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BRANCH – B.TECH CSE  
SEM =3<sup>RD</sup>  
UID – 20BCS2761  
SUB – JAVA LAB  
SEC – 13 A

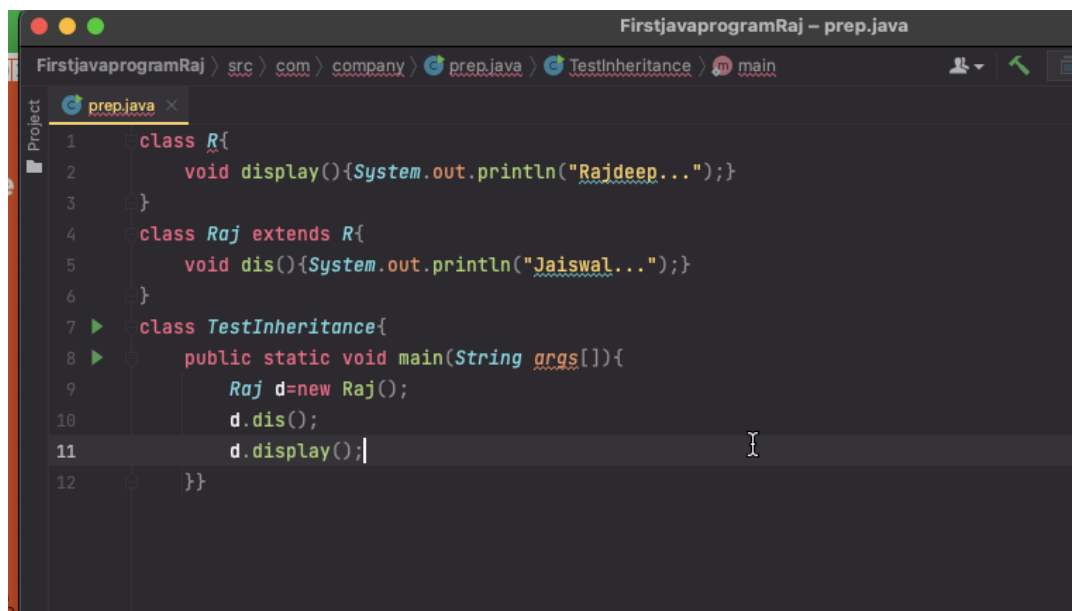
## Types of Inheritance in Java..

On the basis of class, there can be three types of inheritance in java: single, multilevel and hierarchical.

### Single Inheritance Example

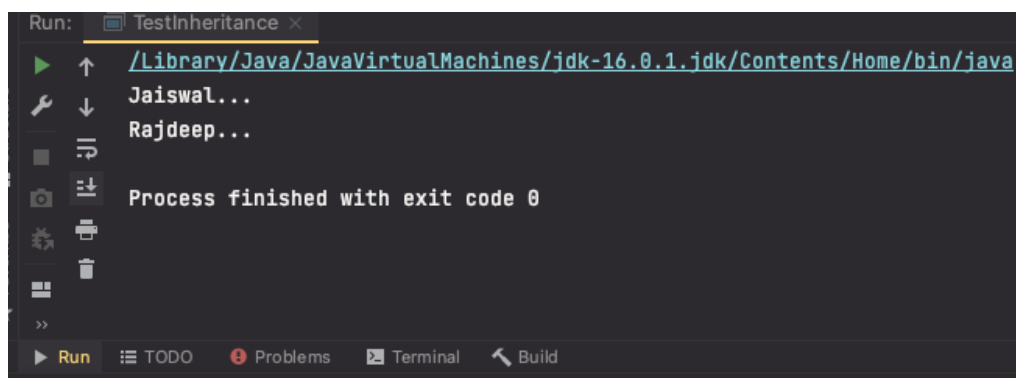
When a class inherits another class, it is known as a *single inheritance*. In the example given below, so there is the single inheritance.

Code- -



```
FirstjavaprogramRaj - prep.java
FirstjavaprogramRaj > src > com > company > prep.java > TestInheritance > main
prep.java x
1  class R{
2      void display(){System.out.println("Rajdeep...");}
3  }
4  class Raj extends R{
5      void dis(){System.out.println("Jaiswal...");}
6  }
7  class TestInheritance{
8      public static void main(String args[]){
9          Raj d=new Raj();
10         d.dis();
11         d.display();|
12     }}
```

Output –

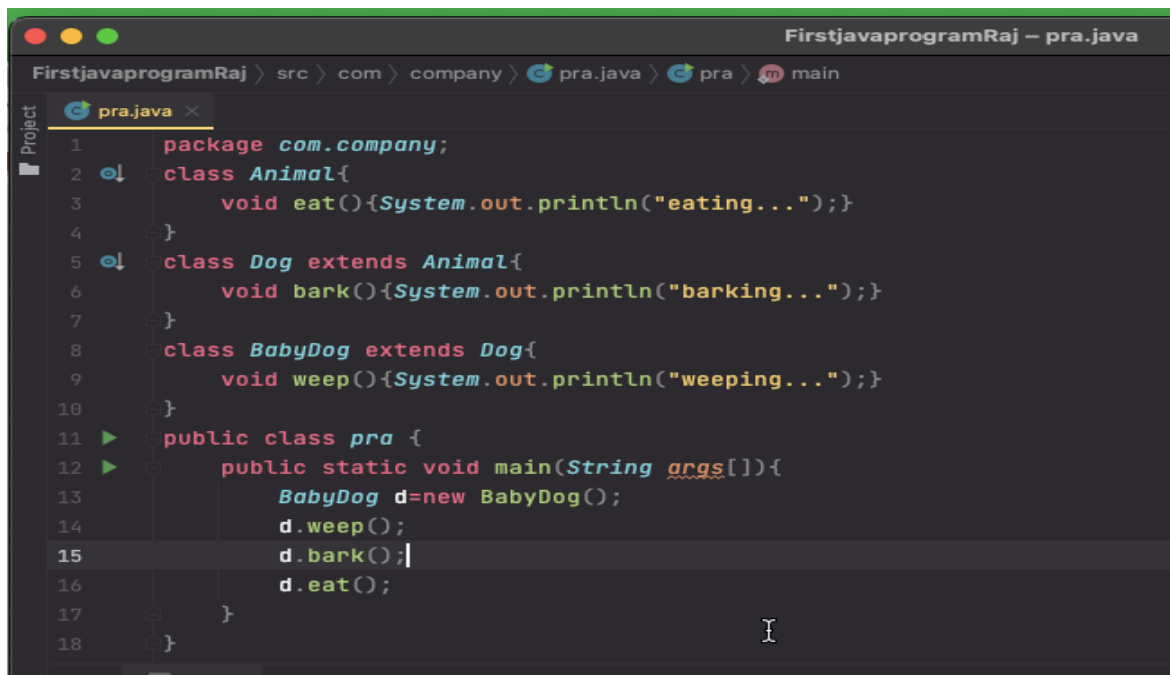


```
Run: TestInheritance x
/Library/Java/JavaVirtualMachines/jdk-16.0.1.jdk/Contents/Home/bin/java
Jaiswal...
Rajdeep...
Process finished with exit code 0
Run  TODO  Problems  Terminal  Build
```

## Multilevel Inheritance Example

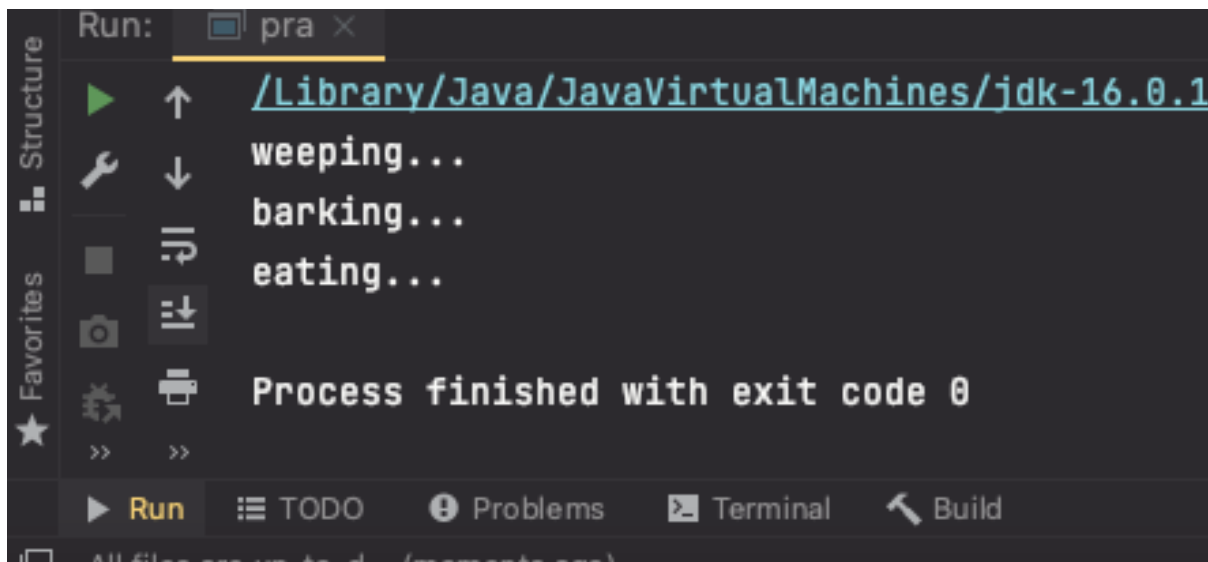
When there is a chain of inheritance, it is known as *multilevel inheritance*. As you can see in the example given below, Baby Dog class inherits the Dog class which again inherits the Animal class, so there is a multilevel inheritance.

Code –



```
FirstjavaprogramRaj – pra.java
FirstjavaprogramRaj > src > com > company > pra.java > pra > main
pra.java x
1 package com.company;
2 class Animal{
3     void eat(){System.out.println("eating...");}
4 }
5 class Dog extends Animal{
6     void bark(){System.out.println("barking...");}
7 }
8 class BabyDog extends Dog{
9     void weep(){System.out.println("weeping...");}
10 }
11 public class pra {
12     public static void main(String args[]){
13         BabyDog d=new BabyDog();
14         d.weep();
15         d.bark();|
16         d.eat();
17     }
18 }
```

OUTPUT-

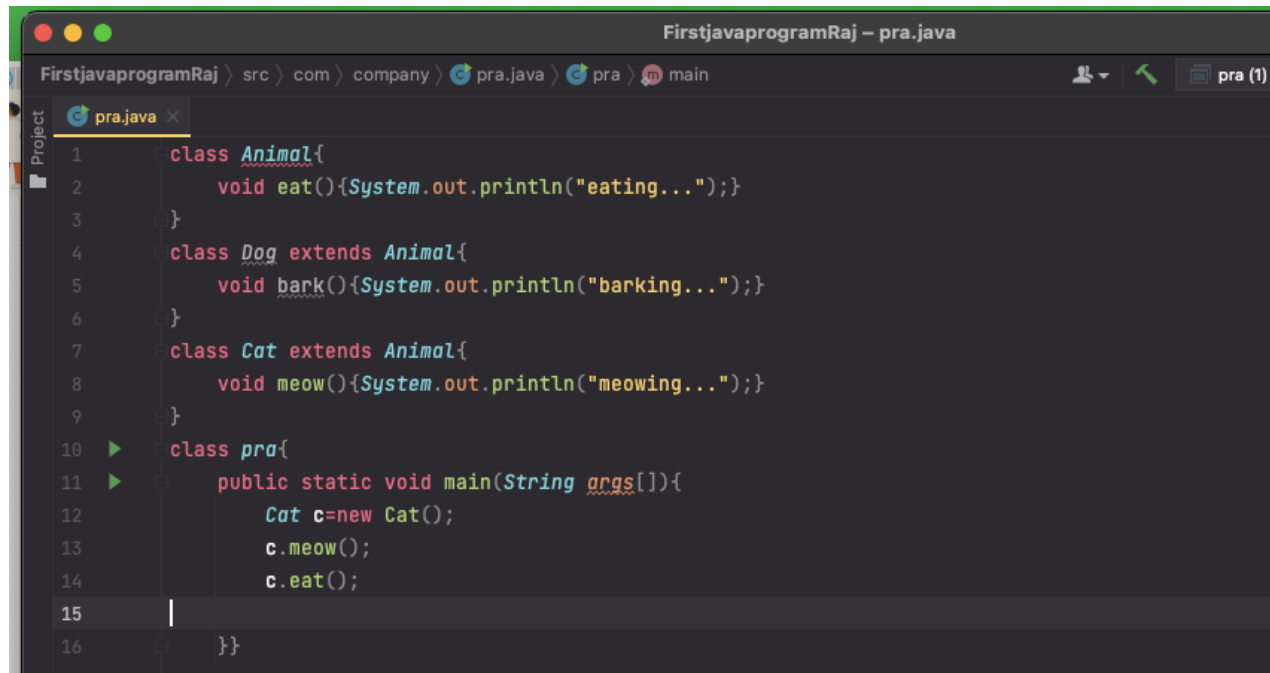


```
Run: pra x
/Library/Java/JavaVirtualMachines/jdk-16.0.1
weeping...
barking...
eating...
Process finished with exit code 0
Run TODO Problems Terminal Build
All files are up-to-d... (moments ago)
```

## Hierarchical Inheritance Example

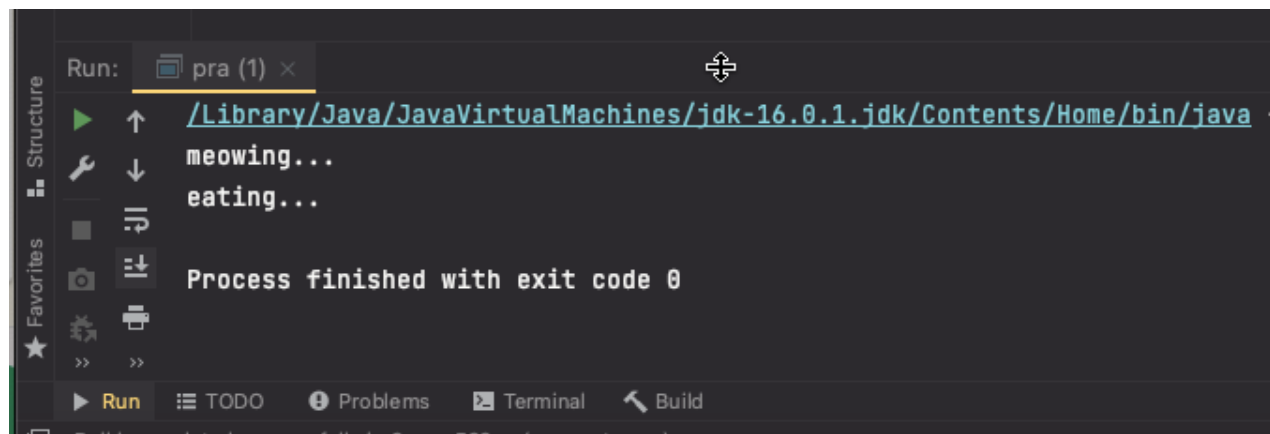
When two or more classes inherits a single class, it is known as *hierarchical inheritance*. In the example given below, Dog and Cat classes inherits the Animal class, so there is hierarchical inheritance.

Code -



```
FirstjavaprogramRaj - pra.java
FirstjavaprogramRaj > src > com > company > pra.java > pra > main
pra.java x
1 class Animal{
2     void eat(){System.out.println("eating...");}
3 }
4 class Dog extends Animal{
5     void bark(){System.out.println("barking...");}
6 }
7 class Cat extends Animal{
8     void meow(){System.out.println("meowing...");}
9 }
10 class pra{
11     public static void main(String args[]){
12         Cat c=new Cat();
13         c.meow();
14         c.eat();
15     }
16 }
```

OUTPUT -



```
Run: pra (1) x
/Library/Java/JavaVirtualMachines/jdk-16.0.1.jdk/Contents/Home/bin/java
meowing...
eating...
Process finished with exit code 0
Run | TODO | Problems | Terminal | Build
Build completed successfully in 2 sec, 523 (moments ago)
```