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

public class WideningConversion {

public static void main(String[] args) {

int intValue = 10;

double doubleValue = intValue;

System.out.println("Integer value: " + intValue);

System.out.println("Double value after widening conversion: " + doubleValue);

}

}

o/p:Integer value: 10

Double value after widening conversion: 10.0

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

public class WideningConversionDemo {

public static void main(String[] args) {

int intValue = 42;

double doubleValue = intValue;

System.out.println("Original integer value: " + intValue);

System.out.println("After widening conversion to double: " + doubleValue);

}

}

o/p:Original integer value: 42

After widening conversion to double: 42.0

3) Write a program that performs arithmetic operations involving different data types (int, double, float)

and observes how Java handles widening conversions automatically

public class ArithmeticOperations {

public static void main(String[] args) {

int intValue = 10;

double doubleValue = 5.5;

float floatValue = 3.14f;

double resultAddition = intValue + doubleValue + floatValue;

System.out.println("Addition result: " + resultAddition);

double resultSubtraction = doubleValue - intValue - floatValue;

System.out.println("Subtraction result: " + resultSubtraction);

double resultMultiplication = intValue \* doubleValue \* floatValue;

System.out.println("Multiplication result: " + resultMultiplication);

double resultDivision = doubleValue / intValue / floatValue;

System.out.println("Division result: " + resultDivision);

}

}

o/p:Addition result: 18.640000104904175

Subtraction result: -7.640000104904175

Multiplication result: 172.70000576972961

Division result: 0.17515922981689985

4) Write a Program that demonstrates widening conversion from int to (double,float, boolean, string) and

prints the result

public class WideningConversionDemo {

public static void main(String[] args) {

int intValue = 42;

double doubleValue = intValue;

System.out.println("Widening conversion to double: " + doubleValue);

float floatValue = intValue;

System.out.println("Widening conversion to float: " + floatValue);

boolean booleanValue = intValue != 0;

System.out.println("Widening conversion to boolean: " + booleanValue);

String stringValue = Integer.toString(intValue);

System.out.println("Widening conversion to String: " + stringValue);

}

}

o/p:Widening conversion to double: 42.0

Widening conversion to float: 42.0

Widening conversion to boolean: true

Widening conversion to String: 42