Accessing Grandparent’s member in Java

Directly accessing Grandparent’s member in Java:

Predict the output of following Java program.

```
// filename Main.java
class Grandparent {
    public void Print() {
        System.out.println("Grandparent's Print()");
    }
}

class Parent extends Grandparent {
    public void Print() {
        System.out.println("Parent's Print()");
    }
}

class Child extends Parent {
    public void Print() {
        super.super.Print();  // Trying to access Grandparent's Print(
        System.out.println("Child's Print()");
    }
}

public class Main {
    public static void main(String[] args) {
        Child c = new Child();
        c.Print();
    }
}
```

Output: Compiler Error
There is error in line “super.super.print();”. In Java, a class cannot directly access the

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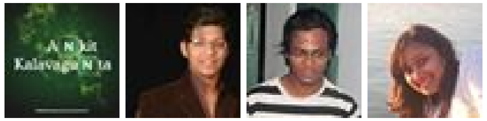

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grandparent’s members. It is allowed in C++ though. In C++, we can use scope resolution operator (::) to access any ancestor’s member in inheritance hierarchy. ***In Java, we can access grandparent’s members only through the parent class.*** For example, the following program compiles and runs fine.

```java
// filename Main.java
class Grandparent {
    public void Print() {
        System.out.println("Grandparent's Print()");
    }
}

class Parent extends Grandparent {
    public void Print() {
        super.Print();
        System.out.println("Parent's Print()");
    }
}

class Child extends Parent {
    public void Print() {
        super.Print();
        System.out.println("Child's Print()");
    }
}

public class Main {
    public static void main(String[] args) {
        Child c = new Child();
        c.Print();
    }
}
```

Output:

```
Grandparent's Print()
Parent's Print()
Child's Print()
```

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

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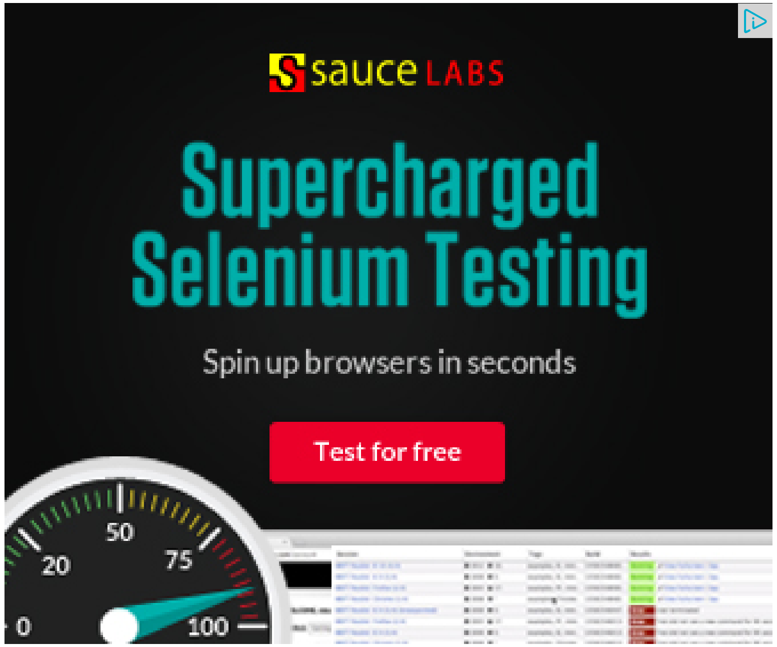

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kartik • 2 years ago

@shadabmast & @Sudhansu:
Thanks for sharing your thoughts. These are mainly indirect ways of accessin
is: unlike C++, Java doesn't allow any direct way to access grandparent's me

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akhil ➦ kartik • 2 years ago

Java doesn't allow because it's against encapsulation policy and not a

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shadabmast ➦ akhil • 2 years ago

@akhil : sounds interesting. would you mind elaborating your p

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Mrudhul ➦ shadabmast • 9 months ago

If java indeed allow it, what if i code to access parent of

```
/* Paste your code here (You may delete these li
```

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akhil ➦ shadabmast • 2 years ago

It makes more sense to not access grandparent's data
for the child class. So it is a good idea to access grand

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Another Approach : You can directly access GrandParent's method by not ove
and still calling super.print() from child's version print method.

```
[sourcecode language="java"]
// filename Main.java
class Grandparent{
public void Print() {
System.out.println("Grandparent's Print()");
}
}

class Parent extends Grandparent {
/*public void Print() {
System.out.println("Parent's Print()");
}*/
}

class Child extends Parent {
public void Print() {
```

see more

^ | ⌄ • Reply • Share ›

Aniket ➦ shadabmast • 9 months ago

I guess this is similar to the scope of variable.
If the variable in not found in local block, compiler searches for it in the
Similarly if the method is not present in the immediate base class then
called.
Please correct me if I am wrong!

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sudhansu sekhar nayak(Gm Odish • 2 years ago

Sir Don't mind I have one solution. The solution is you do not create Print() me create one constructor of Grandparent class.So all the things you declare in G automatically in parent class.It one solution of this Question and it does not need any scope resolution operator(::).

My Code is:

[sourcecode language="java"]
/* Paste your code here (You may delete these lines if not writing code) */
[/

// filename Main.java
class Grandparent{
Grandparent(){ //create constructor of Grandparent class
System.out.println("Grandparent's Print()");
}

}

see more

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trilok • 2 years ago

good info. please provide C++ example also.

^ | ⌄ • Reply • Share ›

Sandeep ➦ trilok • 2 years ago

Following is an example C++ program

```
#include<iostream>
```

```
using namespace std;

class A
{
public:
    void Print() { cout<<"A's Print()\n"; }
};


class B: public A
{
public:
    void Print() { cout<<"B's Print()\n"; }
};
```

see more

^ | ˅ • Reply • Share ›

trilok ➦ Sandeep • 2 years ago

Thanks

^ | ˅ • Reply • Share ›

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