1. Write a program that demonstrates widening conversion from int to double and prints the result.

class Widening

{

    public static void main(String args[]){

        int num=5;

        double num1=num;

        System.out.println(num1);

    }

}

// widening or also called as implicit type conversion(automatic type conversion)

//convert the value of smaller data type into larger data type

1. Create a program that demonstrates narrowing conversion from double to int and prints the result.

class Narrowing

{

    public static void main(String args[]){

        double num=25.00;

        int num1=(int)num;

        System.out.println(num1);

    }

}

//Narrowing or also called as explicit type conversion

// convert the value of larger data type into smaller data type

1. Write a program that performs arithmetic operations involving different data types (int, double, float) and observes how Java handles widening conversions automatically.

class Arithmetic\_wide

{

    public static void main(String args[]){

        //int to double

        int num1=5;

        double num2=20.4;

        double ans=num1+num2;

        System.out.println("Sum of int and double:"+ans);

        //int to float

         int  no=52;

         float no1=12.0f;

         float ans1=no+no1;

         System.out.println("Sum of int and float:"+ans1);

         //float to double

          float n1=2.5f;

         double n2=25.3;

          double ans2=n1+n2;

          System.out.println("Sum of float and double:"+ans2);

          //int to float

          int nn1=5;

          float nn2=5.3f;

          float ans3=nn1\*nn2;

          System.out.println("Product of int and float:" +ans3);

          // float to double

           float numb=5.3f;

           double numb1=2.5;

           double ans4=numb-numb1;

           System.out.println("Product of float and double:"+ans4);

    }

}

1. Write a Program that demonstrates widening conversion from int to (double,float, boolean, string) and prints the result

class Wide\_conver

{

    public static void main(String args[]){

        //int to double

        int num1=10;

        double num2=num1;

        System.out.println(num2);

        //int to float

        int num3=25;

        float num4=num3;

        System.out.println(num4);

        //int to boolean

         int num5=32;

         boolean b1=(num5!=0);

         System.out.println(b1);

         //int to string

         int num6=2145;

         String str=Integer.toString(num6);

         System.out.println(str);

      }

}