

KODNEST ASSIGNMENT 4

Name : Yadhukrishna Mk

Email : yadhu8824@gmail.com

TYPE CASTING

The process of converting data of one type to another. Two types-

1. **Implicit type casting**
2. **Explicit type casting**

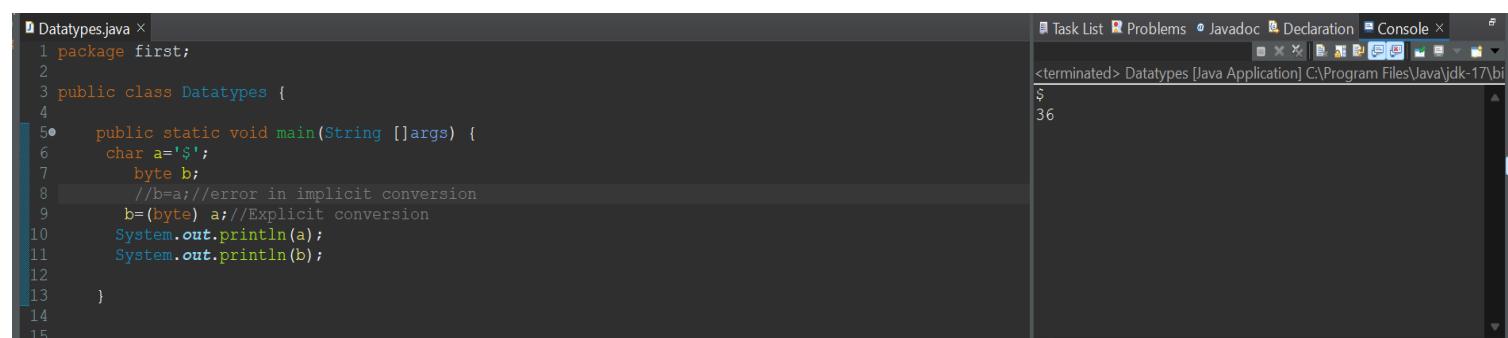
Implicit type casting: The process of converting the data of smaller data type to larger data type. (No data loss would occur)

Explicit type casting: The process of converting the data of larger data type to smaller data type. (You may loss data)

We have the following data types.

1. Char
2. Byte
3. Short
4. Int
5. Long
6. Float
7. Double
8. Boolean

Char to byte



The screenshot shows an IDE interface with two panes. The left pane displays a Java file named 'Datatypes.java' with the following code:

```
1 package first;
2
3 public class Datatypes {
4
5     public static void main(String []args) {
6         char a='$';
7         byte b;
8         //b=a;//error in implicit conversion
9         b=(byte) a;//Explicit conversion
10        System.out.println(a);
11        System.out.println(b);
12    }
13}
```

The right pane shows the 'Console' tab with the output of the program:

```
<terminated> Datatypes [Java Application] C:\Program Files\Java\jdk-17\bin
$36
```

Note : Implicit cannot be done ,for char to byte explicit casting should be done.

Char to short

The screenshot shows an IDE interface with two tabs: "primitive.java" and "Datatypes.java". The "Datatypes.java" tab is active, displaying the following code:

```
1 package first;
2
3 public class Datatypes {
4
5     public static void main(String []args)
6     {
7         char a='$';
8         short b;
9         //b=a;Error
10        b=(short) a;//Explicit converstion
11        System.out.println("a="+a);
12        System.out.println("b="+b);
13    }
14
15 }
16
```

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

```
a=$
b=36
```

The "Outline" tab shows the class structure:

```
first
Datatypes
  main(String[])
```

Note : Implicit casting cannot be done ,for char to short explicit casting should be done.

Char to int

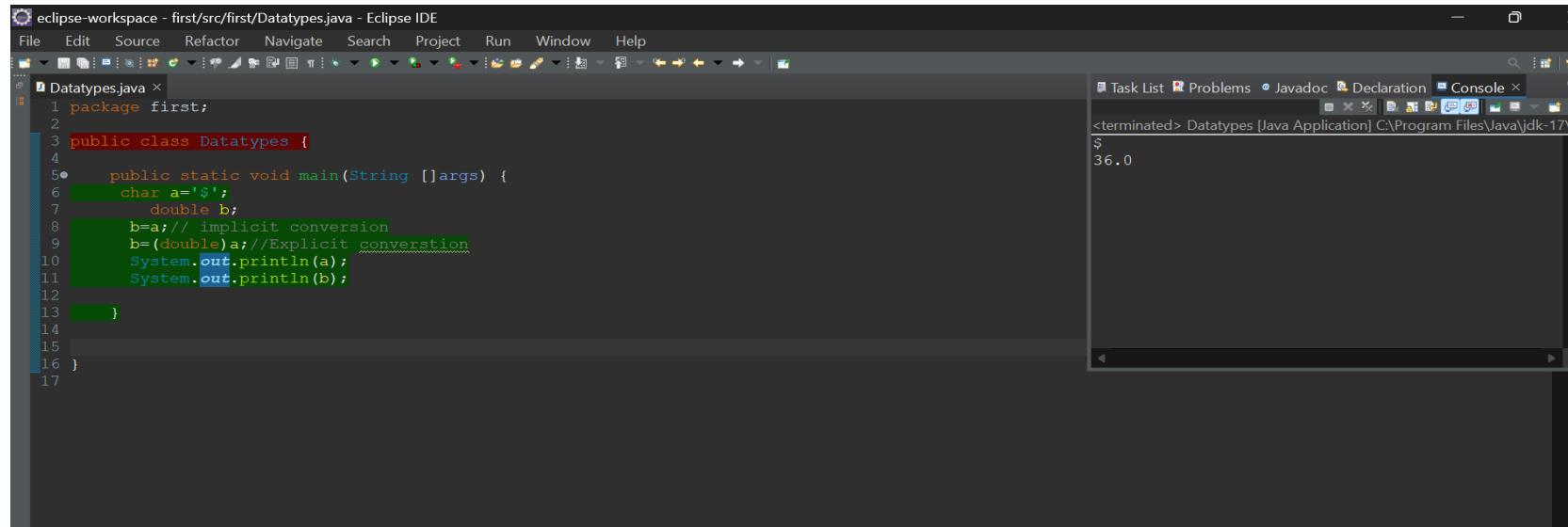
The screenshot shows an IDE interface with two tabs: "Datatypes.java" and "Datatypes.java". The "Datatypes.java" tab is active, displaying the following code:

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

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

```
$
36
```

Char to double



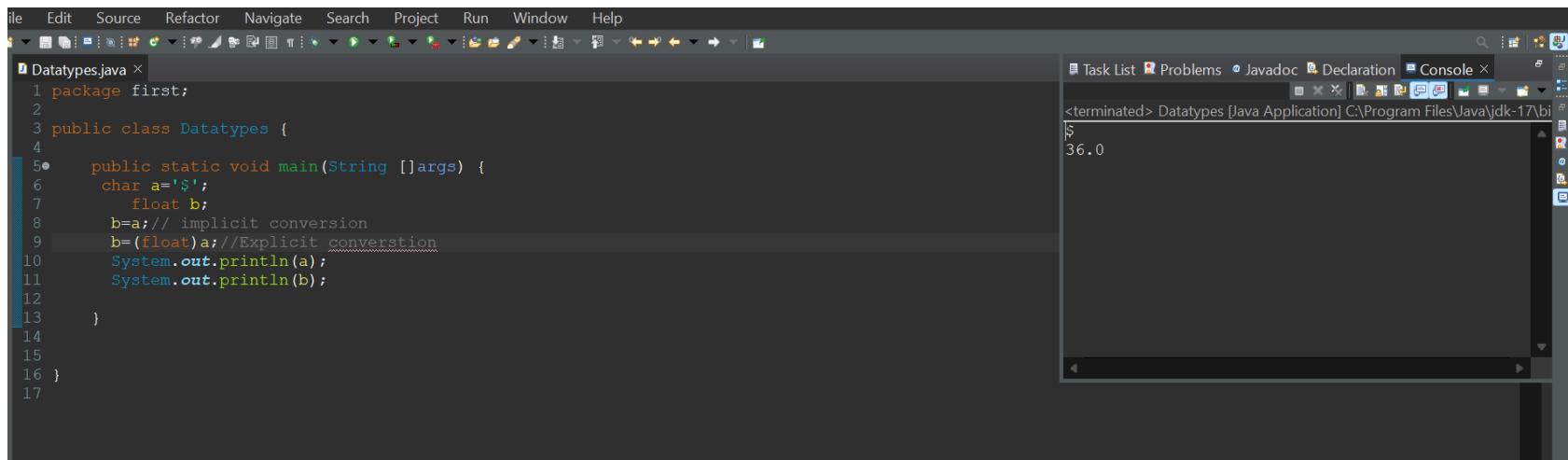
The screenshot shows the Eclipse IDE interface with the following details:

- Title Bar:** eclipse-workspace - first/src/first/Datatypes.java - Eclipse IDE
- Menu Bar:** File, Edit, Source, Refactor, Navigate, Search, Project, Run, Window, Help
- Toolbar:** Standard Java development toolbar.
- Left Panel:** Shows the file `Datatypes.java` with code:

```
1 package first;
2
3 public class Datatypes {
4
5     public static void main(String []args) {
6         char a='$';
7         double b;
8         b=a; // implicit conversion
9         b=(double)a;//Explicit converstion
10        System.out.println(a);
11        System.out.println(b);
12
13    }
14
15
16 }
```
- Right Panel:** Shows the `Console` tab with output:

```
<terminated> Datatypes [Java Application] C:\Program Files\Java\jdk-17\bin
$36.0
```

Char to float



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

- Title Bar:** eclipse-workspace - first/src/first/Datatypes.java - Eclipse IDE
- Menu Bar:** File, Edit, Source, Refactor, Navigate, Search, Project, Run, Window, Help
- Toolbar:** Standard Java development toolbar.
- Left Panel:** Shows the file `Datatypes.java` with code:

```
1 package first;
2
3 public class Datatypes {
4
5     public static void main(String []args) {
6         char a='$';
7         float b;
8         b=a; // implicit conversion
9         b=(float)a;//Explicit converstion
10        System.out.println(a);
11        System.out.println(b);
12
13    }
14
15
16 }
```
- Right Panel:** Shows the `Console` tab with output:

```
<terminated> Datatypes [Java Application] C:\Program Files\Java\jdk-17\bin
$36.0
```

Char to Boolean

```
package first;

public class Datatypes {

    public static void main(String []args) {
        char a='$';
        boolean b;
        b=a;//Error in implicit conversion
        b=(boolean)a;//Error in explicit conversion
        System.out.println(a);
        System.out.println(b);

    }

}
```

Byte to char

The screenshot shows an IDE interface with two tabs: "primitive.java" and "Datatypes.java". The "primitive.java" tab contains code that attempts to assign a byte value to a character variable. The "Datatypes.java" tab contains code that prints the values of variables 'a' and 'b' to the console.

primitive.java:

```
1 package first;
2
3 public class Datatypes {
4
5     public static void main(String []args)
6     {
7         byte a=60;
8         char b;
9         //b=a;Error
10        b=(char) a;//Explicit conversion
11        System.out.println("a="+a);
12        System.out.println("b="+b);
13    }
14
15 }
```

Datatypes.java:

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

Console Output:

```
a=$
b=36.0
```

Outline View:

- first
- Datatypes
 - main(String[]) : void

Byte to short

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

- Title Bar:** eclipse-workspace - first/src/first/Datatypes.java - Eclipse IDE
- File Menu:** File Edit Source Refactor Navigate Search Project Run Window Help
- Toolbar:** Standard Eclipse toolbar with various icons.
- Left Panel:** Shows two open files: primitive.java and Datatypes.java.
- Main Editor:** Displays the Java code for the Datatypes class:

```
1 package first;
2
3 public class Datatypes {
4
5     public static void main(String []args)
6     {
7         byte a=60;
8         short b;
9         //b=a;Error
10        b=(short) a;//Explicit conversion
11        System.out.println("a="+a);
12        System.out.println("b="+b);
13    }
14 }
15
16
```
- Console View:** Shows the output of the program:

```
<terminated> Datatypes [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (20-Jul-2023, 5:45:42 pm - 5:45:43 pm)
a=60
b=60
```

Byte to int

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

- Title Bar:** eclipse-workspace - first/src/first/Datatypes.java - Eclipse IDE
- File Menu:** File Edit Source Refactor Navigate Search Project Run Window Help
- Toolbar:** Standard Eclipse toolbar with various icons.
- Left Panel:** Shows two open files: primitive.java and Datatypes.java.
- Main Editor:** Displays the Java code for the Datatypes class:

```
1 package first;
2
3 public class Datatypes {
4
5     public static void main(String []args)
6     {
7         byte a=60;
8         int b;|
9         b= a;//Explicit conversion
10        System.out.println("a="+a);
11        System.out.println("b="+b);
12    }
13
14 }
15
```
- Console View:** Shows the output of the program:

```
<terminated> Datatypes [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (20-Jul-2023, 5:47:35 pm - 5:47:38 pm)
a=60
b=60
```

Byte to long

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

- Title Bar:** eclipse-workspace - first/src/first/Datatypes.java - Eclipse IDE
- File Menu:** File Edit Source Refactor Navigate Search Project Run Window Help
- Toolbar:** Standard Eclipse toolbar with various icons.
- Left Panel:** Shows two open files: primitive.java and Datatypes.java.
- Main Editor:** Displays the Java code for the Datatypes class:

```
1 package first;
2
3 public class Datatypes {
4
5     public static void main(String []args)
6     {
7         byte a=60;
8         long b;
9         b= a; //Explicit conversion
10        System.out.println("a="+a);
11        System.out.println("b="+b);
12    }
13
14 }
15
```
- Console View:** Shows the output of the program:

```
<terminated> Datatypes [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (20-Jul-2023, 5:48:40 pm - 5:48:42 pm)
a=60
b=60
```

Byte to float

```
package first;

public class Datatypes {

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

    }

}
```

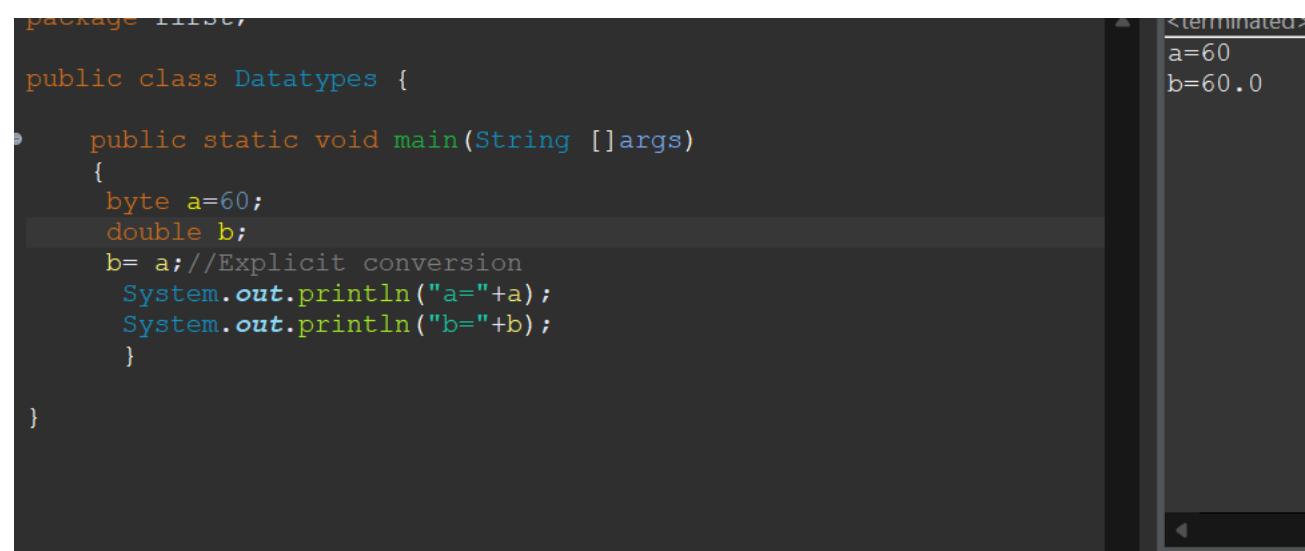
Byte to double

```
package first;

public class Datatypes {

    public static void main(String []args)
    {
        byte a=60;
        double b;
        b= a;//Explicit conversion
        System.out.println("a="+a);
        System.out.println("b="+b);
    }

}
```



<terminated>
a=60
b=60.0

Byte to Boolean

```
Datatypes.java ^
package first;

public class Datatypes {

    public static void main(String []args) {
        byte a=60■
        boolean b;
        b=a;//Error in implicit conversion
        b=(boolean)a;//Error in explicit conversion
        System.out.println(a);
        System.out.println(b);

    }

}
```

Short to char

```
package first;

public class Datatypes {

    public static void main(String []args)
    {
        short a=2311;
        char b; // Explicit conversion
        b= (char) a;
        System.out.println("a="+a);
        System.out.println("b="+b);
    }
}
```

```
<terminated> Datatypes
a=2311
b= 
```

Short to byte

```
package first;

public class Datatypes {

    public static void main(String []args)
    {
        short a=2311;
        byte b;
        b= (byte) a; // Explicit conversion
        System.out.println("a="+a);
        System.out.println("b="+b);
    }
}
```

```
<terminated> Datatypes
a=2311
b=7
```

Short to int

```
Datatypes.java
1 package first;
2
3 public class Datatypes {
4
5     public static void main(String []args)
6     {
7         short a=2311;
8         int b;
9         b= a;
10        System.out.println("a="+a);
11        System.out.println("b="+b);
12    }
13
14 }
```

```
<terminated> Datatypes [Java Application] C:\Program Files\Java\jdk-17\bin
a=2311
b=2311
```

Short to long

A screenshot of an IDE showing a Java file named `Datatypes.java`. The code defines a class `Datatypes` with a `main` method. In the `main` method, a `short` variable `a` is assigned the value `2311`, and a `long` variable `b` is assigned the value of `a`. Both variables are then printed to the console using `System.out.println`. The output in the console shows `a=2311` and `b=2311`.

```
1 package first;
2
3 public class Datatypes {
4
5     public static void main(String []args)
6     {
7         short a=2311;
8         long b;
9         b= a;
10        System.out.println("a="+a);
11        System.out.println("b="+b);
12    }
13
14 }
```

```
a=2311
b=2311
```

Short to float

A screenshot of an IDE showing a Java file named `Datatypes.java`. The code defines a class `Datatypes` with a `main` method. In the `main` method, a `short` variable `a` is assigned the value `2311`, and a `float` variable `b` is assigned the value of `a`. Both variables are then printed to the console using `System.out.println`. The output in the console shows `2311` and `2311.0`.

```
1 package first;
2
3 public class Datatypes {
4
5     public static void main(String []args) {
6         short a=2311;
7         float b;
8         // b=a;//Error in implicit conversion
9         b=(float)a;//Error in explicit conversion
10        System.out.println(a);
11        System.out.println(b);
12    }
13
14 }
15
16 }
```

```
2311
2311.0
```

Short to double

A screenshot of an IDE showing a Java file named `Datatypes.java`. The code defines a class `Datatypes` with a `main` method. In the `main` method, a `short` variable `a` is assigned the value `2311`, and a `double` variable `b` is assigned the value of `a`. Both variables are then printed to the console using `System.out.println`. The output in the console shows `a=2311` and `b=2311.0`.

```
1 package first;
2
3 public class Datatypes {
4
5     public static void main(String []args)
6     {
7         short a=2311;
8         double b;
9         b= a;
10        System.out.println("a="+a);
11        System.out.println("b="+b);
12    }
13
14 }
15
```

```
a=2311
b=2311.0
```

Short to Boolean

The screenshot shows a Java code editor with the following code:

```
1 package first;
2
3 public class Datatypes {
4
5     public static void main(String []args)
6     {
7         short a=2311;
8         boolean b;
9         b= a;//Error while casting
10        System.out.println("a="+a);
11        System.out.println("b="+b);
12    }
13
14 }
```

The line `b= a;` is highlighted in red, indicating a compilation error. The error message "Error while casting" is displayed in the status bar.

Int to char

The screenshot shows a Java code editor with the following code:

```
1 package first;
2
3 public class Datatypes {
4
5     public static void main(String []args)
6     {
7         int a=34241;
8         char b;
9         //b=a;//Error
10        b= (char) a;//Explicit type casting
11        System.out.println("a="+a);
12        System.out.println("b="+b);
13    }
14 }
```

The line `b= (char) a;` is highlighted in red, indicating a compilation error. The error message "Error while casting" is displayed in the status bar.

Int to byte

The screenshot shows a Java code editor with the following code:

```
1 package first;
2
3 public class Datatypes {
4
5     public static void main(String []args)
6     {
7         int a=34241;
8         byte b;
9         //b=a;//Error
10        b= (byte) a;//Explicit type casting
11        System.out.println("a="+a);
12        System.out.println("b="+b);
13    }
14 }
```

The line `b= (byte) a;` is highlighted in red, indicating a compilation error. The error message "Error while casting" is displayed in the status bar.

Int to short

The screenshot shows a Java code editor with the following code:

```
1 package first;
2
3 public class Datatypes {
4
5     public static void main(String []args)
6     {
7         int a=34241;
8         short b;
9         //b=a;//Error
10        b= (short) a;//Explicit type casting
11        System.out.println("a="+a);
12        System.out.println("b="+b);
13    }
14 }
```

The line `b= (short) a;` is highlighted in red, indicating a compilation error. The error message "Error while casting" is displayed in the status bar.

Int to long

The screenshot shows an IDE interface with two panes. The left pane displays the Java code for a class named Datatypes. The code defines a main method that initializes an int variable 'a' to 34241 and a long variable 'b' to 'a'. It then prints both variables to the console. The right pane shows the output of the program, which correctly prints 'a=34241' and 'b=34241', demonstrating that the value of 'a' was implicitly converted to a long type when assigned to 'b'.

```
1 package first;
2
3 public class Datatypes {
4
5     public static void main(String []args)
6     {
7         int a=34241;
8         long b;
9         b= a;//Implicit typecasting
10        System.out.println("a="+a);
11        System.out.println("b="+b);
12    }
13
14 }
15
```

```
a=34241
b=34241
```

Int to float

The screenshot shows an IDE interface with two panes. The left pane displays the Java code for a class named Datatypes. The code defines a main method that initializes an int variable 'a' to 34241 and a float variable 'b' to 'a'. It then prints both variables to the console. The right pane shows the output of the program, which prints 'a=34241' and 'b=34241.0', demonstrating that the value of 'a' was implicitly converted to a float type when assigned to 'b'.

```
1 package first;
2
3 public class Datatypes {
4
5     public static void main(String []args)
6     {
7         int a=34241;
8         float b;
9         b= a;//Implicit typecasting
10        System.out.println("a="+a);
11        System.out.println("b="+b);
12    }
13
14 }
15
```

```
a=34241
b=34241.0
```

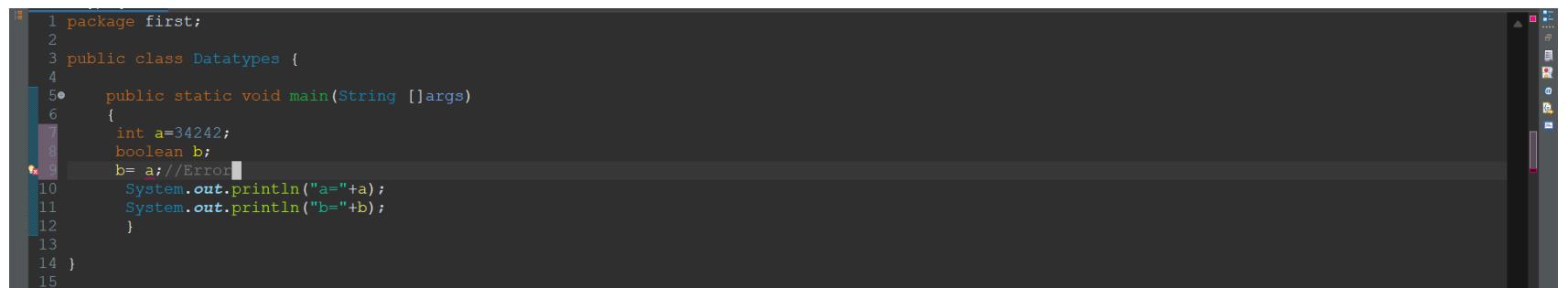
Int to double

The screenshot shows an IDE interface with two panes. The left pane displays the Java code for a class named Datatypes. The code defines a main method that initializes an int variable 'a' to 34241 and a double variable 'b' to 'a'. It then prints both variables to the console. The right pane shows the output of the program, which prints 'a=34241' and 'b=34241.0', demonstrating that the value of 'a' was implicitly converted to a double type when assigned to 'b'.

```
1 package first;
2
3 public class Datatypes {
4
5     public static void main(String []args)
6     {
7         int a=34241;
8         double b;
9         b= a;//Implicit typecasting
10        System.out.println("a="+a);
11        System.out.println("b="+b);
12    }
13
14 }
15
```

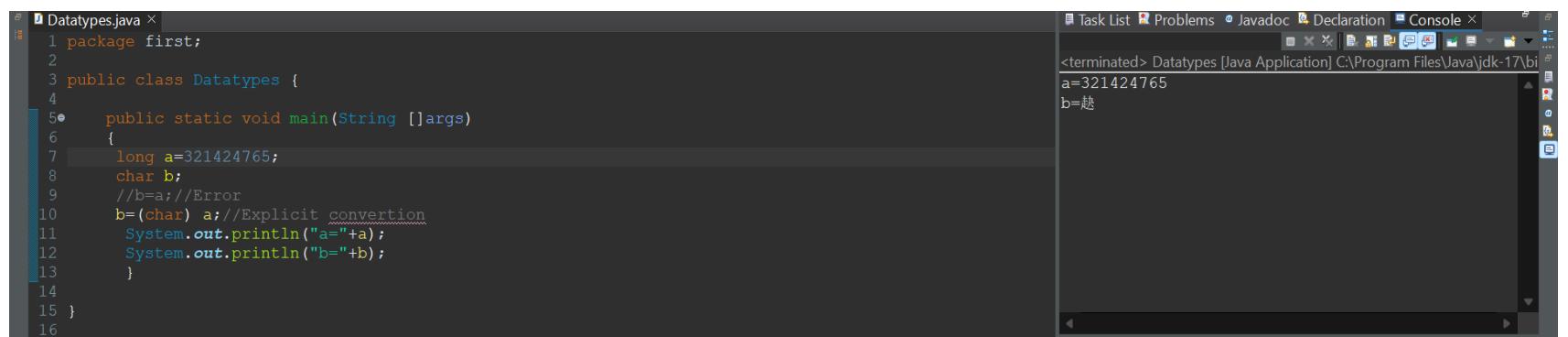
```
a=34241
b=34241.0
```

Int to Boolean



```
1 package first;
2
3 public class Datatypes {
4
5     public static void main(String []args)
6     {
7         int a=34242;
8         boolean b;
9         b= a; //Error
10        System.out.println("a="+a);
11        System.out.println("b="+b);
12    }
13
14 }
15
```

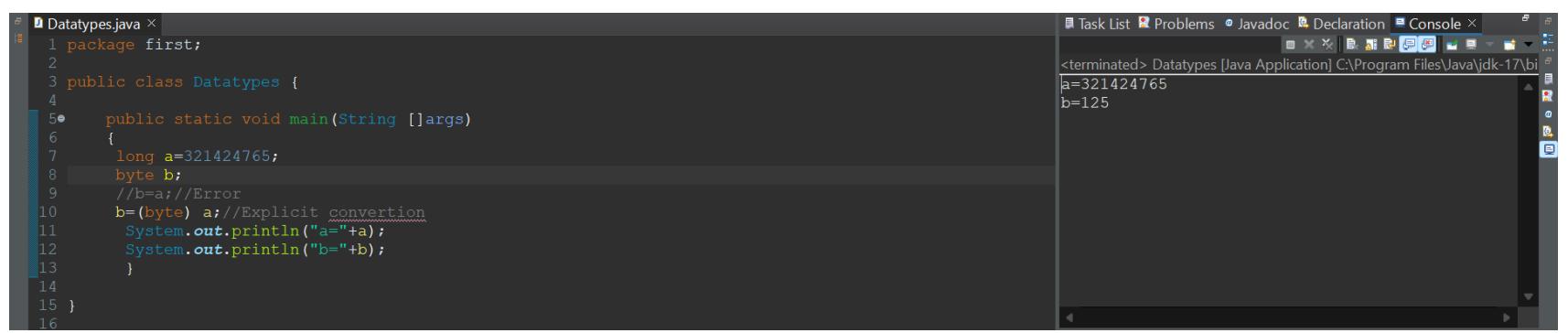
Long to char



```
Datatypes.java x
1 package first;
2
3 public class Datatypes {
4
5     public static void main(String []args)
6     {
7         long a=321424765;
8         char b;
9         //b=a; //Error
10        b=(char) a; //Explicit conversion
11        System.out.println("a="+a);
12        System.out.println("b="+b);
13    }
14
15 }
16
```

Task List Problems Javadoc Declaration Console <terminated> Datatypes [Java Application] C:\Program Files\Java\jdk-17\bin a=321424765
b=赵

Long to byte



```
Datatypes.java x
1 package first;
2
3 public class Datatypes {
4
5     public static void main(String []args)
6     {
7         long a=321424765;
8         byte b;
9         //b=a; //Error
10        b=(byte) a; //Explicit conversion
11        System.out.println("a="+a);
12        System.out.println("b="+b);
13    }
14
15 }
16
```

Task List Problems Javadoc Declaration Console <terminated> Datatypes [Java Application] C:\Program Files\Java\jdk-17\bin a=321424765
b=125

Long to short

The screenshot shows a Java code editor and a terminal window. The code in the editor is:

```
1 package first;
2
3 public class Datatypes {
4
5     public static void main(String []args)
6     {
7         long a=321424765;
8         short b;
9         //b=a;//Error
10        b= (short) a;//Explicit converntion
11        System.out.println("a="+a);
12        System.out.println("b="+b);
13    }
14
15 }
```

The terminal window shows the output:

```
<terminated> Datatypes [Java Application] C:\Program Files\Java\jdk-17\bin
a=321424765
b=-29315
```

Long to int

The screenshot shows a Java code editor and a terminal window. The code in the editor is:

```
1 Datatypes.java x
2
3 package first;
4
5 public class Datatypes {
6
7     public static void main(String []args)
8     {
9         long a=321424765;
10        int b;
11        //b=a;//Error
12        b= (int) a;//Explicit conversion
13        System.out.println("a="+a);
14        System.out.println("b="+b);
15    }
16
17 }
```

The terminal window shows the output:

```
<terminated> Datatypes [Java Application] C:\Program Files\Java\jdk-17\bin
a=321424765
b=321424765
```

Long to float

The screenshot shows a Java code editor and a terminal window. The code in the editor is:

```
1 Datatypes.java x
2
3 package first;
4
5 public class Datatypes {
6
7     public static void main(String []args)
8     {
9         long a=321424765;
10        float b;
11        b= a;//implicit converstion
12        System.out.println("a="+a);
13        System.out.println("b="+b);
14    }
15
16 }
```

The terminal window shows the output:

```
<terminated> Datatypes [Java Application] C:\Program Files\Java\jdk-17\bin
a=321424765
b=3.21424768E8
```

Long to double

A screenshot of a Java IDE showing a code editor and a terminal window. The code editor contains a file named 'Datatypes.java' with the following content:

```
1 package first;
2
3 public class Datatypes {
4
5     public static void main(String []args)
6     {
7         long a=321424765;
8         double b;
9         b= a;//implicit converstion
10        System.out.println("a="+a);
11        System.out.println("b="+b);
12    }
13
14 }
15
```

The terminal window shows the output of the program:

```
a=321424765
b=3.21424765E8
```

Long to Boolean

A screenshot of a Java IDE showing a code editor. The code editor contains a file named 'Datatypes.java' with the following content:

```
package first;

public class Datatypes {

    public static void main(String []args)
    {
        long a=321424765;
        boolean b;
        b= a;//Error
        System.out.println("a="+a);
        System.out.println("b="+b);
    }

}
```

Double to char

A screenshot of a Java IDE showing a code editor and a terminal window. The code editor contains a file named 'Datatypes.java' with the following content:

```
1 package first;
2
3 public class Datatypes {
4
5     public static void main(String []args) {
6         double a=123.312111313;
7         char b;
8         //b=a;Error
9         b=(char) a;
10        System.out.println(a);
11        System.out.println(b);
12
13    }
14
15 }
16
17 }
```

The terminal window shows the output of the program:

```
123.312111313
{
```

Double to byte

A screenshot of a Java IDE showing a code editor and a terminal window. The code editor contains a file named 'Datatypes.java' with the following content:

```
1 package first;
2
3 public class Datatypes {
4
5     public static void main(String []args) {
6         double a=123.312111313;
7         byte b;
8         //b=a;Error
9         b=(byte) a;//Explicit
10        System.out.println();
11    }
12
13 }
```

The terminal window shows the output of the program:

```
123.312111313
123
```

Double to short

The screenshot shows an IDE interface with two panes. The left pane displays the Java code for a class named Datatypes. The right pane shows the console output.

```
1 Datatypes.java ×
  1 package first;
  2
  3 public class Datatypes {
  4
  5     public static void main(String []args) {
  6         double a=123.312111313d;
  7         short b;
  8         //b=a;Error
  9         b= (short) a;//Explicit conversion
 10        System.out.println(a);
 11        System.out.println(b);
 12
 13    }
 14
 15
 16 }
```

Console Output:

```
<terminated> Datatypes [Java Application] C:\Program Files\Java\jdk-17\bin
123.312111313
123
```

Double to int

The screenshot shows an IDE interface with two panes. The left pane displays the Java code for a class named Datatypes. The right pane shows the console output.

```
1 Datatypes.java ×
  1 package first;
  2
  3 public class Datatypes {
  4
  5     public static void main(String []args) {
  6         double a=123.312111313d;
  7         int b;
  8         //b=a;Error
  9         b= (int) a;//Explicit conversion
 10        System.out.println(a);
 11        System.out.println(b);
 12
 13    }
 14
 15
 16 }
```

Console Output:

```
<terminated> Datatypes [Java Application] C:\Program Files\Java\jdk-17\bin
123.312111313
123
```

Double to long

The screenshot shows an IDE interface with two panes. The left pane displays the Java code for a class named Datatypes. The right pane shows the console output.

```
1 Datatypes.java ×
  1 package first;
  2
  3 public class Datatypes {
  4
  5     public static void main(String []args) {
  6         double a=123.312111313d;
  7         long b;
  8         //b=a;Error
  9         b= (long) a;//Explicit conversion
 10        System.out.println(a);
 11        System.out.println(b);
 12
 13    }
 14
 15
 16 }
```

Console Output:

```
<terminated> Datatypes [Java Application] C:\Program Files\Java\jdk-17\bin
123.312111313
123
```

Double to float

A screenshot of a Java IDE showing a code editor and a terminal window. The code editor contains a file named 'Datatypes.java' with the following content:

```
1 package first;
2
3 public class Datatypes {
4
5     public static void main(String []args) {
6         double a=123.312111313d;
7         float b;
8         //b=a;Error
9         b= (float) a;//Explicit conversion
10        System.out.println(a);
11        System.out.println(b);
12
13    }
14
15 }
16 }
```

The terminal window shows the output of the program:

```
123.312111313
123.31211
```

Double to Boolean

A screenshot of a Java IDE showing a code editor. The code editor contains a file named 'Datatypes.java' with the following content:

```
1 package first;
2
3 public class Datatypes {
4
5     public static void main(String []args) {
6         double a=123.312111313d;
7         boolean b;
8         //b=a;Error
9         b= (boolean)a//Error
10        System.out.println(a);
11        System.out.println(b);
12
13    }
14
15 }
```

Boolean to char

A screenshot of a Java IDE showing a code editor. The code editor contains a file named 'Datatypes.java' with the following content:

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

The code editor highlights the line `b= (char)a//Error explicit conversion` with a red error marker.

Boolean to char

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

Boolean to short

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

Boolean to int

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

Boolean to long

```
Datatypes.java ~
1 package first;
2
3 public class Datatypes {
4
5     public static void main(String []args) {
6         boolean a=true;
7         long b;
8         b=a; //Error in implicit and explicit conversion
9         System.out.println(a);
0         System.out.println(b);
1
2     }
3
4
5 }
6
```

Boolean to float

```
package first;
2
3 public class Datatypes {
4
5     public static void main(String []args) {
6         boolean a=true;
7         float b;
8         b=a; //Error in implicit and explicit conversion
9         System.out.println(a);
0         System.out.println(b);
1
2     }
3
4
5 }
6
```

Boolean to double

```
st/src/first/Datatypes.java
1 package first;
2
3 public class Datatypes {
4
5     public static void main(String []args) {
6         boolean a=true;
7         double b;
8         b=a; //Error in implicit and explicit conversion
9         System.out.println(a);
0         System.out.println(b);
1
2     }
3
4
5 }
6
```

TYPE CASTING CHART

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

NCR- no conversion required

Y/EC – yes, Explicit conversion

Y/IC – yes, Implicit conversion

NIL- can't convert

TYPE CASTING GRAPH

- **Implicit type Casting -**

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

- **Explicit type Casting -**

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