What happens when more restrictive access is given to a derived class method in Java?

In Java, it is compiler error to give more restrictive access to a derived class function which overrides a base class function. For example, if there is a function *public void foo()* in base class and if it is overridden in derived class, then access specifier for *foo()* cannot be anything other than public in derived class. If *foo()* is private function in base class, then access specifier for it can be anything in derived class.

Consider the following two programs. Program 1 fails in compilation and program 2 works fine.

Program 1

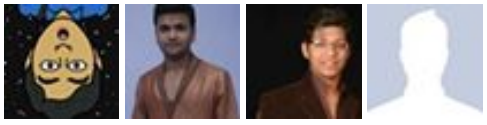
```
// file name: Main.java
class Base {
    public void foo() {}
}

class Derived extends Base {
    private void foo() {} // compiler error
}

public class Main {
    public static void main(String args[]) {
        Derived d = new Derived();
    }
}
```

Program 2

```
// file name: Main.java
class Base {
    private void foo() {}
```

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```
}

class Derived extends Base {
    public void foo() {} // works fine
}

public class Main {
    public static void main(String args[]) {
        Derived d = new Derived();
    }
}
```

Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above.

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alfasin • 8 months ago

It will compile alright, but that doesn't mean that it work...

:)

Let's dive a bit deeper:

```
class Base {
  private void foo() {
    System.out.println(" Base ");
  }
}

class Derived extends Base {
  public void foo() {
    System.out.println(" Derived ");
  } // works fine
}
```

```
public class Child {
```

see more

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Swaroop • 3 years ago

program-2:
Here when you extended the base class to derived class, actually the private f
hence the foo() method which is present in the derived class is totally a new m
I feel here we are not bothered about the access specifier concept.
Please correct me if i am wrong?

1 • Reply • Share ›

kartik ➦ Swaroop • 3 years ago

No, it's not like that. You can try with protected. Following program alsc

```
// file name: Main.java
class Base {
    protected void foo() {}
}

class Derived extends Base {
    public void foo() {} // works fine
}

public class Main {
    public static void main(String args[]) {
        Derived d = new Derived();
    }
}
```

705

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jia ➦ Shekhu • 3 years ago

@Swaroop that is not case..
fact is that java does not allow to make weaker access privileges of a r
privileges are increasing..
prog1.....
import java.io.*;
// file name: Main.java
class Base {
protected void foo() {}
}

class Derived extends Base {
public void foo() {} // compiler error
}

public class Main {
public static void main(String args[]) {
Derived d = new Derived();
}
}