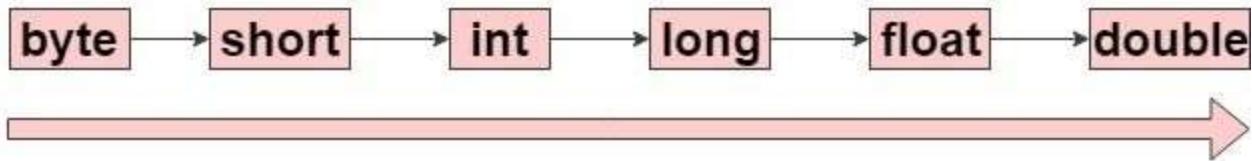
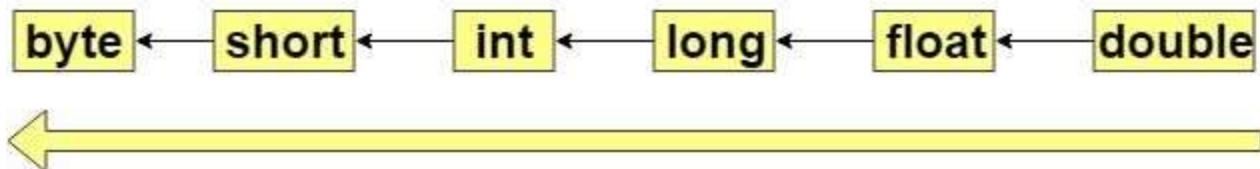


Automatic Type Conversion (Widening - implicit)



Narrowing (explicit)



Char to byte

The screenshot shows the Eclipse IDE interface. The top window is titled "Datatypes.java" and contains the following Java code:

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

The bottom window is titled "Console" and shows the output of the program:

```
<terminated> Datatypes [Java Application] C:\Users\heman\p2\pool\plugins\org.eclipse.justj.op
104
```

Char to Short

The screenshot shows the Eclipse IDE interface. The top window is titled "Datatypes.java" and contains the following Java code:

```
1
2 public class Datatypes {
3
4     public static void main(String[] args) {
5         // TODO Auto-generated method stub
6         char a='h';
7         short b;
8         b=(short) a;
9         System.out.println(b);
10    }
11
12 }
```

The bottom window is titled "Console" and shows the output of the application:

```
<terminated> Datatypes [Java Application] C:\Users\heman\p2\pool\plugins\org.eclipse.
104
```

Char to int

The screenshot shows the Eclipse IDE interface. The top window is titled "Datatypes.java" and contains the following Java code:

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

The bottom window is titled "Console" and shows the output of the application:

```
<terminated> Datatypes [Java Application] C:\Users\heman\p2\pool\plugins\org.eclipse.
104
```

Char to long

The screenshot shows the Eclipse IDE interface. The top window is titled "Datatypes.java" and contains the following Java code:

```
1
2 public class Datatypes {
3
4     public static void main(String[] args) {
5         // TODO Auto-generated method stub
6         char a='h';
7         long b;
8         b=a;
9         System.out.println(b);
10    }
11
12 }
```

The bottom window is titled "Console" and displays the output of the program:

```
<terminated> Datatypes [Java Application] C:\Users\heman\p2\pool\plugins\org.eclipse.jdt.core\104
```

Char to float

The screenshot shows the Eclipse IDE interface. The top window is titled "Datatypes.java" and contains the following Java code:

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

The bottom window is titled "Console" and displays the output of the program:

```
<terminated> Datatypes [Java Application] C:\Users\heman\p2\pool\plugins\org.eclipse.jdt.core\104.0
```

Char to double

The screenshot shows the Eclipse IDE interface. The top bar displays the title 'Datatypes.java' and several icons. Below the title bar, the code editor window contains the following Java code:

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

Below the code editor is a small toolbar with a back arrow icon. The bottom part of the interface shows the 'Console' tab, which displays the output of the application's execution:

<terminated> Datatypes [Java Application] C:\Users\heman\p2\pool\plugins\org.eclipse.jdt.core\104.0

Char to Boolean

The screenshot shows the Eclipse IDE interface. The top part is the Java code editor for a file named `Datatypes.java`. The code defines a class `Datatypes` with a `main` method. It declares a `char` variable `a` and a `boolean` variable `b`, then attempts to assign the value of `a` to `b` using the assignment operator `=` instead of the correct type conversion operator `(boolean)a`. The line `b=a; //error` is highlighted in red, indicating a compilation error. The bottom part is the terminal window titled `Console`, which shows the output of running the application. It prints the error message: `Exception in thread "main" java.lang.Error: Unresolved compilation problem: Type mismatch: cannot convert from char to boolean`.

```
1 public class Datatypes {
2     public static void main(String[] args) {
3         char a='h';
4         boolean b;
5         b=a; //error
6         System.out.println(b);
7     }
8 }
9
10
11 }
```

<terminated> Datatypes [Java Application] C:\Users\heman\.p2\pool\plugins\org.eclipse.jdt.core_3.12.0.v20150914-1200\src\Datatypes.java
Exception in thread "main" java.lang.Error: Unresolved compilation problem:
Type mismatch: cannot convert from char to boolean
at Datatypes.main(Datatypes.java:7)

Byte to Char

The screenshot shows the Eclipse IDE interface. The top window is titled "Datatypes.java" and contains the following Java code:

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

Below it is the "Console" window, which displays the output of the program:

```
<terminated> Datatypes [Java Application] C:\Users\heman\p2\pool\plugins\org.eclipse.justj.openj
```

Byte to short

The screenshot shows the Eclipse IDE interface. The top window is titled "*Datatypes.java" and contains the following Java code:

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

Below it is the "Console" window, which displays the output of the program:

```
<terminated> Datatypes [Java Application] C:\Users\heman\p2\pool\plugins\org.eclipse.ju
10
```

Byte to int

The screenshot shows the Eclipse IDE interface. The top window is titled "Datatypes.java" and contains the following Java code:

```
1 public class Datatypes {  
2  
4•     public static void main(String[] args) {  
5         byte a= 10;  
6         int| b;  
7         b=a;  
8         System.out.println(b);  
9     }  
10}  
11}  
12
```

The bottom window is titled "Console" and shows the output of the program:

```
<terminated> Datatypes [Java Application] C:\Users\heman\.p2\pool\plugins\org.eclipse.justj.open  
10
```

Byte to long

The screenshot shows the Eclipse IDE interface. The top window is titled "Datatypes.java" and contains the following Java code:

```
1 public class Datatypes {  
2  
4•     public static void main(String[] args) {  
5         byte a= 10;  
6         long| b;  
7         b=a;  
8         System.out.println(b);  
9     }  
10}  
11}  
12
```

The bottom window is titled "Console" and shows the output of the program:

```
<terminated> Datatypes [Java Application] C:\Users\heman\.p2\pool\plugins\o  
10
```

Byte to float

The screenshot shows the Eclipse IDE interface. The top part displays the code editor with a file named "Datatypes.java". The code is as follows:

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

The cursor is positioned at the end of the variable declaration "float| b;". The bottom part of the screenshot shows the "Console" output window, which displays the result of running the program: "10.0".

Byte to double

The screenshot shows the Eclipse IDE interface. The top part displays the code editor with a file named "Datatypes.java". The code is as follows:

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

The cursor is positioned at the end of the variable declaration "double b;". The bottom part of the screenshot shows the "Console" output window, which displays the result of running the program: "10.0".

Byte to Boolean

The screenshot shows the Eclipse IDE interface. In the top-left corner, there is a project tree icon followed by the file name "Datatypes.java". The code editor window displays the following Java code:

```
1
2 public class Datatypes {
3
4     public static void main(String[] args) {
5         byte a= 10;
6         boolean b;
7         b=a;//error
8         System.out.println(b);
9     }
10
11 }
```

The line `b=a;` is highlighted in red, indicating a compilation error. Below the code editor is the "Console" tab, which shows the following output:

```
<terminated> Datatypes [Java Application] C:\Users\heman\p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre
Exception in thread "main" java.lang.Error: Unresolved compilation problem
    Type mismatch: cannot convert from byte to boolean
        at Datatypes.main(Datatypes.java:7)
```

Short to char

The screenshot shows the Eclipse IDE interface. In the top-left corner, there is a project tree icon followed by the file name "Datatypes.java". The code editor window displays the following Java code:

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

The line `b=(char) a;` is highlighted in red, indicating a compilation error. Below the code editor is the "Console" tab, which shows the following output:

```
<terminated> Datatypes [Java Application] C:\Users\heman\p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre
Exception in thread "main" java.lang.Error: Unresolved compilation problem
    Type mismatch: cannot convert from short to char
        at Datatypes.main(Datatypes.java:8)
```

Short to byte

The screenshot shows the Eclipse IDE interface. The top window is titled "Datatypes.java" and contains the following Java code:

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

The bottom window is titled "Console" and shows the output of the program:

```
<terminated> Datatypes [Java Application] C:\Users\heman\.p2\pool\plugins\org.
10
```

Short to int

The screenshot shows the Eclipse IDE interface. The top window is titled "*Datatypes.java" and contains the following Java code:

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

The bottom window is titled "Console" and shows the output of the program:

```
<terminated> Datatypes [Java Application] C:\Users\heman\.p2\pool\plugins\org.eclipse.jdt.core\3.12.0\org.eclipse.jdt.core\src\java\lang\Short.java:12: error: incompatible types: int cannot be converted to short
10
```

Short to long

The screenshot shows the Eclipse IDE interface. The top window is titled "Datatypes.java" and contains the following Java code:

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

The code is being run in the "Console" window below, which shows the output "10".

Short to float

The screenshot shows the Eclipse IDE interface. The top window is titled "Datatypes.java" and contains the following Java code:

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

The code is being run in the "Console" window below, which shows the output "10.0".

Short to double

The screenshot shows the Eclipse IDE interface. The top window is titled '*Datatypes.java' and contains the following Java code:

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

The line 'b=a;' is highlighted with a blue selection bar. Below this window is the 'Console' tab, which displays the output of the application's execution:

```
<terminated> Datatypes [Java Application] C:\Users\heman\p2\pool\plugins\org.eclipse.justj.
10.0
```

Short to Boolean

The screenshot shows the Eclipse IDE interface. The top window is titled '*Datatypes.java' and contains the following Java code:

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

The line 'b=a;//error' is highlighted with a red selection bar, indicating a compilation error. Below this window is the 'Console' tab, which displays the error message:

```
<terminated> Datatypes [Java Application] C:\Users\heman\p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.w
Exception in thread "main" java.lang.Error: Unresolved compilation problem:
Type mismatch: cannot convert from short to boolean
at Datatypes.main(Datatypes.java:7)
```

Int to char

The screenshot shows the Eclipse IDE interface. The top part displays the code for `Datatypes.java`, which contains a main method that prints the value of variable `b`. The code includes a comment `//b=a;error` and a cast `b=(char) a;`. The bottom part shows the `Console` tab with the output of the application, indicating it has terminated.

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

Console ×
<terminated> Datatypes [Java Application] C:\Users\heman\.p2\pool\plugins\org.eclipse.jdt.core\src\Datatypes.java:13: error: incompatible types: int cannot be converted to char
b=(char) a;
^
1 error

Int to byte

The screenshot shows the Eclipse IDE interface with the following details:

- Top Bar:** Shows standard icons for file operations like New, Open, Save, and Exit.
- Title Bar:** Displays the file name "Datatypes.java" with a close button.
- Code Editor:** Contains the following Java code:

```
1
2 public class Datatypes {
3
4     public static void main(String[] args) {
5         int a= 1;
6         byte b;
7         //b=a;error
8         b=[|byte|] a;
9
10        System.out.println(b);
11    }
12
13 }
```
- Console Tab:** Labeled "Console x".
- Console Output:** Displays the output of the application:

```
<terminated> Datatypes [Java Application] C:\Users\heman\.p2\pool\plugins\org.eclipse.justj.openjdk.hot1
```

Int to short

The screenshot shows the Eclipse IDE interface. The top window is titled '*Datatypes.java' and contains the following Java code:

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

The variable 'b' is highlighted in yellow, indicating it is being converted. Below this window is the 'Console' tab, which displays the output of the program:

```
<terminated> Datatypes [Java Application] C:\Users\heman\p2\pool\plugins\org.eclipse.justj.openjd
1
```

Int to long

The screenshot shows the Eclipse IDE interface. The top window is titled '*Datatypes.java' and contains the following Java code:

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

The variable 'b' is highlighted in yellow, indicating it is being converted. Below this window is the 'Console' tab, which displays the output of the program:

```
<terminated> Datatypes [Java Application] C:\Users\heman\p2\pool\plugins\org.eclipse
1
```

Int to float

The screenshot shows the Eclipse IDE interface. The top window is titled "Datatypes.java" and contains the following Java code:

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

The bottom window is titled "Console" and shows the output of the program:

```
<terminated> Datatypes [Java Application] C:\Users\heman\p2\pool\plugins\org.eclipse.justj.op
1.0
```

Int to double

The screenshot shows the Eclipse IDE interface. The top window is titled "*Datatypes.java" and contains the following Java code:

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

The bottom window is titled "Console" and shows the output of the program:

```
<terminated> Datatypes [Java Application] C:\Users\heman\p2\pool\plugins\org.eclipse.justj.op
1.0
```

Int to Boolean

The screenshot shows the Eclipse IDE interface. The top window displays the Java code for a class named `Datatypes`. The code contains a `main` method that declares an integer `a` and a boolean `b`, then attempts to assign the value of `a` to `b` (line 7). The console window below shows the application has terminated, and the output is `1.0`.

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

```
Console ×
<terminated> Datatypes [Java Application] C:\Users\heman\p2\pool\plugins\org.eclipse.ju
1.0
```

Long to char

The screenshot shows the Eclipse IDE interface. The top window displays the Java code for a class named `Datatypes`. The code contains a `main` method that declares a long integer `a` and a character `b`, then attempts to assign the value of `a` to `b` (line 7). The console window below shows the application has terminated, and the output is `1.0`.

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

```
Console ×
<terminated> Datatypes [Java Application] C:\Users\heman\p2\pool\plugins\org.eclipse.ju
1.0
```

Long to byte

The screenshot shows the Eclipse IDE interface with two open windows. The top window is titled "Datatypes.java" and contains the following Java code:

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

The line `b=(byte) a;` is highlighted in blue, indicating it is being converted or is the focus of the operation. The bottom window is titled "Console" and shows the output of the application:

```
<terminated> Datatypes [Java Application] C:\Users\heman\p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.
1
```

Long to short

The screenshot shows the Eclipse IDE interface with two open windows. The top window is titled "*Datatypes.java" and contains the following Java code:

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

The line `b=(short) a;` is highlighted in blue, indicating it is being converted or is the focus of the operation. The bottom window is titled "Console" and shows the output of the application:

```
<terminated> Datatypes [Java Application] C:\Users\heman\p2\pool\plugins\org.eclipse.justj.openj
1
```

Long to int

The screenshot shows the Eclipse IDE interface. The top window is titled "Datatypes.java" and contains the following Java code:

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

The line `b=(int) a;` is highlighted in blue, indicating it is being converted or is the current selection. Below the editor is the "Console" window, which displays the output of the application's execution:

```
<terminated> Datatypes [Java Application] C:\Users\heman\p2\pool\plugins\org.eclipse.justj.openjdt.core\src\main\java\com\example\Datatypes.java
1
```

Long to float

The screenshot shows the Eclipse IDE interface. The top window is titled "*Datatypes.java" and contains the following Java code:

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

The line `b=a;` is highlighted in purple, indicating it is being converted or is the current selection. Below the editor is the "Console" window, which displays the output of the application's execution:

```
<terminated> Datatypes [Java Application] C:\Users\heman\p2\pool\plugins\org.eclipse.justj.openjdt.core\src\main\java\com\example\Datatypes.java
1.0
```

Long to double

The screenshot shows the Eclipse IDE interface. The top part displays the Java code for a class named `Datatypes`:

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

The cursor is positioned at the end of the declaration of variable `b`. The bottom part of the interface shows the `Console` tab, which contains the output of the application's execution:

```
<terminated> Datatypes [Java Application] C:\Users\heman\p2\pool\plugins\org.eclipse.justj.openjd
1.0
```

Long to Boolean

The screenshot shows the Eclipse IDE interface. The top part displays the Java code for a class named `Datatypes`:

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

A red error icon is present next to the assignment statement `b=a;`. The bottom part of the interface shows the `Console` tab, which displays the error message:

```
<terminated> Datatypes [Java Application] C:\Users\heman\p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.w
Exception in thread "main" java.lang.Error: Unresolved compilation problem:
Type mismatch: cannot convert from long to boolean
    at Datatypes.main(Datatypes.java:7)
```

Float to char

The screenshot shows the Eclipse IDE interface. The top part displays the code for a Java class named `Datatypes`. The code contains a `main` method that initializes a float variable `a` to 1, converts it to a character `b` using a cast, and then prints `b` to the console. The bottom part shows the `Console` tab with the output of the program, which is the character representation of the float value 1.

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

```
Console ×
<terminated> Datatypes [Java Application] C:\Users\heman\p2\pool\plugins\org.eclipse.justj.openjdk
1
```

Float to byte

The screenshot shows the Eclipse IDE interface. The top part displays the code for a Java class named `Datatypes`. The code contains a `main` method that initializes a float variable `a` to 1.0f, converts it to a byte `b` using a cast, and then prints `b` to the console. The bottom part shows the `Console` tab with the output of the program, which is the byte value 1.

```
1 Datatypes.java ×
2 public class Datatypes {
3
4     public static void main(String[] args) {
5         float a= 1.0f;
6         byte b;
7         b=(byte) a;
8
9         System.out.println(b);
10    }
11
12 }
13
```

```
Console ×
<terminated> Datatypes [Java Application] C:\Users\heman\p2\pool\plugins\org.eclipse.justj.openjdk
1
```

Float to short

The screenshot shows the Eclipse IDE interface. The top window is titled '*Datatypes.java' and contains the following Java code:

```
1
2 public class Datatypes {
3
4     public static void main(String[] args) {
5         float a= 1.0f;
6         short b;
7         b=(short) a;
8
9         System.out.println(b);
10    }
11
12 }
```

The bottom window is titled 'Console' and shows the output of the application:

```
<terminated> Datatypes [Java Application] C:\Users\heman\p2\pool\plugins\org.eclipse.jdt.core\1
```

Float to int

The screenshot shows the Eclipse IDE interface. The top window is titled '*Datatypes.java' and contains the following Java code:

```
1
2 public class Datatypes {
3
4     public static void main(String[] args) {
5         float a= 1.0f;
6         int b;
7         //b=a;error
8         b=(int) a;
9
10        System.out.println(b);
11    }
12
13 }
```

The bottom window is titled 'Console' and shows the output of the application:

```
<terminated> Datatypes [Java Application] C:\Users\heman\p2\pool\plugins\org.eclipse.jdt.core\1
```

Float to long

The screenshot shows the Eclipse IDE interface. The top window is titled '*Datatypes.java' and contains the following Java code:

```
1
2 public class Datatypes {
3
4     public static void main(String[] args) {
5         float a= 1.0f;
6         long b;
7         //b=a;error
8         b=(long) a;
9
10        System.out.println(b);
11    }
12
13 }
```

The line `b=(long) a;` is highlighted in yellow, indicating a conversion from float to long. The bottom window is titled 'Console' and shows the output of the application:

```
<terminated> Datatypes [Java Application] C:\Users\heman\p2\pool\plugins\org.eclipse.justj.op
1
```

Float to double

The screenshot shows the Eclipse IDE interface. The top window is titled 'Datatypes.java' and contains the following Java code:

```
1
2 public class Datatypes {
3
4     public static void main(String[] args) {
5         float a= 1.0f;
6         double b;
7         b=a;
8
9
10        System.out.println(b);
11    }
12
13 }
```

The line `b=a;` is highlighted in yellow, indicating a conversion from float to double. The bottom window is titled 'Console' and shows the output of the application:

```
<terminated> Datatypes [Java Application] C:\Users\heman\p2\pool\plugins\org.eclipse.justj.op
1.0
```

Float to Boolean

The screenshot shows the Eclipse IDE interface. In the top-left corner, there is a small icon of a computer monitor. The main area contains two windows: a code editor titled "Datatypes.java" and a terminal window titled "Console".

Datatypes.java:

```
1
2 public class Datatypes {
3
4     public static void main(String[] args) {
5         float a= 1.0f;
6         boolean b;
7         b=a; //error|
8
9
10        System.out.println(b);
11    }
12
13 }
```

Console:

```
<terminated> Datatypes [Java Application] C:\Users\heman\p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64
Exception in thread "main" java.lang.Error: Unresolved compilation problem:
  Type mismatch: cannot convert from float to boolean
    at Datatypes.main(Datatypes.java:7)
```

Double to char

The screenshot shows the Eclipse IDE interface. In the top-left corner, there is a small icon of a computer monitor. The main area contains two windows: a code editor titled "*Datatypes.java" and a terminal window titled "Console".

***Datatypes.java:**

```
1
2 public class Datatypes {
3
4     public static void main(String[] args) {
5         double a= 1.0;
6         char b;
7         //b=a; //error
8         b=(char) a;
9
10        System.out.println(b);
11    }
12
13 }
```

Console:

```
<terminated> Datatypes [Java Application] C:\Users\heman\p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64
Exception in thread "main" java.lang.Error: Unresolved compilation problem:
  Type mismatch: cannot convert from double to char
    at Datatypes.main(Datatypes.java:7)
```

Double to byte

The screenshot shows the Eclipse IDE interface with a Java file named `Datatypes.java` open. The code attempts to assign a double value to a byte variable:1
2 public class Datatypes {
3
4 public static void main(String[] args) {
5 double a= 1.0;
6 byte b;
7 //b=a;//error
8 b=(byte) a;
9
10 System.out.println(b);
11 }
12}
13The line `b=(byte) a;` is highlighted with a red squiggly underline, indicating a compilation error. The console output shows the error message:<terminated> Datatypes [Java Application] C:\Users\heman\p2\pool\plugins\org.eclipse.justj.openjdl
1

Double to short

The screenshot shows the Eclipse IDE interface with a Java file named `Datatypes.java` open. The code attempts to assign a double value to a short variable:1
2 public class Datatypes {
3
4 public static void main(String[] args) {
5 double a= 1.0;
6 short b;
7 //b=a;//error
8 b=(short) a;
9
10 System.out.println(b);
11 }
12}
13The line `b=(short) a;` is highlighted with a red squiggly underline, indicating a compilation error. The console output shows the error message:<terminated> Datatypes [Java Application] C:\Users\heman\p2\pool\plugins\org.eclipse.justj.openjdl
1

Double to int

The screenshot shows the Eclipse IDE interface. The top window is titled "Datatypes.java" and contains the following Java code:

```
1
2 public class Datatypes {
3
4     public static void main(String[] args) {
5         double a= 1.0;
6         int b;
7         //b=a;//error
8         b=(int) a;
9
10        System.out.println(b);
11    }
12
13 }
```

The code is highlighted with syntax coloring. The variable 'a' is a double, and 'b' is an int. A comment indicates that the assignment 'b=a' is an error. The conversion 'b=(int) a;' is shown as a suggestion.

The bottom window is titled "Console" and shows the output of the application:

```
<terminated> Datatypes [Java Application] C:\Users\heman\p2\pool\plugins\org.eclipse.justj.open
1
```

Double to long

The screenshot shows the Eclipse IDE interface. The top window is titled "Datatypes.java" and contains the following Java code:

```
1
2 public class Datatypes {
3
4     public static void main(String[] args) {
5         double a= 1.0f;
6         long b;
7         //b=a;//error
8         b=[(long)] a;
9
10        System.out.println(b);
11    }
12
13 }
```

The code is highlighted with syntax coloring. The variable 'a' is a double, and 'b' is a long. A comment indicates that the assignment 'b=a' is an error. The conversion 'b=[(long)] a;' is shown as a suggestion.

The bottom window is titled "Console" and shows the output of the application:

```
<terminated> Datatypes [Java Application] C:\Users\heman\p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.j
1
```

Double to float

The screenshot shows the Eclipse IDE interface. The top window is titled "Datatypes.java" and contains the following Java code:

```
1 public class Datatypes {  
2     public static void main(String[] args) {  
3         double a= 1.0f;  
4         float b;  
5         //b=a;//error  
6         b=(float) a;  
7         System.out.println(b);  
8     }  
9 }  
10  
11 }
```

The bottom window is titled "Console" and shows the output of the program:

```
<terminated> Datatypes [Java Application] C:\Users\heman\p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64\bin\java.exe  
1.0
```

Double to boolean

The screenshot shows the Eclipse IDE interface. The top window is titled "*Datatypes.java" and contains the following Java code:

```
1 public class Datatypes {  
2     public static void main(String[] args) {  
3         double| a= 1.0f;  
4         boolean b;  
5         b=a; //error  
6         System.out.println(b);  
7     }  
8 }  
9  
10 }
```

The bottom window is titled "Console" and shows the error output of the program:

```
<terminated> Datatypes [Java Application] C:\Users\heman\p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64\bin\java.exe  
Exception in thread "main" java.lang.Error: Unresolved compilation problem:  
    Type mismatch: cannot convert from float to boolean  
        at Datatypes.main(Datatypes.java:7)
```

Boolean to char

The screenshot shows the Eclipse IDE interface. The top part is the Java code editor with the file name *Datatypes.java. The code contains a main method where a boolean variable 'a' is assigned true, a character variable 'b' is declared, and there is a commented-out assignment 'b=a; //error'. The bottom part is the Console view, which shows the application has terminated with an error. The error message is: 'Exception in thread "main" java.lang.Error: Unresolved compilation problem: Type mismatch: cannot convert from double to char at Datatypes.main(Datatypes.java:7)'.

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

```
<terminated> Datatypes [Java Application] C:\Users\heman\p2\pool\plugins\org.eclipse.justj.openjdk.hotspot
Exception in thread "main" java.lang.Error: Unresolved compilation problem
    Type mismatch: cannot convert from double to char
        at Datatypes.main(Datatypes.java:7)
```

Boolean to byte

The screenshot shows the Eclipse IDE interface. The top part is the Java code editor with the file name *Datatypes.java. The code contains a main method where a boolean variable 'a' is assigned true, a byte variable 'b' is declared, and there is a commented-out assignment 'b=a; //error'. The bottom part is the Console view, which shows the application has terminated with an error. The error message is: 'Exception in thread "main" java.lang.Error: Unresolved compilation problem: Type mismatch: cannot convert from double to char at Datatypes.main(Datatypes.java:7)'.

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

```
<terminated> Datatypes [Java Application] C:\Users\heman\p2\pool\plugins\org.eclipse.justj.openjdk.hotspot
Exception in thread "main" java.lang.Error: Unresolved compilation problem
    Type mismatch: cannot convert from double to char
        at Datatypes.main(Datatypes.java:7)
```

Boolean to short

The screenshot shows the Eclipse IDE interface. In the top-left corner, there is a tree view with nodes like 'INe', 'RE', 'src', and 'Datatypes.java'. Below it is the Java code editor with the file 'Datatypes.java' open. The code is as follows:

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

The cursor is positioned at the end of the line 'short| b;'. In the bottom-right corner of the code editor, there is a small red error icon. To the right of the code editor is the 'Console' tab, which is currently active. It displays the following output:

```
<terminated> Datatypes [Java Application] C:\Users\heman\p2\pool\plugins\org.eclipse.justj.openjdk.l
Exception in thread "main" java.lang.Error: Unresolved compilation p
    Type mismatch: cannot convert from double to char
        at Datatypes.main(Datatypes.java:7)
```

Boolean to int

The screenshot shows the Eclipse IDE interface. In the top-left corner, there is a tree view with nodes like 'odNe', 'JRE', 'src', and 'Datatypes.java'. Below it is the Java code editor with the file 'Datatypes.java' open. The code is as follows:

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

The cursor is positioned at the end of the line 'int b;'. In the bottom-right corner of the code editor, there is a small red error icon. To the right of the code editor is the 'Console' tab, which is currently active. It displays the following output:

```
<terminated> Datatypes [Java Application] C:\Users\heman\p2\pool\plugins\org.eclipse.ju
Exception in thread "main" java.lang.Error: Unresolved compi
    Type mismatch: cannot convert from double to char
        at Datatypes.main(Datatypes.java:7)
```

Boolean to long

The screenshot shows the Eclipse IDE interface. In the top-left corner, there is a code editor window titled "Datatypes.java". The code contains the following Java code:

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

In the code editor, the assignment statement `b=a;` is highlighted in red, indicating a syntax error. Below the code editor is a "Console" window. The console output shows the following error message:

```
<terminated> Datatypes [Java Application] C:\Users\heman\p2\pool\plugins\org.eclipse.jdt.core\src\Datatypes.java:7: error: Type mismatch: cannot convert from double to char
        b=a;//error
                ^
at Datatypes.main(Datatypes.java:7)
```

Boolean to float

The screenshot shows the Eclipse IDE interface. In the top-left corner, there is a code editor window titled "Datatypes.java". The code contains the following Java code:

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

In the code editor, the assignment statement `b=a;` is highlighted in red, indicating a syntax error. Below the code editor is a "Console" window. The console output shows the following error message:

```
<terminated> Datatypes [Java Application] C:\Users\heman\p2\pool\plugins\org.eclipse.jdt.core\src\Datatypes.java:7: error: Type mismatch: cannot convert from double to char
        b=a;//error
                ^
at Datatypes.main(Datatypes.java:7)
```

Boolean to double

The screenshot shows the Eclipse IDE interface. The top part is the Java code editor with the file `Datatypes.java` open. The code contains a `main` method that declares a `boolean` variable `a` and a `double` variable `b`. It then attempts to assign the value of `a` to `b` using the assignment operator `=`, which is highlighted in red. The code also includes a `System.out.println` statement to output the value of `b`. The bottom part is the terminal window titled "Console", which displays the execution results. It shows the application has terminated with an exception. The error message is: "Exception in thread "main" java.lang.Error: Unresolved compilation problem: Type mismatch: cannot convert from double to char". The stack trace indicates the error occurred at line 7 of the `Datatypes.java` file.

```
*Datatypes.java ×
1
2 public class Datatypes {
3
4     public static void main(String[] args) {
5         boolean a= true;
6         double| b;
7         b=a; //error
8
9         System.out.println(b);
10    }
11
12 }
<terminated> Datatypes [Java Application] C:\Users\heman\p2\pool\plugins\org.eclipse.justj.openjpa_1.0.0.v20120510-1245\lib\justjopenjpa.jar
Exception in thread "main" java.lang.Error: Unresolved compilation problem:
        Type mismatch: cannot convert from double to char
        at Datatypes.main(Datatypes.java:7)
```

	char	byte	short	int	long	float	double	boolean
Char	Ncr Ec	✓ Ec	✓ EC	✓ EC	✓ EC	✓ EC	✓ EC	X
Byte	✓ Ec	Ncr lc	✓ lc	✓ lc	✓ lc	✓ lc	✓ lc	X
Short	✓ Ec	✓ Ec	ncr lc	✓ lc	✓ lc	✓ lc	✓ lc	X
Int	✓ Ec	✓ EC	✓ Ec	Ncr EC	✓ IC	✓ lc	✓ lc	X
long	✓ Ec	✓ Ec	✓ Ec	✓ EC	Ncr IC	✓ IC	✓ IC	X
Float	✓ Ec	✓ Ec	✓ Ec	✓ EC	✓ EC	Ncr IC	✓ IC	X
Double	✓ ec	✓ Ec	✓ Ec	✓ EC	✓ EC	✓ EC	ncr EC	X
boolean	X	X	X	X	X	X	X	ncr

Ncr= no casting required

EC=Explicit casting

IC= Implicit casting