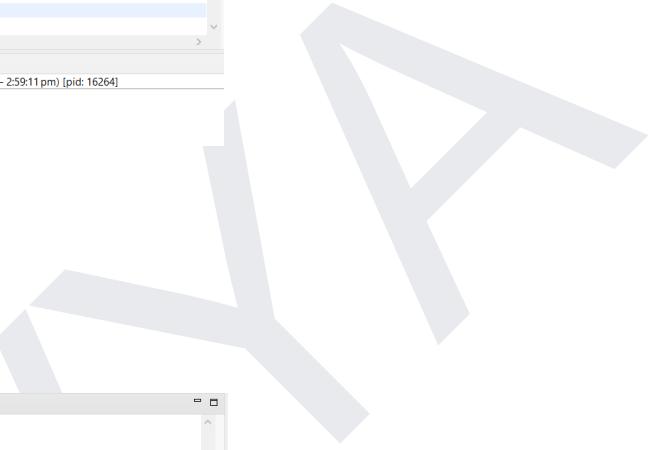


TYPE CASTING IN JAVA:

Below are the type casting examples along with their *outputs* are shown. From the outputs, *conclusions* are drawn. They are as follows:

1. byte to byte:



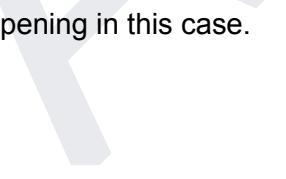
```
1 TypeCast.java X
2 package TypeCast64;
3 public class TypeCast {
4     public static void main(String[] args) {
5         byte a=10;
6         byte b=a;
7         System.out.println(a);
8         System.out.println(b);
9     }
10 }
11 }
```

Problems Javadoc Declaration Console <terminated> TypeCast [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (20-Jun-2023, 2:59:11 pm – 2:59:11 pm) [pid: 16264]

```
10
10
```

Typecasting not needed.

2. byte to short:



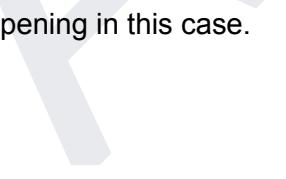
```
1 TypeCast.java X
2 package TypeCast64;
3 public class TypeCast {
4     public static void main(String[] args) {
5         byte a=10;
6         short b=a;
7         System.out.println(a);
8         System.out.println(b);
9     }
10 }
11 }
12 }
13 }
```

Problems Javadoc Declaration Console <terminated> TypeCast [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (20-Jun-2023, 3:03:55 pm – 3:03:55 pm) [pid: 19628]

```
10
10
```

Implicit conversion is happening in this case.

3. byte to char:



```
1 IDE
2 Help
3 TypeCast.java X
4 package TypeCast64;
5 public class TypeCast {
6     public static void main(String[] args) {
7         byte a=10;
8         char b=(char)a;
9         //System.out.println(a);
10        System.out.println(b);
11    }
12 }
13 }
```

Problems Javadoc Declaration Console <terminated> TypeCast [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (20-Jun-2023, 3:16:28 pm – 3:16:28 pm) [pid: 1240]

```
|
```

Cannot convert from byte to char.

4. byte to int:

```
TypeCast.java X
1 package TypeCasts4;
2
3 public class TypeCast {
4
5     public static void main(String[] args) {
6         byte a=10;
7         int b=a;
8         System.out.println(a);
9         System.out.println(b);
10    }
11 }
12
13 }
14
```

Implicit type casting is happening.

5. byte to long:

```
TypeCast.java X
1 package TypeCast64;
2
3 public class TypeCast {
4
5     public static void main(String[] args) {
6         byte a=10;
7         long b=a;
8         System.out.println(a);
9         System.out.println(b);
10    }
11 }
12
13 }
14
```

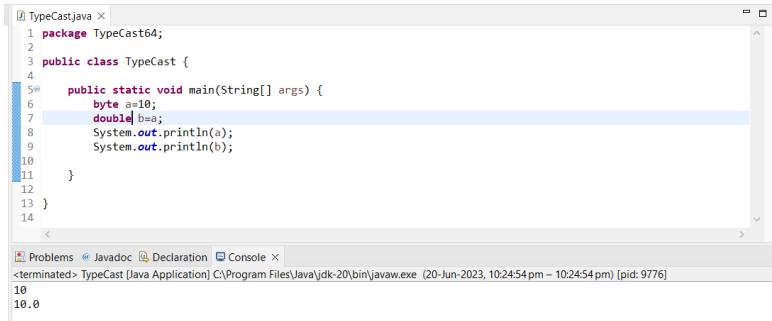
Implicit type casting is happening.

6. byte to float:

```
TypeCast.java X
1 package TypeCast64;
2
3 public class TypeCast {
4
5     public static void main(String[] args) {
6         byte a=10;
7         float b=a;
8         System.out.println(a);
9         System.out.println(b);
10    }
11 }
12
13 }
14
```

Implicit type cast is happening.

7. byte to double:

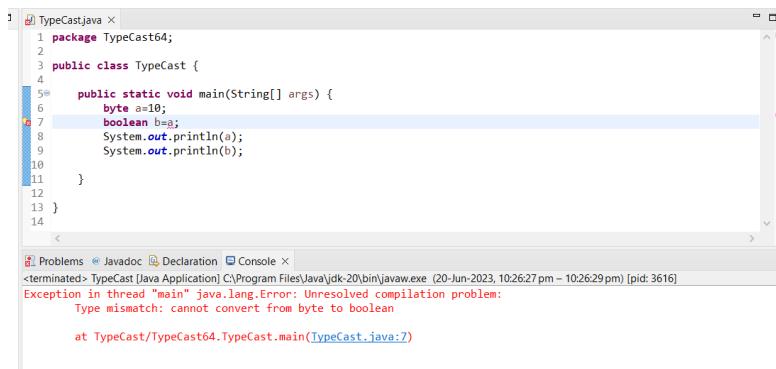


```
TypeCast.java ×
1 package TypeCast64;
2
3 public class TypeCast {
4
5     public static void main(String[] args) {
6         byte a=10;
7         boolean b=a;
8         System.out.println(a);
9         System.out.println(b);
10    }
11 }
12
13 }
```

Problems Javadoc Declaration Console ×
<terminated> TypeCast [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (20-Jun-2023, 10:24:54 pm - 10:24:54 pm) [pid: 9776]
10
10.0

Implicit type cast happening.

8. byte to boolean:

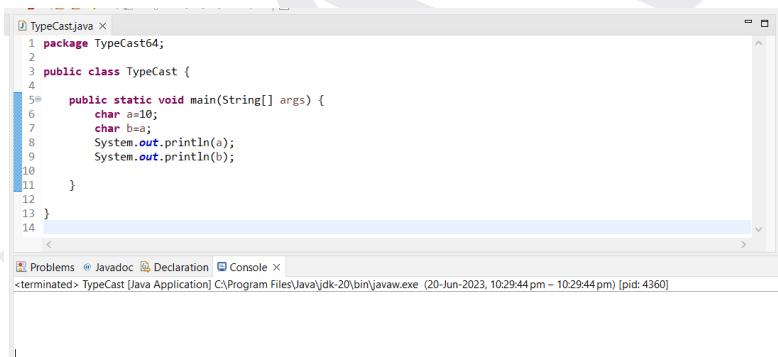


```
TypeCast.java ×
1 package TypeCast64;
2
3 public class TypeCast {
4
5     public static void main(String[] args) {
6         byte a=10;
7         boolean b=a;
8         System.out.println(a);
9         System.out.println(b);
10    }
11 }
12
13 }
```

Problems Javadoc Declaration Console ×
<terminated> TypeCast [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (20-Jun-2023, 10:26:27 pm - 10:26:29 pm) [pid: 3616]
Exception in thread "main" java.lang.Error: Unresolved compilation problem:
 Type mismatch: cannot convert from byte to boolean
 at TypeCast.TypeCast64.TypeCast.main(TypeCast.java:7)

Type casting not possible

9. char to char:



```
TypeCast.java ×
1 package TypeCast64;
2
3 public class TypeCast {
4
5     public static void main(String[] args) {
6         char a='10';
7         char b=a;
8         System.out.println(a);
9         System.out.println(b);
10    }
11 }
12
13 }
```

Problems Javadoc Declaration Console ×
<terminated> TypeCast [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (20-Jun-2023, 10:29:44 pm - 10:29:44 pm) [pid: 4360]

No error but no conversion happening

10. char to byte:

A screenshot of a Java IDE showing a code editor and a console. The code editor contains the following Java code:1 package TypeCast64;
2
3 public class TypeCast {
4
5 public static void main(String[] args) {
6 char a=10;
7 byte b=a;
8 System.out.println(a);
9 System.out.println(b);
10 }
11 }
12
13 }The line `byte b=a;` is highlighted in blue. The console shows the following output:

```
<terminated> TypeCast [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (20-Jun-2023, 10:32:19 pm - 10:32:21 pm) [pid: 5636]
Exception in thread "main" java.lang.Error: Unresolved compilation problem:
        Type mismatch: cannot convert from char to byte
        at TypeCast/TypeCast64.TypeCast.main(TypeCast.java:7)
```

Conversion is not possible.

11. char to short:

A screenshot of a Java IDE showing a code editor and a console. The code editor contains the following Java code:1 package TypeCast64;
2
3 public class TypeCast {
4
5 public static void main(String[] args) {
6 char a=10;
7 short b=a;
8 System.out.println(a);
9 System.out.println(b);
10 }
11 }
12
13 }The line `short b=a;` is highlighted in blue. The console shows the following output:

```
<terminated> TypeCast [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (20-Jun-2023, 10:33:53 pm - 10:33:54 pm) [pid: 9432]
Exception in thread "main" java.lang.Error: Unresolved compilation problem:
        Type mismatch: cannot convert from char to short
        at TypeCast/TypeCast64.TypeCast.main(TypeCast.java:7)
```

Conversion is not possible.

12. char to int:

A screenshot of a Java IDE showing a code editor and a console. The code editor contains the following Java code:1 package TypeCast64;
2
3 public class TypeCast {
4
5 public static void main(String[] args) {
6 char a=10;
7 int b=a;
8 //System.out.println(a);
9 System.out.println(b);
10 }
11 }
12
13 }The line `int b=a;` is highlighted in blue. The console shows the following output:

```
<terminated> TypeCast [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (20-Jun-2023, 10:35:02 pm - 10:35:02 pm) [pid: 1080]
10
```

Implicit conversion is happening.

13. char to long:

```
TypeCast.java
1 package TypeCast64;
2
3 public class TypeCast {
4
5     public static void main(String[] args) {
6         char a=10;
7         long b=a;
8         //System.out.println(a);
9         System.out.println(b);
10    }
11 }
12
13 }
14
```

Implicit conversion is happening.

14. char to float:

```
TypeCast.java
1 package TypeCast64;
2
3 public class TypeCast {
4
5     public static void main(String[] args) {
6         char a=10;
7         float b=a;
8         //System.out.println(a);
9         System.out.println(b);
10    }
11 }
12
13 }
14
```

Implicit conversion is happening.

15. char to double:

```
TypeCast.java
1 package TypeCast64;
2
3 public class TypeCast {
4
5     public static void main(String[] args) {
6         char a=10;
7         double b=a;
8         //System.out.println(a);
9         System.out.println(b);
10    }
11 }
12
13 }
14
```

Implicit conversion is happening.

16. char to boolean:



```
TypeCast.java X
1 package TypeCast64;
2
3 public class TypeCast {
4
5@     public static void main(String[] args) {
6         char a=10;
7         boolean b=a;
8         //System.out.println(a);
9         System.out.println(b);
10    }
11 }
12
13 }
14
```

Problems Javadoc Declaration Console X
<terminated> TypeCast [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (20-Jun-2023, 10:41:46 pm - 10:41:47 pm) [pid: 7136]
Exception in thread "main" java.lang.Error: Unresolved compilation problem:
 Type mismatch: cannot convert from char to boolean
 at TypeCast/TypeCast64.TypeCast.main(TypeCast.java:7)

Conversion is not possible.

17. long to byte:



```
TypeCast.java X
1 package TypeCast64;
2
3 public class TypeCast {
4
5@     public static void main(String[] args) {
6         long a=10;
7         byte b=(byte)a;
8         //System.out.println(a);
9         System.out.println(b);
10    }
11 }
12
13 }
14
```

Problems Javadoc Declaration Console X
<terminated> TypeCast [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (20-Jun-2023, 10:47:58 pm - 10:47:58 pm) [pid: 15984]
10

Explicit conversion needed.

18. long to short:



```
TypeCast.java X
1 package TypeCast64;
2
3 public class TypeCast {
4
5@     public static void main(String[] args) {
6         long a=10;
7         short b=(short)a;
8         //System.out.println(a);
9         System.out.println(b);
10    }
11 }
12
13 }
14
```

Problems Javadoc Declaration Console X
<terminated> TypeCast [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (20-Jun-2023, 10:49:11 pm - 10:49:11 pm) [pid: 12868]
10

Explicit conversion needed.

19. long to int:



```
TypeCast.java X
1 package TypeCast64;
2
3 public class TypeCast {
4
5@     public static void main(String[] args) {
6         long a=10;
7         int b=(int)a;
8         //System.out.println(a);
9         System.out.println(b);
10    }
11 }
12
13 }
14
```

Problems Javadoc Declaration Console X
<terminated> TypeCast [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (20-Jun-2023, 10:49:57 pm - 10:49:57 pm) [pid: 2840]
10

Explicit conversion needed.

20. long to long:

A screenshot of a Java IDE showing a code editor with the following Java code:

```
1 package TypeCast64;
2
3 public class TypeCast {
4
5     public static void main(String[] args) {
6         long a=10;
7         long b=a;
8         //System.out.println(a);
9         System.out.println(b);
10    }
11 }
12
13 }
```

The code editor has syntax highlighting where 'long' is blue and 'System.out.println' is purple. The line 'System.out.println(b);' is highlighted in light blue. Below the code editor is a toolbar with tabs for 'Problems', 'Javadoc', 'Declaration', and 'Console'. The 'Console' tab is selected, showing the output: '<terminated> TypeCast [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (20-Jun-2023, 10:50:39 pm - 10:50:40 pm) [pid: 7408] 10'. The status bar at the bottom shows '10.0'.

No conversion needed

21. long to float:

A screenshot of a Java IDE showing a code editor with the following Java code:

```
1 package TypeCast64;
2
3 public class TypeCast {
4
5     public static void main(String[] args) {
6         long a=10;
7         float b=a;
8         //System.out.println(a);
9         System.out.println(b);
10    }
11 }
12
13 }
```

The code editor has syntax highlighting where 'long' is blue and 'float' is blue. The line 'float b=a;' is highlighted in light blue. Below the code editor is a toolbar with tabs for 'Problems', 'Javadoc', 'Declaration', and 'Console'. The 'Console' tab is selected, showing the output: '<terminated> TypeCast [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (20-Jun-2023, 10:51:29 pm - 10:51:29 pm) [pid: 13924] 10.0'. The status bar at the bottom shows '10.0'.

Implicit conversion happening

22. long to double:

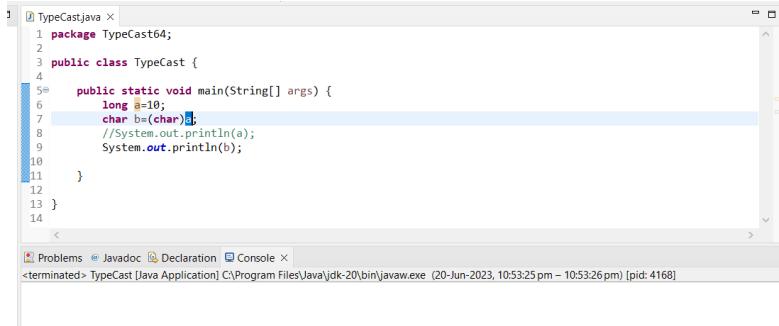
A screenshot of a Java IDE showing a code editor with the following Java code:

```
1 package TypeCast64;
2
3 public class TypeCast {
4
5     public static void main(String[] args) {
6         long a=10;
7         double b=a;
8         //System.out.println(a);
9         System.out.println(b);
10    }
11 }
12
13 }
```

The code editor has syntax highlighting where 'long' is blue and 'double' is blue. The line 'double b=a;' is highlighted in light blue. Below the code editor is a toolbar with tabs for 'Problems', 'Javadoc', 'Declaration', and 'Console'. The 'Console' tab is selected, showing the output: '<terminated> TypeCast [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (20-Jun-2023, 10:52:22 pm - 10:52:22 pm) [pid: 10876] 10.0'. The status bar at the bottom shows '10.0'.

Implicit conversion happening

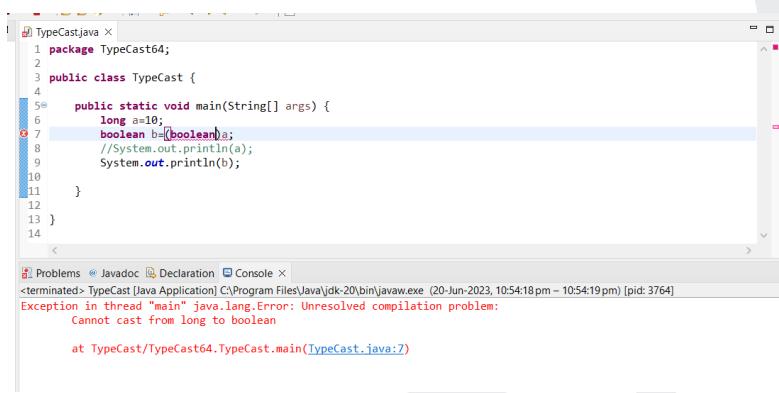
23. long to char:



```
TypeCast.java
1 package TypeCast64;
2
3 public class TypeCast {
4
5     public static void main(String[] args) {
6         long a=10;
7         char b=(char)a;
8         //System.out.println(a);
9         System.out.println(b);
10    }
11 }
12 }
13 }
```

Cannot convert from long to char.

24. long to boolean:

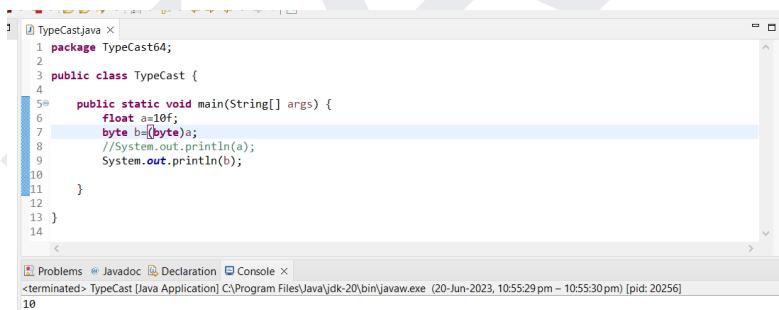


```
TypeCast.java
1 package TypeCast64;
2
3 public class TypeCast {
4
5     public static void main(String[] args) {
6         long a=10;
7         boolean b=(boolean)a;
8         //System.out.println(a);
9         System.out.println(b);
10    }
11 }
12 }
13 }
```

Exception in thread "main" java.lang.Error: Unresolved compilation problem:
Cannot cast from long to boolean
at TypeCast.TypeCast64.TypeCast.main(TypeCast.java:7)

Conversion is not possible

25. float to byte:



```
TypeCast.java
1 package TypeCast64;
2
3 public class TypeCast {
4
5     public static void main(String[] args) {
6         float a=10f;
7         byte b=(byte)a;
8         //System.out.println(a);
9         System.out.println(b);
10    }
11 }
12 }
13 }
```

Explicit conversion needed

26. float to short:

A screenshot of a Java IDE showing a code editor with the following Java code:

```
1 package TypeCast64;
2
3 public class TypeCast {
4
5     public static void main(String[] args) {
6         float a=10f;
7         short b=(short)a;
8         //System.out.println(a);
9         System.out.println(b);
10    }
11 }
12
13 }
14
```

The line `short b=(short)a;` is highlighted in blue, indicating a syntax error. The status bar at the bottom shows: `<terminated> TypeCast [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (20-Jun-2023, 10:55:29 pm - 10:55:30 pm) [pid: 20256]`.

Explicit conversion needed.

27. float to int:

A screenshot of a Java IDE showing a code editor with the following Java code:

```
1 package TypeCast64;
2
3 public class TypeCast {
4
5     public static void main(String[] args) {
6         float a=10f;
7         int b=(int)a;
8         //System.out.println(a);
9         System.out.println(b);
10    }
11 }
12
13 }
14
```

The line `int b=(int)a;` is highlighted in blue, indicating a syntax error. The status bar at the bottom shows: `<terminated> TypeCast [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (20-Jun-2023, 10:57:19 pm - 10:57:19 pm) [pid: 3720]`.

Explicit conversion needed

28. float to long:

A screenshot of a Java IDE showing a code editor with the following Java code:

```
1 package TypeCast64;
2
3 public class TypeCast {
4
5     public static void main(String[] args) {
6         float a=10f;
7         long b=(long)a;
8         //System.out.println(a);
9         System.out.println(b);
10    }
11 }
12
13 }
14
```

The line `long b=(long)a;` is highlighted in blue, indicating a syntax error. The status bar at the bottom shows: `<terminated> TypeCast [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (20-Jun-2023, 10:58:02 pm - 10:58:03 pm) [pid: 7376]`.

Explicit conversion needed

29. float to float:

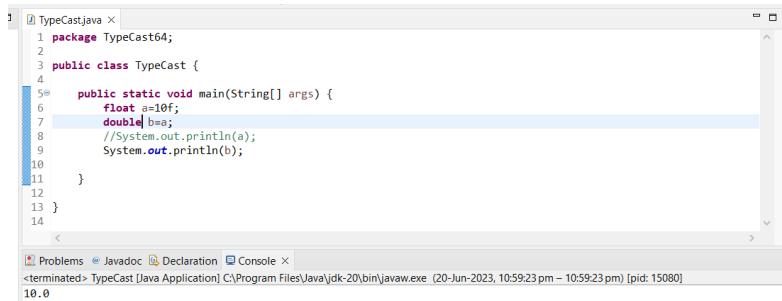
A screenshot of a Java IDE showing a code editor with the following Java code:

```
1 package TypeCast64;
2
3 public class TypeCast {
4
5     public static void main(String[] args) {
6         float a=10f;
7         float b=a;
8         //System.out.println(a);
9         System.out.println(b);
10    }
11 }
12
13 }
14
```

The line `float b=a;` is highlighted in blue, indicating a syntax error. The status bar at the bottom shows: `<terminated> TypeCast [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (20-Jun-2023, 10:58:45 pm - 10:58:45 pm) [pid: 4184]`.

Conversion not needed.

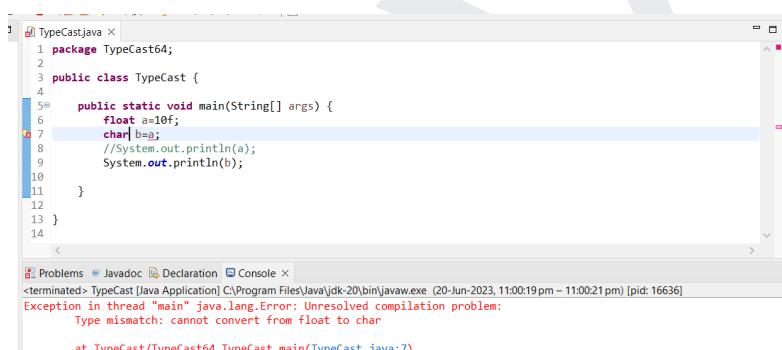
30. float to double:



```
TypeCast.java
1 package TypeCast64;
2
3 public class TypeCast {
4
5@     public static void main(String[] args) {
6         float a=10f;
7         double b=a;
8         //System.out.println(a);
9         System.out.println(b);
10    }
11 }
12
13 }
14
```

Implicit type cast is happening.

31. float to char:

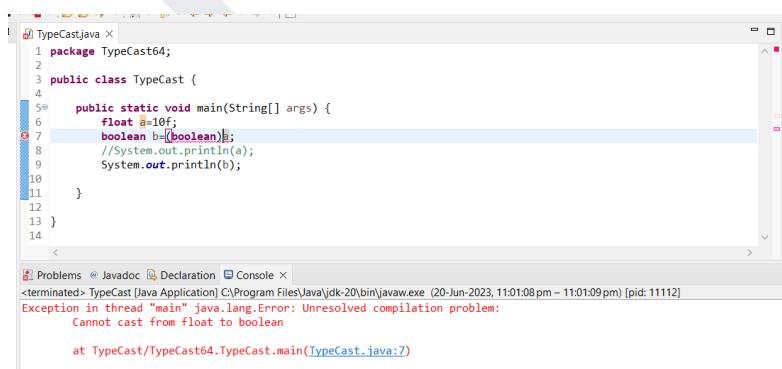


```
TypeCast.java
1 package TypeCast64;
2
3 public class TypeCast {
4
5@     public static void main(String[] args) {
6         float a=10f;
7         char b=a;
8         //System.out.println(a);
9         System.out.println(b);
10    }
11 }
12
13 }
14
```

Exception in thread "main" java.lang.Error: Unresolved compilation problem:
Type mismatch: cannot convert from float to char
at TypeCast/TypeCast64.TypeCast.main(TypeCast.java:7)

Conversion not possible

32. float to boolean:



```
TypeCast.java
1 package TypeCast64;
2
3 public class TypeCast {
4
5@     public static void main(String[] args) {
6         float a=10f;
7         boolean b=(boolean)a;
8         //System.out.println(a);
9         System.out.println(b);
10    }
11 }
12
13 }
14
```

Exception in thread "main" java.lang.Error: Unresolved compilation problem:
Cannot cast from float to boolean
at TypeCast/TypeCast64.TypeCast.main(TypeCast.java:7)

Conversion not possible

33.short to byte:

A screenshot of the Eclipse IDE interface. The top menu bar shows "File", "Edit", "Select", "Run", "Help". Below the menu is a toolbar with icons for file operations. The main window displays a Java file named "TypeCasting64.java". The code is as follows:

```
java - Eclipse IDE
File Edit Select Run Help
TypeCasting64.java X
1 package TypeCasting64;
2
3 public class TypeCasting64 {
4
5     public static void main(String[] args) {
6         // TODO Auto-generated method stub
7
8         short a=10;
9         byte b=(byte)a;
10        System.out.println(a);
11        System.out.println(b);
12
13    }
14
15 }
16
```

The line "byte b=(byte)a;" is highlighted with a blue selection bar. Below the code editor is a status bar showing "terminated> TypeCasting64 [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (20-Jun-2023, 10:47:35 pm – 10:47:35 pm) [pid: 6772]" and two "10" entries.

Explicit conversion needed.

34.short to short:

A screenshot of the Eclipse IDE interface. The top menu bar shows "File", "Edit", "Select", "Run", "Help". Below the menu is a toolbar with icons for file operations. The main window displays a Java file named "TypeCasting64.java". The code is as follows:

```
java - Eclipse IDE
File Edit Select Run Help
TypeCasting64.java X
1 package TypeCasting64;
2
3 public class TypeCasting64 {
4
5     public static void main(String[] args) {
6         // TODO Auto-generated method stub
7
8         short a=10;
9         short b=a;
10        System.out.println(a);
11        System.out.println(b);
12
13    }
14
15 }
16
```

The line "short b=a;" is highlighted with a blue selection bar. Below the code editor is a status bar showing "terminated> TypeCasting64 [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (20-Jun-2023, 10:23:51 pm – 10:23:51 pm) [pid: 4008]" and two "10" entries.

Typecasting not needed.

35.short to int:

```
java - Eclipse IDE
File Help
TypeCasting64.java X
1 package TypeCasting64;
2
3 public class TypeCasting64 {
4
5     public static void main(String[] args) {
6         // TODO Auto-generated method stub
7
8         short a=10;
9         int b=a;
10        System.out.println(a);
11        System.out.println(b);
12
13    }
14
15 }
16
```

Problems Javadoc Declaration Console X
<terminated> TypeCasting64 [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (20-Jun-2023, 10:27:43 pm – 10:27:43 pm) [pid: 10924]
10
10

Implicit type cast happening.

36.short to long:

```
java - Eclipse IDE
File Help
TypeCasting64.java X
1 package TypeCasting64;
2
3 public class TypeCasting64 {
4
5     public static void main(String[] args) {
6         // TODO Auto-generated method stub
7
8         short a=10;
9         long b=a;
10        System.out.println(a);
11        System.out.println(b);
12
13    }
14
15 }
16
```

Problems Javadoc Declaration Console X
<terminated> TypeCasting64 [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (20-Jun-2023, 10:29:50 pm – 10:29:50 pm) [pid: 13948]
10
10

Implicit type cast happening.

37.short to float:

```
java - Eclipse IDE
File Help
TypeCasting64.java X
1 package TypeCasting64;
2
3 public class TypeCasting64 {
4
5     public static void main(String[] args) {
6         // TODO Auto-generated method stub
7
8         short a=10;
9         float b=a;
10        System.out.println(a);
11        System.out.println(b);
12
13    }
14
15 }
16
```

Problems Javadoc Declaration Console X
<terminated> TypeCasting64 [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (20-Jun-2023, 10:31:07 pm – 10:31:07 pm) [pid: 808]
10
10.0

Implicit type cast happening.

38.short to double:



```
java - Eclipse IDE
File Help
TypeCasting64.java X
1 package TypeCasting64;
2
3 public class TypeCasting64 {
4
5     public static void main(String[] args) {
6         // TODO Auto-generated method stub
7
8         short a=10;
9         double b=a;
10        System.out.println(a);
11        System.out.println(b);
12
13    }
14
15 }
16
```

Problems Javadoc Declaration Console X
<terminated> TypeCasting64 [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (20-Jun-2023, 10:32:10 pm – 10:32:10 pm) [pid: 12888]
10
10.0

Implicit type cast happening.

39.short to char:



```
java - Eclipse IDE
File Help
TypeCasting64.java X
1 package TypeCasting64;
2
3 public class TypeCasting64 {
4
5     public static void main(String[] args) {
6         // TODO Auto-generated method stub
7
8         short a=10;
9         char b=(char)a;
10        System.out.println(a);
11        System.out.println(b);
12
13    }
14
15 }
16
```

Problems Javadoc Declaration Console X
<terminated> TypeCasting64 [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (20-Jun-2023, 10:50:37 pm – 10:50:37 pm) [pid: 13568]
10

Explicit conversion needed.

40.short to boolean:



```
4.java - Eclipse IDE
File Help
TypeCasting64.java X
1 package TypeCasting64;
2
3 public class TypeCasting64 {
4
5     public static void main(String[] args) {
6         // TODO Auto-generated method stub
7
8         short a=10;
9         boolean b=(boolean)a;
10        System.out.println(a);
11        System.out.println(b);
12
13    }
14
15 }
16
```

Problems Javadoc Declaration Console X
<terminated> TypeCasting64 [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (20-Jun-2023, 10:39:55 pm – 10:39:57 pm) [pid: 11572]
Exception in thread "main" java.lang.Error: Unresolved compilation problem:
Type mismatch: cannot convert from short to boolean
at TypeCasting64.TypeCasting64.main(TypeCasting64.java:9)

Type casting is not possible.

41.int to byte:



```
5.java - Eclipse IDE
File Help
TypeCasting64.java X
1 package TypeCasting64;
2
3 public class TypeCasting64 {
4
5     public static void main(String[] args) {
6         // TODO Auto-generated method stub
7
8         int a=10;
9         byte b=(byte)a;
10        System.out.println(a);
11        System.out.println(b);
12
13    }
14
15 }
16
```

Problems Javadoc Declaration Console X
<terminated> TypeCasting64 [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (20-Jun-2023, 10:52:49 pm – 10:52:49 pm) [pid: 8424]
10
10

Explicit conversion needed.

42.int to short:

java - Eclipse IDE

```
1 package TypeCasting64;
2
3 public class TypeCasting64 {
4
5     public static void main(String[] args) {
6         // TODO Auto-generated method stub
7
8         int a=10;
9         short b=(short)a;
10        System.out.println(a);
11        System.out.println(b);
12
13    }
14
15 }
16
```

10
10

Explicit conversion needed.

43. Int to int:

java - Eclipse IDE

```
1 package TypeCasting64;
2
3 public class Typecasting64 {
4
5     public static void main(String[] args) {
6         // TODO Auto-generated method stub
7
8         int a=10;
9         int b=a;
10        System.out.println(a);
11        System.out.println(b);
12
13    }
14
15 }
16
```

10
10

Typecasting not needed.

44. Int to long:

java - Eclipse IDE

```
1 package TypeCasting64;
2
3 public class TypeCasting64 {
4
5     public static void main(String[] args) {
6         // TODO Auto-generated method stub
7
8         int a=10;
9         long b=a;
10        System.out.println(a);
11        System.out.println(b);
12
13    }
14
15 }
16
```

10
10

Implicit type cast happening.

45.int to float:



```
java - Eclipse IDE
window Help
TypeCasting64.java X
1 package TypeCasting64;
2
3 public class TypeCasting64 {
4
5     public static void main(String[] args) {
6         // TODO Auto-generated method stub
7
8         int a=10;
9         float b=a;
10        System.out.println(a);
11        System.out.println(b);
12
13    }
14
15 }
16
```

Problems Javadoc Declaration Console X
<terminated> TypeCasting64 [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (20-Jun-2023, 10:58:30 pm – 10:58:31 pm) [pid: 6044]

10
10.0

Implicit type cast happening.

46.int to double:



```
tjava - Eclipse IDE
window Help
TypeCasting64.java X
1 package TypeCasting64;
2
3 public class TypeCasting64 {
4
5     public static void main(String[] args) {
6         // TODO Auto-generated method stub
7
8         int a=10;
9         double b=a;
10        System.out.println(a);
11        System.out.println(b);
12
13    }
14
15 }
16
```

Problems Javadoc Declaration Console X
<terminated> TypeCasting64 [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (20-Jun-2023, 11:16:26 pm – 11:16:26 pm) [pid: 14232]

10
10.0

Implicit type cast happening.

47.int to char:



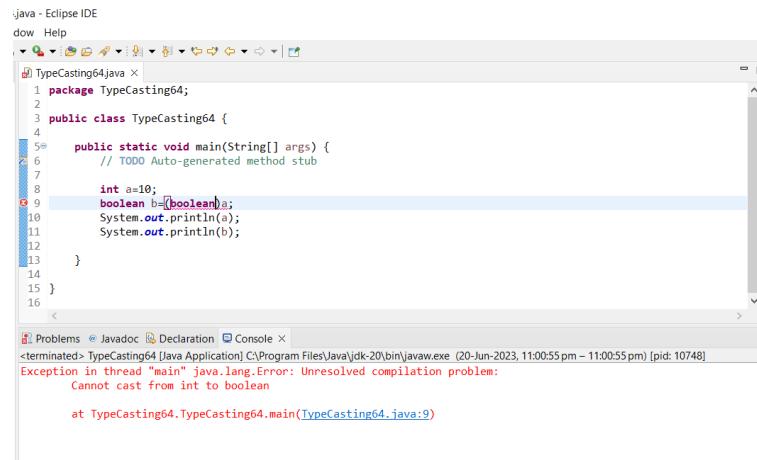
```
4.java - Eclipse IDE
window Help
TypeCasting64.java X
1 package TypeCasting64;
2
3 public class TypeCasting64 {
4
5     public static void main(String[] args) {
6         // TODO Auto-generated method stub
7
8         int a=10;
9         char b=(char)a;
10        System.out.println(a);
11        System.out.println(b);
12
13    }
14
15 }
16
```

Problems Javadoc Declaration Console X
<terminated> TypeCasting64 [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (20-Jun-2023, 10:59:48 pm – 10:59:48 pm) [pid: 13712]

10

Explicit conversion needed.

48.int to boolean:



java - Eclipse IDE

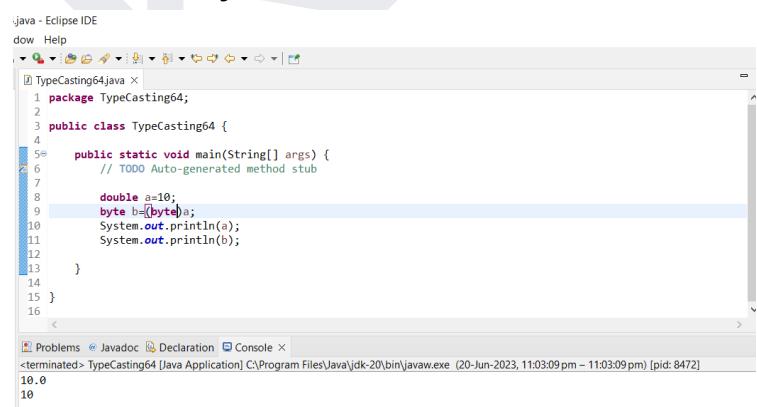
```
1 package TypeCasting64;
2
3 public class TypeCasting64 {
4
5     public static void main(String[] args) {
6         // TODO Auto-generated method stub
7
8         int a=10;
9         boolean b=(boolean)a;
10        System.out.println(a);
11        System.out.println(b);
12    }
13
14
15 }
```

Problems Javadoc Declaration Console

<terminated> TypeCasting64 [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (20-Jun-2023, 11:00:55 pm – 11:00:55 pm) [pid: 10748]
Exception in thread "main" java.lang.Error: Unresolved compilation problem:
Cannot cast from int to boolean
at TypeCasting64.TypeCasting64.main(TypeCasting64.java:9)

Type casting is not possible.

49. Double to byte:



java - Eclipse IDE

```
1 package TypeCasting64;
2
3 public class TypeCasting64 {
4
5     public static void main(String[] args) {
6         // TODO Auto-generated method stub
7
8         double a=10;
9         byte b=(byte)a;
10        System.out.println(a);
11        System.out.println(b);
12    }
13
14
15 }
```

Problems Javadoc Declaration Console

<terminated> TypeCasting64 [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (20-Jun-2023, 11:03:09 pm – 11:03:09 pm) [pid: 8472]

Explicit conversion needed.

50.double to short:

```
java - Eclipse IDE
File Help
TypeCasting64.java X
1 package TypeCasting64;
2
3 public class TypeCasting64 {
4
5     public static void main(String[] args) {
6         // TODO Auto-generated method stub
7
8         double a=10;
9         short b=(short)a;
10        System.out.println(a);
11        System.out.println(b);
12
13    }
14
15 }
16
```

10.0
10

Explicit conversion needed.

51.double to int:

```
java - Eclipse IDE
File Help
TypeCasting64.java X
1 package TypeCasting64;
2
3 public class TypeCasting64 {
4
5     public static void main(String[] args) {
6         // TODO Auto-generated method stub
7
8         double a=10;
9         int b=(int)a;
10        System.out.println(a);
11        System.out.println(b);
12
13    }
14
15 }
16
```

10.0
10

Explicit conversion needed.

52.double to long:

```
java - Eclipse IDE
File Help
TypeCasting64.java X
1 package TypeCasting64;
2
3 public class TypeCasting64 {
4
5     public static void main(String[] args) {
6         // TODO Auto-generated method stub
7
8         double a=10;
9         long b=(long)a;
10        System.out.println(a);
11        System.out.println(b);
12
13    }
14
15 }
16
```

10.0
10

Explicit conversion needed.

53.double to float:

A screenshot of the Eclipse IDE interface. The top menu bar shows "File", "Edit", "Search", "Run", "Help". The title bar says "4.java - Eclipse IDE". The main editor window contains Java code:

```
1 package TypeCasting64;
2
3 public class TypeCasting64 {
4
5     public static void main(String[] args) {
6         // TODO Auto-generated method stub
7
8         double a=10;
9         float b=(float)a;
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14
15 }
```

The line `float b=(float)a;` is highlighted with a blue selection bar. Below the editor is a tab bar with "Problems", "Javadoc", "Declaration", and "Console". The "Console" tab is selected, showing the output:

```
<terminated> TypeCasting64 [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (20-Jun-2023, 11:08:29 pm – 11:08:29 pm) [pid: 14296]
10.0
10.0
```

Explicit conversion needed.

54.double to double:

A screenshot of the Eclipse IDE interface. The top menu bar shows "File", "Edit", "Search", "Run", "Help". The title bar says "4.java - Eclipse IDE". The main editor window contains Java code:

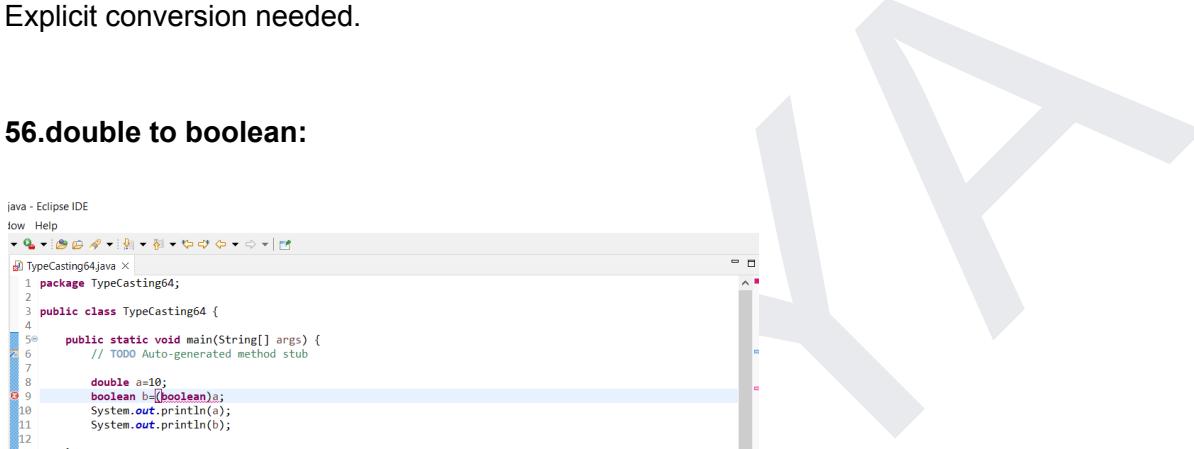
```
1 package TypeCasting64;
2
3 public class TypeCasting64 {
4
5     public static void main(String[] args) {
6         // TODO Auto-generated method stub
7
8         double a=10;
9         double b=a;
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14
15 }
```

The line `double b=a;` is highlighted with a blue selection bar. Below the editor is a tab bar with "Problems", "Javadoc", "Declaration", and "Console". The "Console" tab is selected, showing the output:

```
<terminated> TypeCasting64 [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (20-Jun-2023, 11:09:37 pm – 11:09:37 pm) [pid: 3976]
10.0
10.0
```

Typecasting not needed.

55.double to char:



```
java - Eclipse IDE
File Help
TypeCasting64.java X
1 package TypeCasting64;
2
3 public class TypeCasting64 {
4
5     public static void main(String[] args) {
6         // TODO Auto-generated method stub
7
8         double a=10;
9         char b=(char)a;
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14
15 }
16
```

10.0

Problems Javadoc Declaration Console X
<terminated> TypeCasting64 [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (20-Jun-2023, 11:11:15 pm – 11:11:15 pm) [pid: 4884]

Explicit conversion needed.

56. double to boolean:



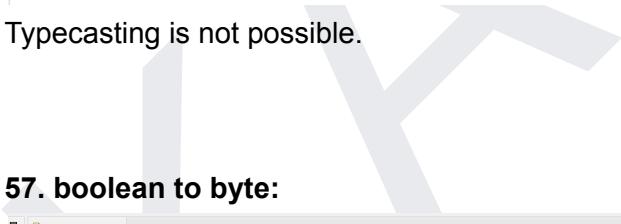
```
java - Eclipse IDE
File Help
TypeCasting64.java X
1 package TypeCasting64;
2
3 public class TypeCasting64 {
4
5     public static void main(String[] args) {
6         // TODO Auto-generated method stub
7
8         double a=10;
9         boolean b=(boolean)a;
10        System.out.println(a);
11        System.out.println(b);
12    }
13 }
14
15 }
16
```

Exception in thread "main" java.lang.Error: Unresolved compilation problem:
Cannot cast from double to boolean
at TypeCasting64.TypeCasting64.main(TypeCasting64.java:9)

Problems Javadoc Declaration Console X
<terminated> TypeCasting64 [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (20-Jun-2023, 11:12:22 pm – 11:12:23 pm) [pid: 14236]

Typecasting is not possible.

57. boolean to byte:



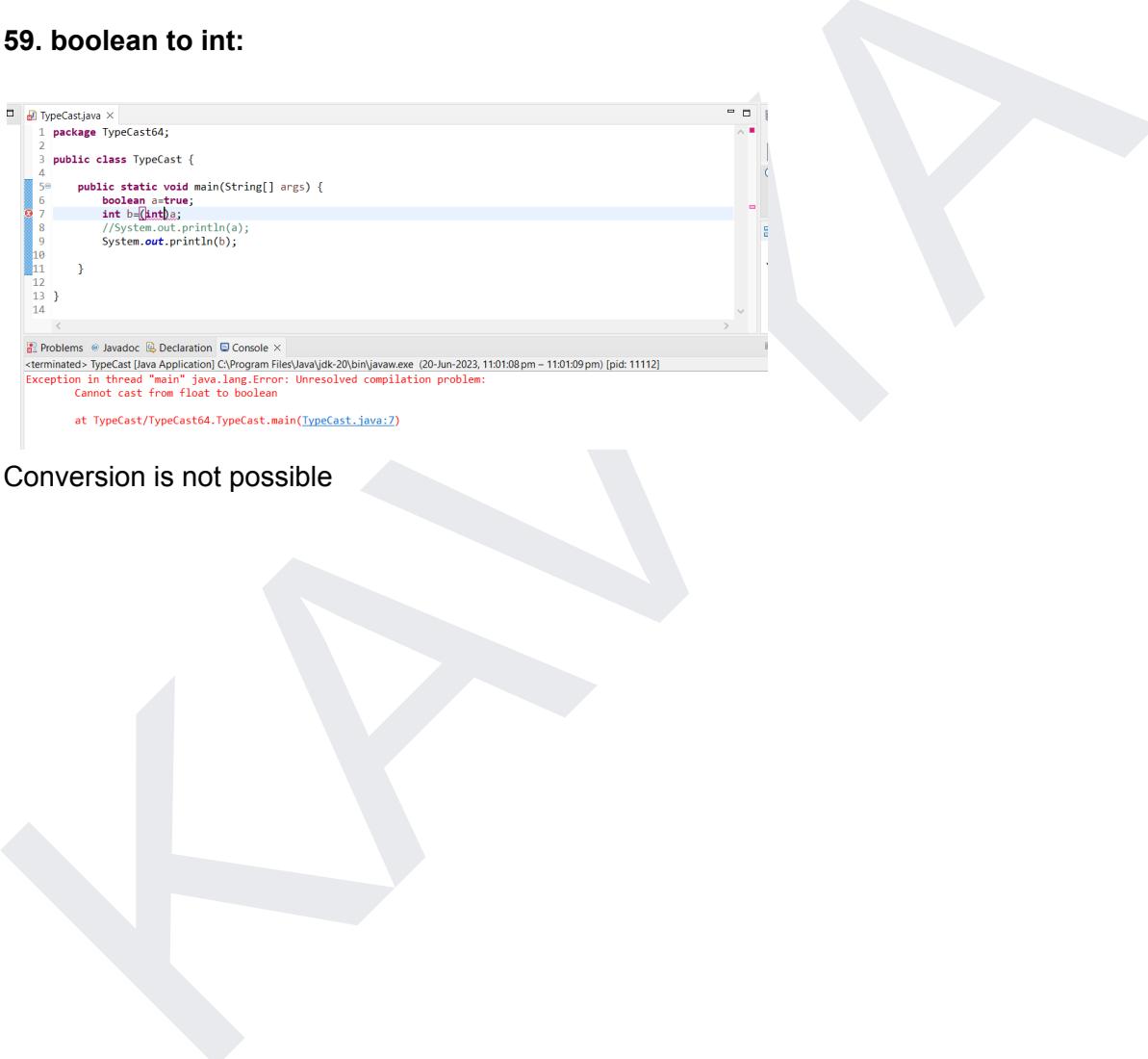
```
TypeCastJava X
1 package TypeCast64;
2
3 public class TypeCast {
4
5     public static void main(String[] args) {
6         boolean a=true;
7         byte b=(byte)a;
8         //System.out.println(a);
9         System.out.println(b);
10    }
11 }
12
13 }
14
```

Exception in thread "main" java.lang.Error: Unresolved compilation problem:
Cannot cast from float to boolean
at TypeCast/TypeCast64.TypeCast.main(TypeCast.java:7)

Problems Javadoc Declaration Console X
<terminated> TypeCastJava [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (20-Jun-2023, 11:01:08 pm – 11:01:09 pm) [pid: 11112]

Conversion is not possible

58. boolean to short:



```
TypeCast.java
1 package TypeCast64;
2
3 public class TypeCast {
4
5     public static void main(String[] args) {
6         boolean a=true;
7         short b=(short)a;
8         //System.out.println(a);
9         System.out.println(b);
10    }
11 }
12
13 }
14
```

Problems Javadoc Declaration Console <terminated> TypeCast [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (20-Jun-2023, 11:01:08 pm - 11:01:09 pm) [pid: 11112]
Exception in thread "main" java.lang.Error: Unresolved compilation problem:
Cannot cast from float to boolean
at TypeCast/TypeCast64.TypeCast.main(TypeCast.java:7)

Conversion is not possible

59. boolean to int:

```
TypeCast.java
1 package TypeCast64;
2
3 public class TypeCast {
4
5     public static void main(String[] args) {
6         boolean a=true;
7         int b=(int)a;
8         //System.out.println(a);
9         System.out.println(b);
10    }
11 }
12
13 }
14
```

Problems Javadoc Declaration Console <terminated> TypeCast [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (20-Jun-2023, 11:01:08 pm - 11:01:09 pm) [pid: 11112]
Exception in thread "main" java.lang.Error: Unresolved compilation problem:
Cannot cast from float to boolean
at TypeCast/TypeCast64.TypeCast.main(TypeCast.java:7)

Conversion is not possible

60. boolean to long:



```
TypeCast.java X
1 package TypeCast64;
2
3 public class TypeCast {
4
5     public static void main(String[] args) {
6         boolean a=true;
7         long b=(long)a;
8         //System.out.println(a);
9         System.out.println(b);
10    }
11 }
12
13 }
14
```

Problems Declaration Console X
<terminated> TypeCast [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (20-Jun-2023, 11:01:08 pm - 11:01:09 pm) [pid: 11112]
Exception in thread "main" java.lang.Error: Unresolved compilation problem:
 Cannot cast from float to boolean
 at TypeCast/TypeCast64.TypeCast.main(TypeCast.java:7)

Conversion is not possible

61. boolean to float:



```
TypeCast.java X
1 package TypeCast64;
2
3 public class TypeCast {
4
5     public static void main(String[] args) {
6         boolean a=true;
7         float b=(float)a;
8         //System.out.println(a);
9         System.out.println(b);
10    }
11 }
12
13 }
14
```

Problems Declaration Console X
<terminated> TypeCast [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (20-Jun-2023, 11:01:08 pm - 11:01:09 pm) [pid: 11112]
Exception in thread "main" java.lang.Error: Unresolved compilation problem:
 Cannot cast from float to boolean
 at TypeCast/TypeCast64.TypeCast.main(TypeCast.java:7)

Conversion is not possible

62. boolean to double:



```
TypeCast.java X
1 package TypeCast64;
2
3 public class TypeCast {
4
5     public static void main(String[] args) {
6         boolean a=true;
7         double b=(double)a;
8         //System.out.println(a);
9         System.out.println(b);
10    }
11 }
12
13 }
14
```

Problems Declaration Console X
<terminated> TypeCast [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (20-Jun-2023, 11:01:08 pm - 11:01:09 pm) [pid: 11112]
Exception in thread "main" java.lang.Error: Unresolved compilation problem:
 Cannot cast from float to boolean
 at TypeCast/TypeCast64.TypeCast.main(TypeCast.java:7)

Conversion is not possible

63. boolean to char:

A screenshot of an IDE showing a Java file named TypeCast.java. The code contains a main method with a line of code that attempts to assign a float value to a char variable. The IDE highlights the problematic line with a red underline and displays an error message in the status bar: "Exception in thread "main" java.lang.Error: Unresolved compilation problem: Cannot cast from float to boolean".

```
1 package TypeCast64;
2
3 public class TypeCast {
4
5     public static void main(String[] args) {
6         boolean a=true;
7         char b=(char)a;
8         //System.out.println(a);
9         System.out.println(b);
10    }
11 }
12
13 }
```

Conversion is not possible

64. boolean to boolean:

A screenshot of an IDE showing the same Java file TypeCast.java. This time, the code compiles successfully. The status bar shows the output of the program: "true".

```
1 package TypeCast64;
2
3 public class TypeCast {
4
5     public static void main(String[] args) {
6         boolean a=true;
7         boolean b=a;
8         //System.out.println(a);
9         System.out.println(b);
10    }
11 }
12
13 }
```

Conversion is not needed.

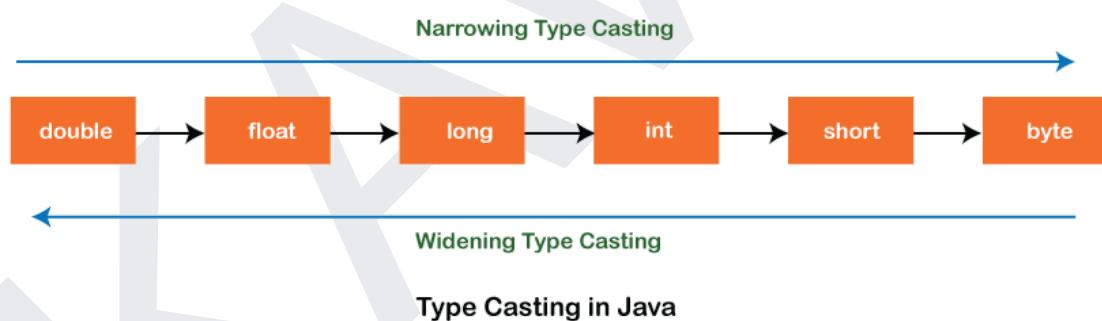
TABLE FOR TYPE CASTING IN JAVA:

Source data type

	byte	short	int	long	float	double	char	boolean
byte	-	✗	✗	✗	✗	✗	✗	✗
short	✓	-	✗	✗	✗	✗	✗	✗
int	✓	✓	-	✗	✗	✗	✗	✗
long	✓	✓	✓	-	✗	✗	✗	✗
float	✓	✓	✓	✓	-	✗	✗	✗
double	✓	✓	✓	✓	✓	-	✗	✗
char	✗	✗	✗	✗	✗	✗	-	✗
boolean	✗	✗	✗	✗	✗	✗	✗	-

— Data assignment possible but no automatic conversion happens
 ✗ not compatible because source data type is higher than destination data type
 ✓ Compatible because source data type is lower than destination data type

Flow chart for type casting in java:



When narrowing, we do explicit type casting and when widening the type casting is implicit.

Assignment submitted by:

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