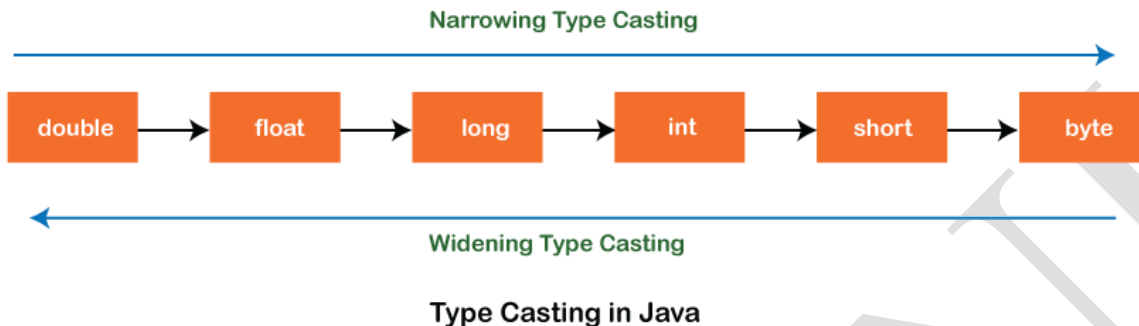


Type Casting in Java

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:

- Widening Type Casting
- 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

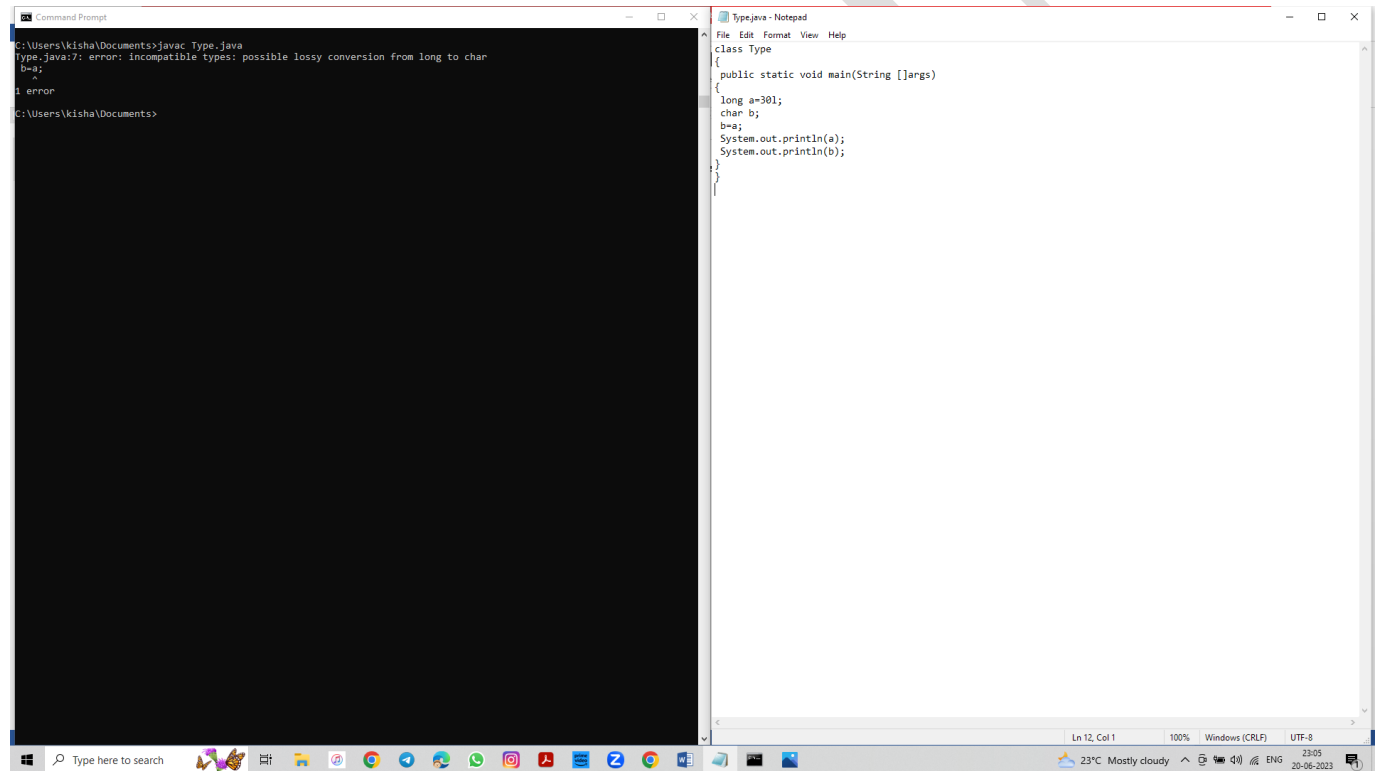
Narrowing Type Casting (Explicit Typecasting)

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.

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

PROGRAM 1:

```
class Type
{
    public static void main(String []args)
    {
        long a=301;
        char 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 long to char
        b=a;
        ^
1 error
C:\Users\kisha\Documents>
```

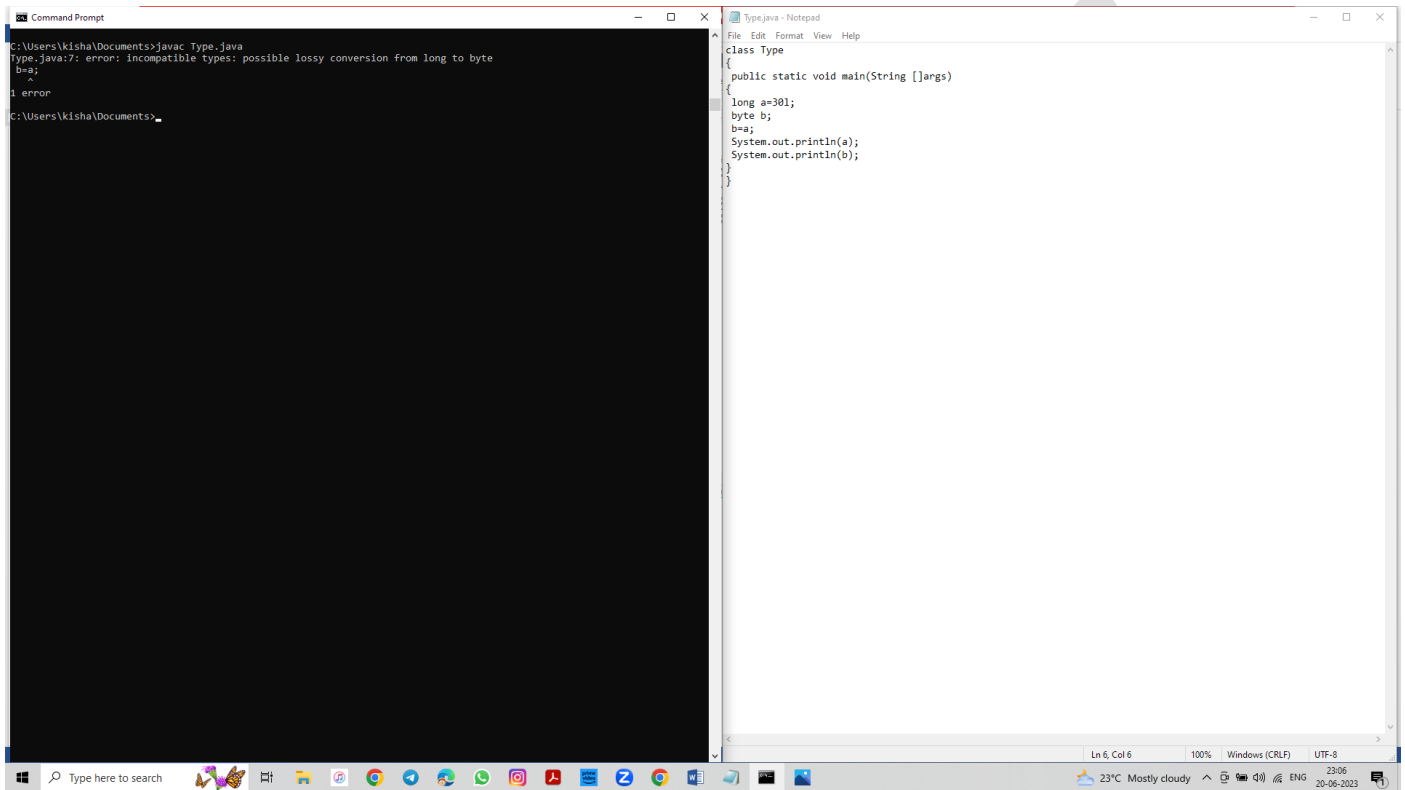
```
Type.java - Notepad
File Edit Format View Help
class Type
{
    public static void main(String []args)
    {
        long a=301;
        char b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Explicit Typecasting.

PROGRAM 2

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

```
long a=301;
byte 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 long to byte
    b=a;
    ^
1 error
C:\Users\Kisha\Documents>

Type.java - Notepad
File Edit Format View Help
class Type
{
    public static void main(String []args)
    {
        long a=301;
        byte b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Explicit Typecasting.

PROGRAM 3:

```
class Type
{
    public static void main(String []args)
    {
        long a=301;
        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>
```

```
class Type
{
    public static void main(String []args)
    {
        long a=301;
        short b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Explicit Typecasting.

PROGRAM 4:

```
class Type
```

```
{
```

```
    public static void main(String []args)
```

```
    {
```

```
        long a=301;
```

```
        int b;
```

```
        b=a;
```

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

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

```
    }
```

```
}
```

The screenshot shows a Windows desktop with two windows. The 'Command Prompt' window on the left displays the following text:

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

The 'Type.java - Notepad' window on the right shows the source code for 'Type.java':

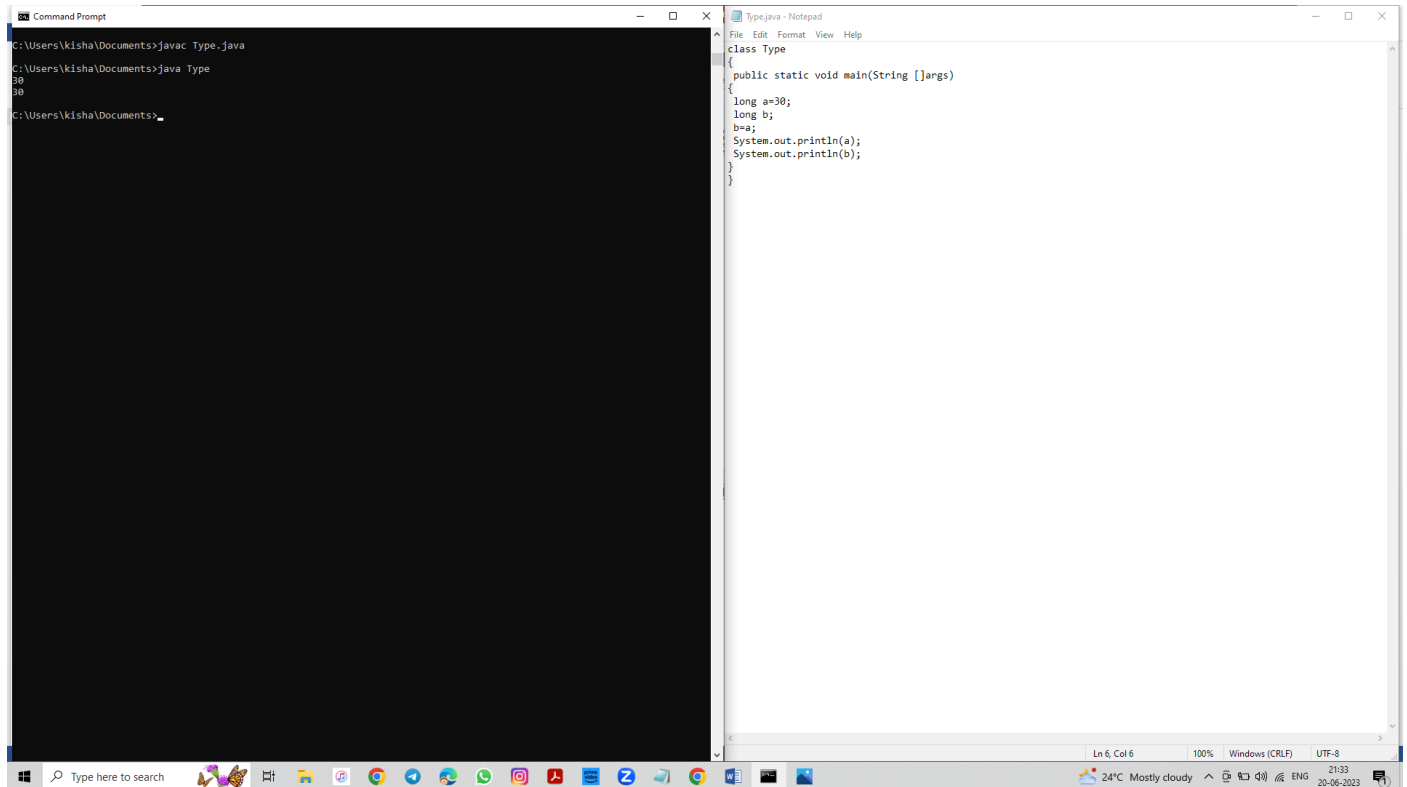
```
class Type
{
    public static void main(String []args)
    {
        long a=301;
        int b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

The taskbar at the bottom shows various application icons, a search bar, and system status information including temperature (23°C), weather (Mostly cloudy), and date/time (23:08, 20-06-2023).

CONCLUSION: Explicit Typecasting.

PROGRAM 5:

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



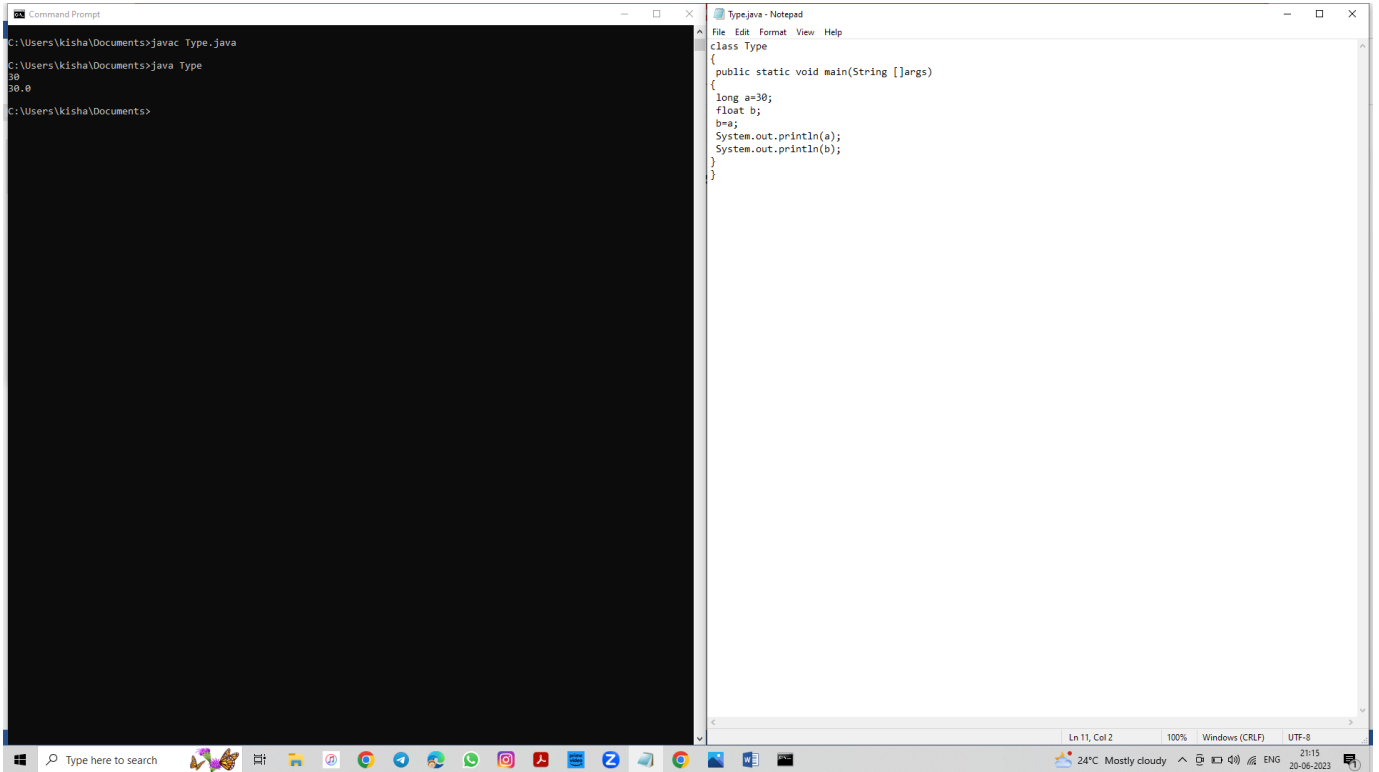
```
Command Prompt
C:\Users\kisha\Documents>javac Type.java
C:\Users\kisha\Documents>java Type
30
30
C:\Users\kisha\Documents>

Type.java - Notepad
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: Implicit Typecasting.

PROGRAM 6:

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



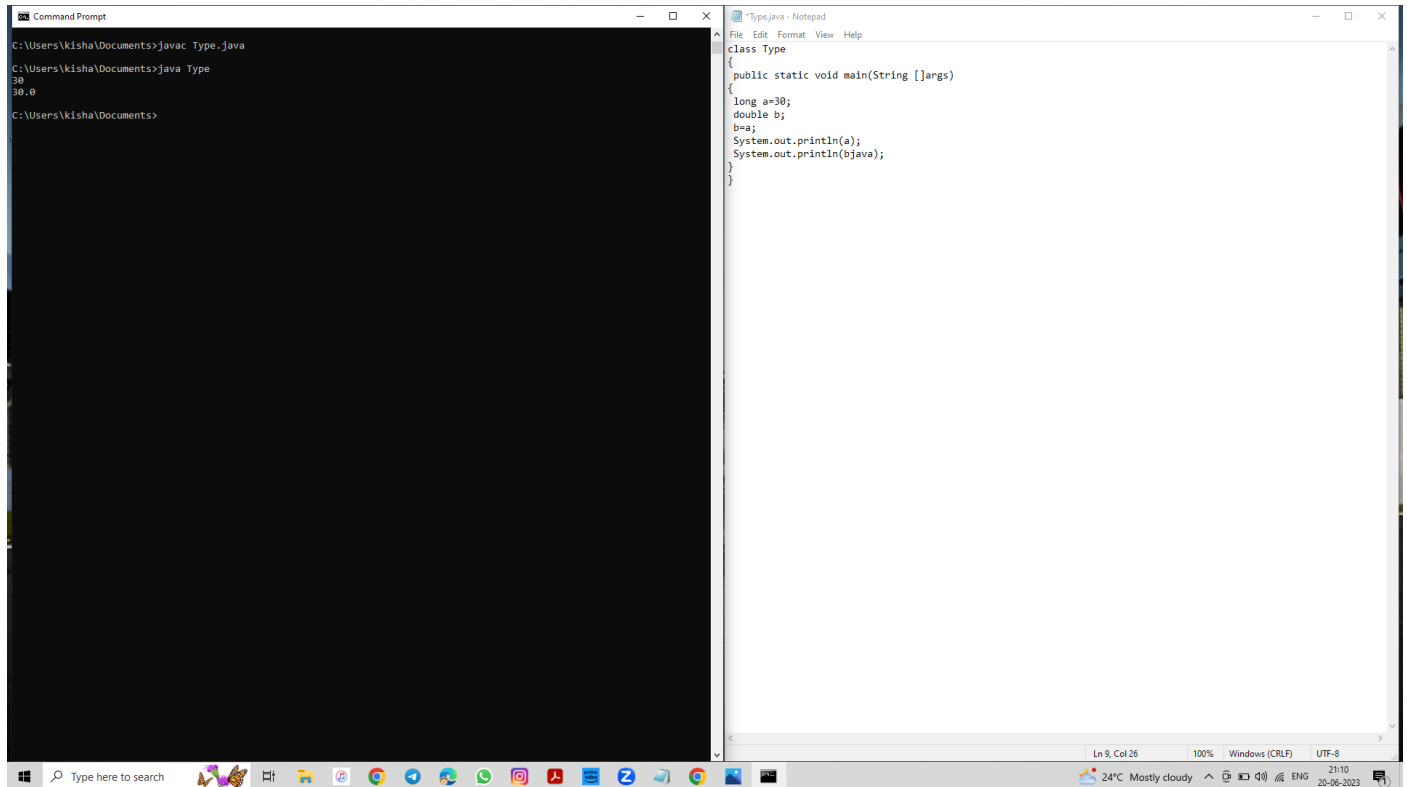
```
Command Prompt
C:\Users\kisha\Documents>javac Type.java
C:\Users\kisha\Documents>java Type
30
30.0
C:\Users\kisha\Documents>

Type.java - Notepad
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.

PROGRAM 7:

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



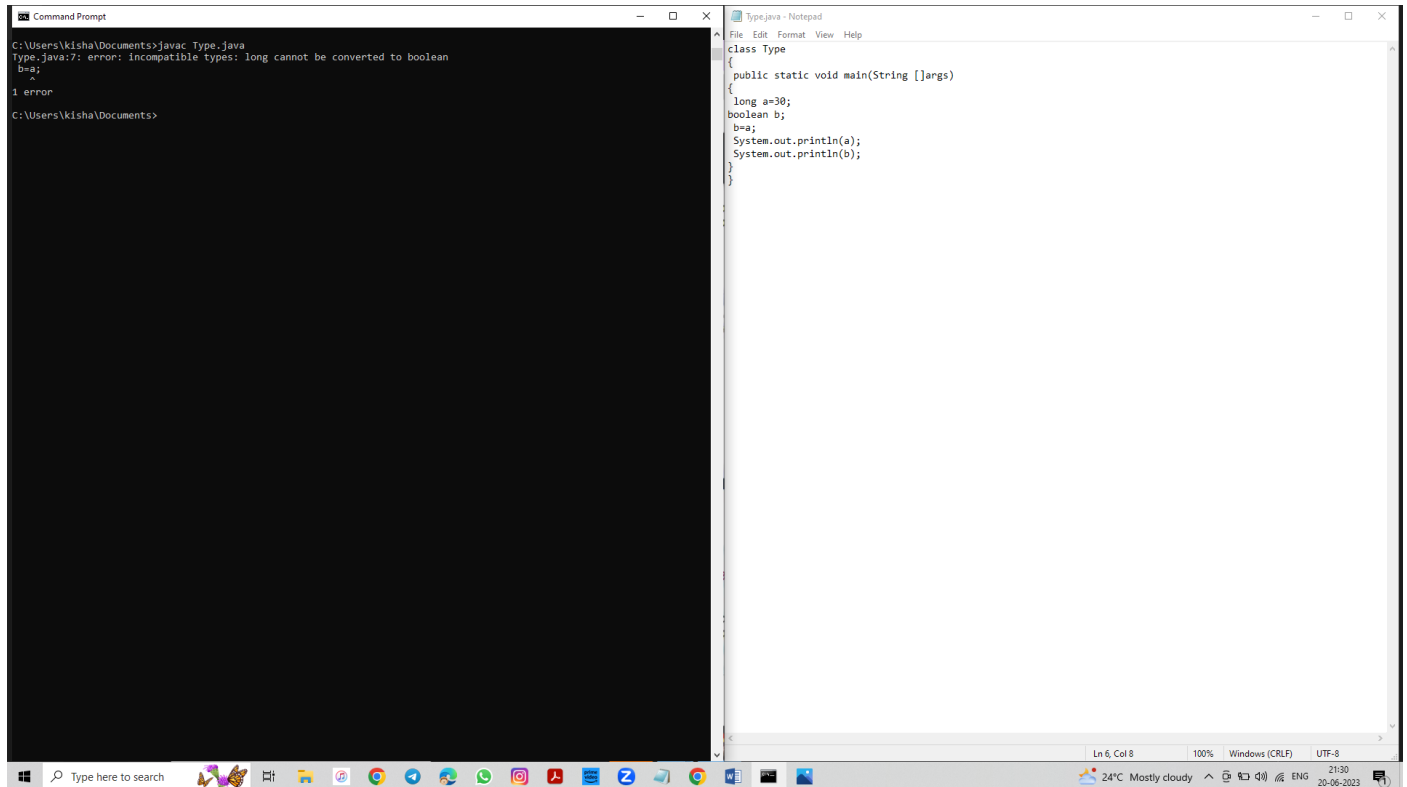
```
Command Prompt
C:\Users\kisha\Documents>javac Type.java
C:\Users\kisha\Documents>java Type
30
30.0
C:\Users\kisha\Documents>
```

```
Type.java - Notepad
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(bjava);
    }
}
```

CONCLUSION: Implicit Typecasting.

PROGRAM 8:

```
class Type
{
    public static void main(String []args)
    {
        long a=30l;
        boolean 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: long cannot be converted to boolean
b=a;
^
1 error
C:\Users\kisha\Documents>
```

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

CONCLUSION: Explicit Typecasting.

PROGRAM 9:

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

The screenshot shows a Windows desktop with two windows. The 'Command Prompt' window on the left displays the following text:

```
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>
```

The 'Type.java - Notepad' window on the right shows the source code:

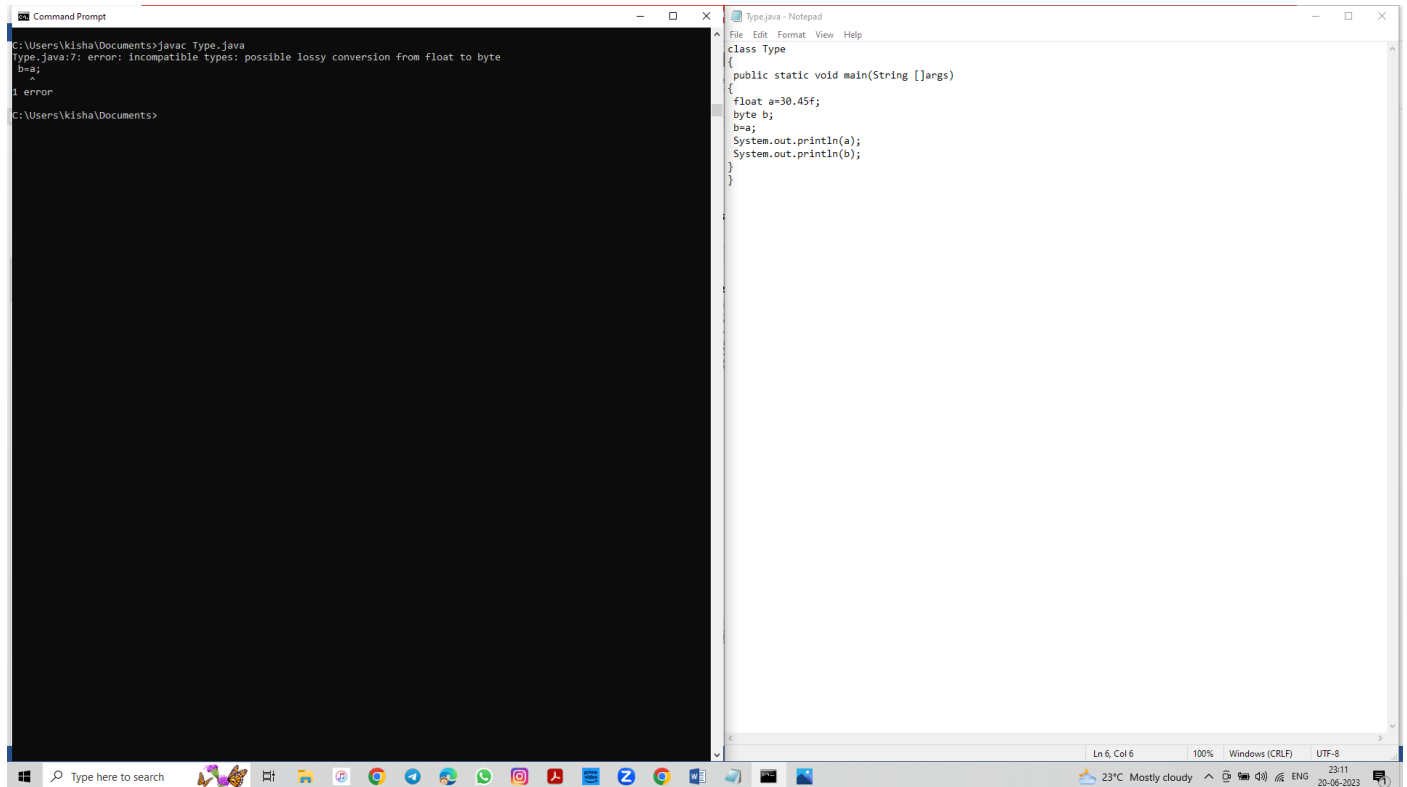
```
class Type
{
    public static void main(String []args)
    {
        float a=30.45f;
        char b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

The Windows taskbar at the bottom shows the search bar, several application icons, and system tray information including 23°C, Mostly cloudy, and the date 20-06-2023.

CONCLUSION: Explicit Typecasting.

PROGRAM 10:

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



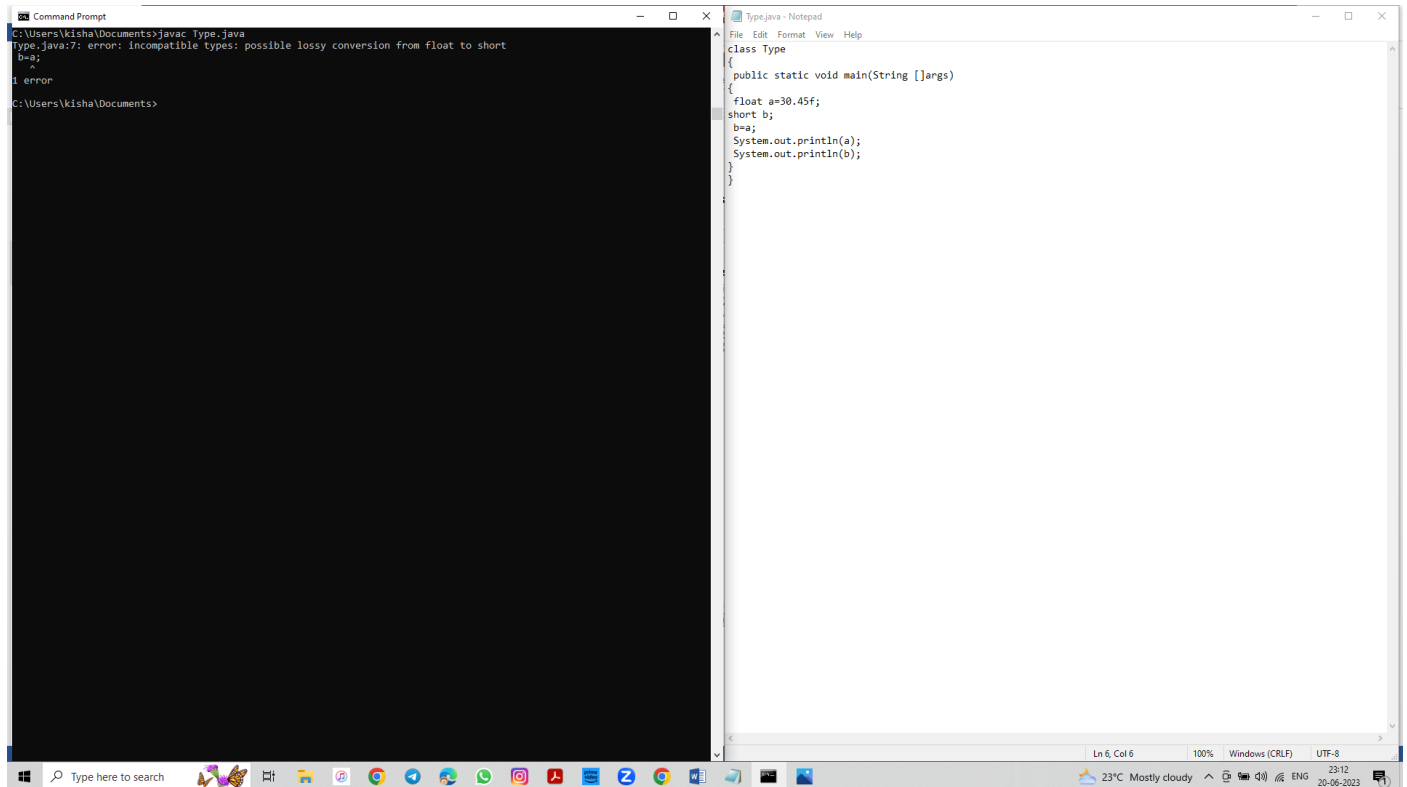
```
Command Prompt
C:\Users\kisha\Documents>javac Type.java
Type.java:7: error: incompatible types: possible lossy conversion from float to byte
    b=a;
    ^
1 error
C:\Users\kisha\Documents>
```

```
Type.java - Notepad
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 11:

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



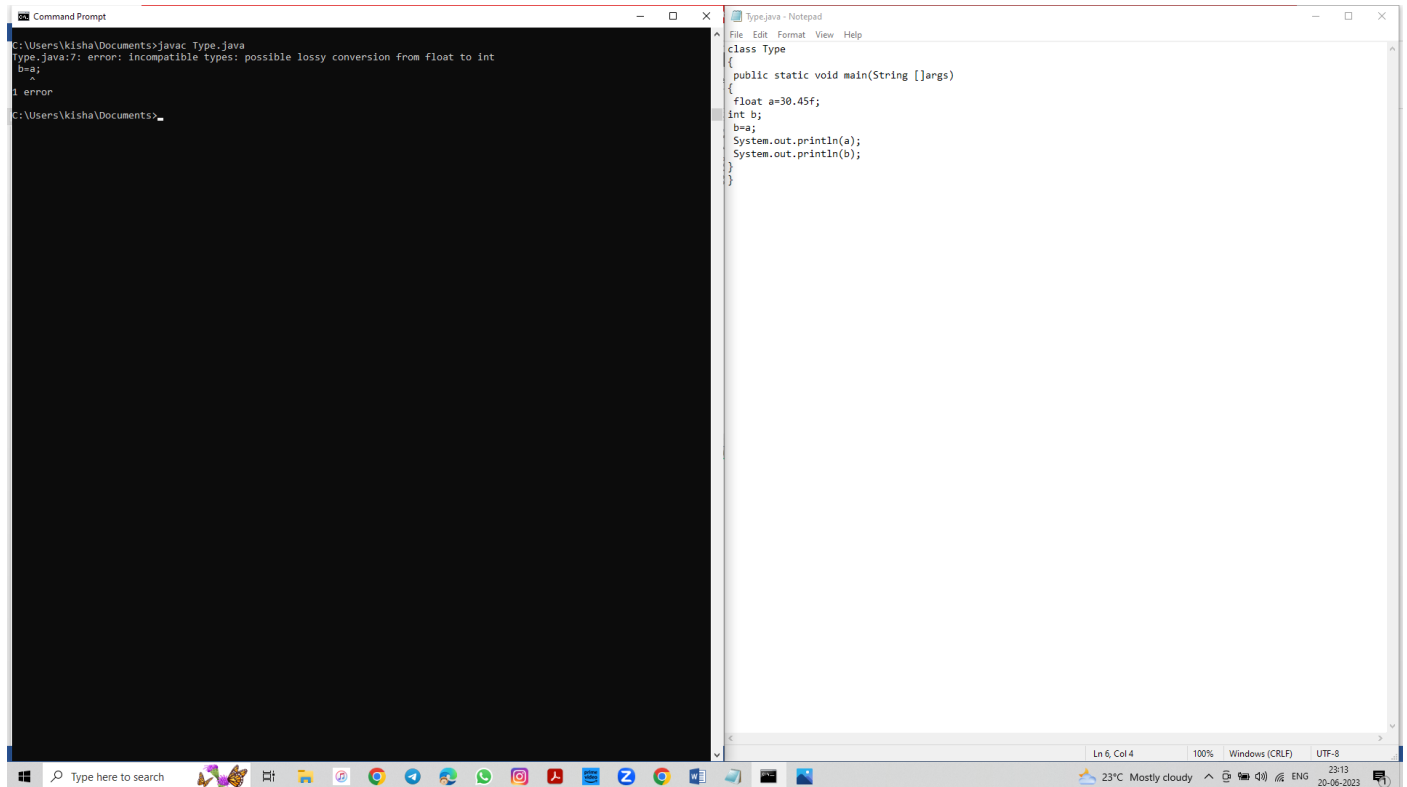
```
Command Prompt
C:\Users\Kisha\Documents>javac Type.java
Type.java:7: error: incompatible types: possible lossy conversion from float to short
    b=a;
    ^
1 error
C:\Users\Kisha\Documents>
```

```
Type.java - Notepad
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 12:

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



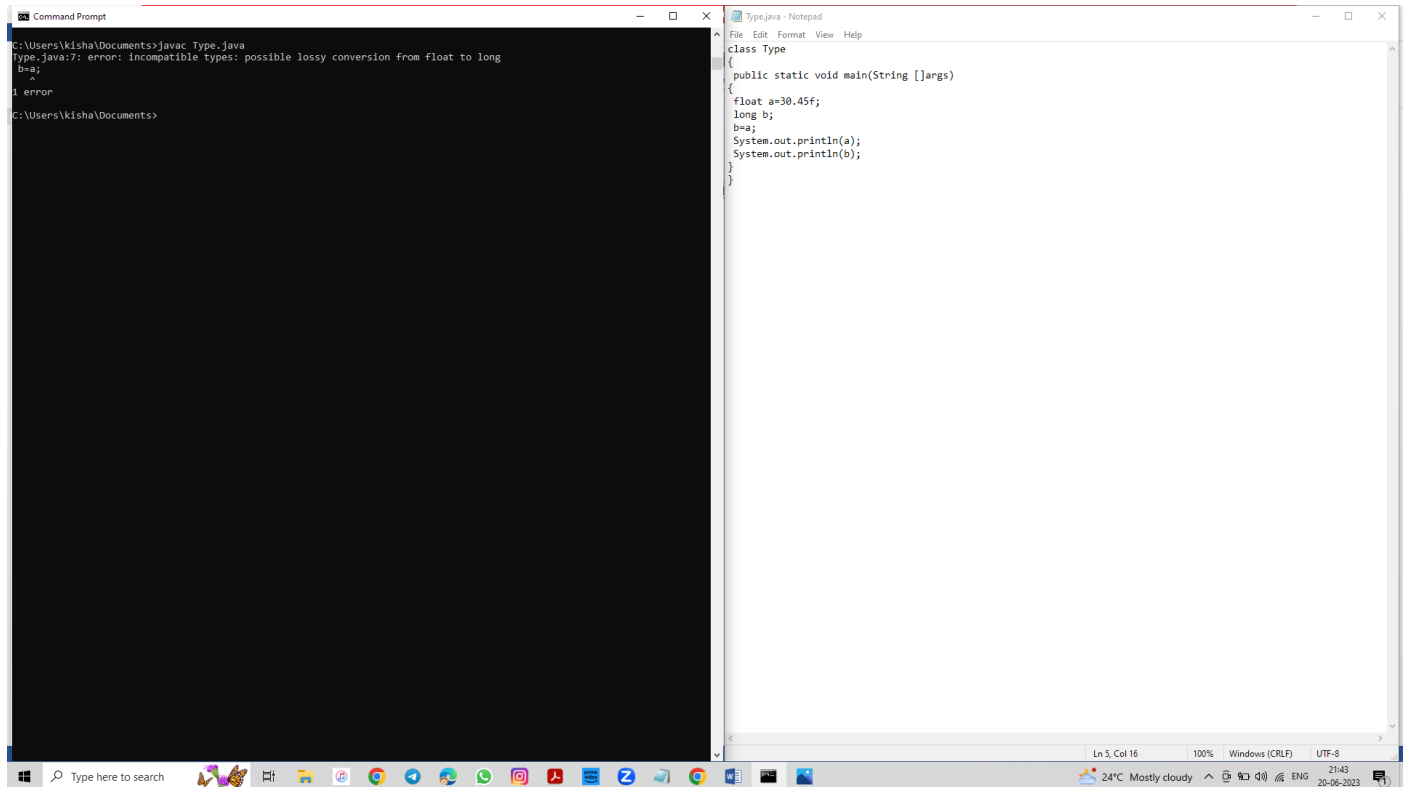
```
Command Prompt
C:\Users\kisha\Documents>javac Type.java
Type.java:7: error: incompatible types: possible lossy conversion from float to int
    b=a;
    ^
1 error
C:\Users\kisha\Documents>

Type.java - Notepad
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 13:

```
class Type
{
    public static void main(String []args)
    {
        float a=30.45f;
        long 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 float to long
    b=a;
    ^
1 error
C:\Users\kisha\Documents>
```

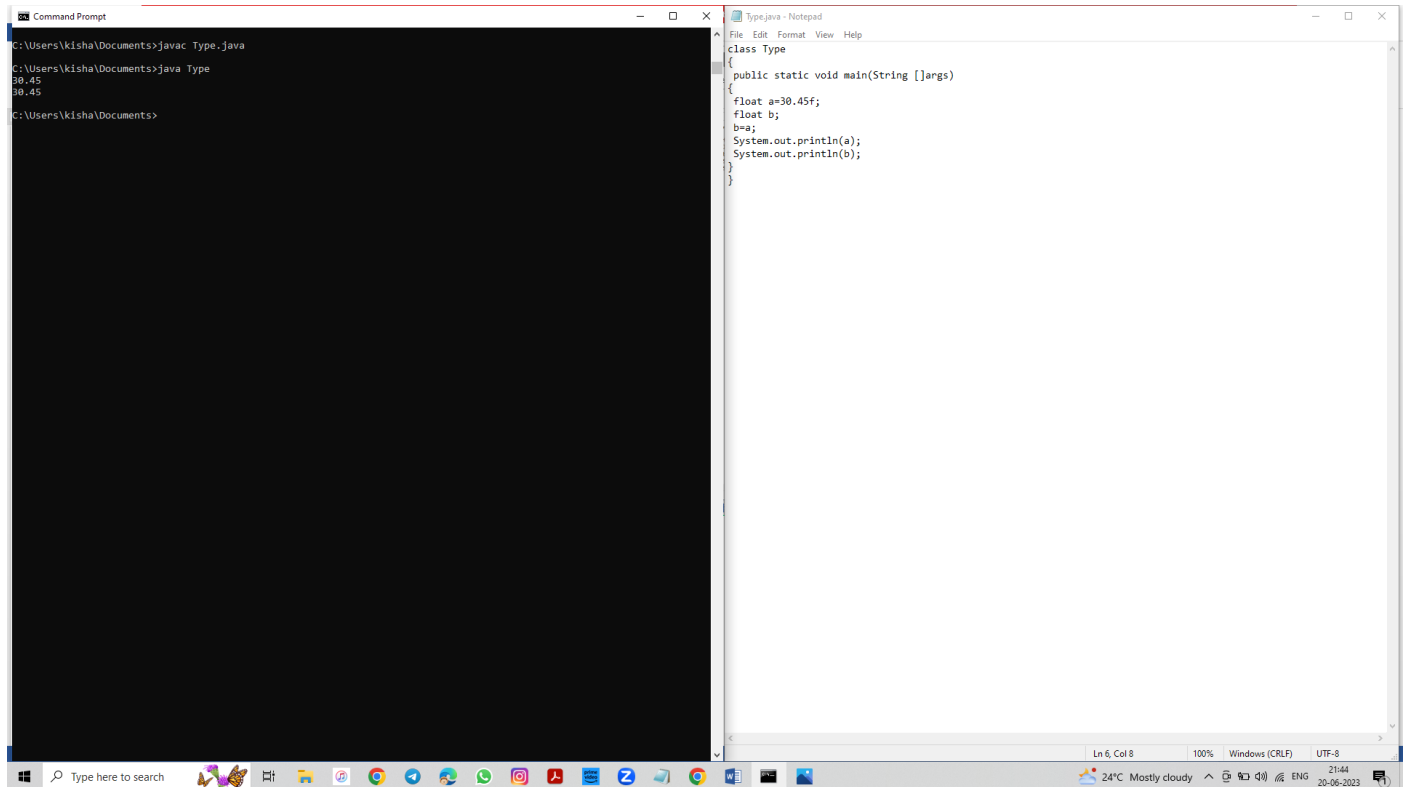
```
Type.java - Notepad
File Edit Format View Help
class Type
{
    public static void main(String []args)
    {
        float a=30.45f;
        long b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

CONCLUSION: Explicit Typecasting.

PROGRAM 14:

```
class Type
```

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



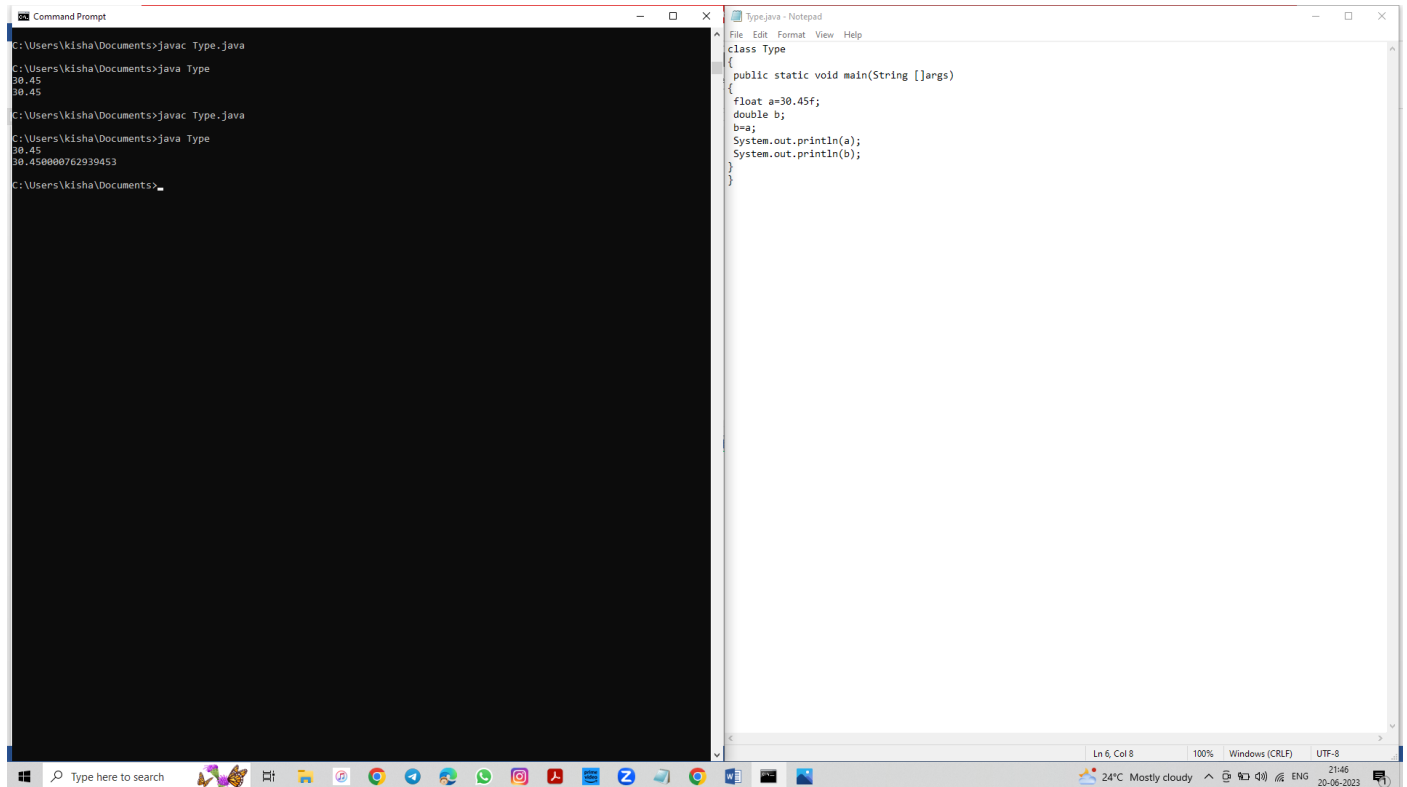
```
Command Prompt
C:\Users\kisha\Documents>javac Type.java
C:\Users\kisha\Documents>java Type
30.45
30.45
C:\Users\kisha\Documents>

Type.java - Notepad
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: Implicit Typecasting.

PROGRAM 15:

```
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 displays a Windows desktop environment. On the left, a Command Prompt window is open, showing the following commands and output:

```
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>
```

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

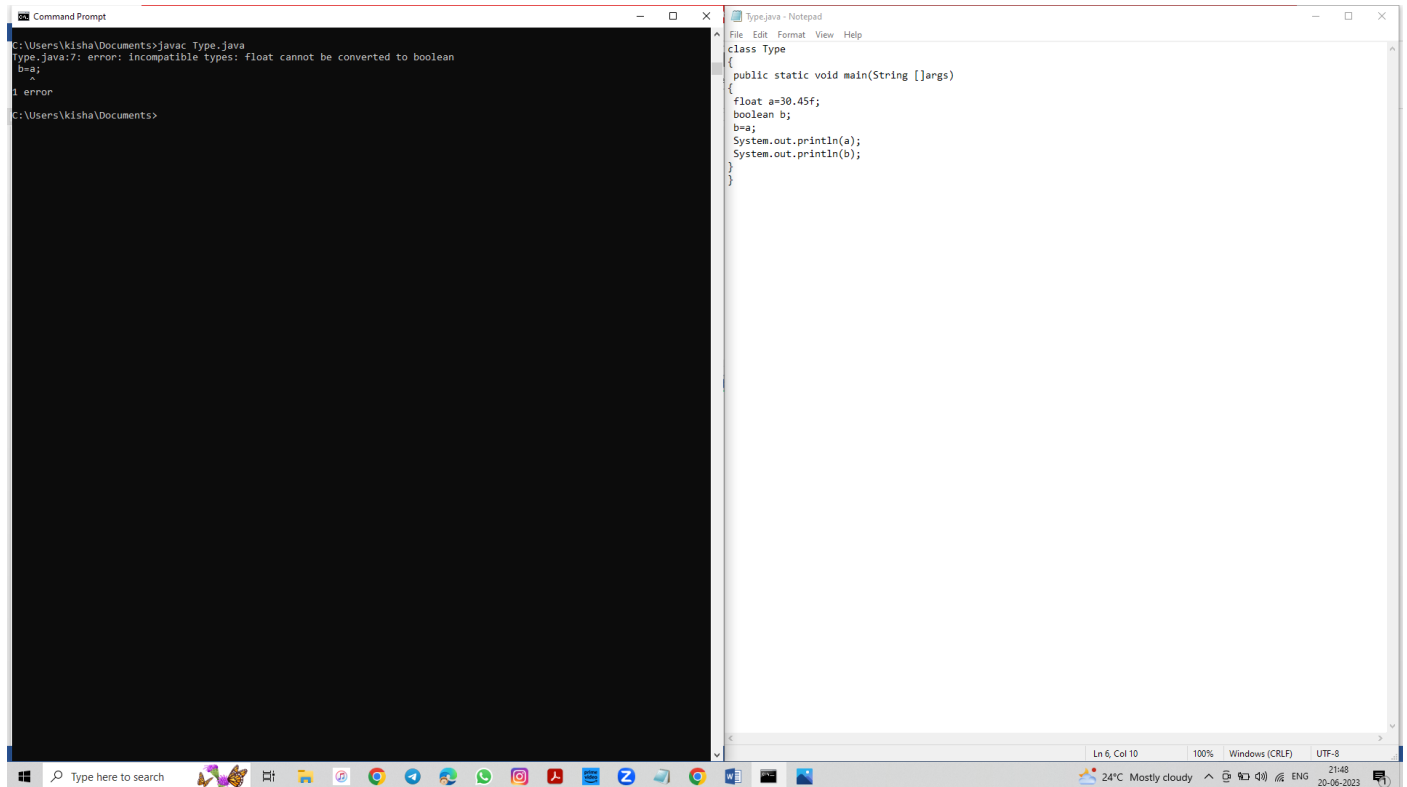
```
class Type
{
    public static void main(String []args)
    {
        float a=30.45f;
        double b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

The Windows taskbar at the bottom shows various application icons, including File Explorer, Google Chrome, and others. The system tray on the right indicates a temperature of 24°C, mostly cloudy weather, and the date and time as 21:46 on 20-06-2023.

CONCLUSION: Implicit Typecasting.

PROGRAM 16:

```
class Type
{
    public static void main(String []args)
    {
        float a=30.45f;
        boolean 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: float cannot be converted to boolean
    b=a;
    ^
1 error
C:\Users\kisha\Documents>
```

```
Type.java - Notepad
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 17:

```
class Type
{
    public static void main(String []args)
    {
        double a=30565.9099999;
        char b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

The screenshot shows a Windows desktop with two windows. The 'Command Prompt' window on the left displays the following text:

```
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>
```

The 'Type.java - Notepad' window on the right shows the source code for 'Type.java':

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

The taskbar at the bottom shows various application icons, a search bar, and system status information including temperature (23°C), weather (Mostly cloudy), and time (23:14, 20-06-2023).

CONCLUSION: Explicit Typecasting.

PROGRAM 18:

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

The screenshot shows a Windows desktop with two windows. On the left is the 'Command Prompt' window, and on the right is the 'Type.java - Notepad' window. The Command Prompt shows the command 'javac Type.java' being executed, resulting in a compilation error: 'Type.java:7: error: incompatible types: possible lossy conversion from double to byte'. The error message is repeated twice. The Notepad window shows the source code for 'Type.java', which defines a class 'Type' with a 'main' method. Inside the 'main' method, a 'double' variable 'a' is assigned the value '30565.909999', a 'byte' variable 'b' is declared, and 'b' is assigned the value of 'a'. The code then prints 'a' and 'b' to the console. The Windows taskbar at the bottom shows various application icons, the system clock, and the date '20-06-2023'.

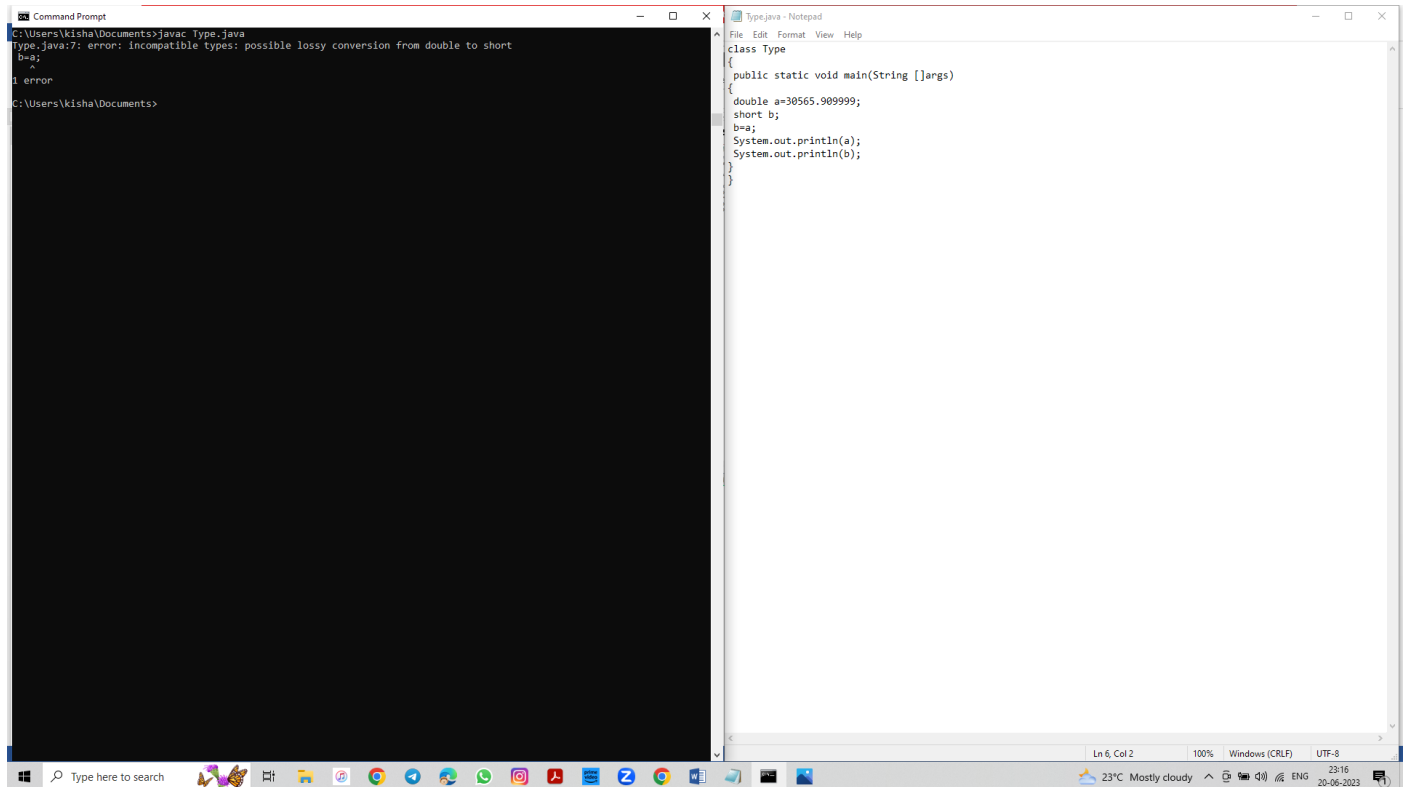
```
Command Prompt
C:\Users\kisha\Documents>javac Type.java
Type.java:7: error: incompatible types: possible lossy conversion from double to byte
    b=a;
    ^
1 error
C:\Users\kisha\Documents>
```

```
Type.java - Notepad
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 19:

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



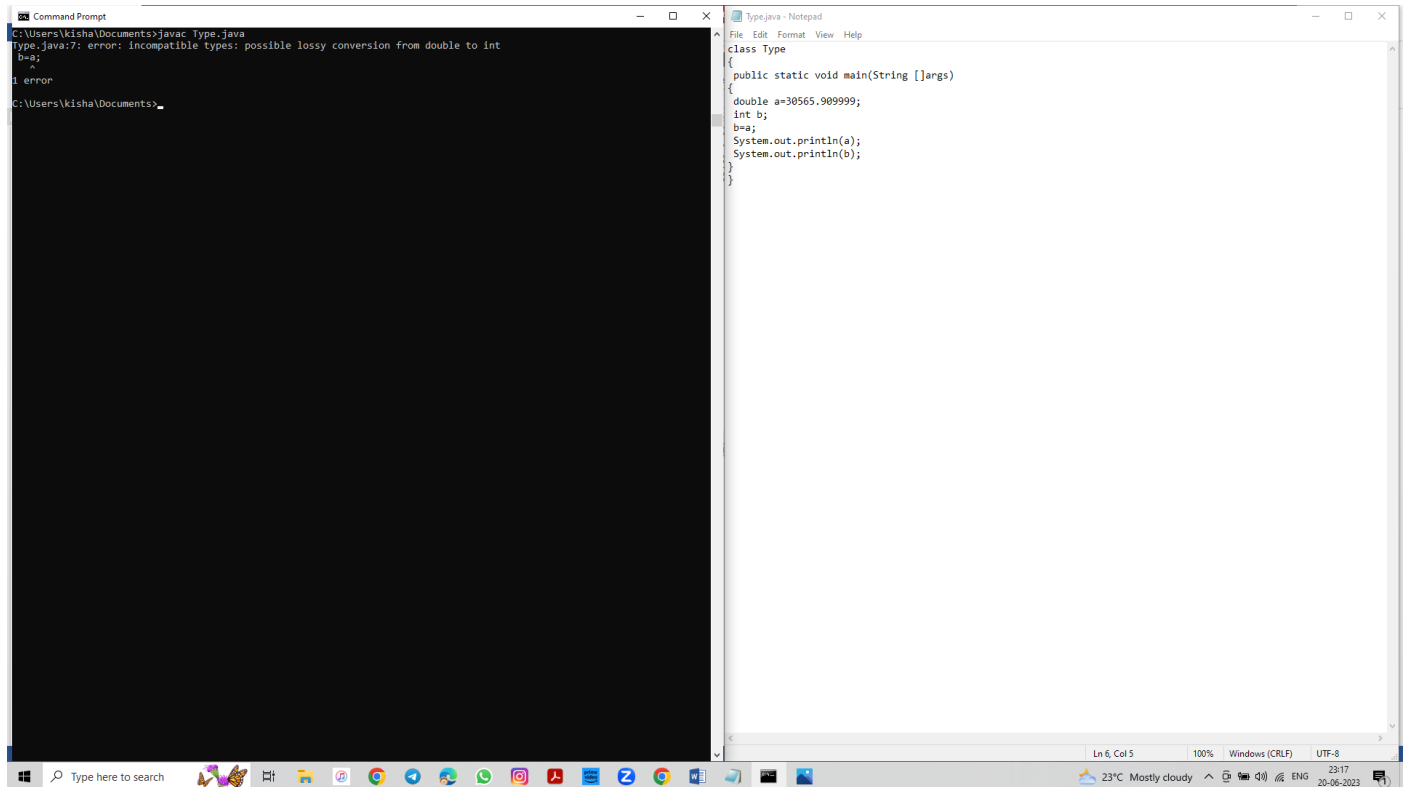
```
Command Prompt
C:\Users\Kisha\Documents>javac Type.java
Type.java:7: error: incompatible types: possible lossy conversion from double to short
    b=a;
    ^
1 error
C:\Users\Kisha\Documents>
```

```
Type.java - Notepad
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 20:

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



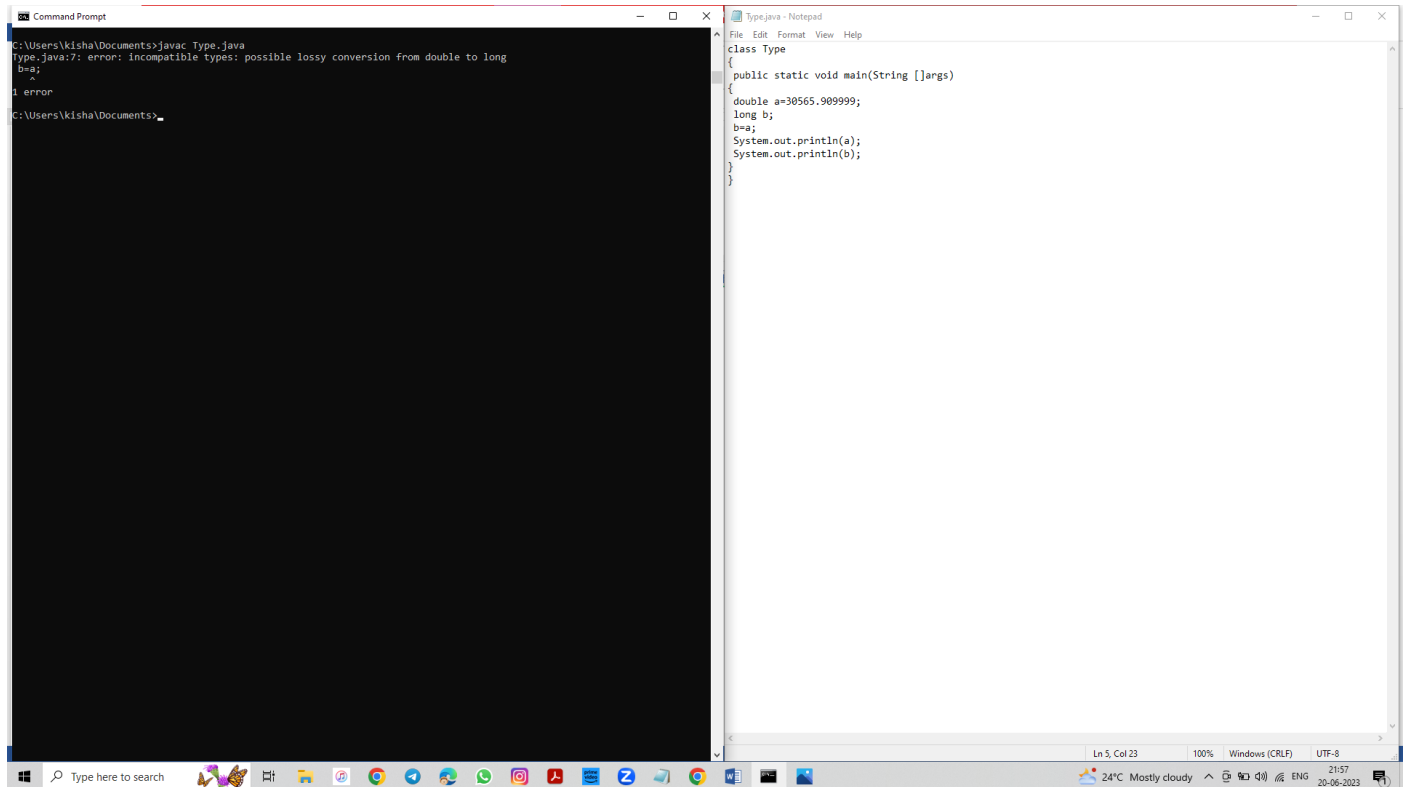
```
Command Prompt
C:\Users\Kisha\Documents>javac Type.java
Type.java:7: error: incompatible types: possible lossy conversion from double to int
    b=a;
    ^
1 error
C:\Users\Kisha\Documents>

Type.java - Notepad
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 21:

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



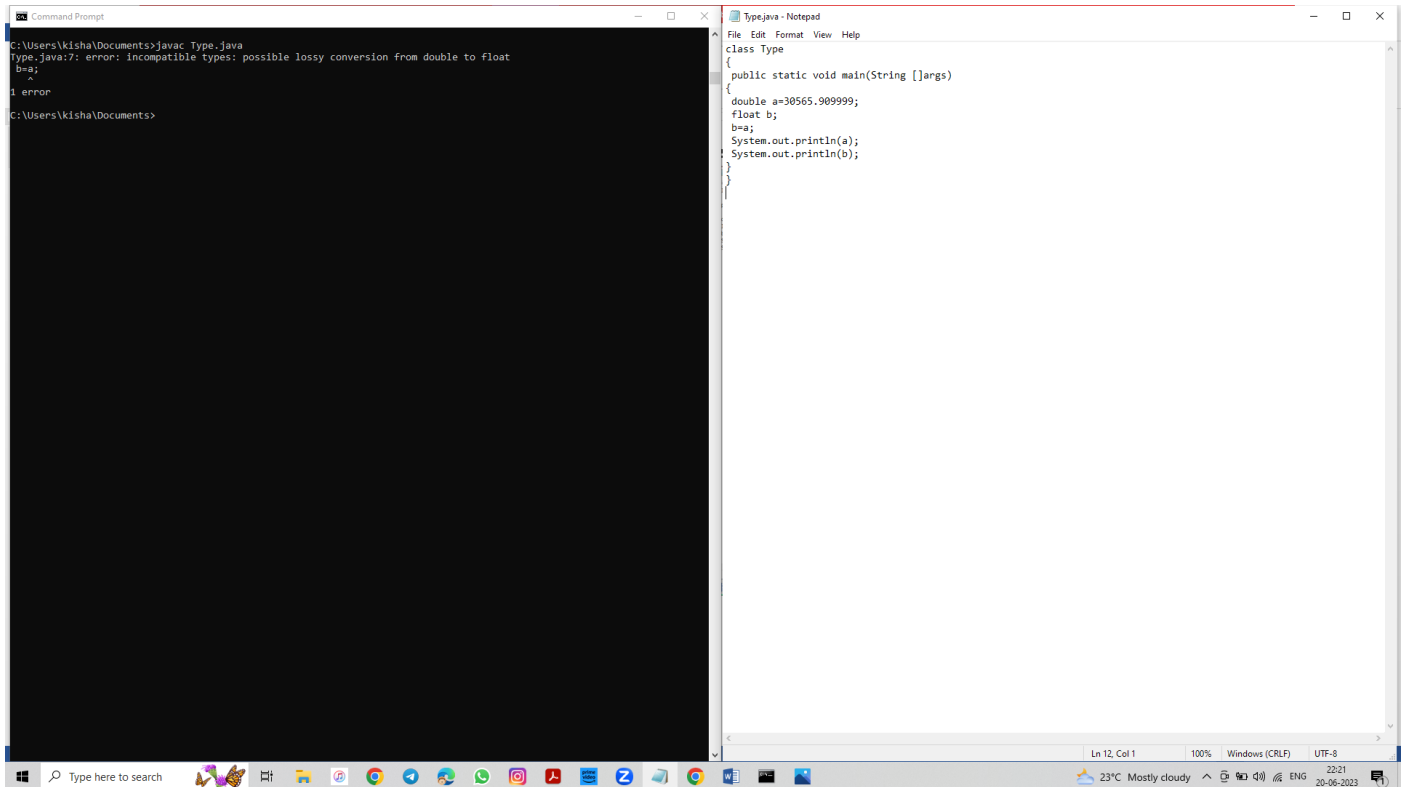
```
Command Prompt
C:\Users\kisha\Documents>javac Type.java
Type.java:7: error: incompatible types: possible lossy conversion from double to long
    b=a;
    ^
1 error
C:\Users\kisha\Documents>

Type.java - Notepad
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 22:

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



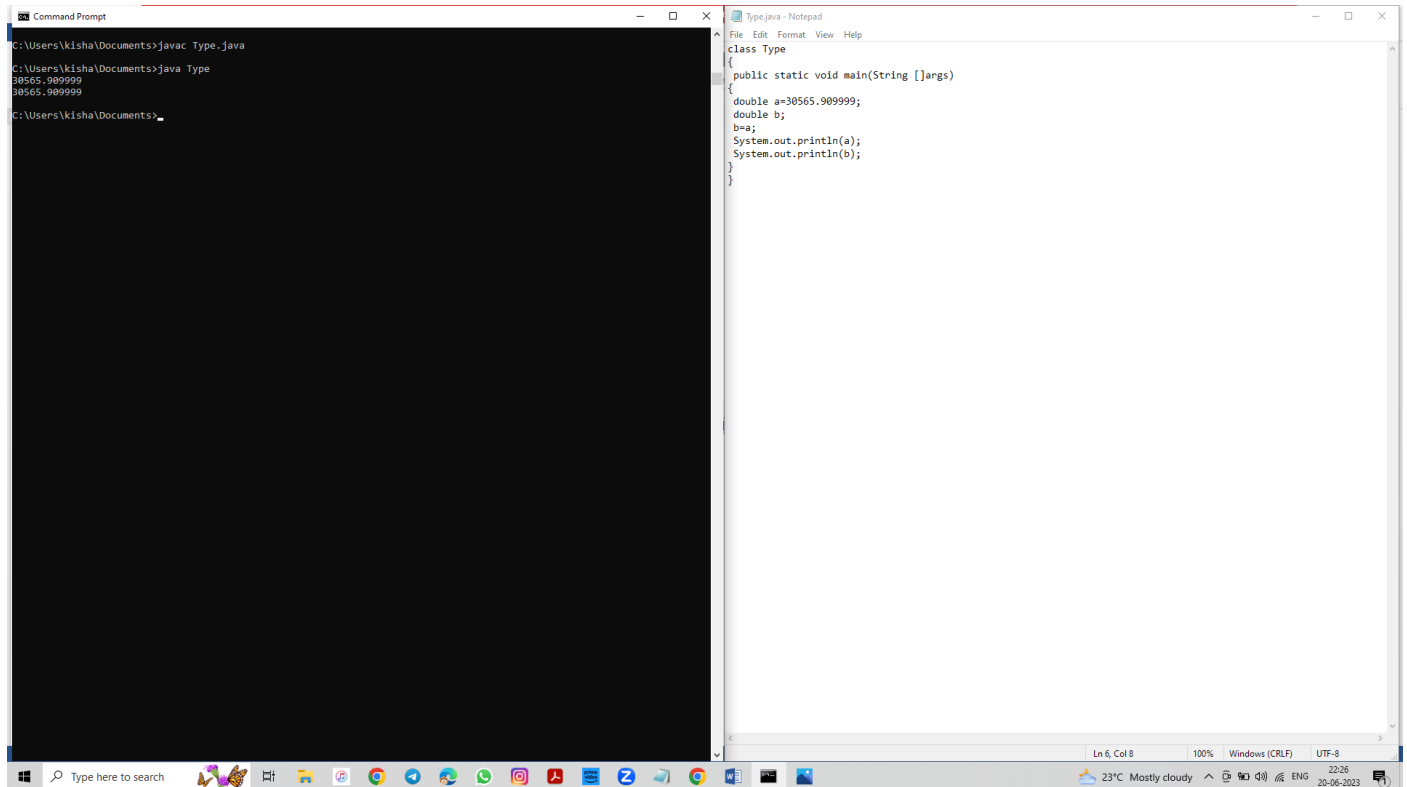
```
Command Prompt
C:\Users\kisha\Documents>javac Type.java
Type.java:7: error: incompatible types: possible lossy conversion from double to float
    b=a;
    ^
1 error
C:\Users\kisha\Documents>
```

```
Type.java - 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 23 :

```
class Type
{
    public static void main(String []args)
    {
        double a=30565.909999;
        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
30565.909999
30565.909999
C:\Users\kisha\Documents>

Type.java - Notepad
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: Implicit Typecasting.

PROGRAM 24:

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

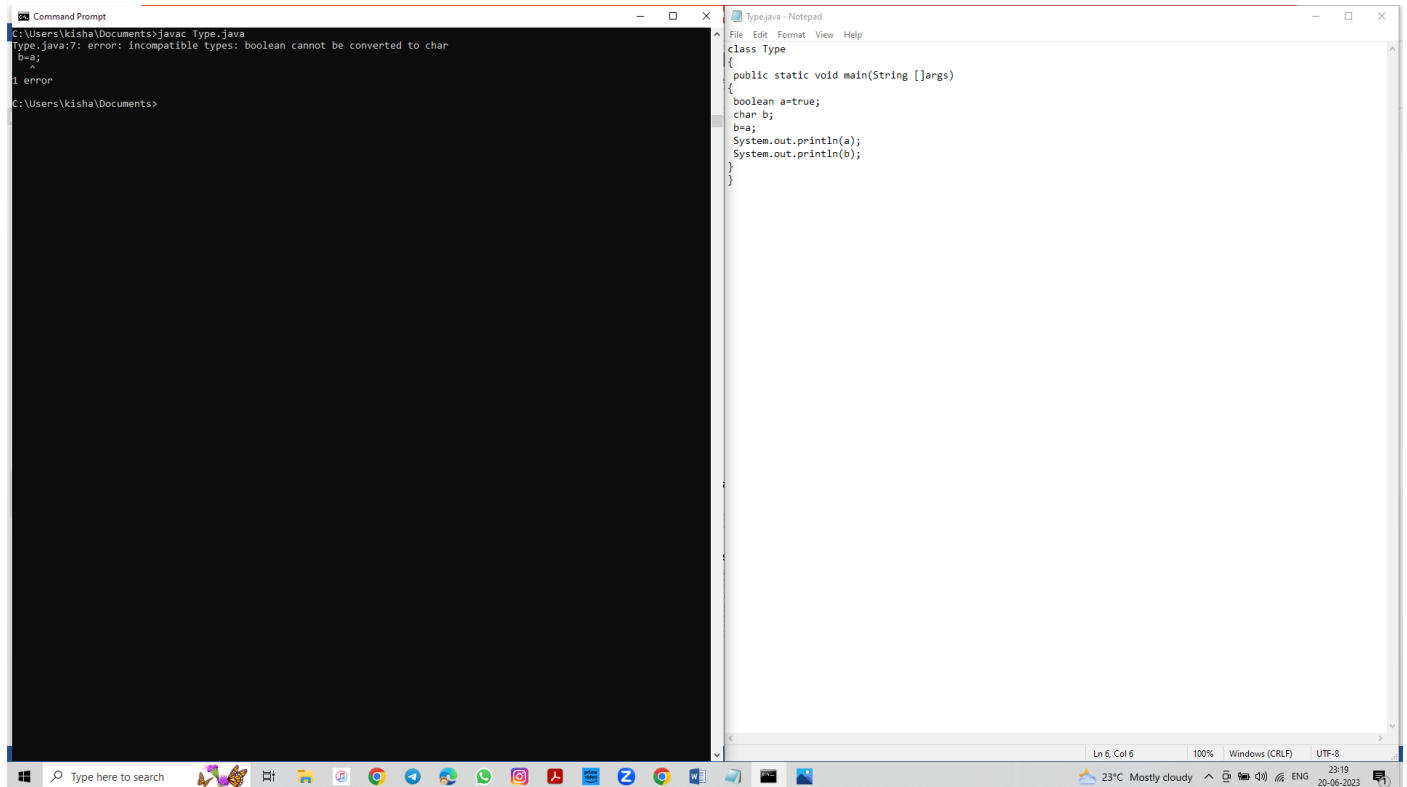


```
}  
  
Command Prompt  
C:\Users\Kisha\Documents>javac Type.java  
Type.java:7: error: incompatible types: double cannot be converted to boolean  
    b=a;  
    ^  
1 error  
C:\Users\Kisha\Documents>  
  
Type.java - Notepad  
File Edit Format View Help  
class Type  
{  
    public static void main(String []args)  
    {  
        double a=30565.9099999;  
        boolean b;  
        b=a;  
        System.out.println(a);  
        System.out.println(b);  
    }  
}
```

CONCLUSION: Explicit Typecasting.

PROGRAM 25:

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



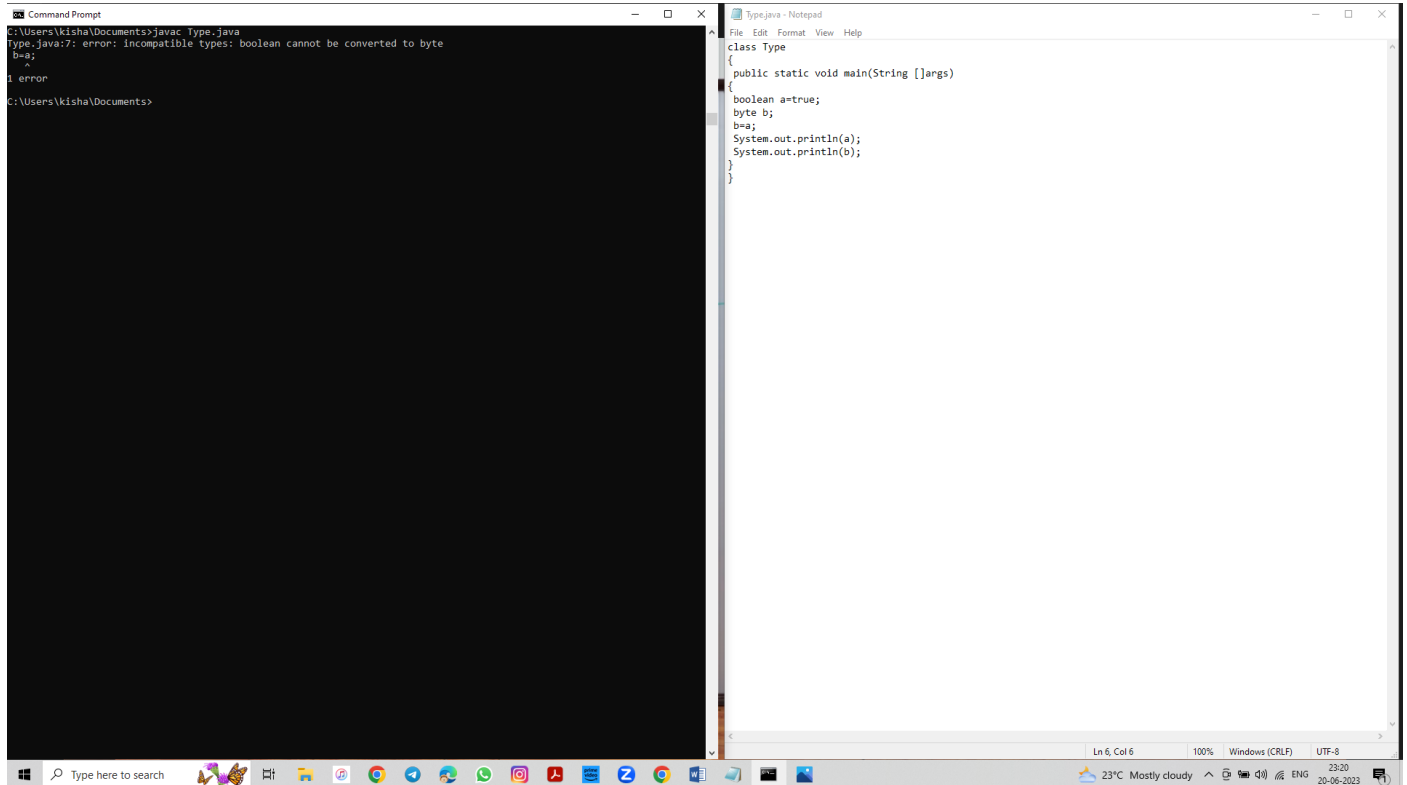
```
Command Prompt
C:\Users\Kisha\Documents>javac Type.java
Type.java:7: error: incompatible types: boolean cannot be converted to char
    b=a;
    ^
1 error
C:\Users\Kisha\Documents>
```

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

CONCLUSION: Explicit Typecasting.

PROGRAM 26:

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

CONCLUSION: Explicit Typecasting.

PROGRAM 27:

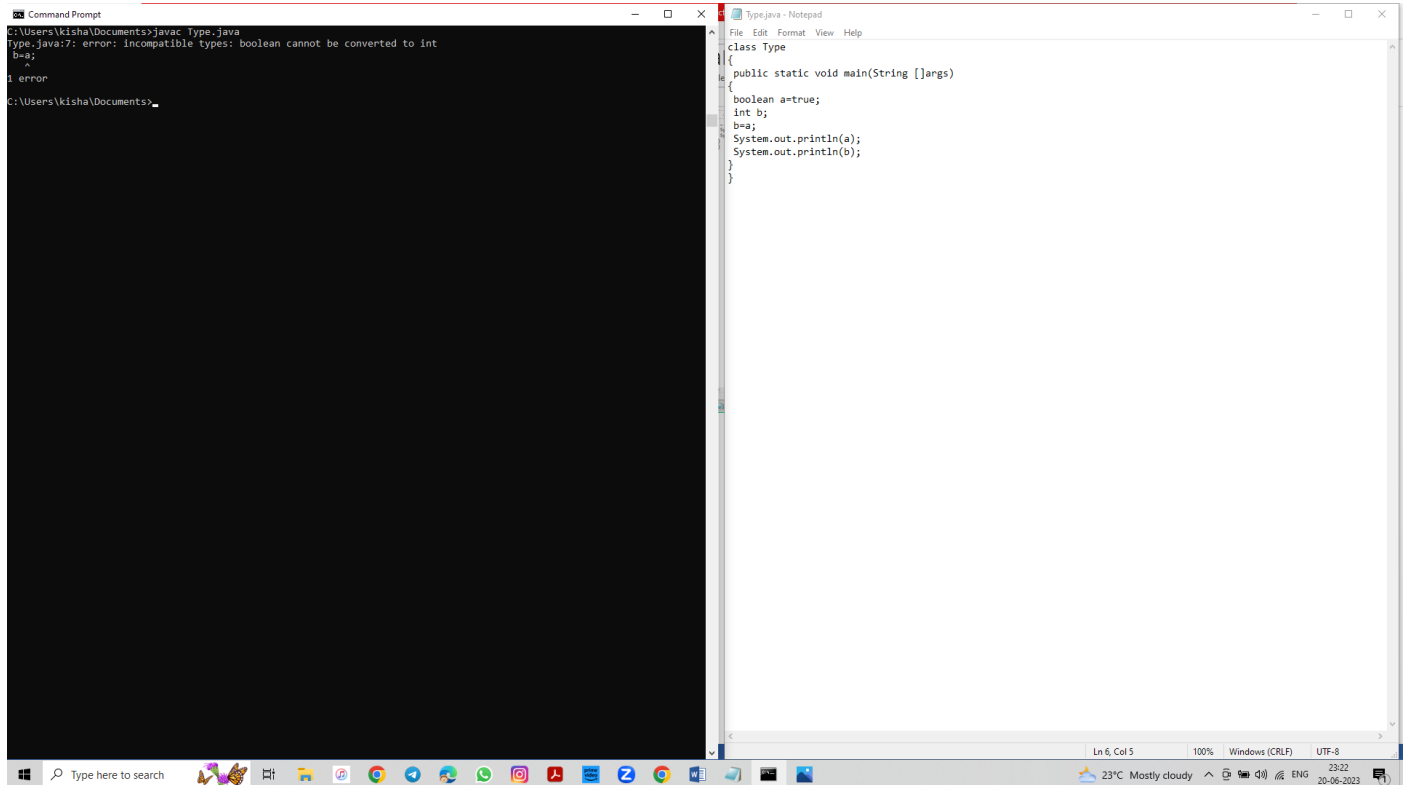
```
class Type
{
    public static void main(String []args)
    {
        boolean a=true;
        short b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

```
}  
  
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>  
  
Type.java - Notepad  
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 28:

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

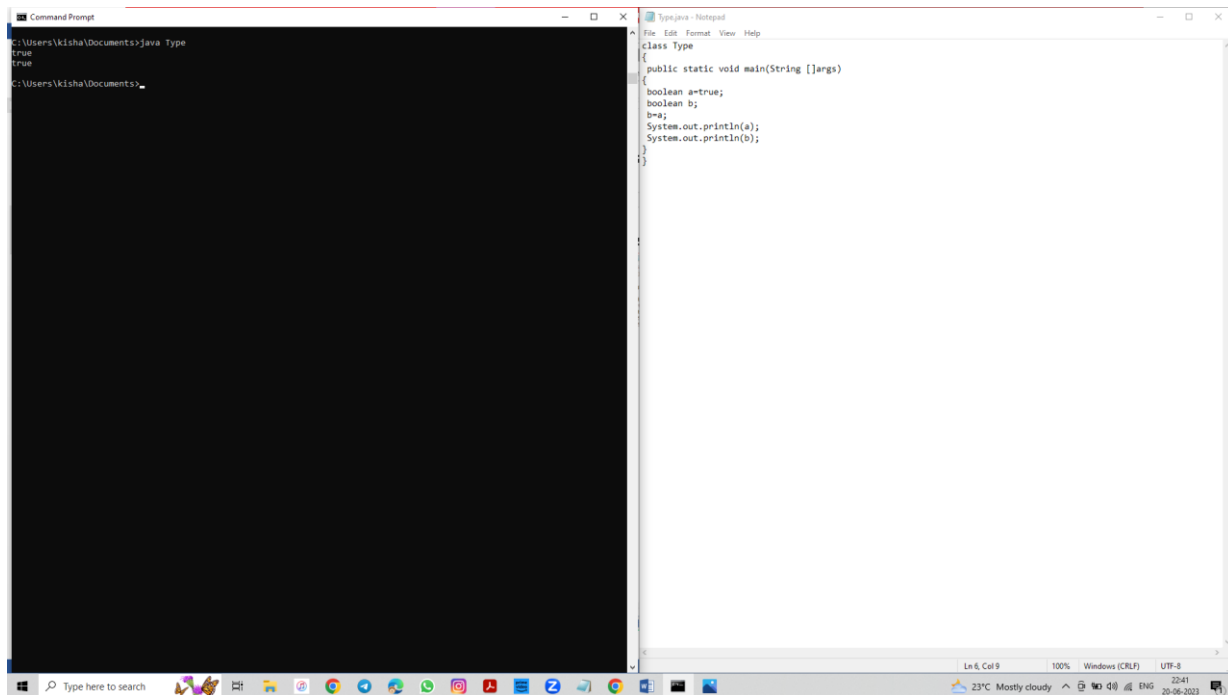
CONCLUSION: Explicit Typecasting.

PROGRAM 29:

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

Implicit Typecasting.

Implicit Typecasting.



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

Type.java - Notepad++
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 30:

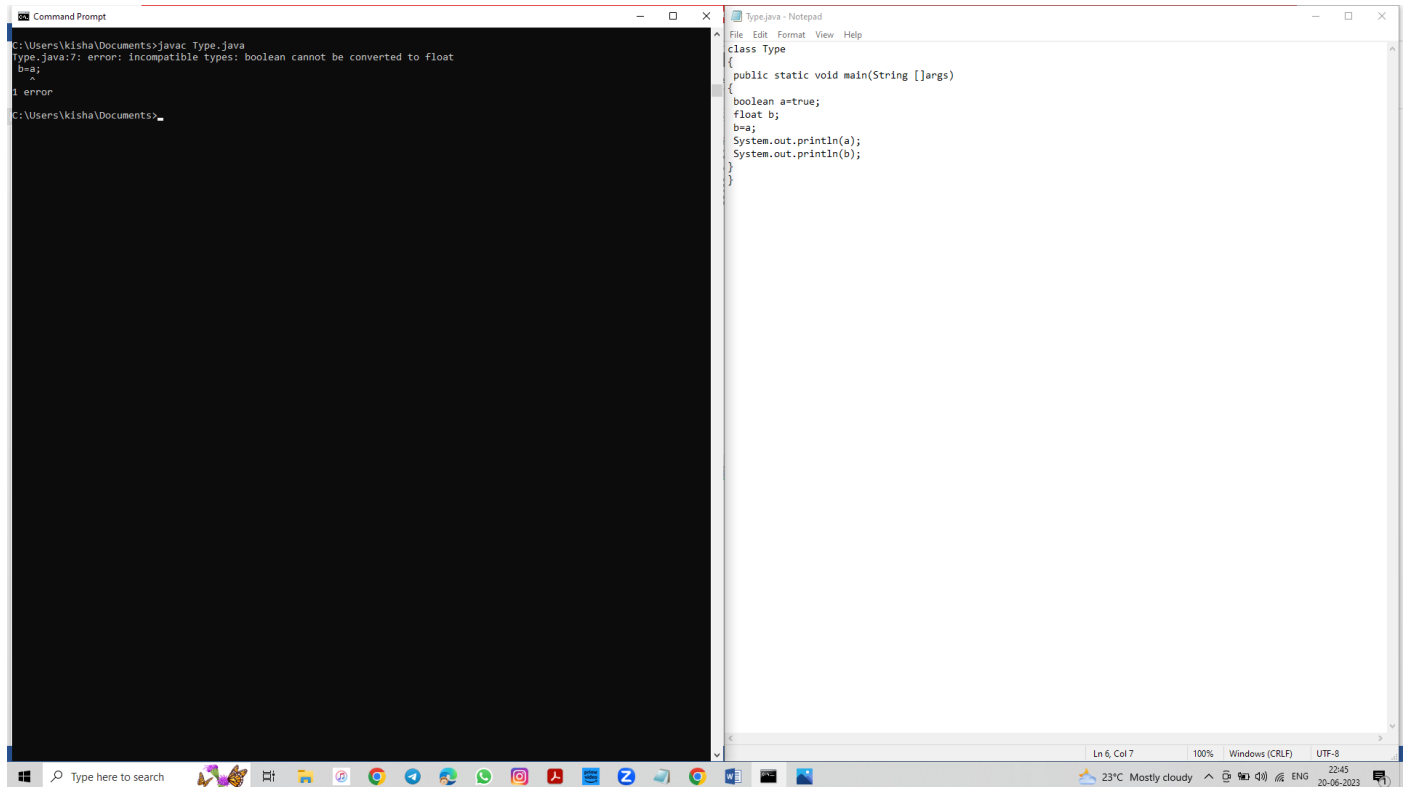
```
class Type
{
    public static void main(String []args)
    {
        boolean a=true;
        long b;
        b=a;
        System.out.println(a);
        System.out.println(b);
    }
}
```

```
}  
C:\Users\Kisha\Documents>javac Type.java  
Type.java:7: error: incompatible types: boolean cannot be converted to long  
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;  
        long b;  
        b=a;  
        System.out.println(a);  
        System.out.println(b);  
    }  
}
```

CONCLUSION: Explicit Typecasting.

PROGRAM 31:

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



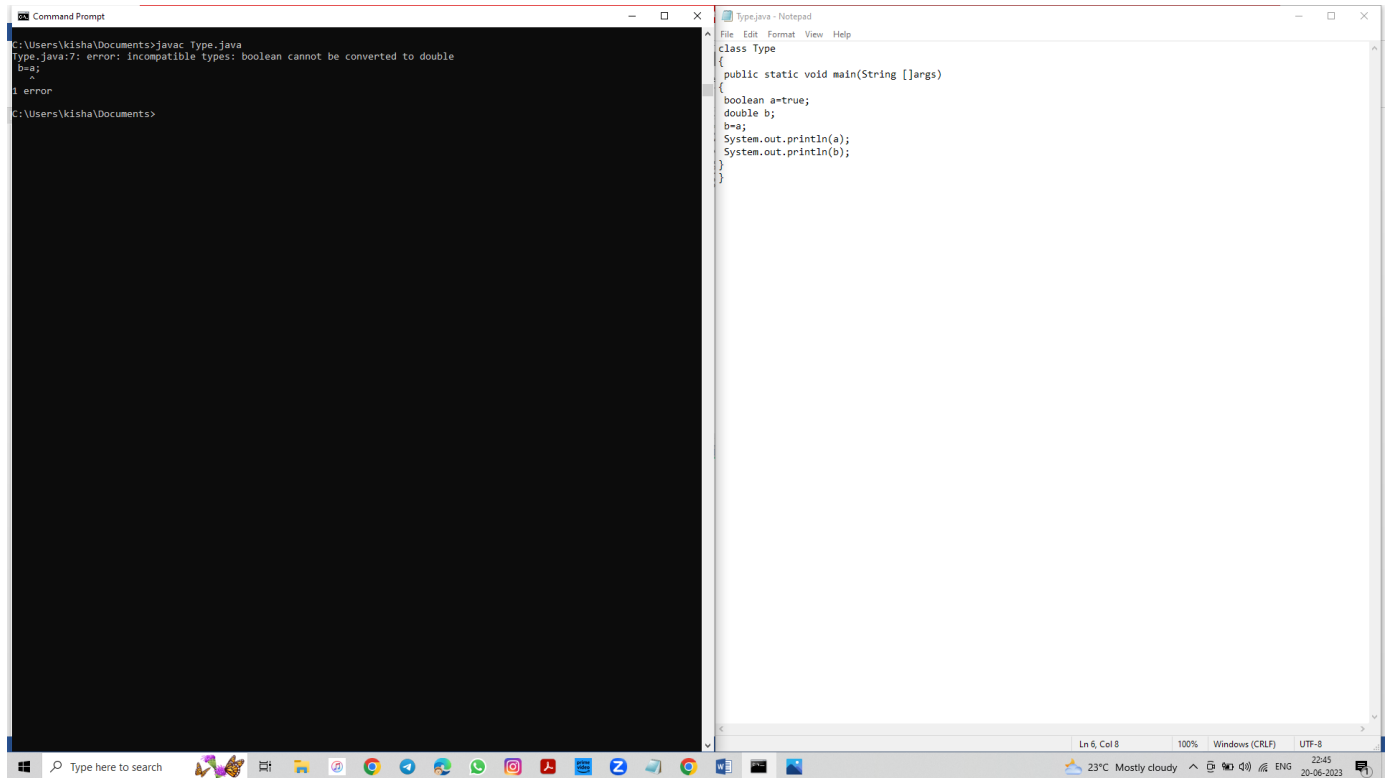
```
Command Prompt
C:\Users\kisha\Documents>javac Type.java
Type.java:7: error: incompatible types: boolean cannot be converted to float
    b=a;
    ^
1 error
C:\Users\kisha\Documents>

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

CONCLUSION: Explicit Typecasting.

PROGRAM 32:

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

The screenshot displays a Windows desktop environment. On the left, a Command Prompt window is open, showing the execution of a Java program. The command `javac Type.java` has been run, resulting in a compilation error: `Type.java:7: error: incompatible types: boolean cannot be converted to double`. The error points to line 7, which contains `b=a;`. The prompt indicates that there is 1 error. On the right, a Notepad window titled 'Type.java - Notepad' shows the source code of the program. The code defines a class `Type` with a `main` method. Inside the `main` method, a `boolean` variable `a` is initialized to `true`, and a `double` variable `b` is declared. Line 7, `b=a;`, attempts to assign the `boolean` value of `a` to the `double` variable `b`, which causes the compilation error. The code then prints the values of `a` and `b` using `System.out.println(a);` and `System.out.println(b);`. The Windows taskbar at the bottom shows various application icons, the system clock, and the date `20-06-2023`.

```
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.