



SHALINI P LADWA

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OBJECTIVE

Looking for a challenging career which demands the best of my professional ability in terms of Technical and Analytical skills which help me in enhancing my career through your company while being innovative.

EDUCATION

Bachelor Degree (2019-2023)

- | Jain College of Engineering & Technology, Hubballi-25.
Electronics and communication Engineering (8.79 CGPA*).
- | **Extracurricular activities and achievements:**
 - Certification in “Introduction to IoT”.
 - Certification in “Unacademy Career Assist 2.0”.

Pre-university (2017-2019)

- | JSS R S Hukkerikar Science College, Dharwad (77.33%).
- | **Extracurricular activities and achievements:**
 - Participated in Inter-College competitions (Dancing, Painting) and bagged prizes.

Secondary School (2017)

- | Navanagar Rotary English Medium School, Dharwad (92.00%).

SKILLS

- | Working knowledge of MS Office (Excel/Word/PowerPoint), Scilab, Xilinx ISE, keil uvision (Basis), C-Programming (Basics), Verilog (Basics), Python(basics), HTML, CSS.
- | Strong interpersonal skills with ability to effectively interact with people, Quick learner.
- | Languages known: English (R/W/S), Kannada (R/W/S), Hindi (R/W/S).
- | Good communication skills, Good listener, Leadership Qualities.

PROJECTS

Title: Project on “CHANAKSHA KHOLAKA: AN IOT BASED SMART HELMET FOR INDUSTRIAL AND MINING WORKERS”.

Description: The helmet monitors the physical conditions of the construction workers and sends notification to the Contractor via the Mobile.

HOBBIES

Baking, Drawing, Painting, Listening to Music.

PERSONAL DETAILS

Father Name: Prakash S Ladwa

Mother Name: Laxmi P Ladwa

Date of Birth: 31 May 2001

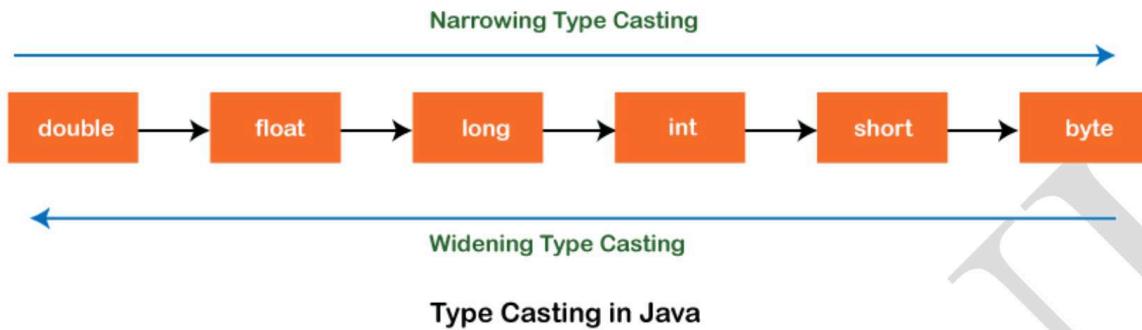
Nationality: Indian

DECLARATION

I hereby certify that the above given data are true and correct to the best to my knowledge and belief.

Type Casting in Java

In Java, **type casting** is a method or process that converts a data type into another data type in both ways manually and automatically. The automatic conversion is done by the compiler and manual conversion performed by the PROGRAMmer.



Type casting

Convert a value from one data type to another data type is known as **type casting**.

Types of Type Casting

There are two types of type casting:

- Implicit/Widening Type Casting
- Explicit/Narrowing Type Casting

Widening Type Casting (Implicit Typecasting)

Converting a lower data type into a higher one is called **widening** type casting. It is also known as **implicit conversion** or **casting down**. It is done automatically. It is safe because there is no chance to lose data. It takes place when:

- Both data types must be compatible with each other.
- The target type must be larger than the source type.

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

Narrowing Type Casting (Explicit Typecasting)

Converting a higher data type into a lower one is called **narrowing** type casting. It is also known as **explicit conversion** or **casting up**. It is done manually by the PROGRAMmer. If we do not perform casting then the compiler reports a compile-time error.

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

Let's see the examples for all the Datatypes Typecasting

PROGRAM 1:

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

The screenshot shows a Windows desktop environment. On the left is a black Command Prompt window titled "Command Prompt". It displays the following text:
Microsoft Windows [Version 10.0.19045.2486]
(C) Microsoft Corporation. All rights reserved.
C:\Users\kisha>cd Documents
C:\Users\kisha\Documents>javac Type.java
C:\Users\kisha\Documents>java Type
a
a
C:\Users\kisha\Documents>

On the right is a white Notepad window titled "Type.java - Notepad". It contains the Java code from the previous text block.

CONCLUSION: Type conversion is possible but it's **Not Required**.

PROGRAM 2:

```
class Type
{
    public static void main(String [] args)
    {
        char a='a';
        byte b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```



A screenshot of a Windows desktop showing a Command Prompt window and a Notepad window.

The Command Prompt window (left) shows the output of running `javac Type.java`. It displays an error message: "Type.java:7: error: incompatible types: possible lossy conversion from char to byte b=a; ^ 1 error".

The Notepad window (right) contains the Java code for Program 2, which attempts to assign a character value to a byte variable.

CONCLUSION: Implicit Typecasting - Not Possible

Explicit Typecasting - Possible with lossy conversion

PROGRAM 3:

```
class Type
{
    public static void main(String [] args)
    {
        char a='a';
        short b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

A screenshot of a Windows desktop showing two windows. On the left is a 'Command Prompt' window with the following text:
C:\Users\kisha\Documents>javac Type.java
Type.java:7: error: incompatible types: possible lossy conversion from char to short
b=a;
1 error
C:\Users\kisha\Documents>

On the right is a 'Type.java - Notepad' window containing the Java code shown above. The taskbar at the bottom shows various pinned icons and the system tray indicates it's 25°C Heavy rain.

CONCLUSION: Implicit Typecasting - Not Possible

Explicit Typecasting - Possible with lossy conversion

PROGRAM 4:

```
class Type
{
public static void main(String [] args)
{
char a='a';
int b;
b=a;
System.out.println(a);
System.out.println(b);
}
}
```

The screenshot shows a Windows desktop environment. On the left, a black Command Prompt window displays the following text:
C:\Users\kisha\Documents>javac Type.java
C:\Users\kisha\Documents>java Type
a
97
C:\Users\kisha\Documents>
On the right, a Notepad window titled "Type.java - Notepad" shows the Java code:

```
class Type
{
public static void main(String [] args)
{
char a='a';
int b;
b=a;
System.out.println(a);
System.out.println(b);
}
```

The status bar at the bottom of the Notepad window indicates: Ln 12, Col 1 | 100% | Windows (CRLF) | UTF-8 | 25°C Heavy rain | 19:34 | ENG | 21-06-2023.

CONCLUSION: Implicit Typecasting - Possible

Explicit Typecasting - Possible

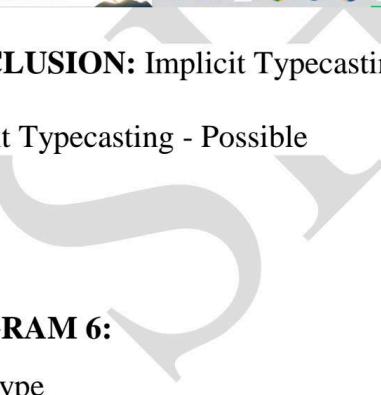
PROGRAM 5:

```
class Type
{
public static void main(String [] args)
```

```

{
char a='a';
long b;
b=a;
System.out.println(a);
System.out.println(b);
}
}

```




A screenshot of a Windows desktop showing two windows. On the left is a 'Command Prompt' window with the following text:

```
C:\Users\kisha\Documents>javac Type.java
C:\Users\kisha\Documents>java Type
a
97
C:\Users\kisha\Documents>
```

On the right is a 'Type.java - Notepad' window containing the Java code shown at the top of the slide.

CONCLUSION: Implicit Typecasting - Possible

Explicit Typecasting - Possible

PROGRAM 6:

```

class Type
{
public static void main(String [] args)
{
char a='a';
float b;
}
}

```

```
b=a;  
System.out.println(a);  
System.out.println(b);  
}  
}
```

The screenshot shows a Windows desktop environment. On the left is a black Command Prompt window with white text. It displays the command 'javac Type.java' followed by the output of the compilation: 'C:\Users\kisha\Documents>javac Type.java' and 'C:\Users\kisha\Documents>java Type' followed by the value '97.0'. On the right is a Notepad window titled 'Type.java - Notepad' containing the Java code for Program 6. The code defines a class 'Type' with a main method that prints the character 'a' and the float value 97.0. The desktop taskbar at the bottom shows various pinned icons and the system tray with weather information (25°C Heavy rain) and date/time (21-06-2023).

```
C:\Users\kisha\Documents>javac Type.java  
C:\Users\kisha\Documents>java Type  
97.0  
C:\Users\kisha\Documents>  
  
class Type  
{  
    public static void main(String [] args)  
    {  
        char a='a';  
        float b;  
        b=a;  
        System.out.println(a);  
        System.out.println(b);  
    }  
}
```

CONCLUSION: Implicit Typecasting - Possible

Explicit Typecasting - Possible

PROGRAM 7:

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

```
}
```

```
}
```

```
Command Prompt
C:\Users\kisha\Documents>javac Type.java
C:\Users\kisha\Documents>java Type
a
0
```

```
C:\Users\kisha\Documents>
```

```
Type.java - Notepad
File Edit Format View Help
class Type
{
public static void main(String [] args)
{
char a='a';
double b;
b=a;
System.out.println(a);
System.out.println(b);
}
}
```

CONCLUSION: Implicit Typecasting - Possible

Explicit Typecasting - Possible

PROGRAM 8:

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

```
C:\Users\kisha\Documents>javac Type.java
Type.java:7: error: incompatible types: char cannot be converted to boolean
    b=a;
          ^
1 error
C:\Users\kisha\Documents>
```

```
File Edit Format View Help
class Type
{
public static void main(String [] args)
{
    char a='a';
    boolean b;
    b=a;
    System.out.println(a);
    System.out.println(b);
}
```

CONCLUSION: Implicit Typecasting - Not Possible

Explicit Typecasting - Not Possible

PROGRAM 9:

```
class Type
{
    public static void main(String [] args)
    {
        byte a=10;
        char b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

```
C:\Users\kisha\Documents>javac Type.java
Type.java:7: error: incompatible types: possible lossy conversion from byte to char
    b=a;
          ^
1 error
C:\Users\kisha\Documents>
```

```
File Edit Format View Help
class Typecasting10
{
public static void main(String [] args)
{
byte a=10;
char b;
b=a;
System.out.println(a);
System.out.println(b);
}
}
```

CONCLUSION: Implicit Typecasting - Not Possible

Explicit Typecasting – Possible but Lossy conversion

PROGRAM 10:

```
class Type
{
public static void main(String [] args)
{
byte a=10;
byte b;
b=a;
System.out.println(a);
System.out.println(b);
}
```

```
C:\Users\kisha\Documents>javac Type.java
C:\Users\kisha\Documents>java Type
10
10
C:\Users\kisha\Documents>
```

```
File Edit Format View Help
class Type
{
    public static void main(String [] args)
    {
        byte a=10;
        byte b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Implicit Typecasting - Possible but not required

Explicit Typecasting - Possible but not required

PROGRAM 11:

```
class Type
{
    public static void main(String [] args)
    {
        byte a=10;
        short b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

```
C:\Users\kisha\Documents>javac Type.java
C:\Users\kisha\Documents>java Type
10
10

C:\Users\kisha\Documents>
```

```
File Edit Format View Help
class Type
{
    public static void main(String [] args)
    {
        byte a=10;
        short b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Implicit Typecasting - Possible

Explicit Typecasting - Possible

PROGRAM 12:

```
class Type
{
    public static void main(String [] args)
    {
        byte a=10;
        int b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

```
C:\Users\kisha\Documents>javac Type.java
C:\Users\kisha\Documents>java Type
10
10
C:\Users\kisha\Documents>
```

```
File Edit Format View Help
class Type
{
    public static void main(String [] args)
    {
        byte a=10;
        int b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Implicit Typecasting - Possible

Explicit Typecasting - Possible

PROGRAM 13:

```
class Type
{
    public static void main(String [] args)
    {
        byte a=10;
        long b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

```
C:\Users\kisha\Documents>javac Type.java
C:\Users\kisha\Documents>java Type
10
10
C:\Users\kisha\Documents>
```

```
File Edit Format View Help
class Type
{
    public static void main(String [] args)
    {
        byte a=10;
        long b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Implicit Typecasting - Possible

Explicit Typecasting - Possible

PROGRAM 14:

```
class Type
{
    public static void main(String [] args)
    {
        byte a=10;
        float b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

```
C:\Users\kisha\Documents>javac Type.java
C:\Users\kisha\Documents>java Type
10
0

C:\Users\kisha\Documents>
```

```
File Edit Format View Help
class Type
{
    public static void main(String [] args)
    {
        byte a=10;
        float b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Implicit Typecasting - Possible

Explicit Typecasting - Possible

PROGRAM 15:

```
class Type
{
    public static void main(String [] args)
    {
        byte a=10;
        double b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

```
C:\Users\kisha\Documents>javac Type.java
C:\Users\kisha\Documents>java Type
10
0
C:\Users\kisha\Documents>
```

```
File Edit Format View Help
class Type
{
    public static void main(String [] args)
    {
        byte a=10;
        double b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Implicit Typecasting - Possible

Explicit Typecasting - Possible

PROGRAM 16:

```
class Type
{
    public static void main(String [] args)
    {
        byte a=10;
        boolean b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

```
C:\Users\kisha\Documents>javac Type.java
Type.java:7: error: incompatible types: byte cannot be converted to boolean
    b=a;
          ^
1 error
C:\Users\kisha\Documents>
```

```
File Edit Format View Help
class Type
{
    public static void main(String [] args)
    {
        byte a=10;
        boolean b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Implicit Typecasting – Not Possible

Explicit Typecasting – Not Possible

PROGRAM 17:

```
class Type
{
    public static void main(String [] args)
    {
        short a=333;
        char b;
        b=(char)a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

The screenshot shows a Windows desktop environment. On the left, a black Command Prompt window displays the following output:

```
C:\Users\kisha\Documents>javac Type.java
Type.java:7: error: incompatible types: possible lossy conversion from short to char
    b=a;
          ^
1 error
C:\Users\kisha\Documents>
```

On the right, a Notepad window titled "Type.java - Notepad" contains the following Java code:

```
class Type
{
    public static void main(String [] args)
    {
        short a=333;
        char b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Implicit Typecasting – Not Possible

Explicit Typecasting – Possible but data would loss

PROGRAM 18:

```
class Type
{
    public static void main(String [] args)
    {
        short a=333;
        byte b;
        b=(byte)a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

```
C:\Users\kisha\Documents>javac Type.java
Type.java:7: error: incompatible types: possible lossy conversion from short to byte
    b=a;
          ^
1 error

C:\Users\kisha\Documents>
```

```
File Edit Format View Help
class Type
{
    public static void main(String [] args)
    {
        short a=333;
        byte b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Implicit Typecasting – Not Possible

Explicit Typecasting – Possible but data would loss

PROGRAM 19:

```
class Type
{
    public static void main(String [] args)
    {
        short a=333;
        short b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

```
C:\Users\kisha\Documents>javac Type.java
C:\Users\kisha\Documents>java Type
333
333
C:\Users\kisha\Documents>
```

```
File Edit Format View Help
class Type
{
    public static void main(String [] args)
    {
        short a=333;
        short b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION:Conversion Not Required.

PROGRAM 20:

```
class Type
{
    public static void main(String [] args)
    {
        short a=333;
        int b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

```
C:\Users\kisha\Documents>javac Type.java
C:\Users\kisha\Documents>java Type
333
333
C:\Users\kisha\Documents>
```

```
File Edit Format View Help
class Type
{
    public static void main(String [] args)
    {
        short a=333;
        int b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Implicit Typecasting – Possible

Explicit Typecasting – Possible

PROGRAM 21:

```
class Type
{
    public static void main(String [] args)
    {
        short a=333;
        long b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

```
C:\Users\kisha\Documents>javac Type.java
C:\Users\kisha\Documents>java Type
333
333
C:\Users\kisha\Documents>
```

```
File Edit Format View Help
class Type
{
    public static void main(String [] args)
    {
        short a=333;
        long b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Implicit Typecasting – Possible

Explicit Typecasting – Possible

PROGRAM 22:

```
class Type
{
    public static void main(String [] args)
    {
        short a=333;
        float b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

```
C:\Users\kisha\Documents>javac Type.java
C:\Users\kisha\Documents>java Type
333
333.0
C:\Users\kisha\Documents>
```

```
File Edit Format View Help
class Type
{
    public static void main(String [] args)
    {
        short a=333;
        float b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Implicit Typecasting – Possible

Explicit Typecasting – Possible

PROGRAM 23:

```
class Type
{
    public static void main(String [] args)
    {
        short a=333;
        double b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

```
C:\Users\kisha\Documents>javac Type.java
C:\Users\kisha\Documents>java Type
333
333.0
C:\Users\kisha\Documents>
```

```
File Edit Format View Help
class Type
{
    public static void main(String [] args)
    {
        short a=333;
        double b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Implicit Typecasting – Possible

Explicit Typecasting – Possible

PROGRAM 24:

```
class Type
{
    public static void main(String [] args)
    {
        short a=333;
        boolean b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

```
C:\Users\kisha\Documents>javac Type.java
Type.java:7: error: incompatible types: short cannot be converted to boolean
    b=a;
          ^
1 error
C:\Users\kisha\Documents>
```

```
File Edit Format View Help
class Type
{
public static void main(String [] args)
{
short a=333;
boolean b;
b=a;
System.out.println(a);
System.out.println(b);
}
}
```

CONCLUSION: Implicit Typecasting – Not Possible

Explicit Typecasting – Not Possible

PROGRAM 25:

```
class Type
{
public static void main(String [] args)
{
int a=90;
char b;
b=(char)a;
System.out.println(a);
System.out.println(b);
}
```

```
C:\Users\kisha\Documents>javac Type.java
Type.java:7: error: incompatible types: possible lossy conversion from int to char
    b=a;
          ^
1 error
C:\Users\kisha\Documents>
```

```
File Edit Format View Help
class Type
{
    public static void main(String [] args)
    {
        int a=90;
        char b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Implicit Typecasting – Not Possible

Explicit Typecasting – Possible but data loss would occur

PROGRAM 26:

```
class Type
{
    public static void main(String [] args)
    {
        int a=90;
        byte b;
        b=(byte)a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

```
C:\Users\kisha\Documents>javac Type.java
Type.java:7: error: incompatible types: possible lossy conversion from int to byte
    b=a;
          ^
1 error
C:\Users\kisha\Documents>
```

```
File Edit Format View Help
class Type
{
    public static void main(String [] args)
    {
        int a=90;
        byte b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Implicit Typecasting – Not Possible

Explicit Typecasting – Possible but data loss would occur

PROGRAM 27:

```
class Type
{
    public static void main(String [] args)
    {
        int a=90;
        short b;
        b=(short)a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

```
C:\Users\kisha\Documents>javac Type.java
Type.java:7: error: incompatible types: possible lossy conversion from int to short
    b=a;
          ^
1 error
```

```
File Edit Format View Help
class Type
{
    public static void main(String [] args)
    {
        int a=90;
        short b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Implicit Typecasting – Not Possible

Explicit Typecasting – Possible but data loss would occur

PROGRAM 28:

```
class Type
{
    public static void main(String [] args)
    {
        int a=90;
        int b;
        b=a;

        System.out.println(a);
        System.out.println(b);
    }
}
```

```
C:\Users\kisha\Documents>javac Type.java
C:\Users\kisha\Documents>java Type
90
90
C:\Users\kisha\Documents>
```

```
File Edit Format View Help
class Type
{
public static void main(String [] args)
{
int a=90;
int b;
b=a;
System.out.println(a);
System.out.println(b);
}
}
```

CONCLUSION: Implicit Typecasting – Possible

Explicit Typecasting – Possible

PROGRAM 29:

```
class Type
{
public static void main(String [] args)
{
int a=90;
long b;
b=a;
System.out.println(a);
System.out.println(b);
}
```

```
C:\Users\kisha\Documents>javac Type.java
C:\Users\kisha\Documents>java Type
90
90

C:\Users\kisha\Documents>
```

```
File Edit Format View Help
class Type
{
    public static void main(String [] args)
    {
        int a=90;
        long b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Implicit Typecasting – Possible

Explicit Typecasting – Possible

PROGRAM 30:

```
class Type
{
    public static void main(String [] args)
    {
        int a=90;
        float b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

```
C:\Users\kisha\Documents>javac Type.java
C:\Users\kisha\Documents>java Type
90
0
C:\Users\kisha\Documents>
```

```
File Edit Format View Help
class Type
{
    public static void main(String [] args)
    {
        int a=90;
        float b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Implicit Typecasting – Possible

Explicit Typecasting – Possible

PROGRAM 31:

```
class Type
{
    public static void main(String [] args)
    {
        int a=90;
        double b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

```
C:\Users\kisha\Documents>javac Type.java
C:\Users\kisha\Documents>java Type
90
0
C:\Users\kisha\Documents>
```

```
File Edit Format View Help
class Type
{
    public static void main(String [] args)
    {
        int a=90;
        double b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Implicit Typecasting – Possible

Explicit Typecasting – Possible

PROGRAM 32:

```
class Type
{
    public static void main(String [] args)
    {
        int a=90;
        boolean b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

```
C:\Users\kisha\Documents>javac Type.java
Type.java:7: error: incompatible types: int cannot be converted to boolean
    b=a;
           ^
1 error
```

```
File Edit Format View Help
class Type
{
    public static void main(String [] args)
    {
        int a=90;
        boolean b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Implicit Typecasting – Not Possible

Explicit Typecasting – Not Possible

PROGRAM 33:

```
class Type
{
    public static void main(String []args)
    {
        long a=30l;
        char b;
        b=(char)a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

C:\Users\kisha\Documents>javac Type.java
Type.java:7: error: incompatible types: possible lossy conversion from long to char
 b=a;
 ^
1 error
C:\Users\kisha\Documents>

```
File Edit Format View Help
class Type
{
    public static void main(String []args)
    {
        long a=30l;
        char b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Implicit Typecasting – Not Possible

Explicit Typecasting – Possible but data loss would occur

PROGRAM 34:

```
class Type
{
    public static void main(String []args)
    {
        long a=30l;
        byte b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

C:\Users\kisha\Documents>javac Type.java
Type.java:7: error: incompatible types: possible lossy conversion from long to byte
 b=a;
 ^
1 error
C:\Users\kisha\Documents>

```
File Edit Format View Help
class Type
{
    public static void main(String []args)
    {
        long a=30l;
        byte b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Implicit Typecasting – Not Possible

Explicit Typecasting – Possible but data loss would occur

PROGRAM 35:

```
class Type
{
    public static void main(String []args)
    {
        long a=30l;
        short b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

C:\Users\kisha\Documents>javac Type.java
Type.java:7: error: incompatible types: possible lossy conversion from long to short
 b=a;
 ^
1 error
C:\Users\kisha\Documents>

```
File Edit Format View Help
class Type
{
    public static void main(String []args)
    {
        long a=30l;
        short b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Explicit Typecasting.

PROGRAM 36:

```
class Type
{
    public static void main(String []args)
    {
        long a=30l;
        int b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

```
C:\Users\kisha\Documents>javac Type.java
Type.java:7: error: incompatible types: possible lossy conversion from long to int
    b=a;
          ^
1 error
```

```
File Edit Format View Help
class Type
{
    public static void main(String []args)
    {
        long a=30l;
        int b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Implicit Typecasting – Not Possible

Explicit Typecasting – Possible but data loss would occur

PROGRAM 37:

```
class Type
{
    public static void main(String []args)
    {
        long a=30;
        long b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

```
C:\Users\kisha\Documents>javac Type.java
C:\Users\kisha\Documents>java Type
30
30

C:\Users\kisha\Documents>
```

```
File Edit Format View Help
class Type
{
    public static void main(String []args)
    {
        long a=30;
        long b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: CNR

PROGRAM 38:

```
class Type
{
    public static void main(String []args)
    {
        long a=30;
        float b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

```
C:\Users\kisha\Documents>javac Type.java
C:\Users\kisha\Documents>java Type
30
30.0

C:\Users\kisha\Documents>
```

```
File Edit Format View Help
class Type
{
    public static void main(String []args)
    {
        long a=30;
        float b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Implicit Typecasting – Possible

Explicit Typecasting – Possible

PROGRAM 39:

```
class Type
{
    public static void main(String []args)
    {
        long a=30;
        double b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

```
C:\Users\kisha\Documents>javac Type.java
C:\Users\kisha\Documents>java Type
30
30.0
C:\Users\kisha\Documents>
```

```
File Edit Format View Help
class Type
{
    public static void main(String []args)
    {
        long a=30;
        double b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Implicit Typecasting – Possible

Explicit Typecasting – Possible

PROGRAM 40:

```
class Type
{
    public static void main(String []args)
    {
        long a=30l;
        boolean b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

```
C:\Users\kisha\Documents>javac Type.java
Type.java:7: error: incompatible types: long cannot be converted to boolean
        b=a;
               ^
1 error

C:\Users\kisha\Documents>
```

```
File Edit Format View Help
class Type
{
    public static void main(String []args)
    {
        long a=30;
        boolean b;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Implicit Typecasting – Not Possible

Explicit Typecasting – Not Possible

PROGRAM 41:

```
class Type
{
    public static void main(String []args)
    {
        float a=30.45f;
        char b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

```
C:\Users\kisha\Documents>javac Type.java
Type.java:7: error: incompatible types: possible lossy conversion from float to char
    b=a;
          ^
1 error
C:\Users\kisha\Documents>
```

```
File Edit Format View Help
class Type
{
    public static void main(String []args)
    {
        float a=30.45f;
        char b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Explicit Typecasting.

PROGRAM 42:

```
class Type
{
    public static void main(String []args)
    {
        float a=30.45f;
        byte b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

```
C:\Users\kisha\Documents>javac Type.java
Type.java:7: error: incompatible types: possible lossy conversion from float to byte
    b=a;
          ^
1 error

C:\Users\kisha\Documents>
```

```
File Edit Format View Help
class Type
{
    public static void main(String []args)
    {
        float a=30.45f;
        byte b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Explicit Typecasting.

PROGRAM 43:

```
class Type
{
    public static void main(String []args)
    {
        float a=30.45f;
        short b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

```
C:\Users\kisha\Documents>javac Type.java
Type.java:7: error: incompatible types: possible lossy conversion from float to short
        b=a;
               ^
1 error

C:\Users\kisha\Documents>
```

```
File Edit Format View Help
class Type
{
    public static void main(String []args)
    {
        float a=30.45f;
        short b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Explicit Typecasting.

PROGRAM 44:

```
class Type
{
    public static void main(String []args)
    {
        float a=30.45f;
        int b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

C:\Users\kisha\Documents>javac Type.java
Type.java:7: error: incompatible types: possible lossy conversion from float to int
 b=a;
 ^
1 error
C:\Users\kisha\Documents>

```
File Edit Format View Help
class Type
{
    public static void main(String []args)
    {
        float a=30.45f;
        int b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Explicit Typecasting.

PROGRAM 45:

```
class Type
{
    public static void main(String []args)
    {
        float a=30.45f;
        long b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

```
C:\Users\kisha\Documents>javac Type.java
Type.java:7: error: incompatible types: possible lossy conversion from float to long
    b=a;
          ^
1 error

C:\Users\kisha\Documents>
```

```
File Edit Format View Help
class Type
{
    public static void main(String []args)
    {
        float a=30.45f;
        long b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Explicit Typecasting.

PROGRAM 46:

```
class Type
{
    public static void main(String []args)
    {
        float a=30.45f;
        float b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

```
C:\Users\kisha\Documents>javac Type.java
C:\Users\kisha\Documents>java Type
30.45
30.45
C:\Users\kisha\Documents>
```

```
File Edit Format View Help
class Type
{
    public static void main(String []args)
    {
        float a=30.45f;
        float b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Conversion Not Required.

PROGRAM 47:

```
class Type
{
    public static void main(String []args)
    {
        float a=30.45f;
        double b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

The screenshot shows a Windows desktop environment. In the foreground, there is a Command Prompt window titled "Command Prompt". It displays the following text:
C:\Users\kisha\Documents>javac Type.java
C:\Users\kisha\Documents>java Type
30.45
30.45
C:\Users\kisha\Documents>javac Type.java
C:\Users\kisha\Documents>java Type
30.45
30.450000762939453
C:\Users\kisha\Documents>

Next to it is a Notepad window titled "Type.java - Notepad". It contains the following Java code:
class Type
{
 public static void main(String []args)
 {
 float a=30.45f;
 boolean b;
 b=a;
 System.out.println(a);
 System.out.println(b);
 }
}

The desktop taskbar at the bottom shows various pinned icons and the system tray with weather information (24°C Mostly cloudy) and date/time (20-06-2023 21:46).

CONCLUSION: Implicit Typecasting.

PROGRAM 48:

```
class Type
{
    public static void main(String []args)
    {
        float a=30.45f;
        boolean b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

```
C:\Users\kisha\Documents>javac Type.java
Type.java:7: error: incompatible types: float cannot be converted to boolean
    b=a;
          ^
1 error

C:\Users\kisha\Documents>
```

```
File Edit Format View Help
class Type
{
    public static void main(String []args)
    {
        float a=30.45f;
        boolean b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Explicit Typecasting.

PROGRAM 49:

```
class Type
{
    public static void main(String []args)
    {
        double a=30565.909999;
        char b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

C:\Users\kisha\Documents>javac Type.java
Type.java:7: error: incompatible types: possible lossy conversion from double to char
 b=a;
 ^
1 error
C:\Users\kisha\Documents>

```
File Edit Format View Help
class Type
{
    public static void main(String []args)
    {
        double a=30565.909999;
        char b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Explicit Typecasting.

PROGRAM 50:

```
class Type
{
    public static void main(String []args)
    {
        double a=30565.909999;
        byte b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

```
C:\Users\kisha\Documents>javac Type.java
Type.java:7: error: incompatible types: possible lossy conversion from double to byte
    b=a;
          ^
1 error

C:\Users\kisha\Documents>
```

```
File Edit Format View Help
class Type
{
    public static void main(String []args)
    {
        double a=30565.909999;
        byte b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Explicit Typecasting.

PROGRAM 51:

```
class Type
{
    public static void main(String []args)
    {
        double a=30565.909999;
        short b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

```
C:\Users\kisha\Documents>javac Type.java
Type.java:7: error: incompatible types: possible lossy conversion from double to short
    b=a;
           ^
1 error

C:\Users\kisha\Documents>
```

```
File Edit Format View Help
class Type
{
    public static void main(String []args)
    {
        double a=30565.909999;
        short b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Explicit Typecasting.

PROGRAM 52:

```
class Type
{
    public static void main(String []args)
    {
        double a=30565.909999;
        int b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

```
C:\Users\kisha\Documents>javac Type.java
Type.java:7: error: incompatible types: possible lossy conversion from double to int
    b=a;
           ^
1 error

C:\Users\kisha\Documents>
```

```
File Edit Format View Help
class Type
{
    public static void main(String []args)
    {
        double a=30565.909999;
        int b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Explicit Typecasting.

PROGRAM 53:

```
class Type
{
    public static void main(String []args)
    {
        double a=30565.909999;
        long b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

```
C:\Users\kisha\Documents>javac Type.java
Type.java:7: error: incompatible types: possible lossy conversion from double to long
    b=a;
          ^
1 error
```

```
File Edit Format View Help
class Type
{
    public static void main(String []args)
    {
        double a=30565.909999;
        long b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Explicit Typecasting.

PROGRAM 54:

```
class Type
{
    public static void main(String []args)
    {
        double a=30565.909999;
        float b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

Command Prompt

```
C:\Users\kisha\Documents>javac Type.java
Type.java:7: error: incompatible types: possible lossy conversion from double to float
    b=a;
          ^
1 error
C:\Users\kisha\Documents>
```

Typejava - Notepad

```
File Edit Format View Help
class Type
{
    public static void main(String []args)
    {
        double a=30565.909999;
        float b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Explicit Typecasting.

PROGRAM 55:

```
class Type
{
    public static void main(String []args)
    {
        double a=30565.909999;
        double b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

C:\Users\kisha\Documents>javac Type.java
C:\Users\kisha\Documents>java Type
30565.909999
30565.909999
C:\Users\kisha\Documents>

```
File Edit Format View Help
class Type
{
    public static void main(String []args)
    {
        double a=30565.909999;
        double b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Conversion Not Required.

PROGRAM 56:

```
class Type
{
    public static void main(String []args)
    {
        double a=30565.909999;
        boolean b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

```
C:\Users\kisha\Documents>javac Type.java
Type.java:7: error: incompatible types: double cannot be converted to boolean
    b=a;
          ^
1 error
```

```
File Edit Format View Help
Class Type
{
    public static void main(String []args)
    {
        double a=30565.9099999;
        boolean b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Explicit Typecasting.

PROGRAM 57:

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

```
C:\Users\kisha\Documents>javac Type.java
Type.java:7: error: incompatible types: boolean cannot be converted to char
        b=a;
               ^
1 error

C:\Users\kisha\Documents>
```

```
File Edit Format View Help
class Type
{
    public static void main(String []args)
    {
        boolean a=true;
        char b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Explicit Typecasting.

PROGRAM 58:

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

```
C:\Users\kisha\Documents>javac Type.java
Type.java:7: error: incompatible types: boolean cannot be converted to byte
    b=a;
           ^
1 error

C:\Users\kisha\Documents>
```

```
File Edit Format View Help
class Type
{
    public static void main(String []args)
    {
        boolean a=true;
        byte b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Explicit Typecasting.

PROGRAM 59:

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

```
{  
Command Prompt  
C:\Users\kisha\Documents>javac Type.java  
Type.java:7: error: incompatible types: boolean cannot be converted to short  
b=a;  
^  
1 error  
C:\Users\kisha\Documents>
```

```
File Edit Format View Help  
Class Type  
{  
    public static void main(String []args)  
    {  
        boolean a=true;  
        short b;  
        b=a;  
        System.out.println(a);  
        System.out.println(b);  
    }  
}
```

CONCLUSION: Explicit Typecasting.

PROGRAM 60:

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

```
C:\ Command Prompt
C:\Users\kisha\Documents>javac Type.java
Type.java:7: error: incompatible types: boolean cannot be converted to int
b=a;
      ^
1 error
C:\Users\kisha\Documents>
```

```
File Edit Format View Help
class Type
{
    public static void main(String []args)
    {
        boolean a=true;
        int b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Explicit Typecasting.

PROGRAM 61:

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

The screenshot shows a Windows desktop environment. On the left, a Command Prompt window titled 'Command Prompt' is open, displaying the output of a Java program. The output is:

```
C:\Users\kisha\Documents>java Type
true
true
C:\Users\kisha\Documents>
```

On the right, a Notepad window titled 'Type.java - Notepad' is open, showing the Java code for the program:

```
File Edit Format View Help
class Type
{
    public static void main(String []args)
    {
        boolean a=true;
        boolean b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Implicit Typecasting.

PROGRAM 62:

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

The screenshot shows a Windows desktop environment. In the foreground, there is a Command Prompt window titled "Command Prompt" with the following text:
C:\Users\kisha\Documents>javac Type.java
Type.java:7: error: incompatible types: boolean cannot be converted to long
 b=a;
 ^
1 error
C:\Users\kisha\Documents>

Next to it is a Notepad window titled "Type.java - Notepad" containing the following Java code:
class Type
{
 public static void main(String []args)
 {
 boolean a=true;
 long b;
 b=a;
 System.out.println(a);
 System.out.println(b);
 }
}

The taskbar at the bottom of the screen includes icons for File Explorer, Task View, Start, Search, Edge, and other system icons. The system tray shows the date and time as 20-06-2023, 22:44, and the weather as 23°C Mostly cloudy.

CONCLUSION: Explicit Typecasting.

PROGRAM 63:

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

C:\Users\kisha\Documents>javac Type.java
Type.java:7: error: incompatible types: boolean cannot be converted to float
 b=a;
 ^
1 error
C:\Users\kisha\Documents>

```
File Edit Format View Help
class Type
{
    public static void main(String []args)
    {
        boolean a=true;
        float b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Explicit Typecasting.

PROGRAM 64:

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

Command Prompt

```
C:\Users\kisha\Documents>javac Type.java
Type.java:7: error: incompatible types: boolean cannot be converted to double
    b=a;
          ^
1 error
C:\Users\kisha\Documents>
```

Type.java - Notepad

```
File Edit Format View Help
class Type
{
    public static void main(String []args)
    {
        boolean a=true;
        double b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Explicit Typecasting.