

# KODNEST ASSIGNMENT 4

## TYPE CASTING

*Submitted by*

*Ragendu V S*

*Email:ragendhuvs02@gmail.com*

# TYPE CASTING

Type casting in Java refers to the process of converting a value of one data type into another data type. This is necessary when you want to assign a value of one data type to a variable of another data type, or when you need to perform operations involving different data types.

There are two types of type casting in Java:

## Implicit (Automatic) Type Casting:

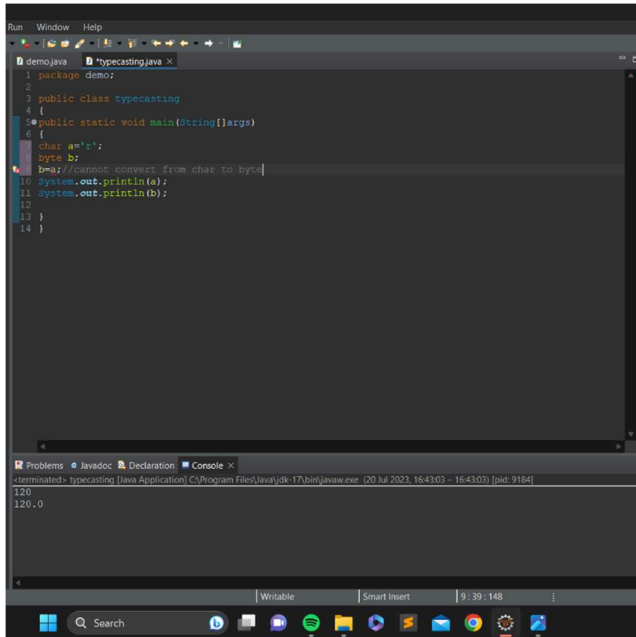
Implicit type casting occurs automatically when a smaller data type is assigned to a larger data type. Java performs this conversion safely, as there is no risk of data loss.

## Explicit (Manual) Type Casting:

Explicit type casting, also known as "casting" or "downcasting," is done manually when you want to convert a larger data type into a smaller data type. This operation can potentially lead to data loss if the value being converted exceeds the range of the target data type. You must explicitly specify the target data type in parentheses before the value.

# TYPE CONVERSIONS

## Char to byte



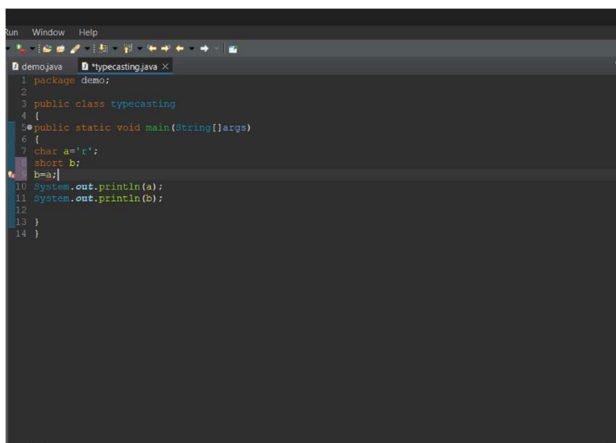
The screenshot shows an IDE window with a Java file named `typecasting.java`. The code is as follows:

```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         char a='1';
8         byte b;
9         b=a; //cannot convert from char to byte
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14 }
```

The IDE's `Problems` window at the bottom shows a single error: `cannot convert from char to byte` at line 9, column 12. The console output shows the values `120` and `120.0`.

Explicit conversion has to be done when converting from char to byte.

## Char to short

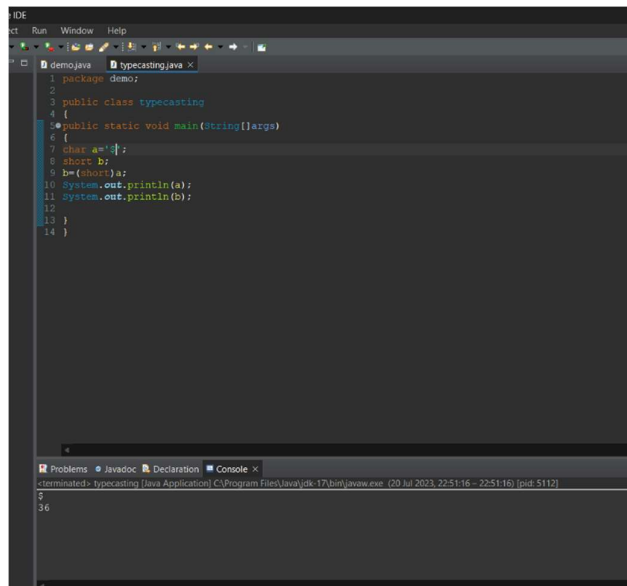


The screenshot shows an IDE window with a Java file named `typecasting.java`. The code is as follows:

```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         char a='1';
8         short b;
9         b=a;
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14 }
```

The IDE's `Problems` window at the bottom shows a single error: `cannot convert from char to short` at line 9, column 12.

Error because explicit type casting should be done.



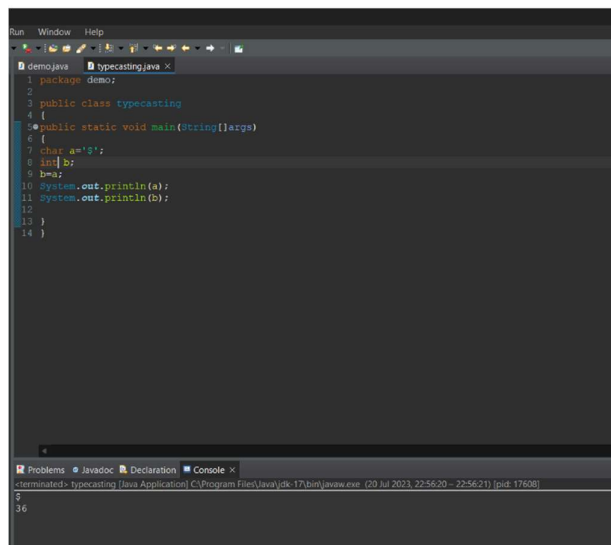
```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         char a='1';
8         short b;
9         b=(short)a;
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14 }
```

Problems Javadoc Declaration Console x

terminated: typecasting [Java Application] C:\Program Files\jdk-17\bin\javaw.exe (20 Jul 2023, 22:51:16 - 22:51:16) [pid 5112]

36

## Char to int



```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         char a='1';
8         int b;
9         b=a;
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14 }
```

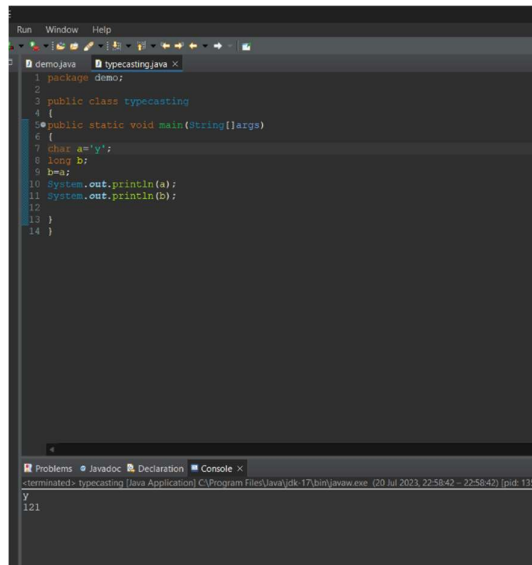
Problems Javadoc Declaration Console x

terminated: typecasting [Java Application] C:\Program Files\jdk-17\bin\javaw.exe (20 Jul 2023, 22:56:20 - 22:56:21) [pid 17608]

36

Implicit casting is done.

## Char to long



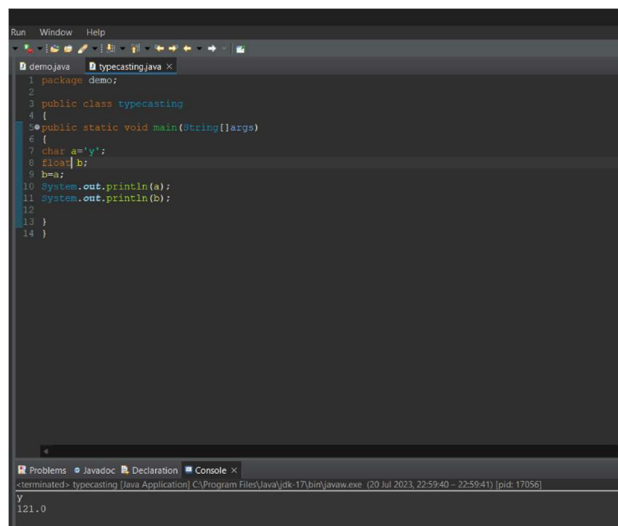
```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         char a='y';
8         long b;
9         b=a;
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14 }
```

Console output:

```
<terminated> typecasting [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (20 Jul 2023, 22:58:42 - 22:58:42) [pid: 1136]
Y
121
```

Implicit type casting done.

## Char to float



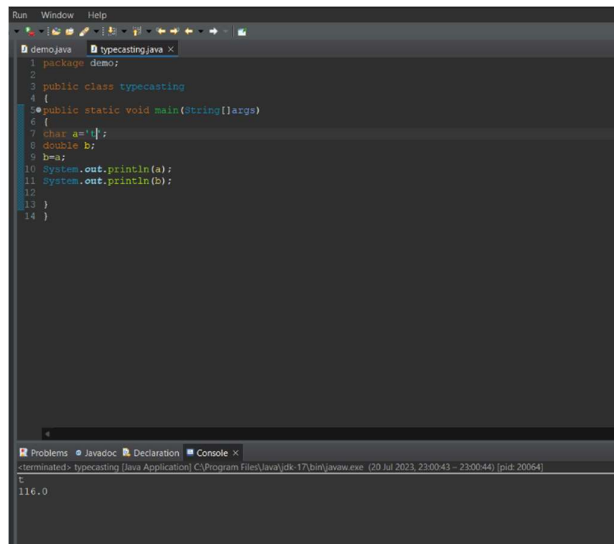
```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         char a='y';
8         float b;
9         b=a;
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14 }
```

Console output:

```
<terminated> typecasting [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (20 Jul 2023, 22:59:40 - 22:59:41) [pid: 17056]
Y
121.0
```

Implicit type casting is done.

## Char to double

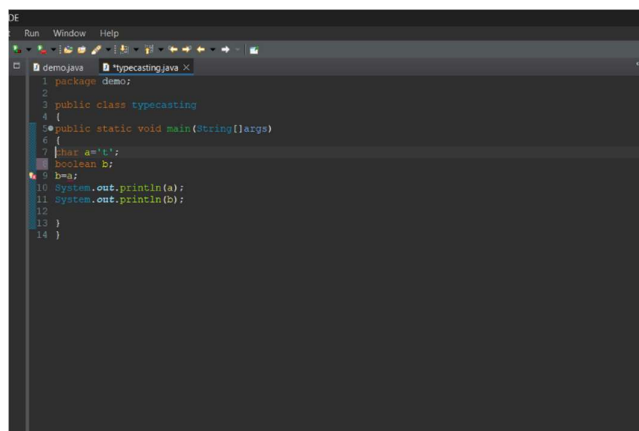


```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         char a='t';
8         double b;
9         b=a;
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14 }
```

The screenshot shows an IDE with a Java file named 'typecasting.java'. The code defines a class 'typecasting' with a 'main' method. Inside 'main', a 'char' variable 'a' is assigned the value 't', and a 'double' variable 'b' is declared. Then, 'b' is assigned the value of 'a' without an explicit cast. The program prints 'a' and 'b'. The console output at the bottom shows 't' and '116.0', indicating that the 'char' was implicitly converted to its ASCII value '116' when assigned to the 'double'.

Implicit type casting is done to convert from char to double

## Char to Boolean

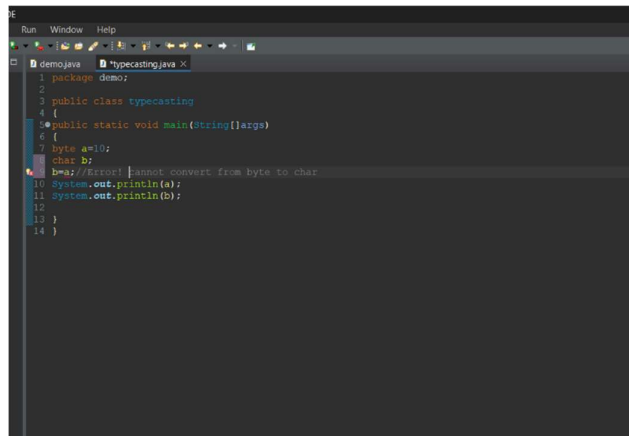


```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         char a='t';
8         boolean b;
9         b=a;
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14 }
```

The screenshot shows the same IDE with a modified 'typecasting.java' file. In this version, the variable 'b' is declared as a 'boolean' instead of a 'double'. The line 'b=a;' now causes a compilation error, indicated by a red squiggly line under 'a'. The error message in the console (partially visible) states 'cannot assign from char to boolean', confirming that implicit casting from 'char' to 'boolean' is not allowed in Java.

Type casting is Not possible

# Byte to char

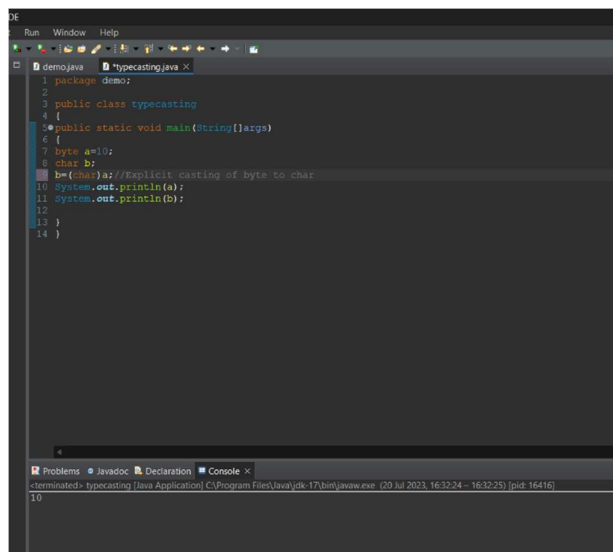


A screenshot of an IDE window showing a Java file named 'typecasting.java'. The code is as follows:

```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         byte a=10;
8         char b;
9         b=a; //Error: cannot convert from byte to char
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14 }
```

The IDE shows a red squiggly line under the assignment `b=a;` with a tooltip that reads: "Error: cannot convert from byte to char".

Error because explicit type casting should be done.



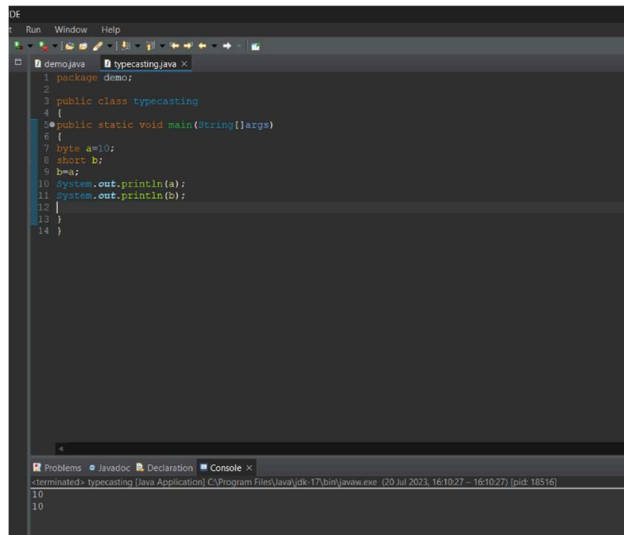
A screenshot of the same IDE window showing the corrected code:

```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         byte a=10;
8         char b;
9         b=(char)a; //Explicit casting of byte to char
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14 }
```

The IDE shows the code is now valid. At the bottom, the 'Console' tab is active, displaying the output of the program:

```
10
```

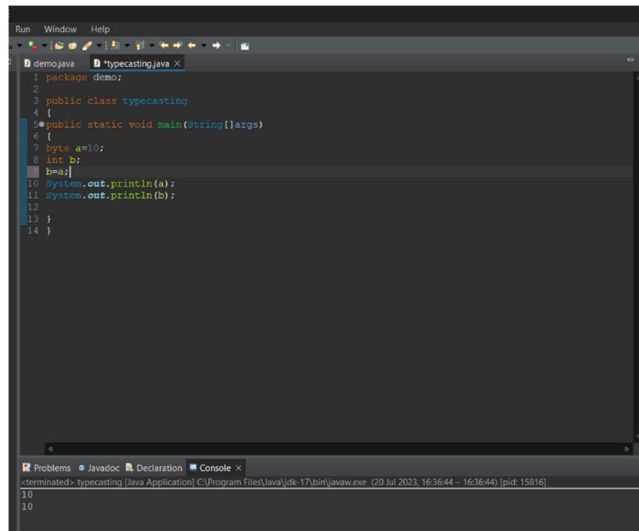
# Byte to short



```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         byte a=10;
8         short b;
9         b=a;
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14 }
```

The screenshot shows an IDE with a Java file named 'typecasting.java'. The code defines a package 'demo', a class 'typecasting', and a 'main' method. Inside 'main', a byte variable 'a' is assigned the value 10, and a short variable 'b' is assigned the value of 'a'. The program prints both 'a' and 'b'. The console output at the bottom shows '10' on two lines, indicating that the byte value was successfully cast to a short without loss of information.

# Byte to int

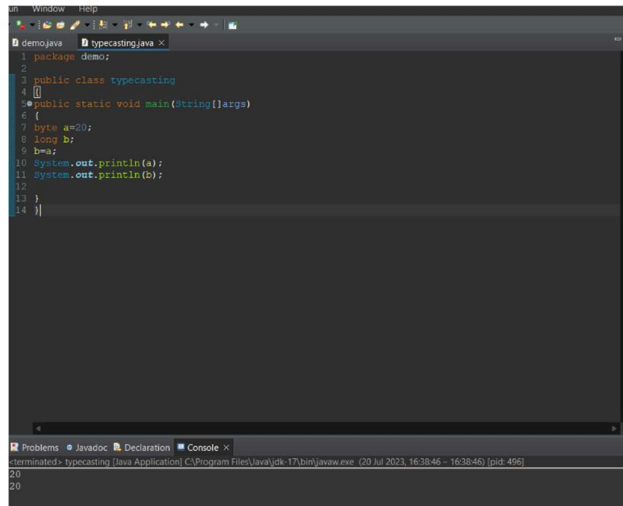


```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         byte a=10;
8         int b;
9         b=a;
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14 }
```

The screenshot shows an IDE with a Java file named 'typecasting.java'. The code defines a package 'demo', a class 'typecasting', and a 'main' method. Inside 'main', a byte variable 'a' is assigned the value 10, and an int variable 'b' is assigned the value of 'a'. The program prints both 'a' and 'b'. The console output at the bottom shows '10' on two lines, indicating that the byte value was successfully cast to an int without loss of information.



# Byte to long



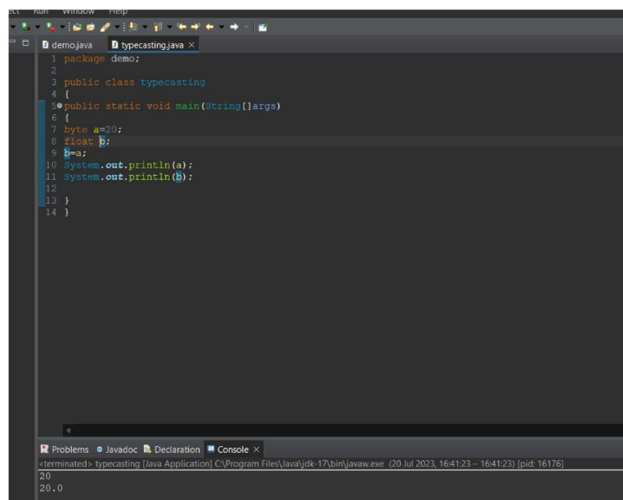
```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         byte a=20;
8         long b;
9         b=a;
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14 }
```

Problems Javadoc Declaration Console X

terminated: typecasting [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (20 Jul 2023, 16:38:46) [pid: 495]

20  
20

# Byte to float



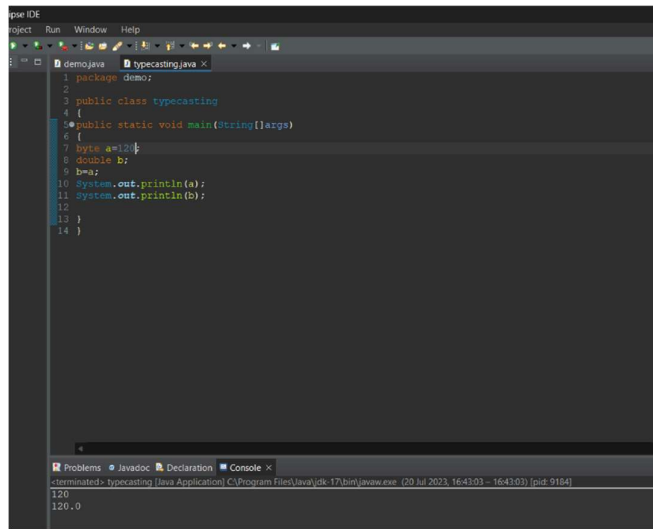
```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         byte a=20;
8         float b;
9         b=a;
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14 }
```

Problems Javadoc Declaration Console X

terminated: typecasting [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (20 Jul 2023, 16:41:23) [pid: 16176]

20  
20.0

# Byte to double

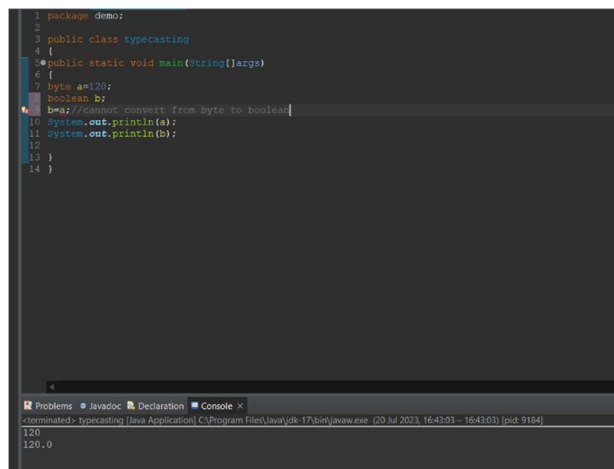


```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         byte a=120;
8         double b;
9         b=a;
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14 }
```

Console output:

```
120
120.0
```

# Byte to Boolean

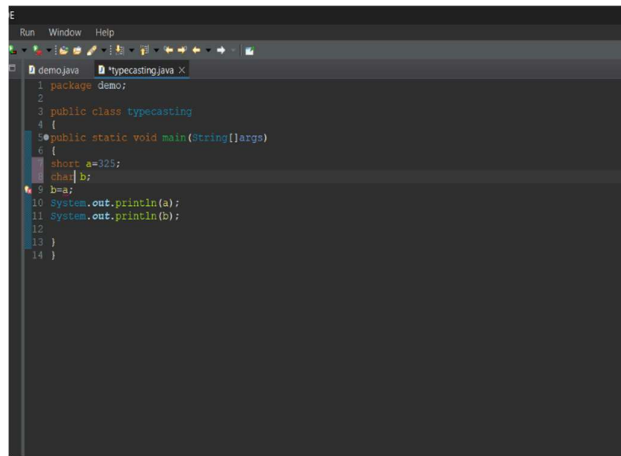


```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         byte a=120;
8         boolean b;
9         b=a; //cannot convert from byte to boolean
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14 }
```

Console output:

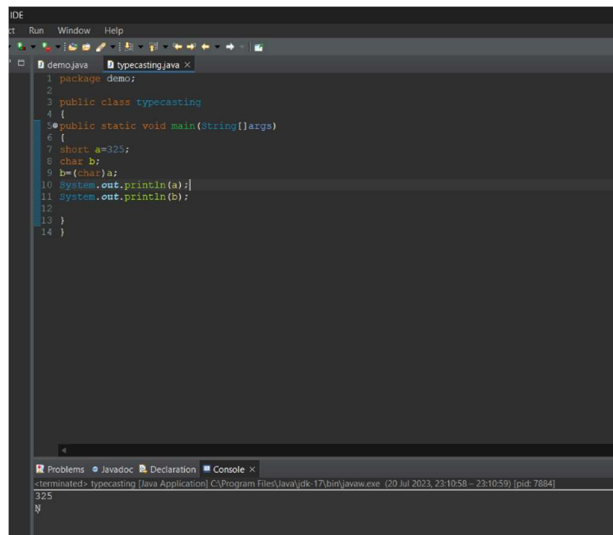
```
120
120.0
```

# Short to char



```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         short a=325;
8         char b;
9         b=a;
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14 }
```

# Error



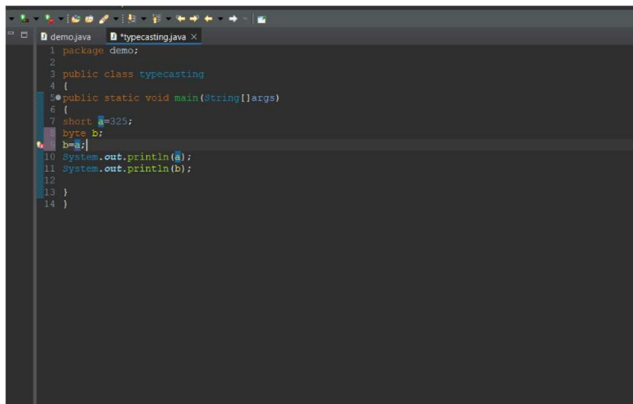
```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         short a=325;
8         char b;
9         b=(char)a;
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14 }
```

Problems • Javadoc • Declaration • Console x

terminated: typecasting [Java Application] C:\Program Files\jdk-17\bin\javaw.exe (20 Jul 2023 23:10:58 - 23:10:59) [pid: 7884]

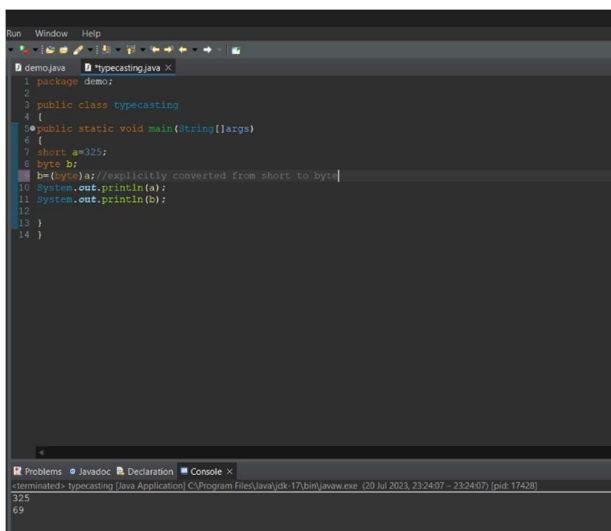
325  
8

## Short to byte



```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         short a=325;
8         byte b;
9         b=a;
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14 }
```

## Error



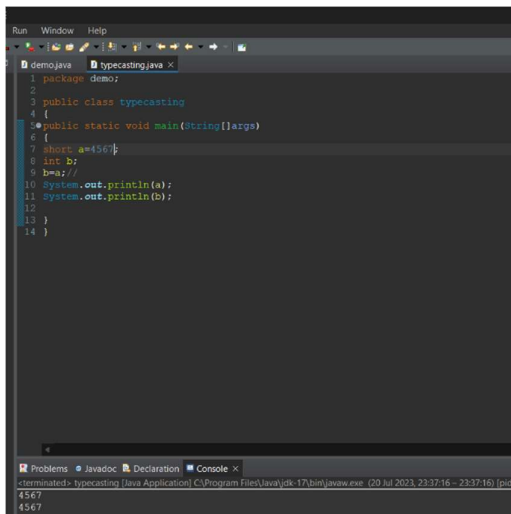
```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         short a=325;
8         byte b;
9         b=(byte)a;//explicitly converted from short to byte
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14 }
```

325  
69

Explicit type casting is done to convert from short to byte

## Short to int

Implicit type casting is done inorder to convert from short to int.

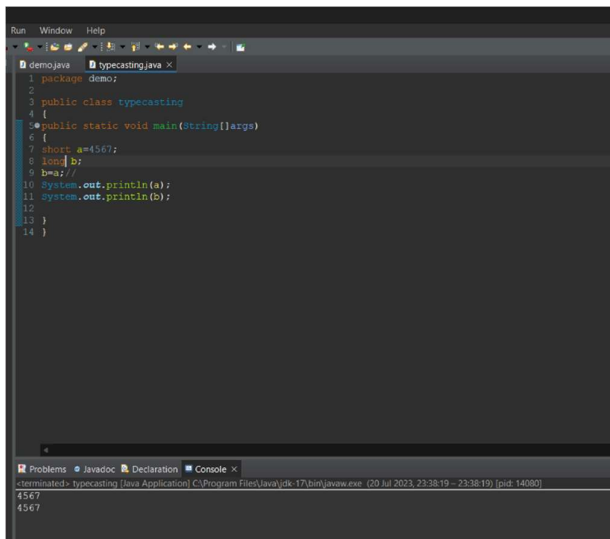


The screenshot shows an IDE window with a file named 'typecasting.java'. The code is as follows:

```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         short a=456;
8         int b;
9         b=a; //
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14 }
```

The console output at the bottom shows the program terminated successfully with the output '4567'.

Short to long

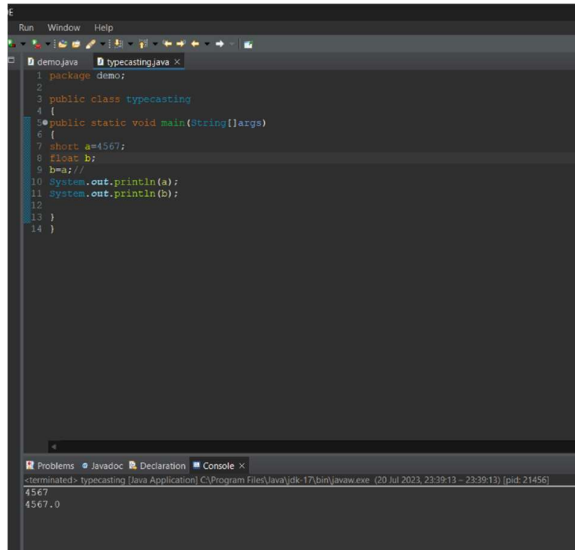


The screenshot shows an IDE window with a file named 'typecasting.java'. The code is as follows:

```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         short a=4567;
8         long b;
9         b=a; //
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14 }
```

The console output at the bottom shows the program terminated successfully with the output '4567'.

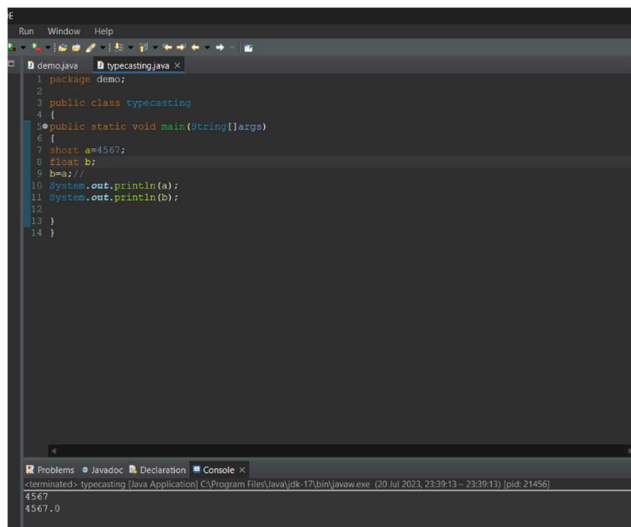
## Short to float



```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         short a=4567;
8         float b;
9         b=a; //
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14 }
```

4567  
4567.0

## Short to double



```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         short a=4567;
8         double b;
9         b=a; //
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14 }
```

4567  
4567.0

## Short to Boolean

Not possible

```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         short a=4567;
8         boolean b;
9         b=a; //not possible
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14 }
```

terminated: typecasting [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (20 Jul 2023, 23:39:13 - 23:39:13) [pid: 21456]  
4567  
0

## Long to byte

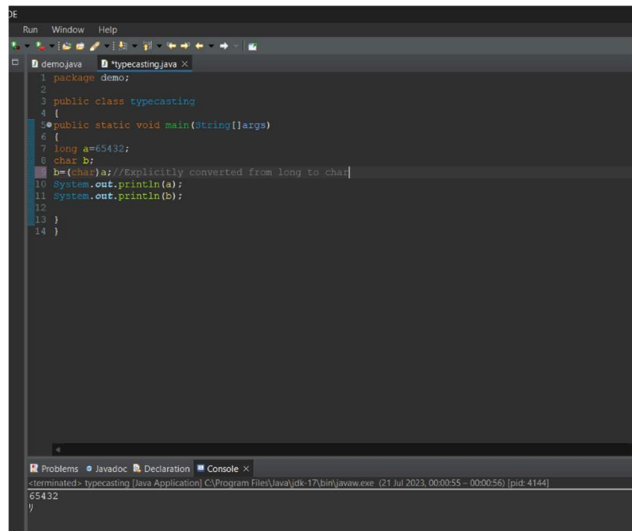
```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         long a=65432;
8         byte b;
9         b=a;
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14 }
```

terminated: typecasting [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (21 Jul 2023, 00:04:56 - 00:04:56) [pid: 9180]  
65432  
-104

```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         long a=65432;
8         byte b;
9         b=a;
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14 }
```

terminated: typecasting [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (21 Jul 2023, 00:04:56 - 00:04:56) [pid: 9180]  
65432  
-104

# Long to char

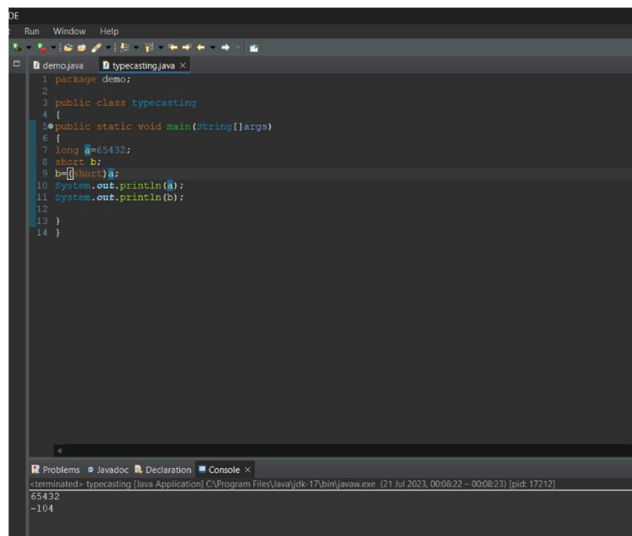


```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         long a=65432;
8         char b;
9         b=(char)a; //explicitly converted from long to char
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14 }
```

Console output:

```
65432
y
```

# Long to short



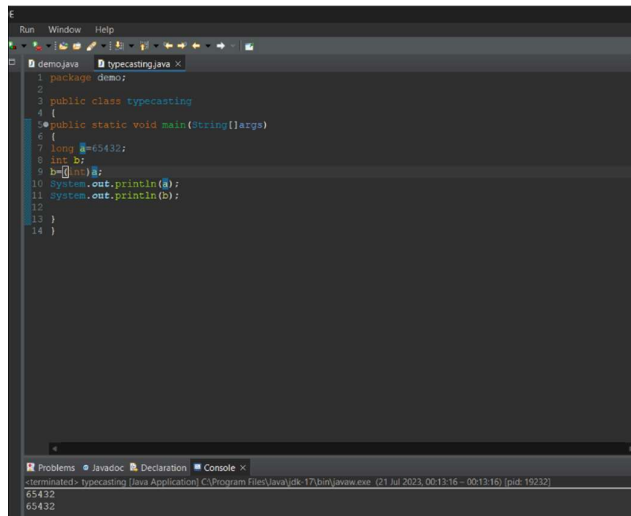
```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         long a=65432;
8         short b;
9         b=(short)a;
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14 }
```

Console output:

```
65432
-104
```



## Long to int

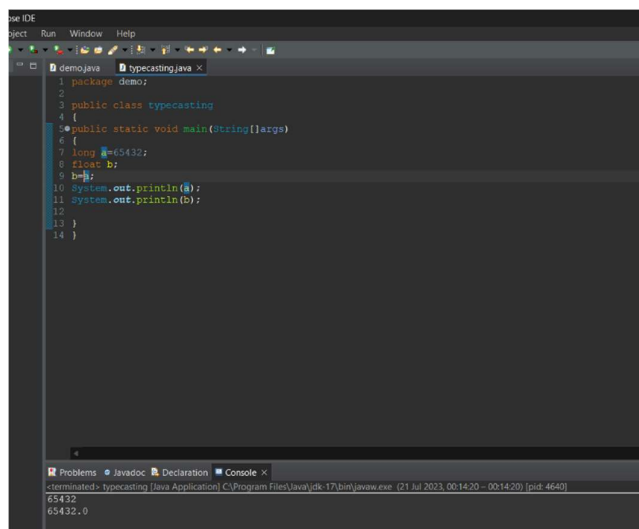


```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         long a=65432;
8         int b;
9         b=(int)a;
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14 }
```

Console output:

```
<terminated> typecasting [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (21 Jul 2023, 00:13:16) [pid: 19232]
65432
65432
```

## Long to float

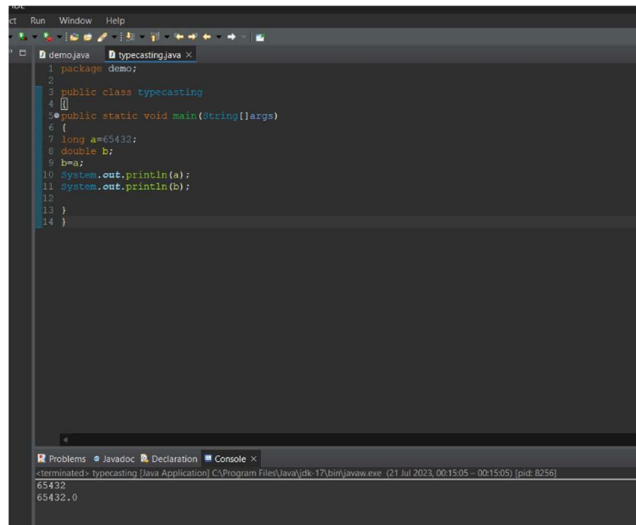


```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         long a=65432;
8         float b;
9         b=(float)a;
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14 }
```

Console output:

```
<terminated> typecasting [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (21 Jul 2023, 00:14:20) [pid: 4640]
65432
65432.0
```

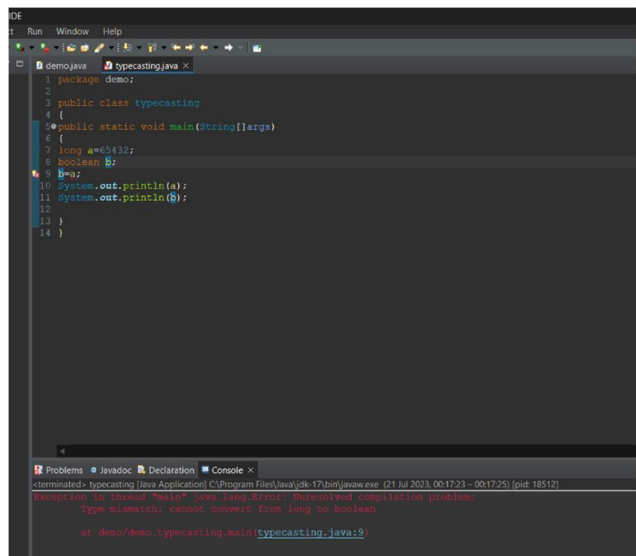
## Long to double



```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         long a=65432;
8         double b;
9         b=a;
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14 }
```

The screenshot shows an IDE window with the file 'typecasting.java'. The code defines a package 'demo', a class 'typecasting', and a 'main' method. Inside 'main', a long variable 'a' is assigned the value 65432, and a double variable 'b' is assigned the value of 'a'. The program prints both 'a' and 'b'. The console output at the bottom shows '65432' and '65432.0', indicating a successful implicit cast from long to double.

## Long to Boolean



```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         long a=65432;
8         boolean b;
9         b=a;
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14 }
```

The screenshot shows the same IDE window as before, but the code now casts the long variable 'a' to a boolean variable 'b'. The console output at the bottom shows a compilation error: 'Exception in thread "main" java.lang.Error: Unresolved compilation problem: Type mismatch: cannot convert from long to boolean'. The error points to line 9 of the file, where 'b=a;' is located.

## Float to char

Type casting from float to char cannot be done implicitly.

```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         float a=1.6f;
8         byte b;
9         System.out.println(a);
10        System.out.println(b);
11    }
12 }
```

Problems • Javadoc • Declaration • Console ×

<terminated> typecasting [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (21 Jul 2023, 00:03:19 - 00:04:00) [pid: 17160]

typecasting.java:9: error: incompatible types: float cannot be converted to byte

Type to search: search convert from float to byte

at demo.demo.typecasting.Main.typecasting.java:9

```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         float a=1.6f;
8         byte b;
9         System.out.println(a);
10        System.out.println(b);
11    }
12 }
```

Problems • Javadoc • Declaration • Console ×

<terminated> typecasting [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (21 Jul 2023, 00:23:18 - 00:23:19) [pid: 17612]

1.6

3

## Float to byte

```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         float a=1.6f;
8         byte b;
9         b=(byte)a; //Explicitly converted from float to byte
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14 }
```

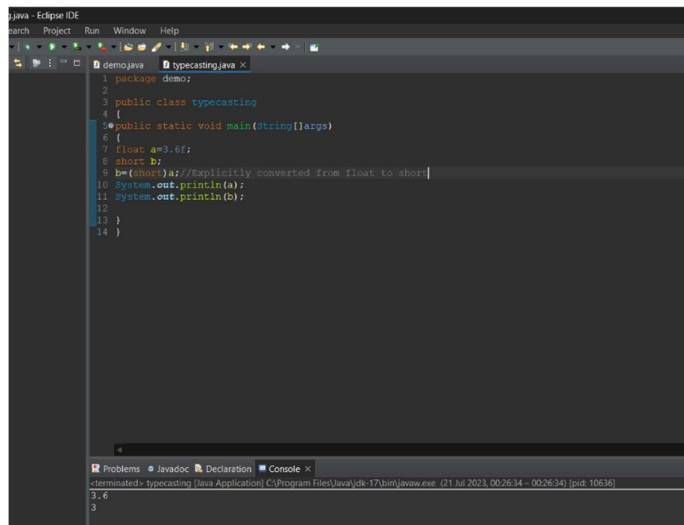
Problems • Javadoc • Declaration • Console ×

<terminated> typecasting [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (21 Jul 2023, 00:27:34 - 00:27:34) [pid: 17896]

1.6

3

# Float to short

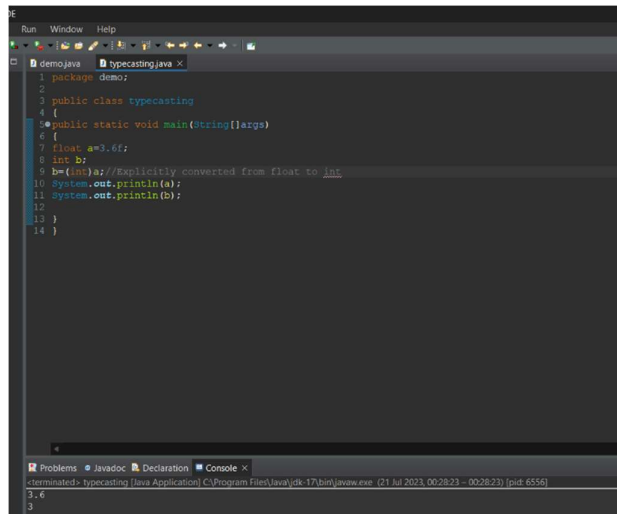


The screenshot shows an IDE window with a file named `typecasting.java`. The code defines a package `demo` and a class `typecasting` with a `main` method. Inside the `main` method, a float variable `a` is assigned the value `3.6f`, and a short variable `b` is assigned the value `(short)a`. A comment indicates this is an explicit conversion from float to short. The code then prints the values of `a` and `b` to the console. The console output at the bottom shows the value `3.6` for `a` and `3` for `b`.

```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         float a=3.6f;
8         short b;
9         b=(short)a;//Explicitly converted from float to short;
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14 }
```

3.6  
3

# Float to int

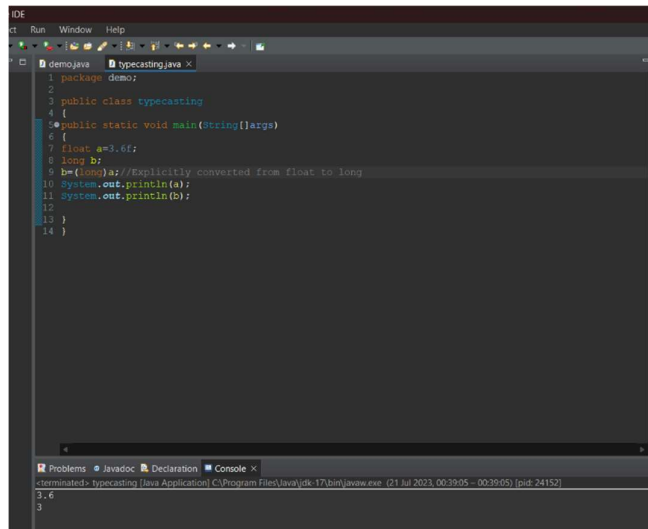


The screenshot shows an IDE window with a file named `typecasting.java`. The code defines a package `demo` and a class `typecasting` with a `main` method. Inside the `main` method, a float variable `a` is assigned the value `3.6f`, and an int variable `b` is assigned the value `(int)a`. A comment indicates this is an explicit conversion from float to int. The code then prints the values of `a` and `b` to the console. The console output at the bottom shows the value `3.6` for `a` and `3` for `b`.

```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         float a=3.6f;
8         int b;
9         b=(int)a;//Explicitly converted from float to int;
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14 }
```

3.6  
3

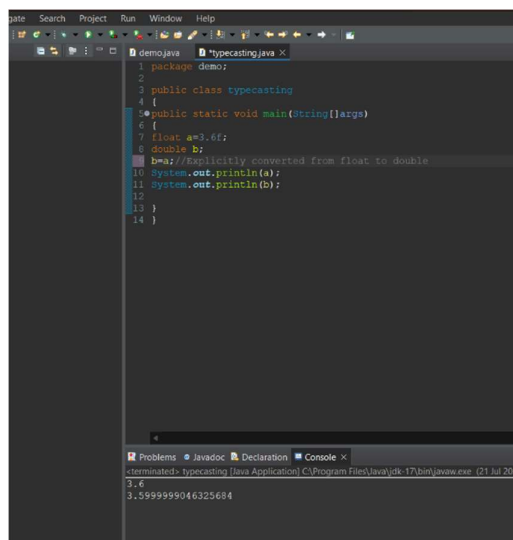
## Float to long



```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         float a=3.6f;
8         long b;
9         b=(long)a; //Explicitly converted from float to long
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14 }
```

The screenshot shows an IDE with a Java file named 'typecasting.java'. The code defines a class 'typecasting' with a 'main' method. It declares a float variable 'a' with the value 3.6f and a long variable 'b'. It then casts 'a' to 'long' and prints both values. The console output at the bottom shows '3.6' and '3'.

## Float to double



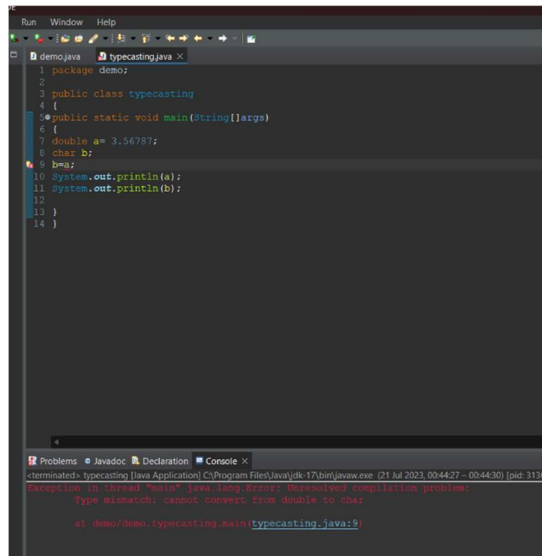
```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         float a=3.6f;
8         double b;
9         b=a; //Explicitly converted from float to double
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14 }
```

The screenshot shows an IDE with a Java file named 'typecasting.java'. The code defines a class 'typecasting' with a 'main' method. It declares a float variable 'a' with the value 3.6f and a double variable 'b'. It then assigns 'a' to 'b' and prints both values. The console output at the bottom shows '3.6' and '3.5999999046325684'.

## Float to Boolean

**Not possible to convert from float to Boolean.**

# Double to char

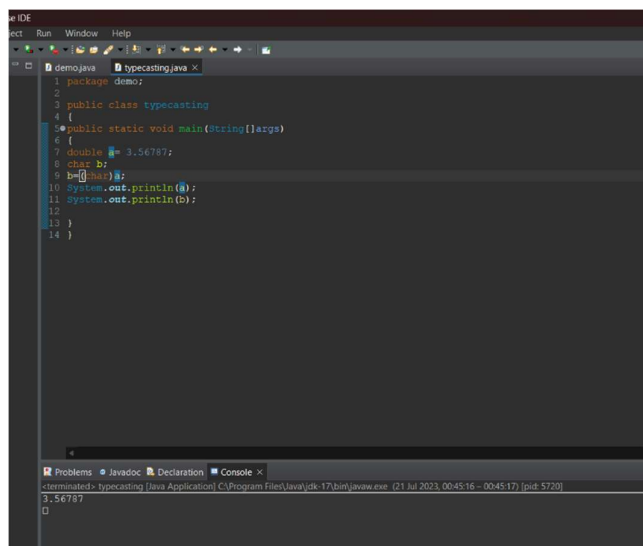


The screenshot shows an IDE window with a file named `typecasting.java`. The code is as follows:

```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         double a = 3.56787;
8         char b;
9         b = a;
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14 }
```

The console output at the bottom shows a compilation error:

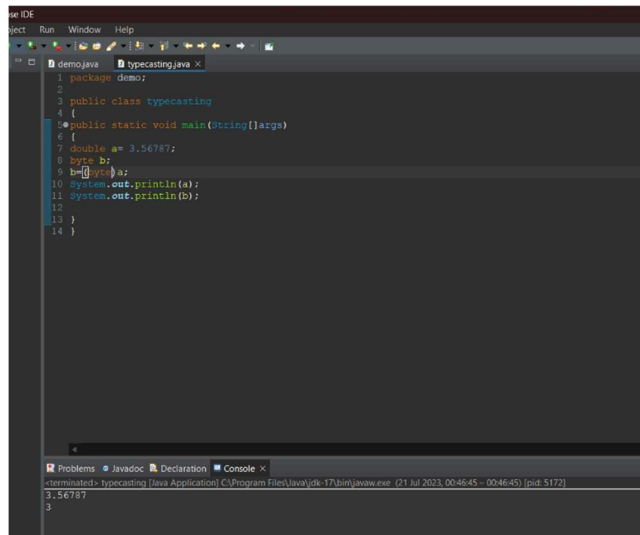
```
<terminated> typecasting [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (21 Jul 2023, 03:44:27 - 00:44:30) [pid: 3136]
Exception in thread "main" java.lang.Error: Unresolved compilation problem:
  Type mismatch: cannot convert from double to char
    at demo/demo.typecasting.main(typecasting.java:9)
```



The screenshot shows the same IDE window with the same code as above. The console output now shows the program running successfully and printing the values of `a` and `b`:

```
<terminated> typecasting [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (21 Jul 2023, 00:45:16 - 00:45:17) [pid: 5720]
3.56787
[]
```

# Double to byte

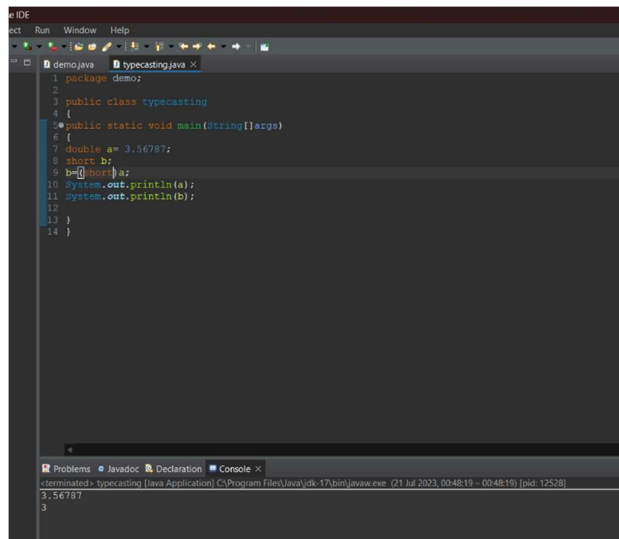


The screenshot shows an IDE with a Java file named `typecasting.java`. The code is as follows:

```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         double a = 3.56787;
8         byte b;
9         b = (byte) a;
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14 }
```

The console output at the bottom shows the value of `a` as `3.56787` and the value of `b` as `3`.

# Double to short

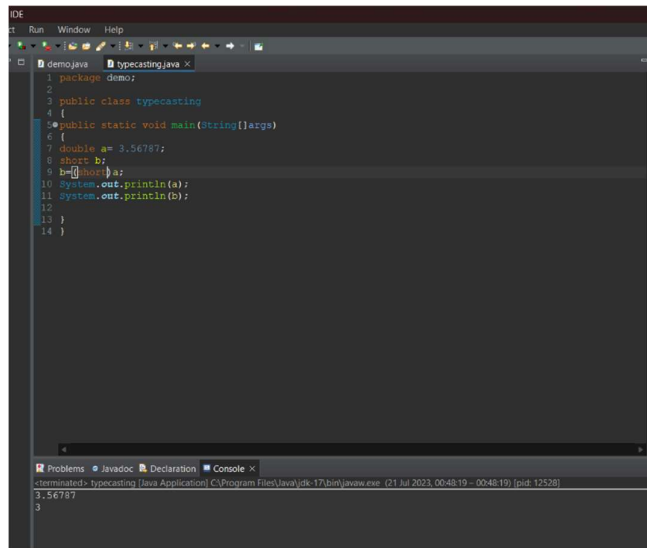


The screenshot shows an IDE with a Java file named `typecasting.java`. The code is as follows:

```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         double a = 3.56787;
8         short b;
9         b = (short) a;
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14 }
```

The console output at the bottom shows the value of `a` as `3.56787` and the value of `b` as `3`.

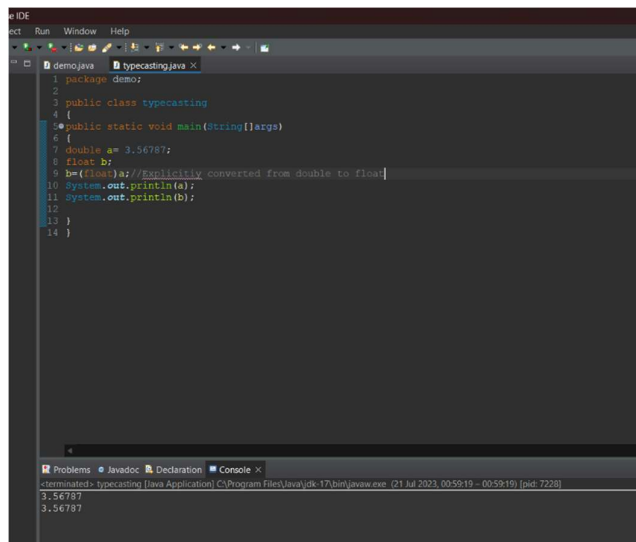
# Double to int



```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         double a= 3.56787;
8         int b;
9         b=(int)a;
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14 }
```

3.56787  
3

# Double to float

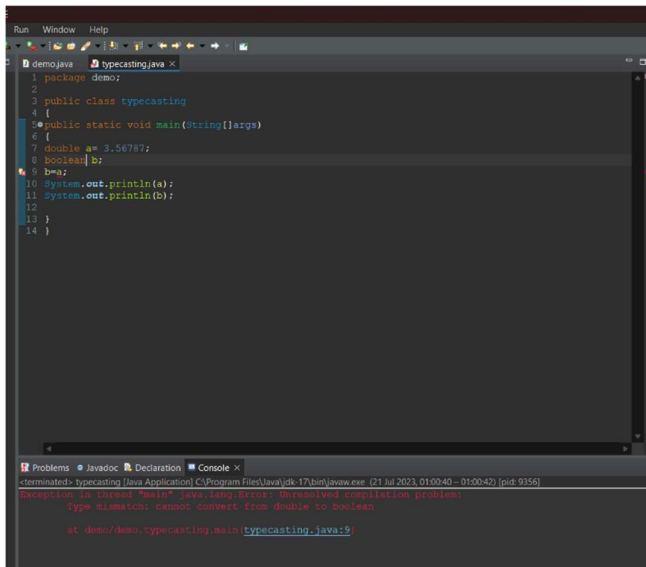


```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         double a= 3.56787;
8         float b;
9         b=(float)a;//explicitly converted from double to float
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14 }
```

3.56787  
3.56787



# Double to Boolean

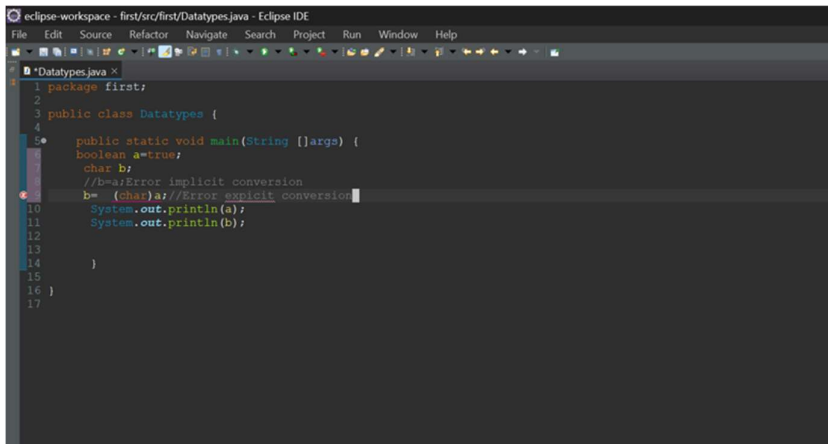


```
1 package demo;
2
3 public class typecasting
4 {
5     public static void main(String[] args)
6     {
7         double a= 3.56787;
8         boolean b;
9         b=a;
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14 }
```

RuntimeException: Unresolved compilation problem:  
Type mismatch: cannot convert from double to boolean  
at demo/demo.typecasting.main(typecasting.java:9)

**It is not possible to convert from double to Boolean.**

# Boolean to char



```
1 package first;
2
3 public class Datatypes {
4
5     public static void main(String []args) {
6         boolean a=true;
7         char b;
8         b=a; //Error: implicit conversion
9         //Error: explicit conversion
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14 }
15 }
16 }
17 }
```

RuntimeException: Unresolved compilation problem:  
Type mismatch: cannot convert from boolean to char  
at first/Datatypes.java:8

**Not possible**

## Boolean to byte

```
package first;

public class Datatypes {

    public static void main(String []args) {
        boolean a=true;
        byte b;
        //b=a;Error implicit conversion
        b= (byte)a//Error explicit conversion
        System.out.println(a);
        System.out.println(b);
    }
}
```

## Boolean to float

```
package first;

public class Datatypes {

    public static void main(String []args) {
        boolean a=true;
        float b;
        b=a;//Error in implicit and explicit conversion
        System.out.println(a);
        System.out.println(b);
    }
}
```

**You cannot convert data in a Boolean datatype to any of the other datatypes.**

## TYPE CASTING CHART

<b>X</b>	<b>char</b>	<b>byte</b>	<b>short</b>	<b>int</b>	<b>long</b>	<b>float</b>	<b>double</b>	<b>boolean</b>
<b>Char</b>	<b>NCR</b>	<b>Y/EC</b>	<b>Y/EC</b>	<b>Y/IC</b>	<b>Y/IC</b>	<b>Y/IC</b>	<b>Y/IC</b>	<b>NIL</b>
<b>Byte</b>	<b>Y/EC</b>	<b>NCR</b>	<b>Y/IC</b>	<b>Y/IC</b>	<b>Y/IC</b>	<b>Y/IC</b>	<b>Y/IC</b>	<b>NIL</b>
<b>Short</b>	<b>Y/EC</b>	<b>Y/EC</b>	<b>NCR</b>	<b>Y/IC</b>	<b>Y/IC</b>	<b>Y/IC</b>	<b>Y/IC</b>	<b>NIL</b>
<b>Int</b>	<b>Y/EC</b>	<b>Y/EC</b>	<b>Y/EC</b>	<b>NCR</b>	<b>Y/IC</b>	<b>Y/IC</b>	<b>Y/IC</b>	<b>NIL</b>
<b>Long</b>	<b>Y/EC</b>	<b>Y/EC</b>	<b>Y/EC</b>	<b>Y/EC</b>	<b>NCR</b>	<b>Y/IC</b>	<b>Y/IC</b>	<b>NIL</b>
<b>Float</b>	<b>Y/EC</b>	<b>Y/EC</b>	<b>Y/EC</b>	<b>Y/EC</b>	<b>Y/EC</b>	<b>NCR</b>	<b>Y/IC</b>	<b>NIL</b>
<b>double</b>	<b>Y/EC</b>	<b>Y/EC</b>	<b>Y/EC</b>	<b>Y/EC</b>	<b>Y/EC</b>	<b>Y/EC</b>	<b>NCR</b>	<b>NIL</b>
<b>boolean</b>	<b>NIL</b>	<b>NIL</b>	<b>NIL</b>	<b>NIL</b>	<b>NIL</b>	<b>NIL</b>	<b>NIL</b>	<b>NCR</b>

NCR- no conversion required

Y/EC – yes, Explicit conversion

Y/IC – yes, Implicit conversion

NIL- can't convert

## TYPE CASTING GRAPH

Implicit type Casting

**byte -> short -> char -> int -> long -> float -> double**

Explicit type Casting

**double-> float -> long -> int -> char -> short -> byte**