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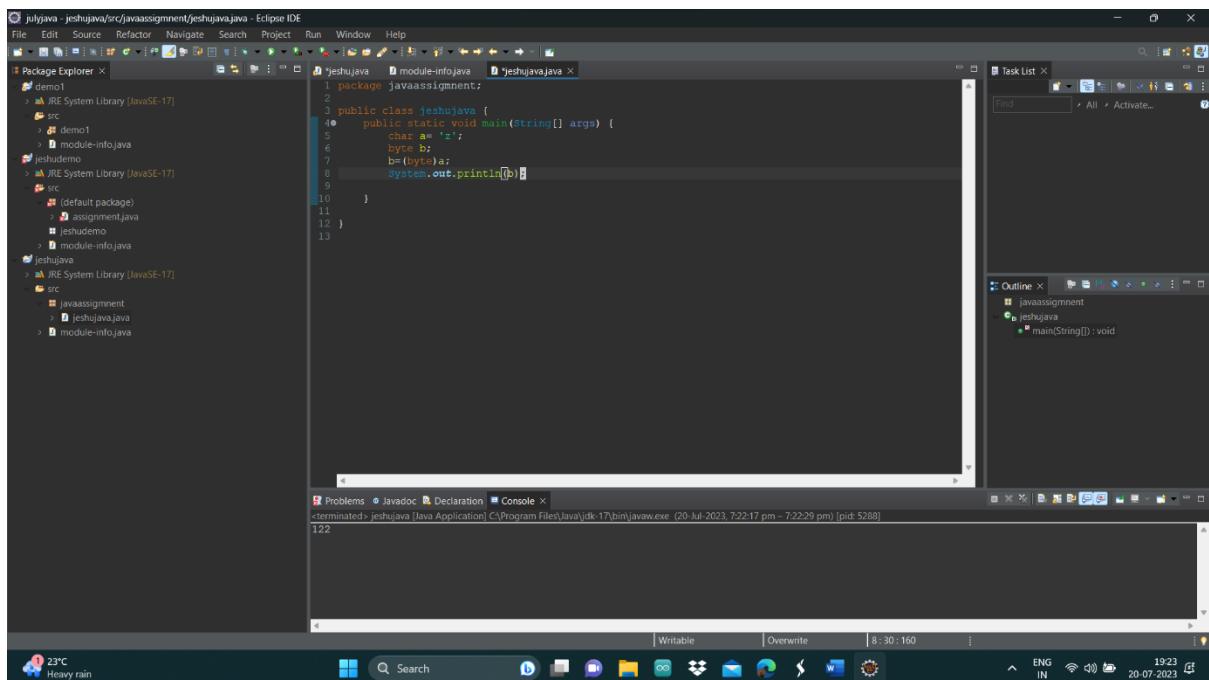
TYPE CASTING

In Java, type casting is the process of converting a variable of one data type to another data type. This can be useful when you need to perform operations on variables of different data types or when you want to store a value of one type into a variable of another type.

Converting char data type to char data type:

Conversion of character data type to character data type is not possible or no conversion is required because the it is already in char data type

Converting char data type to char Byte type:



The screenshot shows the Eclipse IDE interface with a Java project named "jeshujava". The code editor displays the following Java code:

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

The code attempts to assign a character value 'z' to a byte variable 'b' using an explicit cast. The Java compiler would issue a warning for this, but the screenshot shows the code as it appears in the IDE.

Char to byte is an Explicit type casting

Converting char data type to Short data type:

The screenshot shows the Eclipse IDE interface with a Java project named "jeshujava". The code in `jeshujava.java` attempts to assign a character value to a short variable:1 package javaassignment;
2
3 public class jeshujava {
4 public static void main(String[] args) {
5 char a='5';
6 short b;
7 b=(short)a; // error we have to convert explicit
8 System.out.println(b);
9 }
10 }
11
12 }
13The line `b=(short)a;` is highlighted in red, indicating a compilation error. The status bar at the bottom right shows the date and time as 20-07-2023 19:30.

Char to short conversion is explicit type of casting

Converting char data type to Int data type:

The screenshot shows the Eclipse IDE interface with the same Java project "jeshujava". The code in `jeshujava.java` now uses an explicit cast to convert a character to an integer:1 package javaassignment;
2
3 public class jeshujava {
4 public static void main(String[] args) {
5 char a='7';
6 int b;
7 b=(int)a;
8 System.out.println(b);
9 }
10 }
11
12 }
13The code runs successfully, as indicated by the status bar message "`<terminated> jeshujava [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (20-Jul-2023, 7:35:31 pm - 7:35:36 pm) [pid: 2904]`". The status bar at the bottom right shows the date and time as 20-07-2023 19:35.

Converting char data type to Long data type:

The screenshot shows the Eclipse IDE interface with a Java project named "jeshujava". The code editor displays the following Java code:

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

The code converts a character '7' to a long integer and prints it. The output window shows the result: 55.

Converting char data type to Float data type:

The screenshot shows the Eclipse IDE interface with a Java project named "jeshujava". The code editor displays the following Java code:

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

The code converts a character '7' to a float and prints it. The output window shows the result: 55.0.

Converting char data type to Double data type:

The screenshot shows the Eclipse IDE interface with a Java project named "jeshujava". The code editor displays the following Java code:

```
package javaassignment;
public class jeshujava {
    public static void main(String[] args) {
        char a='4';
        double b;
        b=a;
        System.out.println(b);
    }
}
```

The code attempts to assign a character value ('4') to a double variable 'b' via an implicit conversion. The Java console output shows the result as 52.0, indicating that the character was converted to its ASCII value (52).

Converting char data type to Boolean data type:

The screenshot shows the Eclipse IDE interface with a Java project named "jeshujava". The code editor displays the following Java code:

```
package javaassignment;
public class jeshujava {
    public static void main(String[] args) {
        char a='4';
        boolean b;
        b=a;
        System.out.println(b);
    }
}
```

The code attempts to assign a character value ('4') to a boolean variable 'b' via an implicit conversion. The Java console output shows the error message: "Exception in thread "main" java.lang.Error: Unresolved compilation problem: Type mismatch: cannot convert from char to boolean at jeshujava.java.main(jeshujava.java:7)". This error occurs because Java does not support implicit conversion from char to boolean.

Int to Char conversion is Explicit type of Casting

Converting Byte data type to char data type:

The screenshot shows the Eclipse IDE interface with a Java project named 'jeshujava'. The 'src' folder contains two files: 'javaassignment.java' and 'jeshujava.java'. The 'javaassignment.java' file contains the following code:

```
1 package javaassignment;
2
3 public class jeshujava {
4     public static void main(String[] args) {
5         byte a = 99;
6         char b;
7         b=(char)a;
8         System.out.println(b);
9     }
10 }
11
12 }
```

The 'jeshujava.java' file contains the following code:

```
1 package jeshujava;
2
3 public class jeshujava {
4     public static void main(String[] args) {
5         byte a = 99;
6         char b;
7         b=(char)a;
8         System.out.println(b);
9     }
10 }
11
12 }
```

The 'Console' tab shows the output of the program: 'C'. The status bar at the bottom right indicates the date and time as '20-07-2023'.

Byte to Char conversion is explicit type of casting

Converting Byte data type to Byte data type:

Byte data type to Byte data type is not required because it is already in Byte data type.

Converting Byte data type to Short data type:

The screenshot shows the Eclipse IDE interface with a Java project named "jeshujava". The code editor displays the following Java code:

```
1 package javaassignment;
2
3 public class jeshujava {
4     public static void main(String[] args) {
5         byte a = 99;
6         short b;
7         b=a;
8         System.out.println(b);
9     }
10 }
11
12 }
```

The console output shows the result of the program execution: 99.

Converting Byte data type to Int data type:

The screenshot shows the Eclipse IDE interface with a Java project named "jeshujava". The code editor displays the following Java code:

```
1 package javaassignment;
2
3 public class jeshujava {
4     public static void main(String[] args) {
5         byte a = 67;
6         int b;
7         b=a;
8         System.out.println(b);
9     }
10 }
11
12 }
```

The console output shows the result of the program execution: 67.

Converting Byte data type to Long data type:

The screenshot shows the Eclipse IDE interface with a Java project named "jeshujava". The code editor displays the following Java code:

```
1 package javaassignment;
2
3 public class jeshujava {
4     public static void main(String[] args) {
5         byte a = 67;
6         long b;
7         b=a;
8         System.out.println(b);
9     }
10 }
11
12 }
```

The code converts a byte variable 'a' (with value 67) to a long variable 'b'. The output window shows the result: 67.

Converting Byte data type to Float data type:

The screenshot shows the Eclipse IDE interface with a Java project named "jeshujava". The code editor displays the following Java code:

```
1 package javaassignment;
2
3 public class jeshujava {
4     public static void main(String[] args) {
5         byte a = 67;
6         float b;
7         b=a;
8         System.out.println(b);
9     }
10 }
11
12 }
```

The code converts a byte variable 'a' (with value 67) to a float variable 'b'. The output window shows the result: 67.0.

Byte to Float conversion is Explicit type of Casting

Converting Byte data type to Double data type:

The screenshot shows the Eclipse IDE interface with a Java project named "jeshujava". The code editor displays the following Java code:

```
1 package javaassignment;
2
3 public class jeshujava {
4     public static void main(String[] args) {
5         byte a = 67;
6         double b;
7         b=a;
8         System.out.println(b);
9     }
10 }
11
12 }
```

The code converts a byte value (67) to a double value and prints it. The "Console" tab at the bottom shows the output: 67.0.

Converting Byte data type to Boolean data type:

The screenshot shows the Eclipse IDE interface with a Java project named "jeshujava". The code editor displays the following Java code:

```
1 package javaassignment;
2
3 public class jeshujava {
4     public static void main(String[] args) {
5         byte a = 67;
6         boolean b;
7         b=a;
8         System.out.println(b);
9     }
10 }
11
12 }
```

The code attempts to assign a byte value (67) to a boolean variable and print it. The "Console" tab at the bottom shows the following error message:

```
<terminated> jeshujava [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (20-Jul-2023, 7:56:06 pm - 7:56:06 pm) [pid: 5168]
Exception in thread "main" java.lang.Error: Unresolved compilation problem:
Type mismatch: cannot convert from byte to boolean
        at jeshujava.javaassignment.jeshujava.main(jeshujava.java:7)
```

Byte to Boolean conversion is not Possible

Converting Short data type to Char data type:

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

- Title Bar:** jeshujava - jeshujava/src/javaassignment/jeshujava.java - Eclipse IDE
- Package Explorer:** Shows the project structure with packages demo1, JRE System Library [JavaSE-17], and src.
- Code Editor:** Displays the following Java code:

```
1 package javaassignment;
2
3 public class jeshujava {
4     public static void main(String[] args) {
5         short a=56;
6         char b; // error we convert explicit
7         b=(char)a;
8         System.out.println(b);
9     }
10 }
11
12 }
```
- Task List:** Shows a single task: "Find All Activate..."
- Outline:** Shows the class structure: javaassignment > jeshujava > main(String[])
- Console:** Shows the output of the run command: "terminated> jeshujava [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (20-Jul-2023, 7:58:05 pm – 7:58:05 pm) [pid: 2788]" followed by the number 9.
- System Tray:** Shows the date and time as 20-07-2023, 19:59, and various system icons.

Short to Char conversion is Explicit type of Casting

Converting Short data type to Byte data type:

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

- Title Bar:** jeshujava - jeshujava/src/javaassignment/jeshujava.java - Eclipse IDE
- Package Explorer:** Shows the project structure with packages demo1, JRE System Library [JavaSE-17], and src.
- Code Editor:** Displays the following Java code:

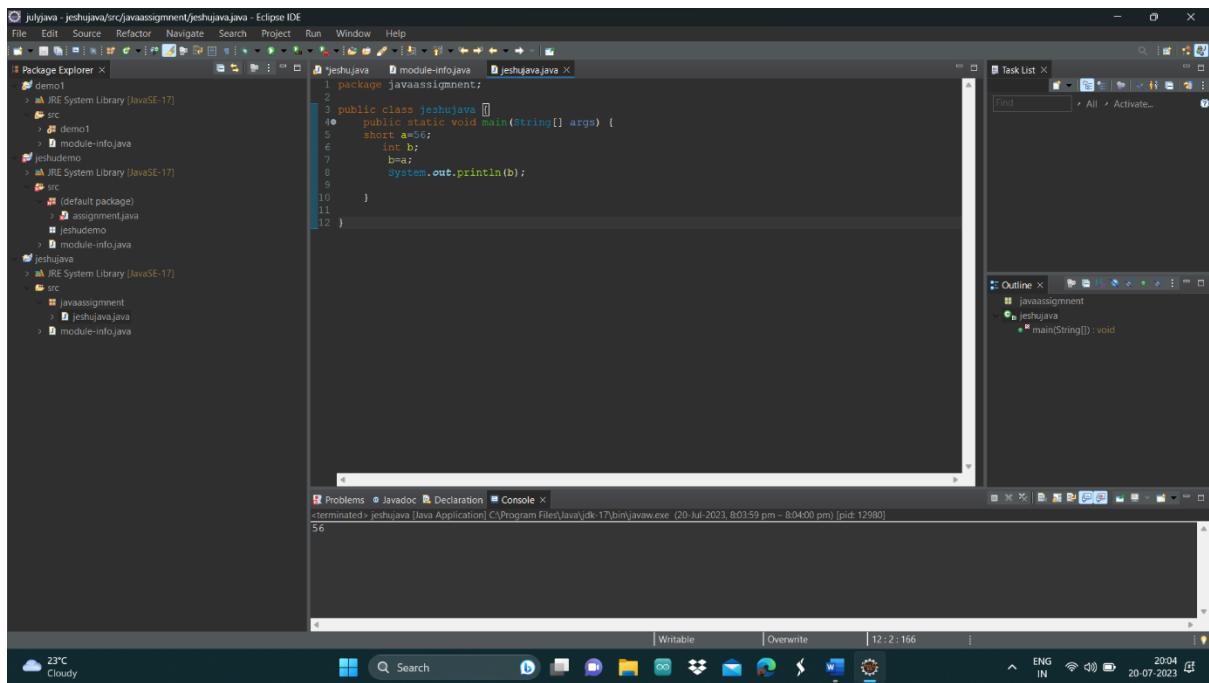
```
1 package javaassignment;
2
3 public class jeshujava {
4     public static void main(String[] args) {
5         short a=56;
6         byte b; // error we convert to explicit
7         b=(byte)a;
8         System.out.println(b);
9     }
10 }
11
12 }
```
- Task List:** Shows a single task: "Find All Activate..."
- Outline:** Shows the class structure: javaassignment > jeshujava > main(String[])
- Console:** Shows the output of the run command: "terminated> jeshujava [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (20-Jul-2023, 8:01:38 pm – 8:01:39 pm) [pid: 5220]" followed by the number 56.
- System Tray:** Shows the date and time as 20-07-2023, 20:02, and various system icons.

Short to Short conversion is Explicit type of Casting

Converting Short data type to Short data type:

Short data type to Short data type is not required because it is already in Short data type.

Converting Short data type to Int data type:



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

- Project Explorer:** Shows the project structure with packages like demo1, demo2, and jeshuajava.
- Code Editor:** Displays the following Java code in the file jeshuajava.java:

```
1 package javaassignment;
2
3 public class jeshuajava {
4     public static void main(String[] args) {
5         short a=56;
6         int b;
7         b=a;
8         System.out.println(b);
9     }
10 }
11
12 }
```
- Console:** Shows the output of the program: "56".
- OS Taskbar:** Shows the system tray with icons for weather (23°C), search, and various system status indicators.

Converting Short data type to Long data type:

The screenshot shows the Eclipse IDE interface with a Java project named "jeshujava". The code editor displays the following Java code:

```
1 package javaassignment;
2
3 public class jeshujava {
4     public static void main(String[] args) {
5         short a=89;
6         long b;
7         b=a;
8         System.out.println(b);
9     }
10 }
11
12 }
```

The code converts a short variable "a" (line 5) to a long variable "b" (line 6). The output window at the bottom shows the result: 89.

Converting Short data type to Float data type:

The screenshot shows the Eclipse IDE interface with a Java project named "jeshujava". The code editor displays the following Java code:

```
1 package javaassignment;
2
3 public class jeshujava {
4     public static void main(String[] args) {
5         short a=89;
6         float b;
7         b=a;
8         System.out.println(b);
9     }
10 }
11
12 }
```

The code converts a short variable "a" (line 5) to a float variable "b" (line 6). The output window at the bottom shows the result: 89.0.

Converting Short data type to Double data type:

The screenshot shows the Eclipse IDE interface with a Java project named "jeshujava". The code editor displays the following Java code:

```
1 package javaassignment;
2
3 public class jeshujava {
4     public static void main(String[] args) {
5         short a=89;
6         double b;
7         b=a;
8         System.out.println(b);
9     }
10 }
11 }
```

The code converts a short variable 'a' to a double variable 'b'. The output window shows the result of the println statement.

Converting Short data type to Boolean data type:

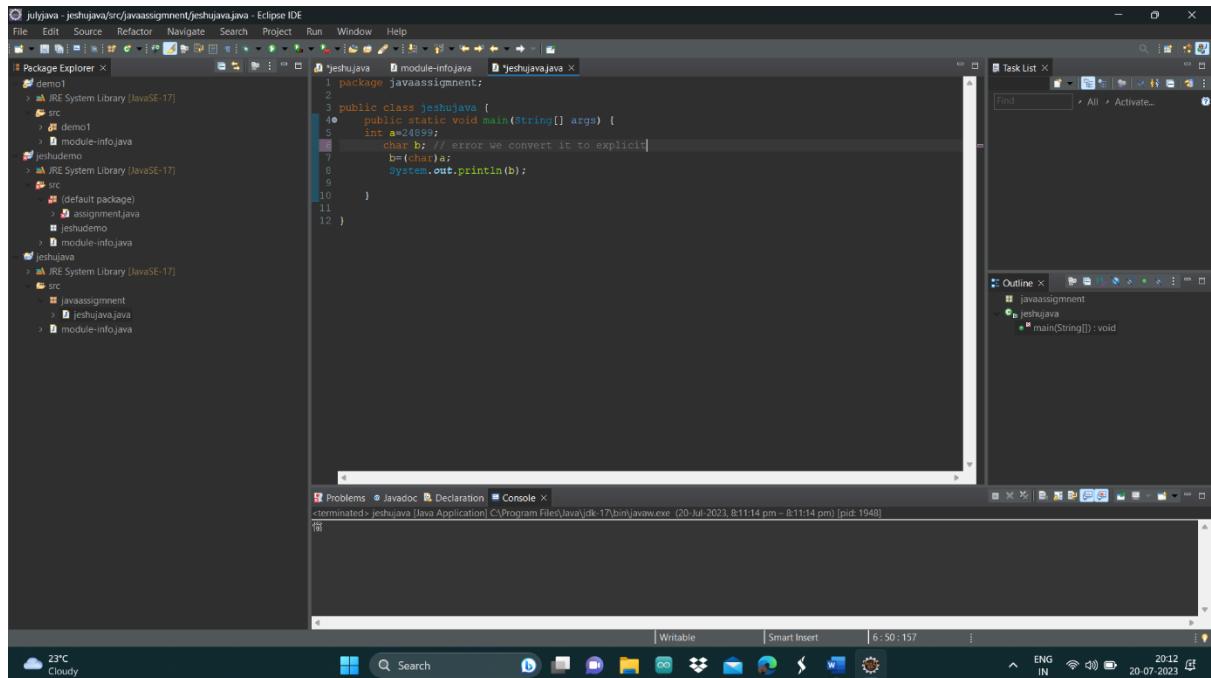
The screenshot shows the Eclipse IDE interface with a Java project named "jeshujava". The code editor displays the following Java code:

```
1 package javaassignment;
2
3 public class jeshujava {
4     public static void main(String[] args) {
5         short a=89;
6         boolean b;
7         b=a;
8         System.out.println(b);
9     }
10 }
11 }
```

The code attempts to convert a short variable 'a' to a boolean variable 'b'. The output window shows a compilation error message indicating a type mismatch.

Short to Boolean conversion is not Possible

Converting Int data type to Char data type:



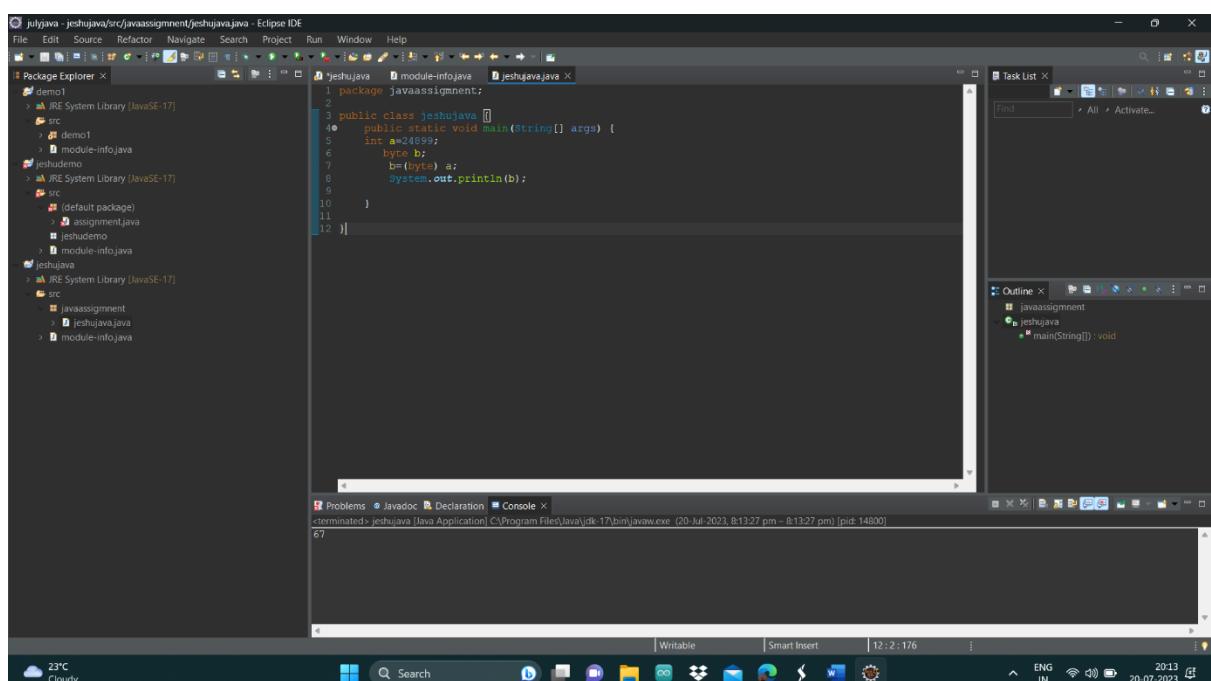
The screenshot shows the Eclipse IDE interface with a Java project named "jeshujava". The code editor displays the following Java code:

```
1 package javaassignment;
2
3 public class jeshujava {
4     public static void main(String[] args) {
5         int a=24899;
6         char b; // error we convert it to explicit
7         b=(char)a;
8         System.out.println(b);
9     }
10 }
11
12 }
```

The code editor highlights the line `b=(char)a;` in red, indicating a compilation error. The status bar at the bottom right shows the date and time as 20-07-2023.

Int to Char conversion is Explicit type of Casting

Converting Int data type to Byte data type:

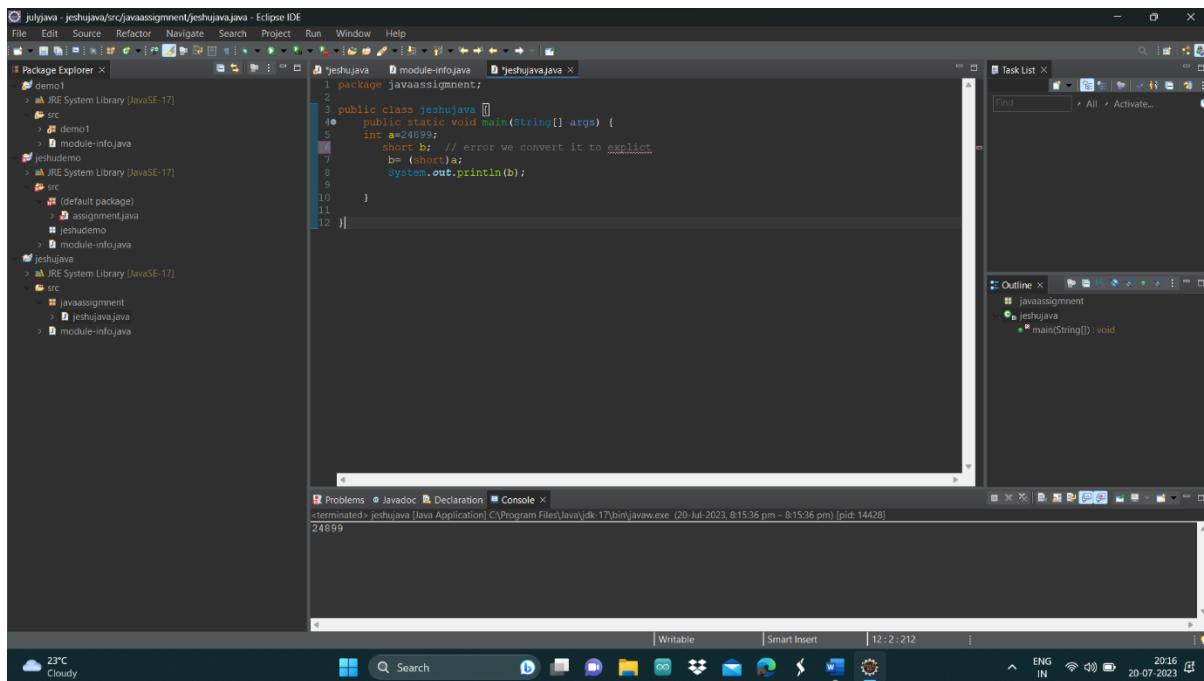


The screenshot shows the Eclipse IDE interface with a Java project named "jeshujava". The code editor displays the following Java code:

```
1 package javaassignment;
2
3 public class jeshujava {
4     public static void main(String[] args) {
5         int a=24899;
6         byte b;
7         b=(byte)a;
8         System.out.println(b);
9     }
10 }
11
12 }
```

The code editor highlights the line `b=(byte)a;` in red, indicating a compilation error. The status bar at the bottom right shows the date and time as 20-07-2023.

Converting Int data type to Short data type:



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

- Project Explorer:** Shows multiple Java projects: demo1, demo1 (JRE System Library [JavaSE-17]), jeshudem, jeshudem (JRE System Library [JavaSE-17]), and jeshujava (src, javaassignment, module-info.java).
- Java Editor:** Displays the file `jeshujava.java` containing the following code:

```
1 package javaassignment;
2
3 public class jeshujava {
4     public static void main(String[] args) {
5         int a=24899;
6         short b; // error we convert it to explicit
7         b= (short)a;
8         System.out.println(b);
9     }
10 }
11 }
```
- Problems View:** Shows a single error: `24899`.
- Console View:** Shows the output of the terminated Java application: `C:\Program Files\Java\jdk-17\bin\javaw.exe (20-Jul-2023, 8:15:36 pm - 8:15:36 pm) [pid: 14428]`.
- System Tray:** Shows the date and time as `20-07-2023 20:16:16`, and icons for cloudiness and battery level.

Int to Short conversion is Explicit type of Casting

Converting Int data type to Int data type:

Int data type to Int data type is not required because it is already in Int data type.

Converting Int data type to Long data type:

The screenshot shows the Eclipse IDE interface with a Java project named "jeshujava". The code editor displays the following Java code:

```
1 package javaassignment;
2
3 public class jeshujava {
4     public static void main(String[] args) {
5         int a=24899;
6         long b;
7         b=a;
8         System.out.println(b);
9     }
10 }
11
12 }
```

The code converts an integer variable `a` (with value 24899) to a long variable `b`. The output of the program is shown in the Console view: `24899`.

Converting Int data type to Float data type:

The screenshot shows the Eclipse IDE interface with a Java project named "jeshujava". The code editor displays the following Java code:

```
1 package javaassignment;
2
3 public class jeshujava {
4     public static void main(String[] args) {
5         int a=24899;
6         float b;
7         b=a;
8         System.out.println(b);
9     }
10 }
11
12 }
```

The code converts an integer variable `a` (with value 24899) to a float variable `b`. The output of the program is shown in the Console view: `24899.0`.

Converting Int data type to Double data type:

The screenshot shows the Eclipse IDE interface with a Java project named "jeshujava". The code editor displays the following Java code:

```
1 package javaassignment;
2
3 public class jeshujava {
4     public static void main(String[] args) {
5         int a=12399;
6         double b;
7         b=a;
8         System.out.println(b);
9     }
10 }
11
12 }
```

The code converts an integer variable `a` to a double variable `b` using the assignment operator `=`. The output window shows the result: `12399.0`.

Converting Int data type to Boolean data type:

The screenshot shows the Eclipse IDE interface with the same Java project "jeshujava". The code editor displays the following Java code:

```
1 package javaassignment;
2
3 public class jeshujava {
4     public static void main(String[] args) {
5         int a=12399;
6         boolean b;
7         b=a;
8         System.out.println(b);
9     }
10 }
11
12 }
```

The code attempts to assign an integer value to a boolean variable `b`. This results in a compilation error in the console window:

```
<terminated> jeshujava [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (20-Jul-2023, 8:22:37 pm - 8:22:40 pm) [pid: 2944]
Exception in thread "main" java.lang.Error: Unresolved compilation problem:
        Type mismatch: cannot convert from int to boolean
        at jeshujava/javaassignment.jeshujava.main(jeshujava.java:7)
```

Int to Boolean conversion is not Possible

Converting Long data type to Char data type:

The screenshot shows the Eclipse IDE interface with a Java project named "jeshujava". The code editor displays the following Java code:

```
package javaassignment;
public class jeshujava {
    public static void main(String[] args) {
        long a = 345678;
        char b;
        b = (char)a;
        System.out.println(b);
    }
}
```

The code converts a long value (345678) to a character (b) using an explicit cast ((char)a). The Java console output shows the result: 88.

Converting Long data type to Byte data type:

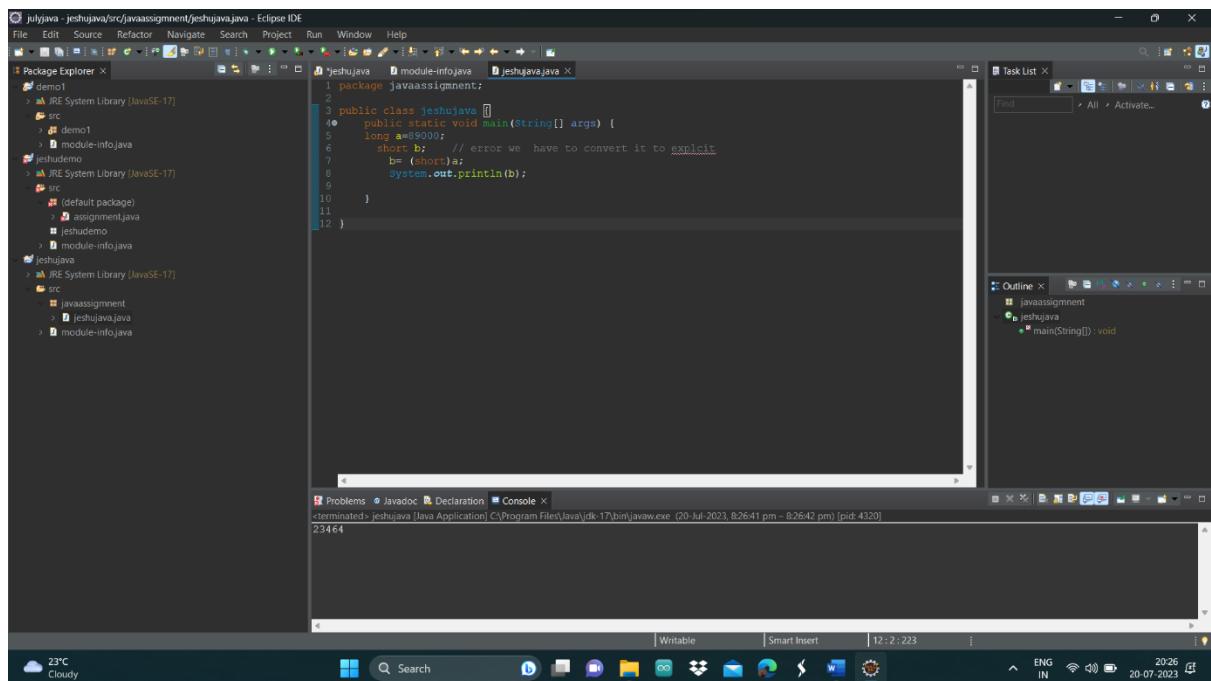
The screenshot shows the Eclipse IDE interface with a Java project named "jeshujava". The code editor displays the following Java code:

```
package javaassignment;
public class jeshujava {
    public static void main(String[] args) {
        long a=89000;
        byte b; // error we have to convert it to explicit
        b= (byte)a;
        System.out.println(b);
    }
}
```

The code attempts to convert a long value (89000) to a byte (b) using an explicit cast ((byte)a). This results in a compilation error, indicated by the IDE's error highlighting.

Long to Byte conversion is Explicit type of Casting

Converting Long data type to Short data type:



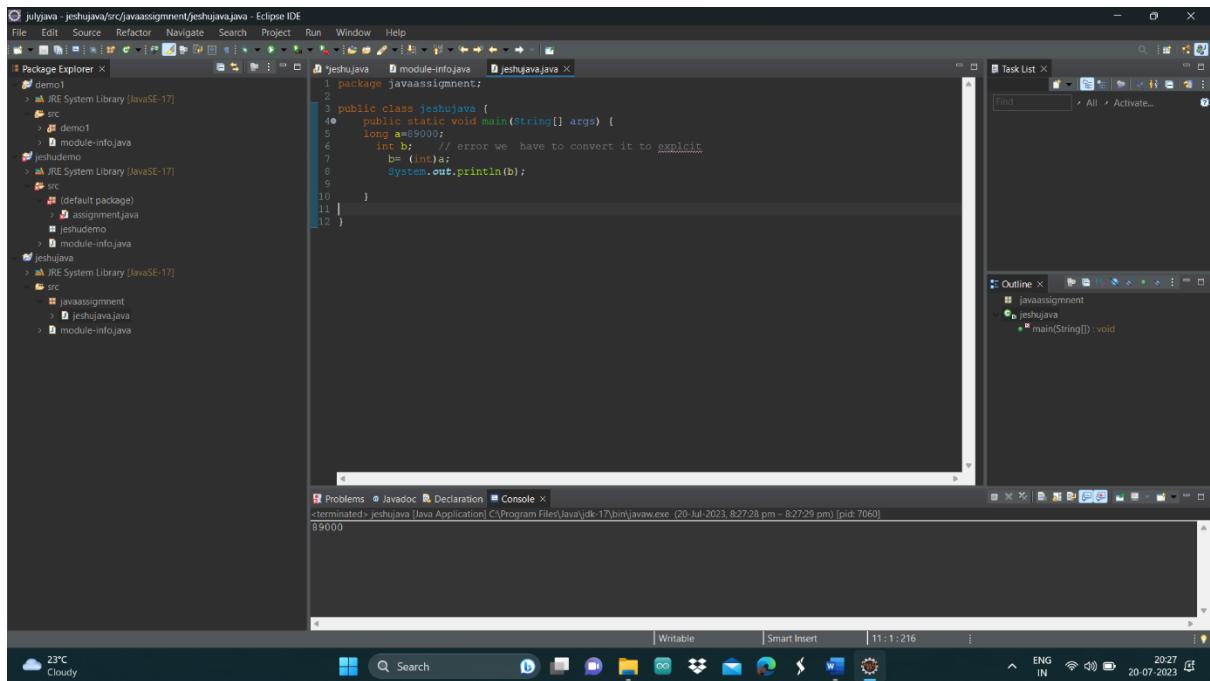
The screenshot shows the Eclipse IDE interface with a Java project named 'jeshujava'. The 'jeshujava.java' file contains the following code:

```
1 package javaassignment;
2
3 public class jeshujava {
4     public static void main(String[] args) {
5         long a=9000;
6         short b; // error we have to convert it to explicit
7         b= (short)a;
8         System.out.println(b);
9     }
10 }
11
12 }
```

The IDE highlights the line 'b= (short)a;' with a red squiggly underline, indicating a compilation error. The 'Problems' view shows one error: 'Conversion from long to short required (try cast)'.

Long to Short conversion is Explicit type of Casting

Converting Long data type to Int data type:



The screenshot shows the Eclipse IDE interface with a Java project named "jeshujava". The code editor displays the following Java code:

```
1 package javaassignment;
2
3 public class jeshujava {
4     public static void main(String[] args) {
5         long a=9003;
6         int b; // error we have to convert it to explicit
7         b= (int)a;
8         System.out.println(b);
9     }
10 }
11
12 }
```

The code editor highlights the line `b= (int)a;` with a red squiggly underline, indicating a compilation error. The status bar at the bottom right shows the date and time as 20-07-2023 20:27.

Converting Long data type to Long data type:

Long data type to Long data type is not required because it is already in Long data type.

Converting Long data type to Float data type:

The screenshot shows the Eclipse IDE interface with a Java project named "jeshujava". The code editor displays the following Java code:

```
1 package javaassignment;
2
3 public class jeshujava {
4     public static void main(String[] args) {
5         long a=89000;
6         float b;
7         b=a;
8         System.out.println(b);
9     }
10 }
11 }
```

The "Console" tab at the bottom shows the output of the program: "89000.0".

Converting Long data type to Double data type:

The screenshot shows the Eclipse IDE interface with a Java project named "jeshujava". The code editor displays the following Java code:

```
1 package javaassignment;
2
3 public class jeshujava {
4     public static void main(String[] args) {
5         long a=89000;
6         double b;
7         b=a;
8         System.out.println(b);
9     }
10 }
11 }
```

The "Console" tab at the bottom shows the output of the program: "89000.0".

Converting Long data type to Boolean data type:

The screenshot shows the Eclipse IDE interface with a Java project named "jeshujava". In the code editor, there is a main method:

```
1 package javaassignment;
2
3 public class jeshujava {
4     public static void main(String[] args) {
5         long a=9000;
6         boolean b;
7         b=a;
8         System.out.println(b);
9     }
10 }
11 }
```

The console output shows a compilation error:

```
<terminated> jeshujava [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (20-Jul-2023, 8:31:36 pm - 8:31:40 pm) [pid: 3904]
Exception in thread "main" java.lang.Error: Unresolved compilation problem:
        Type mismatch: cannot convert from long to boolean
        at jeshujava.javaassignment.jeshujava.main(jeshujava.java:7)
```

Long to Boolean conversion is not Possible

Converting Float data type to Char data type:

The screenshot shows the Eclipse IDE interface with a Java project named "jeshujava". In the code editor, there is a main method:

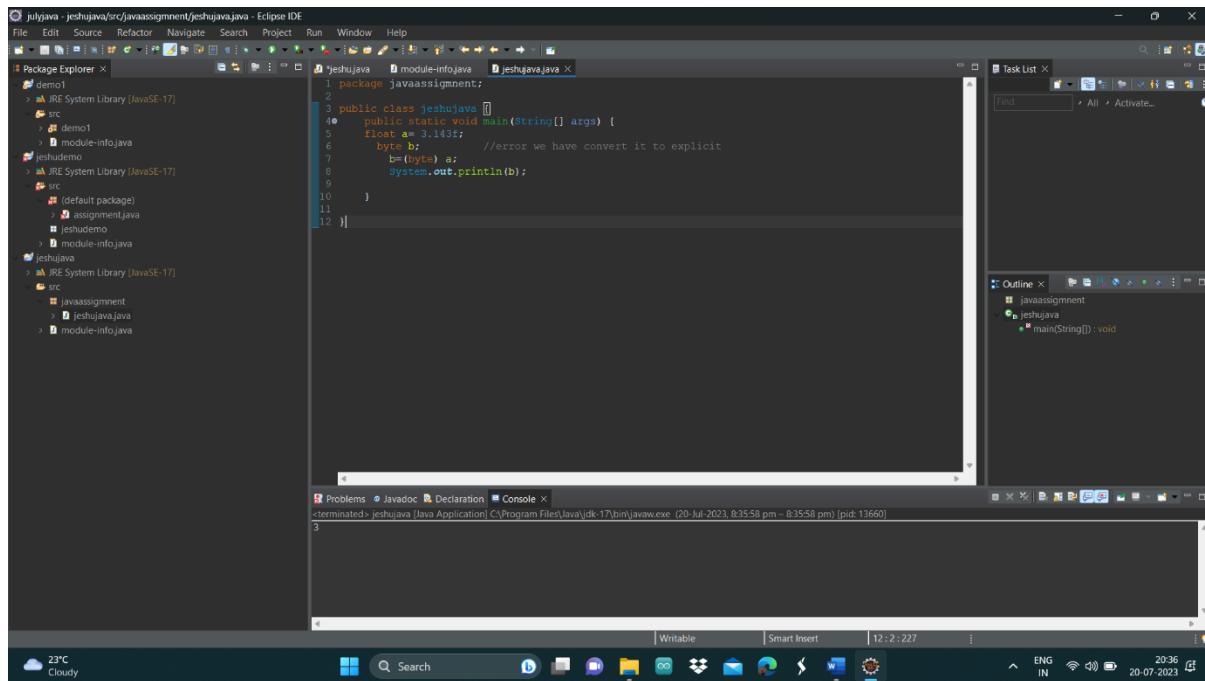
```
1 package javaassignment;
2
3 public class jeshujava {
4     public static void main(String[] args) {
5         float a= 3.14f;
6         char b;           //error we have convert it to explicit
7         b=(char) a;
8         System.out.println(b);
9     }
10 }
11 }
```

The console output shows a compilation error:

```
<terminated> jeshujava [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (20-Jul-2023, 8:34:53 pm - 8:34:54 pm) [pid: 9568]

```

Converting Float data type to Byte data type:



The screenshot shows the Eclipse IDE interface with a Java project named "jeshujava". The code editor displays the following Java code:

```
package javaassignment;
public class jeshujava {
    public static void main(String[] args) {
        float a = 3.143f;
        byte b; //error we have convert it to explicit
        b=(byte) a;
        System.out.println(b);
    }
}
```

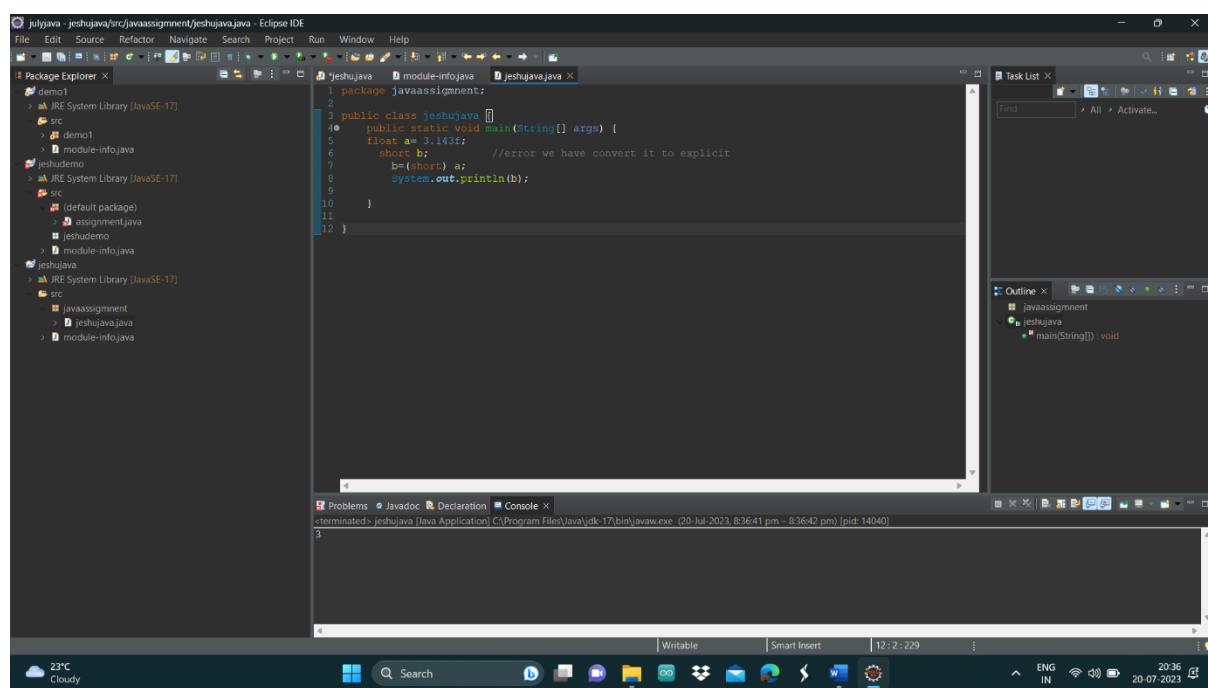
The Java console output shows the result of the program execution:

```
3
```

A floating-point value 3.143 is being converted to a byte data type, resulting in the value 3.

Float to Byte conversion is Explicit type of Casting

Converting Float data type to Short data type:



The screenshot shows the Eclipse IDE interface with a Java project named "jeshujava". The code editor displays the following Java code:

```
package javaassignment;
public class jeshujava {
    public static void main(String[] args) {
        float a = 3.143f;
        short b; //error we have convert it to explicit
        b=(short) a;
        System.out.println(b);
    }
}
```

The Java console output shows the result of the program execution:

```
3
```

A floating-point value 3.143 is being converted to a short data type, resulting in the value 3.

Float to Short conversion is Explicit type of Casting

Converting Float data type to Int data type:

The screenshot shows the Eclipse IDE interface with a Java project named "jeshujava". The code editor displays the following Java code:

```
1 package javaassignment;
2
3 public class jeshujava {
4     public static void main(String[] args) {
5         float a= 3.14f;
6         int b;           //error we have convert it to explicit
7         b=(int) a;
8         System.out.println(b);
9     }
10 }
11
12 }
```

The code attempts to assign a float value to an int variable without an explicit cast, which results in a compilation error. The console output shows the error message: "3".

Float to Int conversion is Explicit type of Casting

Converting Float data type to Long data type:

The screenshot shows the Eclipse IDE interface with a Java project named "jeshujava". The code editor displays the following Java code:

```
1 package javaassignment;
2
3 public class jeshujava {
4     public static void main(String[] args) {
5         float a= 3.14f;
6         long b;           //error we have convert it to explicit
7         b=(long) a;
8         System.out.println(b);
9     }
10 }
11
12 }
```

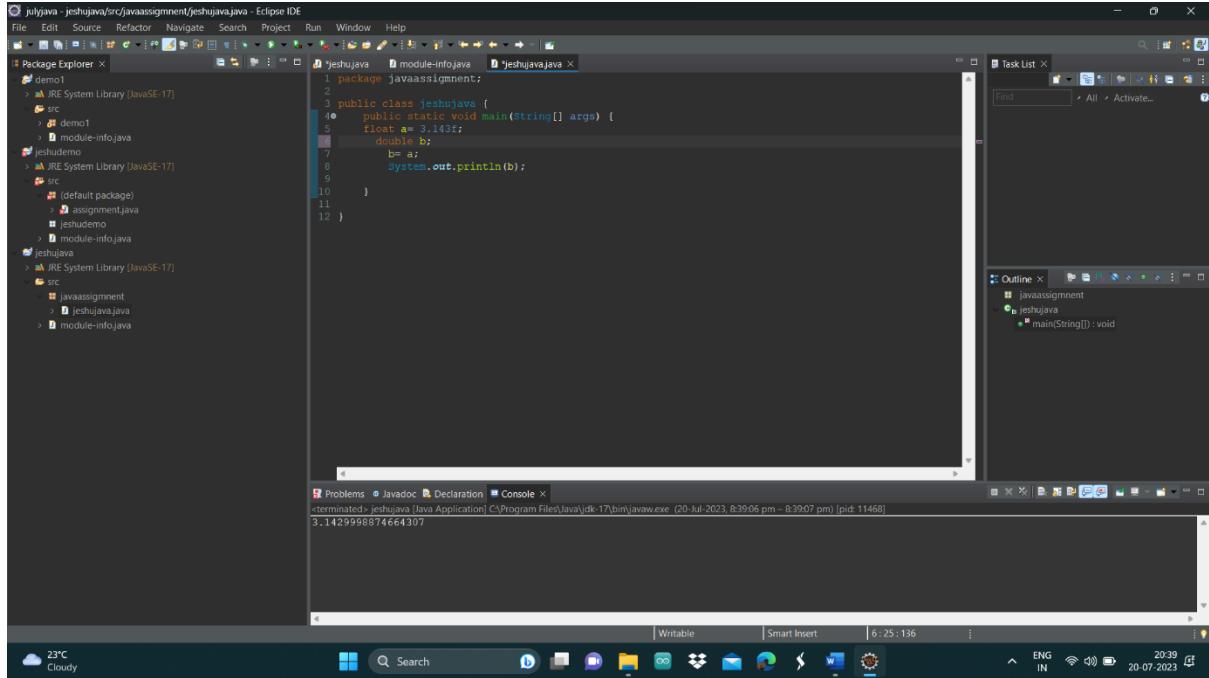
The code attempts to assign a float value to a long variable without an explicit cast, which results in a compilation error. The console output shows the error message: "3".

Float to Long conversion is Explicit type of Casting

Converting Float data type to Float data type:

Float data type to Float data type is not required because it is already in Float data type.

Converting Float data type to Double data type:



The screenshot shows the Eclipse IDE interface with a Java project named "jeshujava". The "jeshujava.java" file contains the following code:

```
package javaassignment;
public class jeshujava {
    public static void main(String[] args) {
        float a = 3.14f;
        double b;
        b=a;
        System.out.println(b);
    }
}
```

The "Console" view at the bottom shows the output of the program: "3.1429998874664307". This demonstrates that no explicit conversion is needed from float to double, as the assignment is done directly.

Converting Float data type to Boolean data type:

The screenshot shows the Eclipse IDE interface with a Java project named "jeshujava". In the code editor, there is a main method:

```
1 package javaassignment;
2
3 public class jeshujava {
4     public static void main(String[] args) {
5         float a = 3.14f;
6         boolean b;
7         b = a;
8         System.out.println(b);
9     }
10 }
11
12 }
```

The "Console" tab at the bottom displays a compilation error:

```
<terminated> jeshujava [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (20-Jul-2023, 8:40:02 pm - 8:40:09 pm) [pid: 16152]
Exception in thread "main" java.lang.Error: Unresolved compilation problem:
        Type mismatch: cannot convert from float to boolean
        at jeshujava.javaassignment.jeshujava.main(jeshujava.java:7)
```

Float to Boolean conversion is not Possible

Converting Double data type to Char data type:

The screenshot shows the Eclipse IDE interface with a Java project named "jeshujava". In the code editor, there is a main method:

```
1 package javaassignment;
2
3 public class jeshujava {
4     public static void main(String[] args) {
5         double a = 34.798679; //error we have to change it to explicit
6         char b = (char) a;
7         System.out.println(b);
8     }
9
10 }
11
12 }
```

The "Console" tab at the bottom shows the output of the program:

```
<terminated> jeshujava [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (20-Jul-2023, 8:41:28 pm - 8:41:29 pm) [pid: 8628]
"
```

Double to Char conversion is Explicit type of Casting

Converting Double data type to Byte data type:

The screenshot shows the Eclipse IDE interface with a Java project named "jeshujava". The code editor displays the following Java code:

```
1 package javaassignment;
2
3 public class jeshujava {
4     public static void main(String[] args) {
5         double a = 34.798679;
6         byte b; //error we have to change it to explicit
7         b=(Byte) a;
8         System.out.println(b);
9     }
10 }
11
12 }
```

The code attempts to cast a double value to a byte using a cast operator, which results in a compilation error. The error message "error we have to change it to explicit" is visible in the code. The Java console shows the command "javaw.exe" was run at 20:43:22 pm on 20-Jul-2023.

Double to Byte conversion is Explicit type of Casting

Converting Double data type to Short data type:

The screenshot shows the Eclipse IDE interface with a Java project named "jeshujava". The code editor displays the following Java code:

```
1 package javaassignment;
2
3 public class jeshujava {
4     public static void main(String[] args) {
5         double a = 34.798679;
6         short b; //error we have to change it to explicit
7         b=(short) a;
8         System.out.println(b);
9     }
10 }
11
12 }
```

The code attempts to cast a double value to a short using a cast operator, which results in a compilation error. The error message "error we have to change it to explicit" is visible in the code. The Java console shows the command "javaw.exe" was run at 20:44:08 pm on 20-Jul-2023.

Converting Double data type to Int data type:

The screenshot shows the Eclipse IDE interface with a Java project named "jeshujava". The code in `jeshujava.java` is as follows:

```
1 package javaassignment;
2
3 public class jeshujava {
4     public static void main(String[] args) {
5         double a = 34.798679;
6         int b; //error we have to change it to explicit
7         b=(int) a;
8         System.out.println(b);
9     }
10 }
11 }
```

The code attempts to assign a double value to an integer variable `b` without an explicit cast, which results in a compilation error. The `System.out.println` statement is used to print the value of `b`.

Double to Int conversion is Explicit type of Casting

Converting Double data type to Long data type:

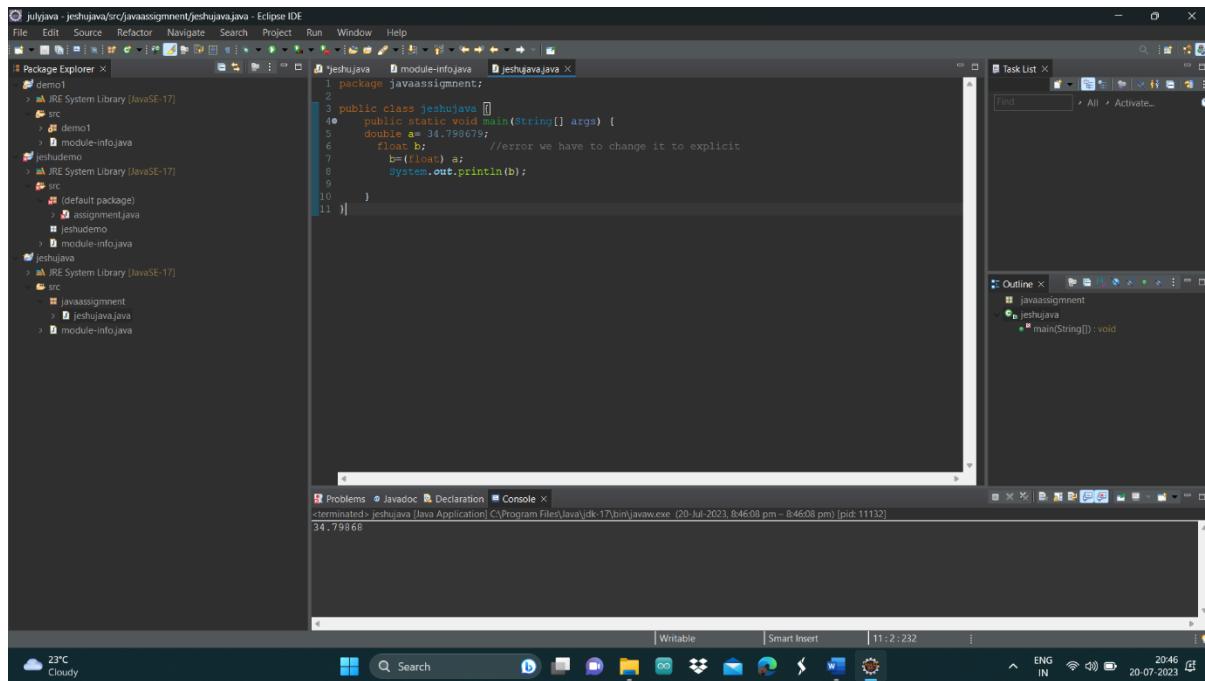
The screenshot shows the Eclipse IDE interface with a Java project named "jeshujava". The code in `jeshujava.java` is as follows:

```
1 package javaassignment;
2
3 public class jeshujava {
4     public static void main(String[] args) {
5         double a = 34.798679;
6         long b; //error we have to change it to explicit
7         b=(long) a;
8         System.out.println(b);
9     }
10 }
11 }
```

The code attempts to assign a double value to a long variable `b` without an explicit cast, which results in a compilation error. The `System.out.println` statement is used to print the value of `b`.

Double to Long conversion is Explicit type of Casting

Converting Double data type to Float data type:



The screenshot shows the Eclipse IDE interface with a Java project named "jeshujava". The code editor displays the following Java code:

```
1 package javaassignment;
2
3 public class jeshujava {
4     public static void main(String[] args) {
5         double a = 34.798679;
6         float b; //error we have to change it to explicit
7         b=(float) a;
8         System.out.println(b);
9     }
10 }
```

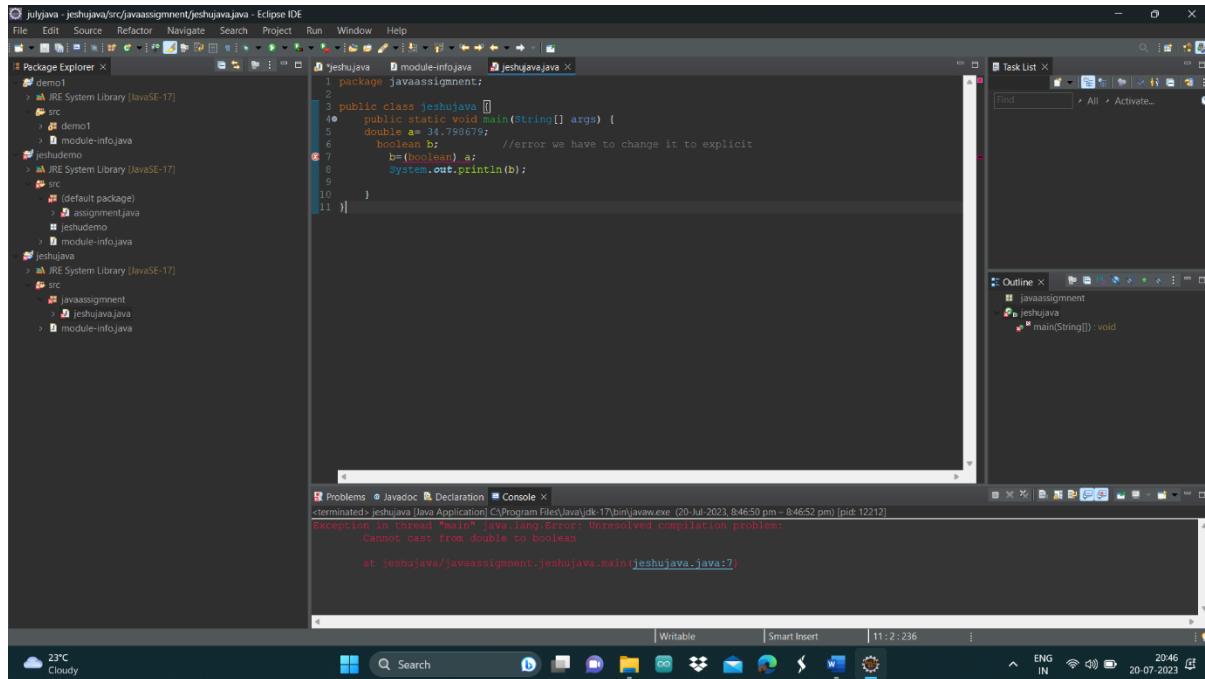
The code attempts to assign a double value to a float variable without an explicit cast, which results in a compilation error. The output console shows the error message: "34.798679".

Double to Float conversion is Explicit type of Casting

Converting Double data type to Double data type:

Double data type to Double data type is not required because it is already in Double data type.

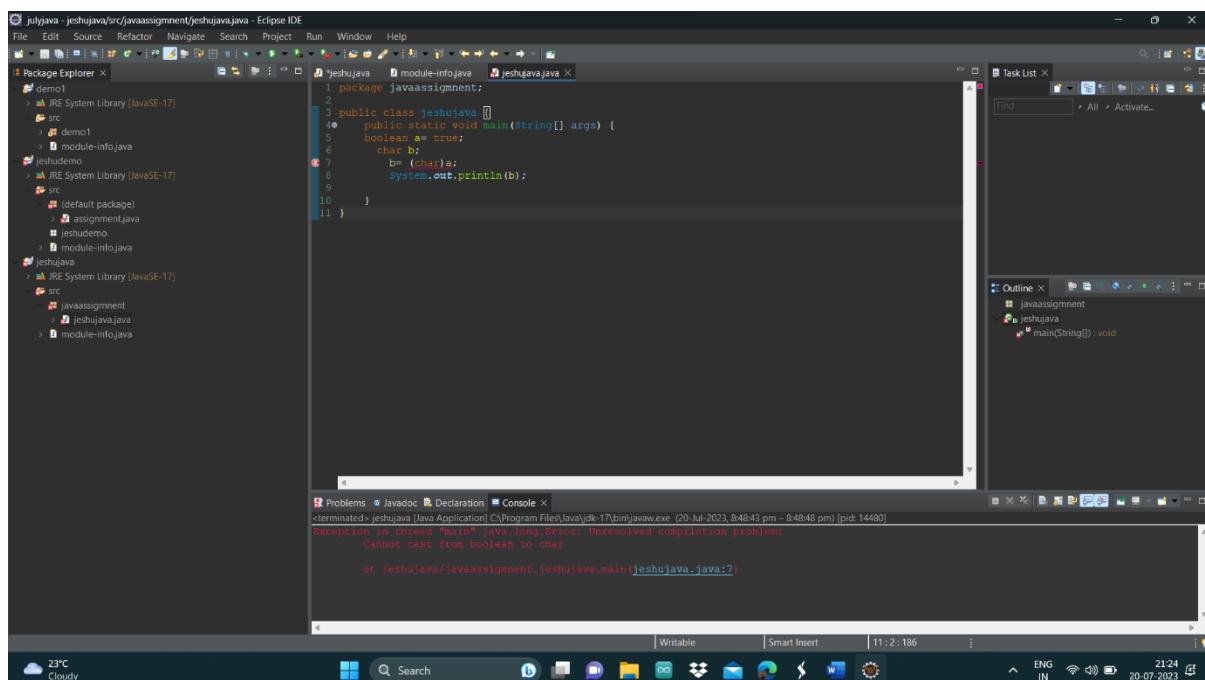
Converting Double data type to Boolean data type:



```
1 package javaassignment;
2
3 public class jeshujava {
4     public static void main(String[] args) {
5         double a = 34.789679;
6         boolean b; //error we have to change it to explicit
7         b=(boolean)a;
8         System.out.println(b);
9     }
10 }
```

Double to Boolean is not Possible

Converting Boolean data type to Char data type:



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

Boolean to Char conversion is not Possible

Converting Boolean data type to Byte data type:

The screenshot shows the Eclipse IDE interface with a Java project named "jeshujava". The code in the editor is as follows:

```
package javaassignment;
public class jeshujava {
    public static void main(String[] args) {
        boolean a = true;
        byte b;
        b = (byte)a;
        System.out.println(b);
    }
}
```

The "Console" view at the bottom shows the following error message:

```
<terminated> jeshujava [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (20-Jul-2023, 9:35:05 pm - 9:35:06 pm) [pid: 14188]
Exception in thread "main" java.lang.Error: Unresolved compilation problem:
    Cannot cast from boolean to byte
        at jeshujava.javaassignment.jeshujava.main(jeshujava.java:7)
```

Boolean to Byte conversion is not Possible

Converting Boolean data type to Short data type:

The screenshot shows the Eclipse IDE interface with a Java project named "jeshujava". The code in the editor is as follows:

```
package javaassignment;
public class jeshujava {
    public static void main(String[] args) {
        boolean a = true;
        short b;
        b = (short)a;
        System.out.println(b);
    }
}
```

The "Console" view at the bottom shows the following error message:

```
<terminated> jeshujava [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (20-Jul-2023, 9:35:05 pm - 9:35:06 pm) [pid: 14188]
Exception in thread "main" java.lang.Error: Unresolved compilation problem:
    Cannot cast from boolean to byte
        at jeshujava.javaassignment.jeshujava.main(jeshujava.java:7)
```

Boolean to Short conversion is not Possible

Converting Boolean data type to Int data type:

The screenshot shows the Eclipse IDE interface with a Java project named "jeshujava". The code in the editor is as follows:

```
package javaassignment;
public class jeshujava {
    public static void main(String[] args) {
        boolean a = true;
        int b;
        b = (int)a;
        System.out.println(b);
    }
}
```

The "Console" tab at the bottom shows the output of running the program:

```
<terminated> jeshujava [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (20-Jul-2023, 9:36:30 pm - 9:36:31 pm) [pid: 2440]
Exception in thread "main" java.lang.Error: Unresolved compilation problem:
    Cannot cast from boolean to int
        at jeshujava.javaassignment.jeshujava.main(jeshujava.java:7)
```

Boolean to Int conversion is not Possible

Converting Boolean data type to Long data type:

The screenshot shows the Eclipse IDE interface with a Java project named "jeshujava". The code in the editor is as follows:

```
package javaassignment;
public class jeshujava {
    public static void main(String[] args) {
        boolean a = false;
        long b;
        b = (long)a;
        System.out.println(b);
    }
}
```

The "Console" tab at the bottom shows the output of running the program:

```
<terminated> jeshujava [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (20-Jul-2023, 9:37:14 pm - 9:37:14 pm) [pid: 16804]
Exception in thread "main" java.lang.Error: Unresolved compilation problem:
    Cannot cast from boolean to long
        at jeshujava.javaassignment.jeshujava.main(jeshujava.java:7)
```

Boolean to Long conversion is not Possible

Converting Boolean data type to Float data type:

The screenshot shows the Eclipse IDE interface. In the top-left, the 'jeshujava - jeshujava' project is selected in the Package Explorer. The main editor window contains the following Java code:

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

In the bottom-right editor window, there is a syntax error highlighted in red. The terminal window at the bottom shows the output of the Java compiler:

```
<terminated> jeshujava [Java Application] C:\Program Files\Java\dk-17\bin\javaw.exe (20-Jul-2023, 9:38:06 pm – 9:38:06 pm) [pid: 9772]
Exception in thread "main" java.lang.Error: Unresolved compilation problem:
    Cannot cast from boolean to float
        at jeshujava/javaassignment.jeshujava.main(jeshujava.java:7)
```

Boolean to Float conversion is not Possible

Converting Boolean data type to Double data type:

The screenshot shows the Eclipse IDE interface. In the top-left, the 'jeshujava - jeshujava' project is selected in the Package Explorer. The main editor window contains the following Java code:

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

In the bottom-right editor window, there is a syntax error highlighted in red. The terminal window at the bottom shows the output of the Java compiler:

```
<terminated> jeshujava [Java Application] C:\Program Files\Java\dk-17\bin\javaw.exe (20-Jul-2023, 9:38:06 pm – 9:38:06 pm) [pid: 9772]
Exception in thread "main" java.lang.Error: Unresolved compilation problem:
    Cannot cast from boolean to float
        at jeshujava/javaassignment.jeshujava.main(jeshujava.java:7)
```

Boolean to Double conversion is not Possible

Converting Boolean data type to Boolean data type:

Boolean data type to Boolean data type is not required because it is already in Boolean data type.

TABLE OF CONVERSION

TYPE CASTING GRAPH

