

How to initialize the super class properties (super class instance variable) through sub class object :

\* Constructors are not inherited in java that means constructor of super class is not available in the sub class.

\* Super class constructors are not inherited in the sub class because sub class name and super class constructor name, both would be different.

Example :

```
-----  
class Super  
{  
    public Super()  
    {  
    }  
}  
class Sub extends Super  
{  
    public Sub()  
    {  
    }  
}
```

Creating Object :

```
-----  
Sub s1 = new Sub();  
s1.Super(); //Invalid because  
compiler will searchg Super() method  
[It is a method calling style]
```

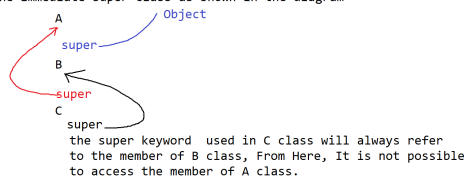
\* From the above diagram, It is clear that we can't call Super class constructor by using sub class reference variable.

\* If we create two separate Objects then there is no use of Inheritance.

\* To avoid above said problem, Java software people introduced super keyword concept.

super keyword :

\* super keyword is mainly used to access the member of super class.  
\* It is used to access the immediate super class as shown in the diagram



\* Just like this keyword, super keyword also we can't use from static context.

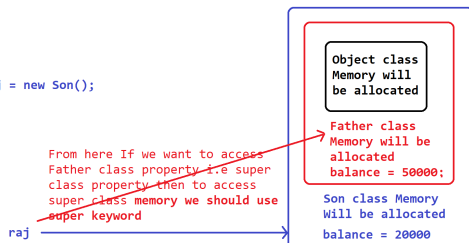
Diagram for VariableHidingDemo1.java

```
-----  
package com.ravi.variable_hiding;  
  
class Father  
{  
    protected double balance = 50000;  
}  
  
class Son extends Father  
{  
    protected double balance = 20000; //Variable Hiding  
    public void printBalance()  
    {  
        System.out.println("Son balance is :"+this.balance);  
    }  
}  
public class VariableHidingDemo1  
{  
    public static void main(String[] args)  
    {  
        Son raj = new Son();  
        raj.printBalance();  
    }  
}
```

```
Object()  
{  
}  
Father()//Default Constructor  
{  
    super();  
}  
  
Son() //Default Constructor  
{  
    super();  
}  
  
Son raj = new Son();
```

Memory Diagram :

Son raj = new Son();



IN INHERITANCE TREE WE ALWAYS SEARCH VARIABLES AND METHOD FROM BOTTOM TOP TOP.

Diagram for MethodOverridingDemo1.java

Gamma g = new Gamma(); [Here we have created the Object for Gamma class but internally Object class constructor will be executed first]

