```
// Single Inheritane


import java.util.*;
class One
{
   Scanner sc = new Scanner(System.in);
   String name;
   long adhar;
   double sal;
   void Putdata()
   {
      System.out.println("Enter name");
      name = sc.nextLine();
      System.out.println("Enter ADHAR");
      adhar = sc.nextLong();
      System.out.println("Enter salary");
      sal = sc.nextDouble();
   }
}
class Second extends One
{
   void data()
   {
      System.out.println("Name : "+name);
      System.out.println("ADHAR no. : "+adhar);
      System.out.println("Salary : "+sal);
   }
}
class Employe
{
   public static void main(String[] args)
   {
      Second b = new Second();
      b.Putdata();
      b.data();
```

```
    }
}

// Hierarchical inheritance

import java.util.*;
class Calu
{
    Scanner sc = new Scanner(System.in);
    double a,b;
    void data()
    {
        System.out.println("Enter two numbers");
        a = sc.nextDouble();
        b = sc.nextDouble();
    }
}
class Add extends Calu
{
    void plus()
    {
        System.out.println("Addition = "+(a + b));
    }
}
class Sub extends Calu
{
    void minus()
    {
        System.out.println("Substraction = "+(a - b));
    }
}
class Mul extends Calu
{
    void into()
    {
```

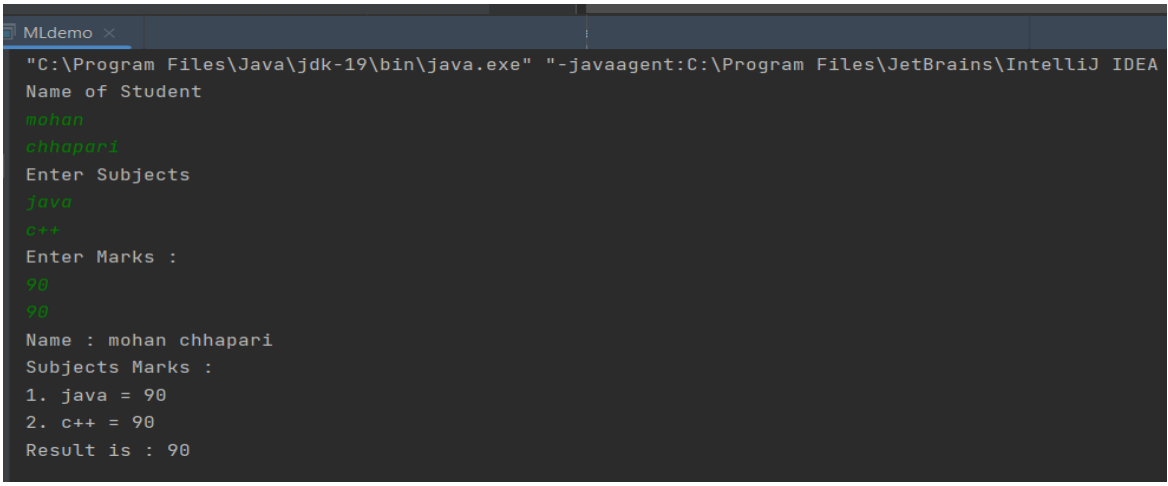
```
        System.out.println("Multiplication = "+(a * b));
    }
}
class Divide extends Calu
{
    void div()
    {
        System.out.println("Division = "+(a / b));
    }
}
class Hinheritance
{
    public static  void main (String[] ar)
    {
        Add a = new Add();
        a.data();
        a.plus();
        Sub s = new
        Sub();
        s.data();
        s.minus();
        Mul m = new
        Mul();
        m.data();
        m.into();
        Divide d = new Divide();
        d.data();
        d.div();
    }
}
```

```
Hinheritance
"C:\Program Files\Java\jdk-19\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA
Enter two numbers
5
5
Addition = 10.0
Enter two numbers
7
5
Substraction = 2.0
Enter two numbers
6
5
Multiplication = 30.0
Enter two numbers
8
4
Division = 2.0
```

```
// Multilevel inheritance

import java.util.*;
class Student
{
    Scanner sc = new Scanner(System.in);
```

```
    String fn;
    String ln;
    void demo()
    {
        System.out.println("Name of Student");
        fn = sc.nextLine();
        ln = sc.nextLine();
    }
}
class Test extends
Student
{
    String sub1;
    String sub2;
    void demo1()
    {
        System.out.println("Enter Subjects");
        sub1 = sc.nextLine();
        sub2 = sc.nextLine();
    }
}
class Result extends Test
{
    int m1,m2;
    void demo2()
    {
        System.out.println("Enter Marks :");
        m1 = sc.nextInt();
        m2 = sc.nextInt();
    }
}
class Display extends Result
{
    void demo3()
```



```
    {
        System.out.println("Name : "+fn+" "+ln);
        System.out.println("Subjects Marks : \n1. "+sub1+" = "+m1+"\n2. "+sub2+" = "+m2);
        System.out.println("Result is : "+(m1+m2)/2);
    }
}
class MLdemo
{
    public static void main(String[] args)
    {
        Display d = new Display();
        d.demo();
        d.demo1();
        d.demo2();
        d.demo3();
    }
}

// Abstract class

import java.util.*;
abstract class Shape
{
    double dim1,dim2;
    Shape(double d1, double d2)
    {
        dim1=d1;
        dim2=d2;
    }
    abstract double area();
}
class Traiangle extends Shape
{
    Traiangle (double d1, double d2)
    {
```

```
    super(d1,d2);
  }
  double area()
  {
    return dim1*dim2/2;
  }
}
class Rectangle extends Shape{
  Rectangle(double d1, double d2)
  {
    super(d1,d2);
  }
  double area()
  {
    return dim1*dim2;
  }
}
class Shaped
{
  public static void main(String[] args)
  {
    Traiangle t=new Traiangle(5,10);
    Rectangle r=new Rectangle(10,12);
    Shape s;
    s=t;
    System.out.println("Area of traingle = "+s.area());
    s=r;
    System.out.println("Area of rectangle = "+s.area());
  }
}
```