived extends Base {
    // Static is removed here (Causes Compiler Error)
   public void display()
        System.out.println("Non-static method from Derived");
```

incorrect, or you want to share more information about the topic discussed above. ① × Build Your Online Store, Your Way. WOO COMMERCE **Get Started**

This article is contrubuted by Chandra Prakash. Please write comments if you find anything

 In a subclass (or Derived Class), we can overload the methods inherited from the superclass. Such overloaded methods neither hide nor override the superclass methods — they are new

Java

Overriding in Java Overloading in Java

References:

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http://docs.oracle.com/javase/tutorial/java/landl/override.html

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