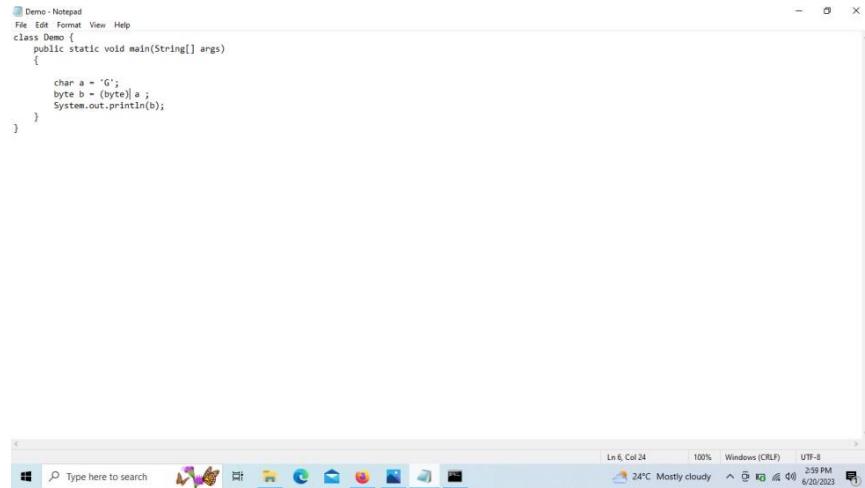


JAVA ASSIGNMENT ON TYPECASTING

**Done by:
Fozail Ahmed**

CHAR DATATYPE

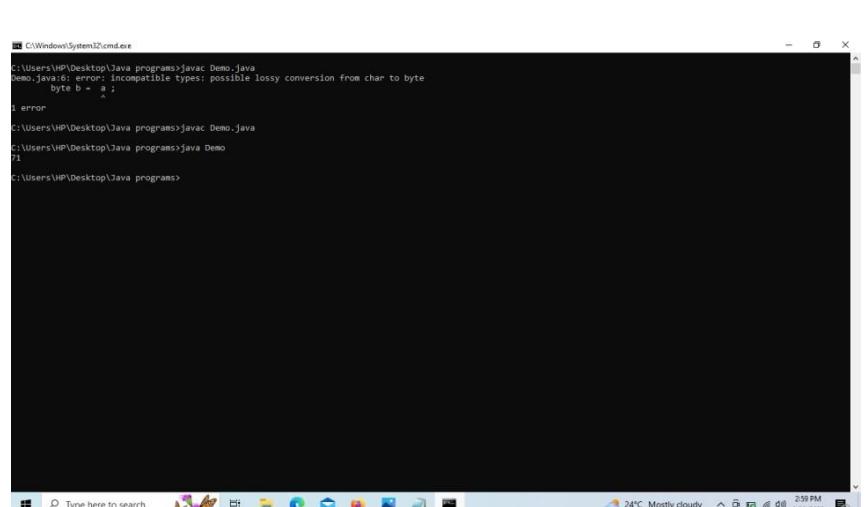
PROGRAM 1



Demo - Notepad

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

Type here to search 24°C Mostly cloudy 2:59 PM 6/20/2023

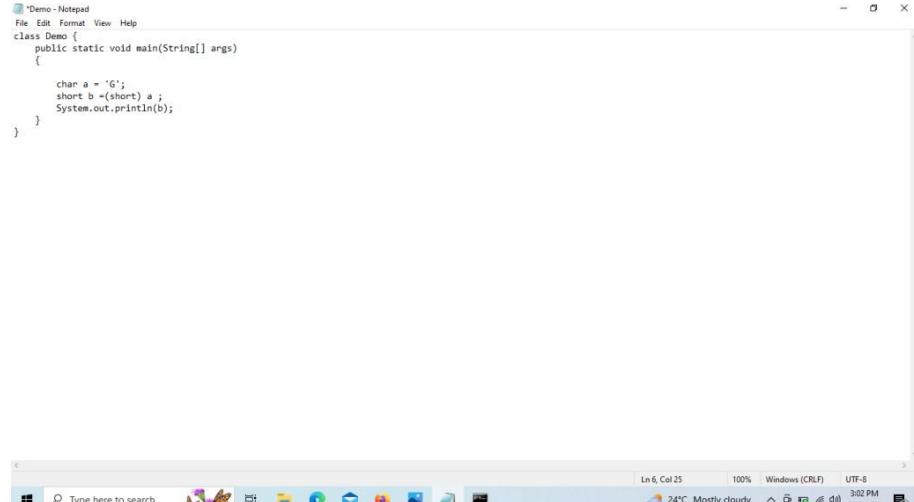


```
C:\Windows\System32\cmd.exe  
C:\Users\HP\Desktop\Java programs>javac Demo.java  
Demo.java:6: error: incompatible types: possible lossy conversion from char to byte  
        byte b = a;  
                           ^  
1 error  
C:\Users\HP\Desktop\Java programs>java Demo  
C:\Users\HP\Desktop\Java programs>java Demo  
71  
C:\Users\HP\Desktop\Java programs>
```

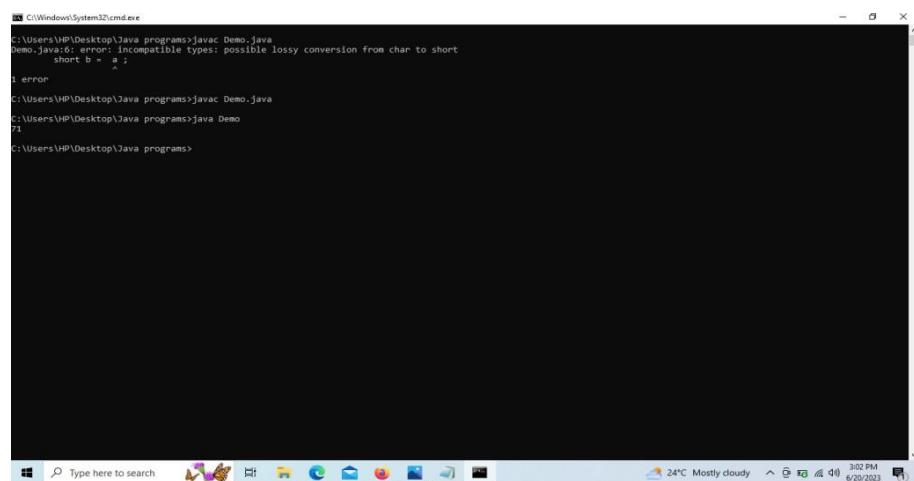
Type here to search 24°C Mostly cloudy 2:59 PM 6/20/2023

Explicit Type Casting

PROGRAM 2



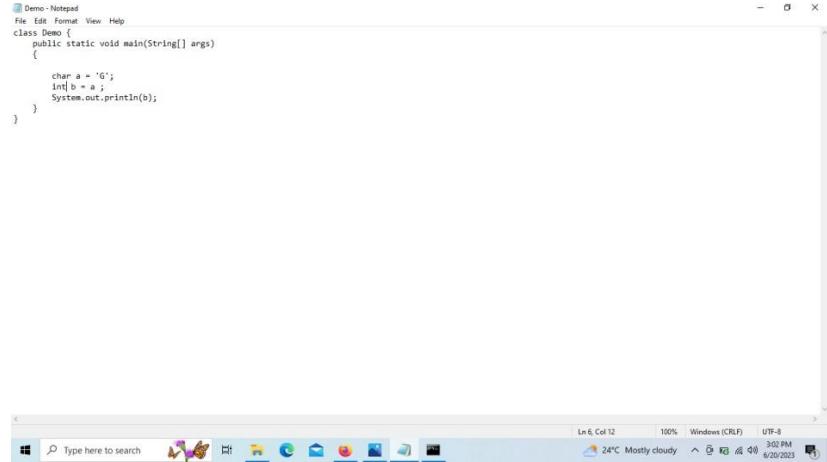
```
/* Demo - Notepad
File Edit Format View Help
class Demo {
    public static void main(String[] args)
    {
        char a = 'G';
        short b = (short) a;
        System.out.println(b);
    }
}
```



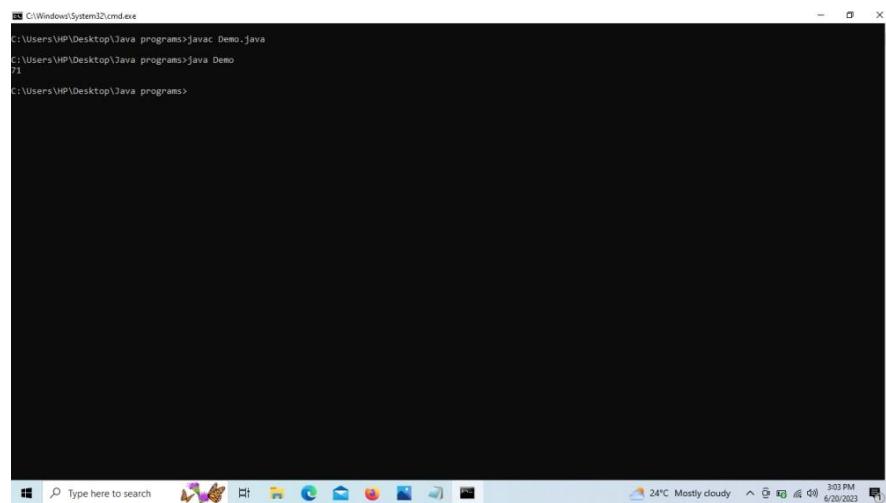
```
C:\Windows\System32\cmd.exe
C:\Users\HP\Desktop\Java programs>javac Demo.java
Demo.java:6: error: incompatible types: possible lossy conversion from char to short
    short b = a ;
                ^
1 error
C:\Users\HP\Desktop\Java programs>java Demo
71
C:\Users\HP\Desktop\Java programs>
```

Explicit Type Casting

PROGRAM 3



```
Demo - Notepad
File Edit Format View Help
class Demo {
    public static void main(String[] args)
    {
        char a = '0';
        int b = a ;
        System.out.println(b);
    }
}
```



```
C:\Windows\System32\cmd.exe
C:\Users\HP\Desktop\Java programs>javac Demo.java
C:\Users\HP\Desktop\Java programs>java Demo
71
C:\Users\HP\Desktop\Java programs>
```

Implicit type casting

PROGRAM 4

The screenshot shows a Windows desktop environment. At the top is a dark brown header bar. Below it is a white taskbar with various icons for applications like File Explorer, Edge, and Mail. In the center is a Notepad window titled "Demo - Notepad" containing the following Java code:

```
/* Demo - Notepad
File Edit Format View Help
class Demo {
    public static void main(String[] args) {
        char a = 'G';
        long b = a ;
        System.out.println(b);
    }
}
```

The Notepad window has standard file menu options: File, Edit, Format, View, Help. The status bar at the bottom of the Notepad window shows "Ln 6, Col 13", "100%", "Windows (CRLF)", and "UTF-8". The system tray at the bottom right shows the date and time as "6/20/2023 3:03 PM".

The screenshot shows a Windows desktop environment. At the top is a dark brown header bar. Below it is a white taskbar with various icons for applications like File Explorer, Edge, and Mail. In the center is a Command Prompt window titled "C:\Windows\System32\cmd.exe" showing the following command-line session:

```
C:\Users\HP\Desktop\Java programs>javac Demo.java
C:\Users\HP\Desktop\Java programs>java Demo
71
C:\Users\HP\Desktop\Java programs>
```

The Command Prompt window has a standard title bar with the path "C:\Windows\System32\cmd.exe". The status bar at the bottom shows the date and time as "6/20/2023 3:03 PM". The system tray at the bottom right shows the date and time as "6/20/2023 3:03 PM".

Implicit Type Casting

PROGRAM 5

Demo - Notepad

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

Type here to search 24°C Mostly cloudy 3:04 PM 6/20/2023

```
C:\Windows\System32\cmd.exe
C:\Users\HP\Desktop\Java programs>javac Demo.java
C:\Users\HP\Desktop\Java programs>java Demo
71.0
C:\Users\HP\Desktop\Java programs>
```

Type here to search 24°C Mostly cloudy 3:04 PM 6/20/2023

Implicit Type Casting

PROGRAM 6

The image shows a Windows desktop environment with three main windows:

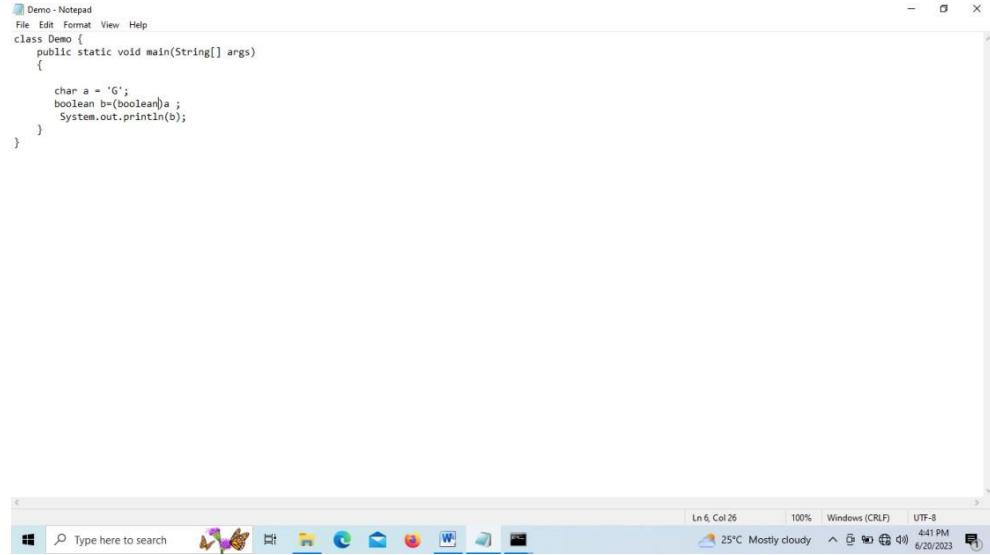
- Notepad Window:** Titled "Demo - Notepad", it contains the following Java code:

```
class Demo {
    public static void main(String[] args) {
        char a = 'G';
        double b = a;
        System.out.println(b);
    }
}
```
- Taskbar:** Shows the Start button, a search bar with "Type here to search", and icons for File Explorer, Edge browser, Mail, and File Explorer.
- Command Prompt Window:** Titled "C:\Windows\System32\cmd.exe", it shows the command-line session:

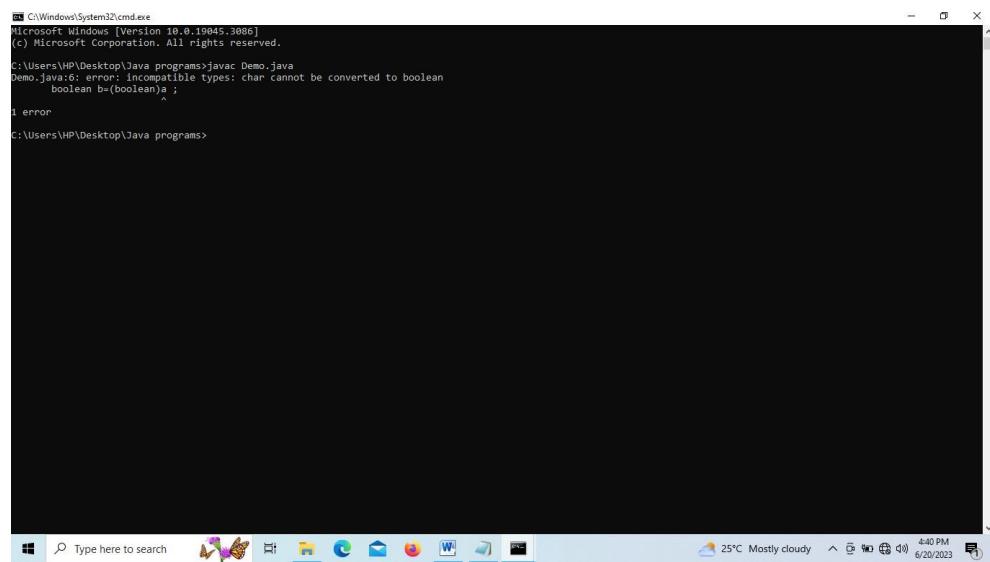
```
C:\Users\HP\Desktop\Java programs>javac Demo.java
C:\Users\HP\Desktop\Java programs>java Demo
71.0
C:\Users\HP\Desktop\Java programs>
```

Implicit Type Casting

PROGRAM 7



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



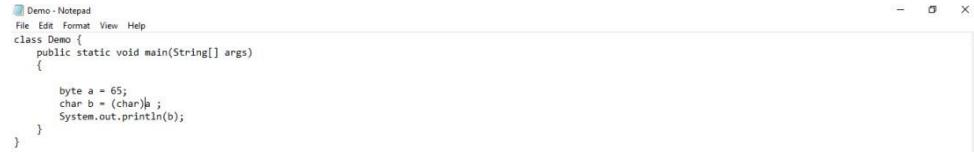
```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.19045.3086]
(c) Microsoft Corporation. All rights reserved.

C:\Users\HP\Desktop\Java programs>javac Demo.java
Demo.java:6: error: Incompatible types: char cannot be converted to boolean
        boolean b=(boolean)a ;
                           ^
1 error
C:\Users\HP\Desktop\Java programs>
```

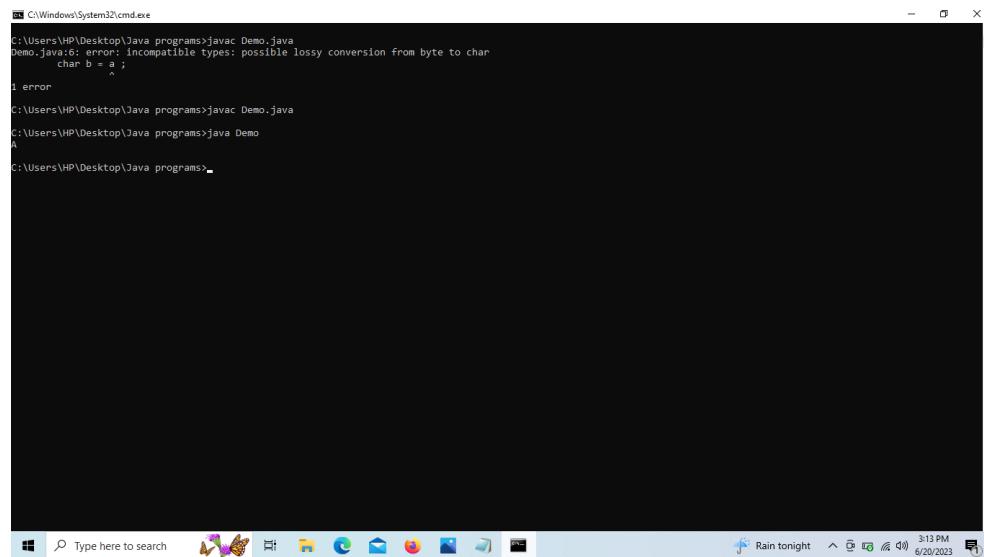
Incompatible

BYTE DATATYPE

PROGRAM 1



```
Demo - Notepad
File Edit Format View Help
class Demo {
    public static void main(String[] args) {
        byte a = 65;
        char b = (char)a;
        System.out.println(b);
    }
}
```

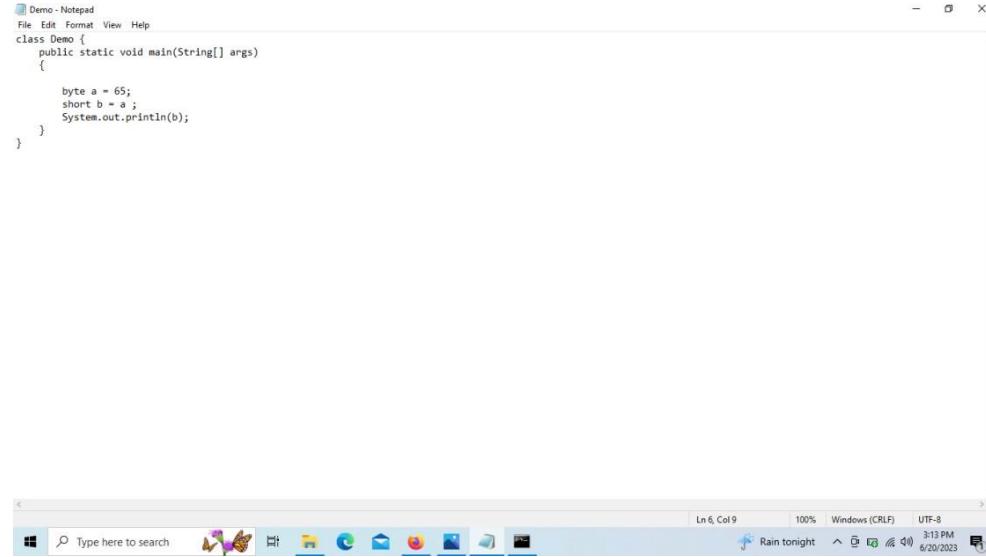


```
C:\Windows\System32\cmd.exe
C:\Users\HP\Desktop>Java programs>javac Demo.java
Demo.java: error: incompatible types: possible lossy conversion from byte to char
        char b = a;
                           ^
1 error
C:\Users\HP\Desktop>Java programs>javac Demo.java
C:\Users\HP\Desktop>Java programs>java Demo
A
C:\Users\HP\Desktop>Java programs>
```

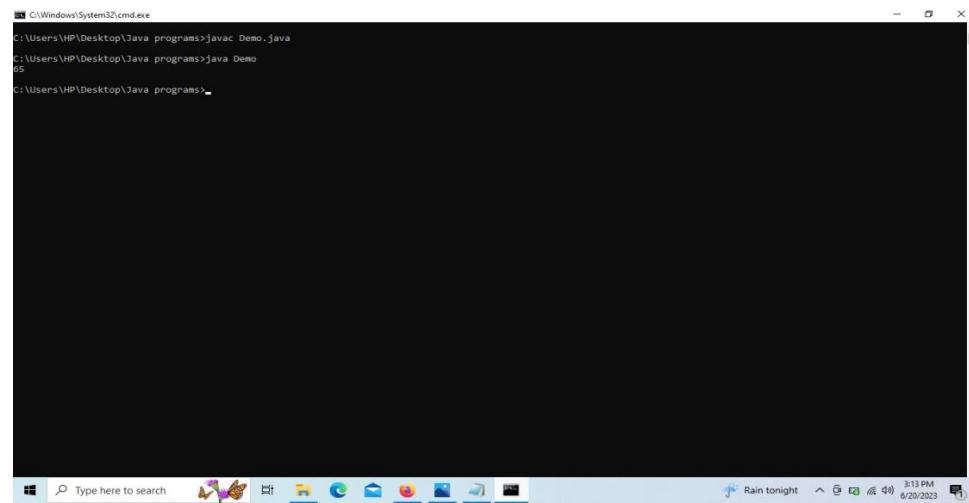
Explicit Type Casting

Java Assignment

PROGRAM 2



```
Demo - Notepad
File Edit Format View Help
class Demo {
    public static void main(String[] args)
    {
        byte a = 65;
        short b = a ;
        System.out.println(b);
    }
}
```



```
C:\Windows\System32\cmd.exe
C:\Users\HP\Desktop\Java programs>javac Demo.java
C:\Users\HP\Desktop\Java programs>java Demo
65
C:\Users\HP\Desktop\Java programs>
```

Implicit Type Casting

PROGRAM 3

Demo - Notepad

```
File Edit Format View Help
class Demo {
    public static void main(String[] args) {
        byte a = 65;
        int b = a ;
        System.out.println(b);
    }
}
```

Type here to search

Rain tonight

Ln 6, Col 11 100% Windows (CRLF) UTF-8

3:13 PM 6/20/2023

```
C:\Windows\System32\cmd.exe
C:\Users\HP\Desktop\Java programs>javac Demo.java
C:\Users\HP\Desktop\Java programs>java Demo
65
C:\Users\HP\Desktop\Java programs>
```

Type here to search

25°C Mostly cloudy

3:14 PM 6/20/2023

Implicit Type Casting

PROGRAM 4

Demo - Notepad

```
File Edit Format View Help
class Demo {
    public static void main(String[] args) {
        byte a = 65;
        long b = a;
        System.out.println(b);
    }
}
```

The screenshot shows a Windows desktop environment. At the top is a dark brown header bar. Below it is a white taskbar with several icons: Start, Search, File Explorer, Mail, Edge browser, and File Manager. To the right of the taskbar is a system tray showing weather (25°C Mostly cloudy), battery level (3:14 PM), and date (6/20/2023). The main area of the screen displays a Notepad window titled "Demo - Notepad". The code in the Notepad is:

```
C:\Windows\System32\cmd.exe
C:\Users\HP\Desktop\Java programs>javac Demo.java
C:\Users\HP\Desktop\Java programs>java Demo
65
C:\Users\HP\Desktop\Java programs>
```

The screenshot shows a Windows desktop environment. At the top is a dark brown header bar. Below it is a white taskbar with several icons: Start, Search, File Explorer, Mail, Edge browser, and File Manager. To the right of the taskbar is a system tray showing weather (25°C Mostly cloudy), battery level (3:14 PM), and date (6/20/2023). The main area of the screen displays a Command Prompt window titled "C:\Windows\System32\cmd.exe". The command history shows:

- "javac Demo.java"
- "java Demo"
- The output "65"
- "C:\Users\HP\Desktop\Java programs>"

Implicit Type Casting

PROGRAM 5

The screenshot shows a Windows desktop environment. At the top is a dark brown header bar. Below it is a white taskbar with several icons: Start, Search, File Explorer, Mail, Edge browser, Photos, and Task View. To the right of the taskbar is a system tray with icons for battery, signal, and date/time (3:15 PM, 6/20/2023). In the center of the screen is a Notepad window titled "Demo - Notepad". The code inside the window is:

```
/* Demo - Notepad
File Edit Format View Help
class Demo {
    public static void main(String[] args) {
        byte a = 65;
        float b = a ;
        System.out.println(b);
    }
}
```

The screenshot shows a Windows desktop environment. At the top is a dark brown header bar. Below it is a white taskbar with the same set of icons as the previous screenshot. In the center of the screen is a Command Prompt window titled "C:\Windows\System32\cmd.exe". The command history shows:

```
C:\Users\HP\Desktop\Java programs>javac Demo.java
C:\Users\HP\Desktop\Java programs>java Demo
65.0
C:\Users\HP\Desktop\Java programs>
```

Implicit Type Casting

PROGRAM 6

Demo - Notepad

```
File Edit Format View Help
class Demo {
    public static void main(String[] args) {
        byte a = 65;
        double b = a ;
        System.out.println(b);
    }
}
```

The screenshot shows a Windows desktop environment. At the top is the taskbar with various pinned icons. In the center is a Notepad window titled "Demo - Notepad" containing Java code. Below the Notepad is a command prompt window titled "C:\Windows\System32\cmd.exe". The command prompt shows the execution of the Java program, starting with "javac Demo.java" and then "java Demo", which outputs the value "65.0". The desktop background is visible at the bottom.

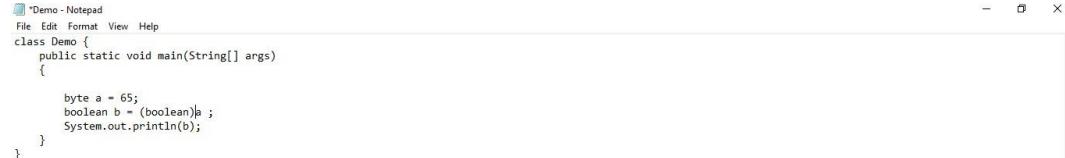
```
C:\Windows\System32\cmd.exe
C:\Users\HP\Desktop\Java programs>javac Demo.java
C:\Users\HP\Desktop\Java programs>java Demo
65.0
C:\Users\HP\Desktop\Java programs>
```

This screenshot is identical to the one above, showing the same Notepad window with Java code and the command prompt window displaying the output of the program. The taskbar and desktop background are also the same.

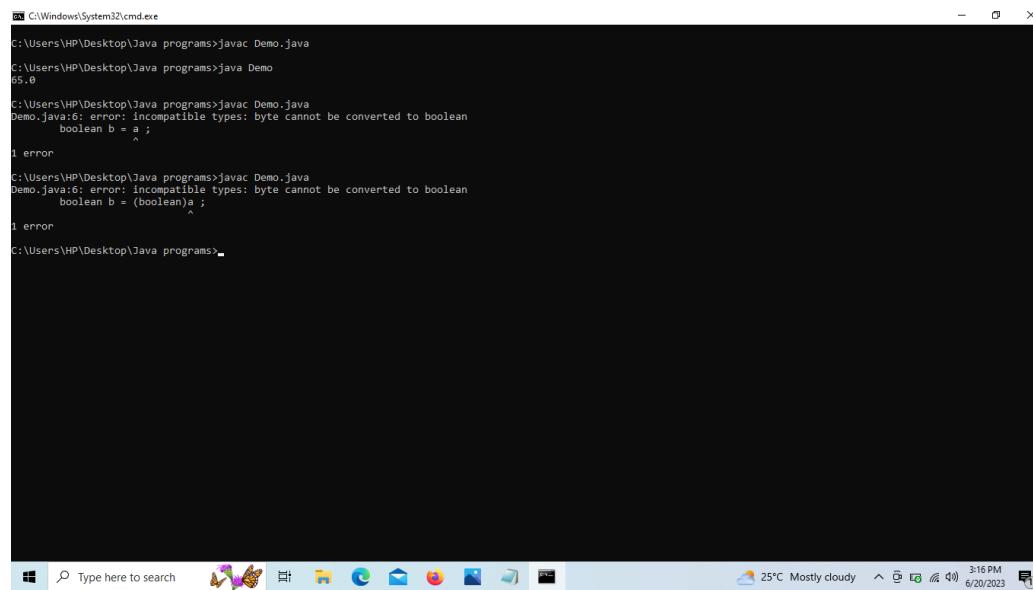
Implicit Type Casting

Java Assignment

PROGRAM 7



```
*Demo - Notepad
File Edit Format View Help
class Demo {
    public static void main(String[] args)
    {
        byte a = 65;
        boolean b = (boolean)a ;
        System.out.println(b);
    }
}
```



```
C:\Windows\System32\cmd.exe
C:\Users\HP\Desktop\Java programs>javac Demo.java
C:\Users\HP\Desktop\Java programs>java Demo
65.0

C:\Users\HP\Desktop\Java programs>javac Demo.java
Demo.java:6: error: incompatible types: byte cannot be converted to boolean
    boolean b = a ;
                   ^
1 error

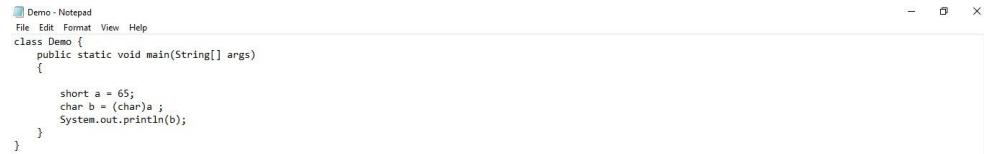
C:\Users\HP\Desktop\Java programs>javac Demo.java
Demo.java:6: error: incompatible types: byte cannot be converted to boolean
    boolean b = (boolean)a ;
                   ^
1 error

C:\Users\HP\Desktop\Java programs>
```

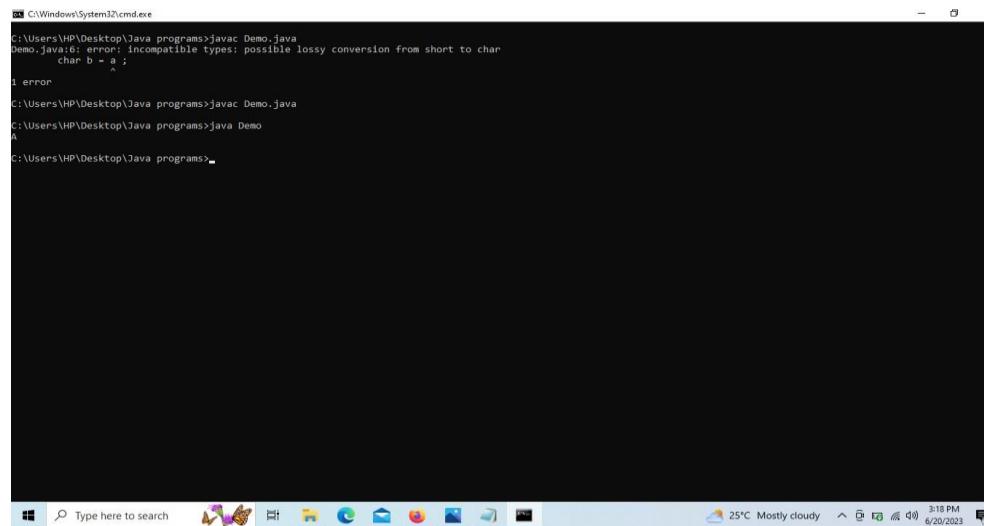
Incompatible

SHORT DATATYPE

PROGRAM 1



```
Demo - Notepad
File Edit Format View Help
class Demo {
    public static void main(String[] args) {
        short a = 65;
        char b = (char)a ;
        System.out.println(b);
    }
}
```

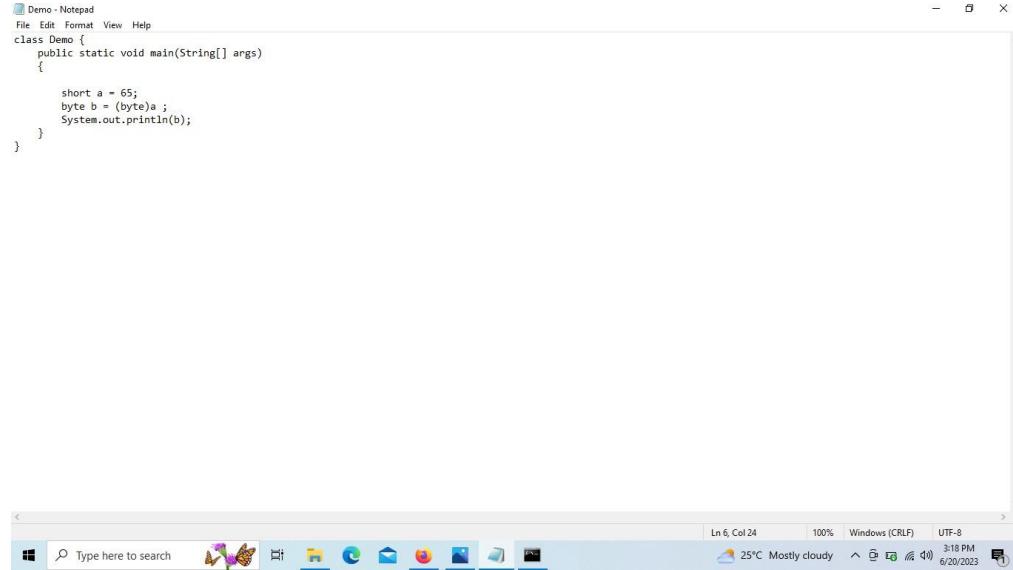


```
C:\Windows\System32\cmd.exe
C:\Users\HP\Desktop\Java programs>javac Demo.java
Demo.java:8: error: incompatible types: possible lossy conversion from short to char
        char b = a ;
                           ^
1 error
C:\Users\HP\Desktop\Java programs>javac Demo.java
C:\Users\HP\Desktop\Java programs>java Demo
A
C:\Users\HP\Desktop\Java programs>
```

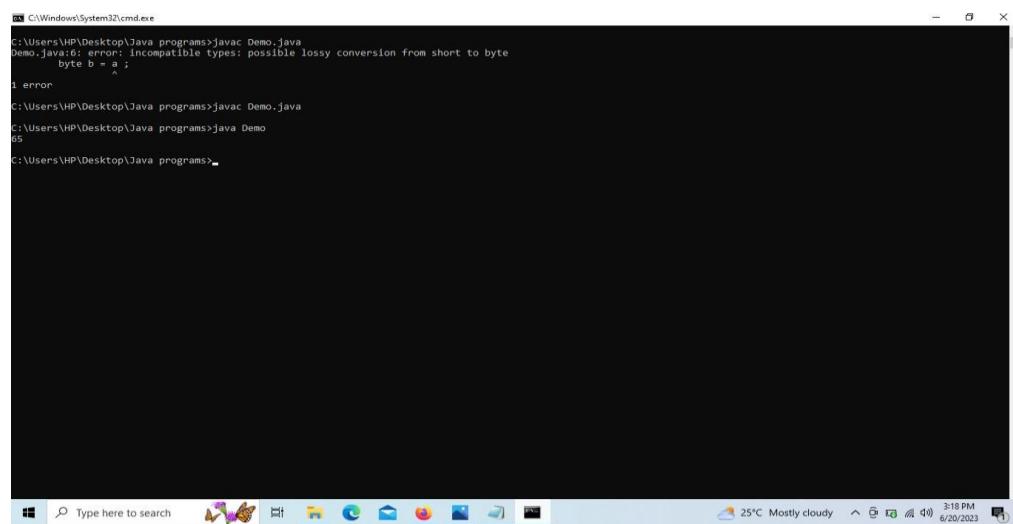
Explicit Type Casting

Java Assignment

PROGRAM 2



```
Demo - Notepad
File Edit Format View Help
class Demo {
    public static void main(String[] args) {
        short a = 65;
        byte b = (byte)a;
        System.out.println(b);
    }
}
```



```
C:\Windows\System32\cmd.exe
C:\Users\HP\Desktop\Java programs>javac Demo.java
Demo.java:6: error: incompatible types: possible lossy conversion from short to byte
        byte b = a ;
                           ^
1 error
C:\Users\HP\Desktop\Java programs>javac Demo.java
C:\Users\HP\Desktop\Java programs>java Demo
65
C:\Users\HP\Desktop\Java programs>
```

Explicit Type Casting

Java Assignment

PROGRAM 3

A screenshot of a Windows desktop environment. At the top is a dark brown header bar. Below it is a white taskbar with several icons: Start, Search, File Explorer, Edge browser, Mail, Photos, and Task View. The system tray shows the date (6/20/2023), time (3:19 PM), battery level (25%), and signal strength. In the center of the screen is a Notepad window titled "Demo - Notepad". The code inside is:

```
File Edit Format View Help
class Demo {
    public static void main(String[] args) {
        short a = 65;
        int b = a ;
        System.out.println(b);
    }
}
```

A screenshot of a Windows desktop environment, similar to the one above. It features a taskbar with icons for Start, Search, File Explorer, Edge browser, Mail, Photos, and Task View. The system tray shows the date (6/20/2023), time (3:19 PM), battery level (25%), and signal strength. In the center is a Command Prompt window titled "C:\Windows\System32\cmd.exe". The command history shows:

```
C:\Users\HP\Desktop\Java programs>javac Demo.java
C:\Users\HP\Desktop\Java programs>java Demo
65
C:\Users\HP\Desktop\Java programs>
```

Implicit Type Casting

PROGRAM 4

A screenshot of a Windows desktop environment. At the top is a dark brown header bar. Below it is a white taskbar with several icons: Start, Search, File Explorer, Edge browser, Mail, Photos, and Task View. To the right of the taskbar is a system tray showing weather (25°C Mostly cloudy), network status, battery level (3:19 PM), and date (6/20/2023). In the center of the screen is a Notepad window titled "Demo - Notepad". The code inside is:

```
File Edit Format View Help
class Demo {
    public static void main(String[] args) {
        short a = 65;
        long b = a ;
        System.out.println(b);
    }
}
```

A screenshot of a Windows desktop environment, similar to the one above. It shows a Command Prompt window titled "C:\Windows\System32\cmd.exe". The command history shows:

```
C:\Users\HP\Desktop\Java programs>javac Demo.java
C:\Users\HP\Desktop\Java programs>java Demo
65
C:\Users\HP\Desktop\Java programs>
```

Implicit Type Casting

PROGRAM 5

The screenshot shows a Windows desktop environment. At the top is a dark brown header bar. Below it is a white taskbar with several pinned icons: File Explorer, Microsoft Edge, Mail, Photos, and File Explorer again. To the right of the taskbar is a system tray showing the date (6/20/2023), time (3:20 PM), battery level (mostly cloudy), and signal strength. In the center of the screen is a Notepad window titled "Demo - Notepad". The code inside the window is:

```
/* Demo - Notepad
File Edit Format View Help
class Demo {
    public static void main(String[] args)
    {

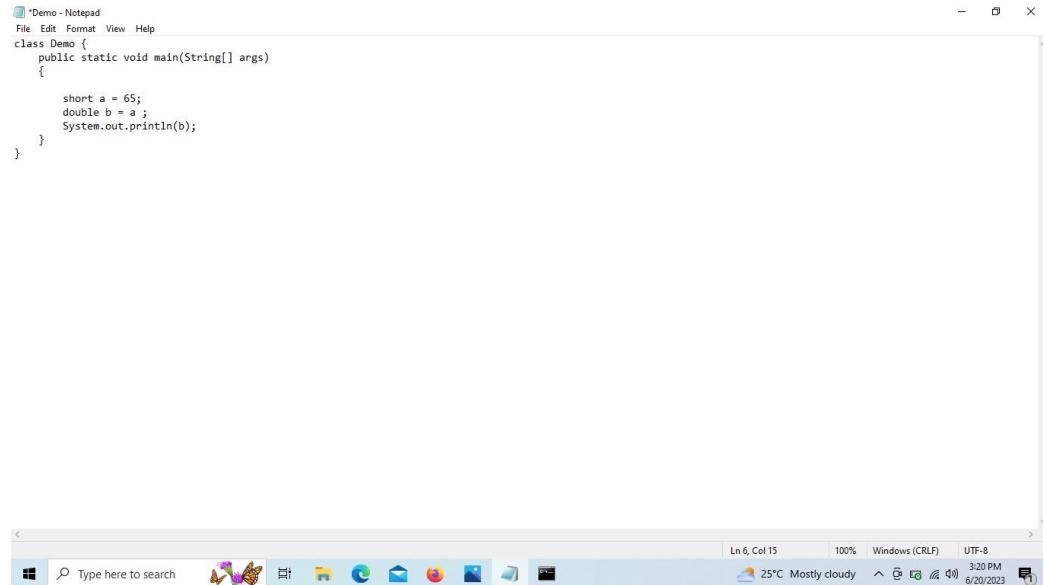
        short a = 65;
        float b = a ;
        System.out.println(b);
    }
}
```

The screenshot shows a Windows desktop environment. At the top is a dark brown header bar. Below it is a white taskbar with several pinned icons: File Explorer, Microsoft Edge, Mail, Photos, and File Explorer again. To the right of the taskbar is a system tray showing the date (6/20/2023), time (3:20 PM), battery level (mostly cloudy), and signal strength. In the center of the screen is a Command Prompt window titled "C:\Windows\System32\cmd.exe". The command history shows:

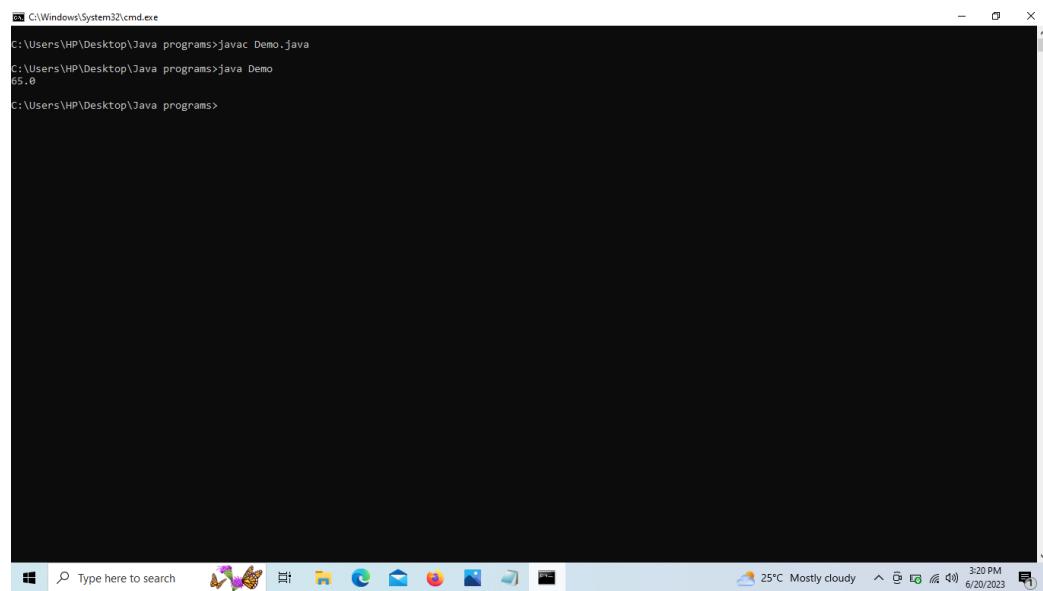
```
C:\Users\HP\Desktop\Java programs>javac Demo.java
C:\Users\HP\Desktop\Java programs>java Demo
65.0
C:\Users\HP\Desktop\Java programs>
```

Implicit Type Casting

PROGRAM 6



```
*Demo - Notepad
File Edit Format View Help
class Demo {
    public static void main(String[] args) {
        short a = 65;
        double b = a ;
        System.out.println(b);
    }
}
```



```
C:\Windows\System32\cmd.exe
C:\Users\HP\Desktop\Java programs>javac Demo.java
C:\Users\HP\Desktop\Java programs>java Demo
65.0
C:\Users\HP\Desktop\Java programs>
```

Implicit Type Casting

PROGRAM 7

A screenshot of a Windows desktop environment. At the top is a dark brown header bar. Below it is a white taskbar with several icons: Start, Search, File Explorer, Edge browser, Mail, Photos, and Task View. The system tray shows the date (6/20/2023), time (5:44 PM), battery level (84%), signal strength, and temperature (25°C Mostly cloudy). In the center of the screen is a Notepad window titled "Demo - Notepad". The code inside is:

```
File Edit Format View Help
class Demo {
    public static void main(String[] args)
    {
        short a = 65;
        boolean b=(boolean)a ;
        System.out.println(b);
    }
}
```

A screenshot of a Windows desktop environment. At the top is a dark brown header bar. Below it is a white taskbar with the same set of icons as the previous screenshot. The system tray shows the date (6/20/2023), time (5:44 PM), battery level (84%), signal strength, and temperature (25°C Mostly cloudy). In the center of the screen is a Command Prompt window titled "C:\Windows\System32\cmd.exe". The command entered is "javac Demo.java", and the output shows two errors:

```
C:\Users\HP\Desktop\Java programs>javac Demo.java
Demo.java:6: error: incompatible types: short cannot be converted to boolean
        boolean b = a;
                           ^
1 error

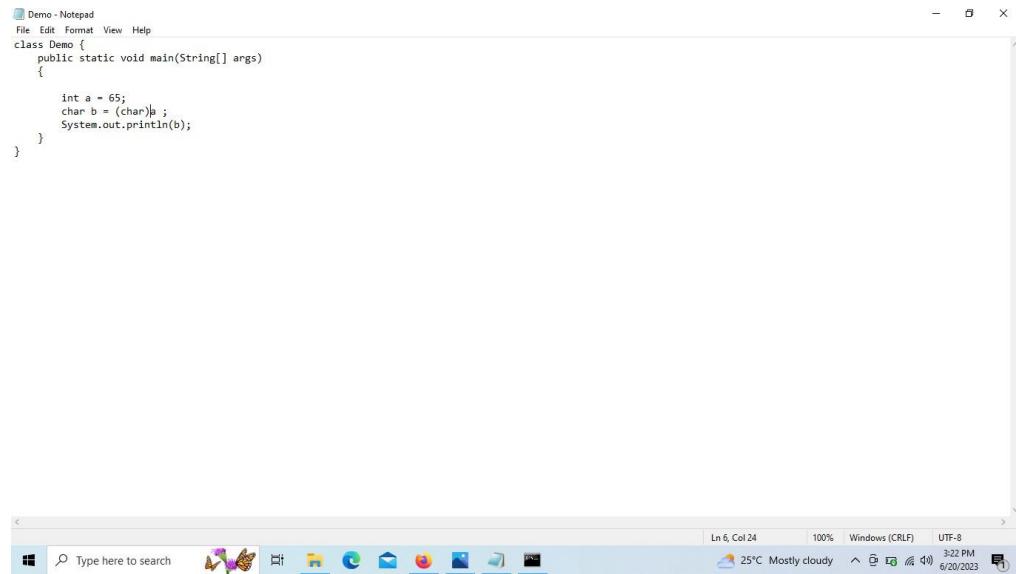
C:\Users\HP\Desktop\Java programs>javac Demo.java
Demo.java:6: error: incompatible types: short cannot be converted to boolean
        boolean b =(boolean) a ;
                           ^
1 error

C:\Users\HP\Desktop\Java programs>
```

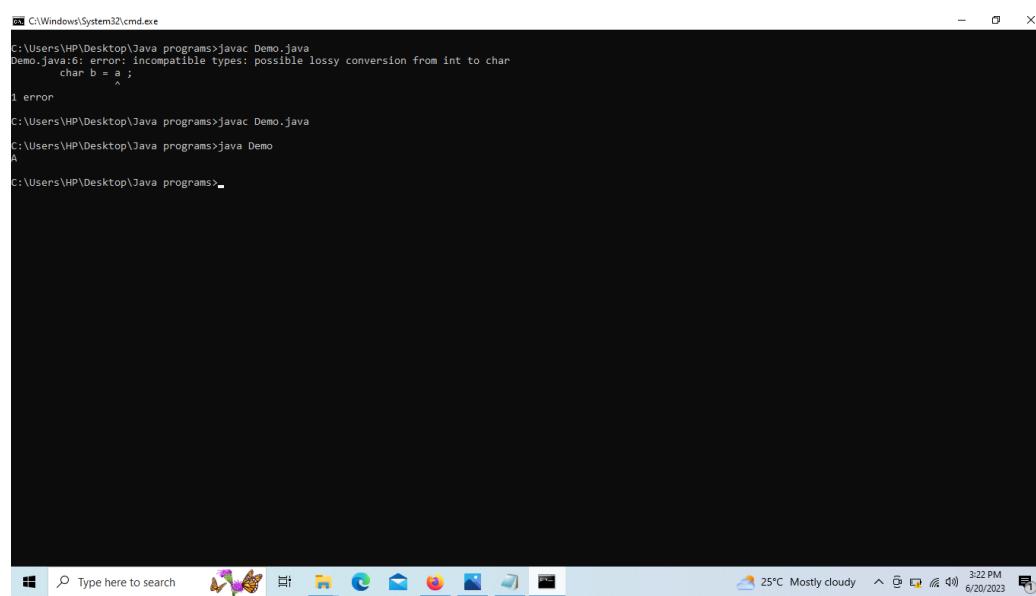
Incompatible

INT DATATYPE

PROGRAM 1



```
Demo - Notepad
File Edit Format View Help
class Demo {
    public static void main(String[] args) {
        int a = 65;
        char b = (char)a;
        System.out.println(b);
    }
}
```



```
C:\Windows\System32\cmd.exe
C:\Users\HP\Desktop\Java programs>javac Demo.java
Demo.java:6: error: incompatible types: possible lossy conversion from int to char
        char b = a;
                           ^
1 error
C:\Users\HP\Desktop\Java programs>java Demo
A
C:\Users\HP\Desktop\Java programs>
```

Explicit Type Casting

Java Assignment

PROGRAM 2

Demo - Notepad

```
File Edit Format View Help
class Demo {
    public static void main(String[] args) {
        int a = 65;
        byte b =(byte)a ;
        System.out.println(b);
    }
}
```

Ln 6, Col 23 100% Windows (CRLF) UTF-8

25°C Mostly cloudy 3:30 PM 6/20/2023

```
C:\Windows\System32\cmd.exe
C:\Users\HP\Desktop\Java programs>javac Demo.java
Demo.java:6: error: incompatible types: possible lossy conversion from int to byte
    byte b = a ;
               ^
1 error
C:\Users\HP\Desktop\Java programs>javac Demo.java
C:\Users\HP\Desktop\Java programs>java Demo
65
C:\Users\HP\Desktop\Java programs>
```

25°C Mostly cloudy 3:30 PM 6/20/2023

Explicit Type Casting

Java Assignment

PROGRAM 3

Demo - Notepad

```
File Edit Format View Help
class Demo {
    public static void main(String[] args)
    {
        int a = 65;
        short b=(short)a ;
        System.out.println(b);
    }
}
```

Type here to search

Ln 6, Col 24 100% Windows (CRLF) UTF-8

25°C Mostly cloudy 5:57 PM 6/20/2023

```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.19045.3086]
(c) Microsoft Corporation. All rights reserved.

C:\Users\HP\Desktop\Java programs>javac Demo.java
Demo.java:6: error: incompatible types: possible lossy conversion from int to short
    short b=a ;
               ^
1 error

C:\Users\HP\Desktop\Java programs>java Demo
65

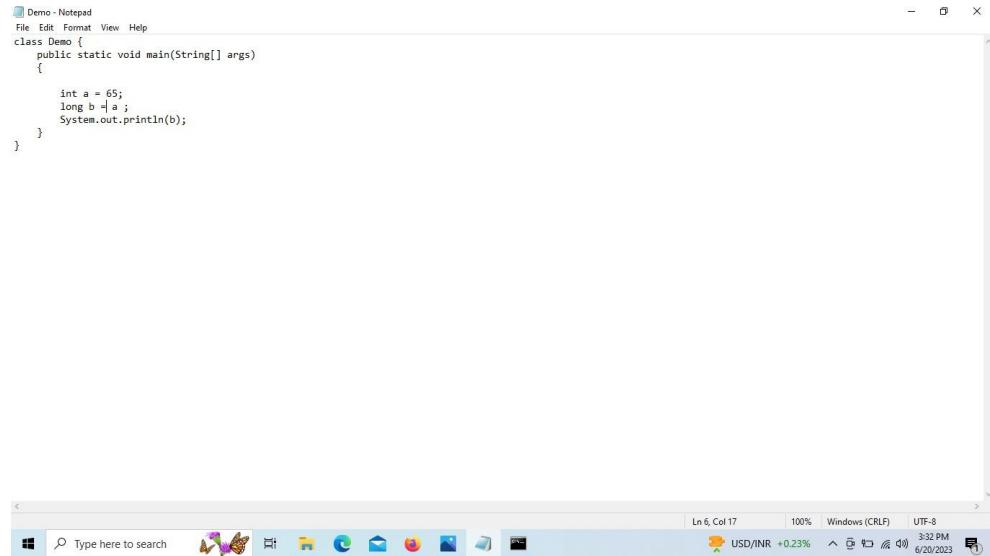
C:\Users\HP\Desktop\Java programs>
```

Type here to search

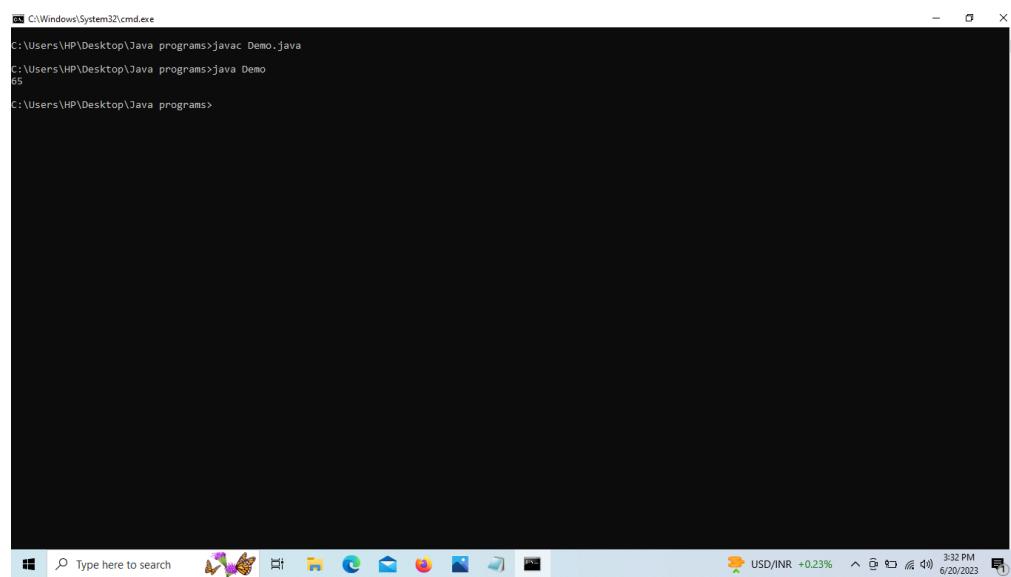
25°C Mostly cloudy 5:58 PM 6/20/2023

Explicit Type Casting

PROGRAM 4



```
Demo - Notepad
File Edit Format View Help
class Demo {
    public static void main(String[] args)
    {
        int a = 65;
        long b = a ;
        System.out.println(b);
    }
}
```



```
C:\Windows\System32\cmd.exe
C:\Users\HP\Desktop\Java programs>javac Demo.java
C:\Users\HP\Desktop\Java programs>java Demo
65
C:\Users\HP\Desktop\Java programs>
```

Implicit Type Casting

PROGRAM 5

A screenshot of a Windows desktop environment. At the top is a dark brown header bar. Below it is a white taskbar with several icons: Start button, search bar, pinned apps (File Explorer, Edge, Mail, Photos, File History), and system status (battery, signal, volume, date/time). On the desktop, there is a single open window titled "Demo - Notepad". The window contains the following Java code:

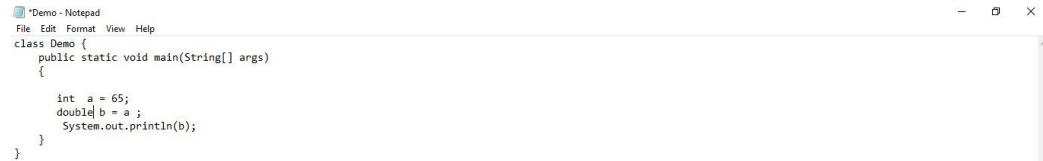
```
File Edit Format View Help
class Demo {
    public static void main(String[] args) {
        int a = 65;
        float b = a;
        System.out.println(b);
    }
}
```

A screenshot of a Windows desktop environment. At the top is a dark brown header bar. Below it is a white taskbar with several icons: Start button, search bar, pinned apps (File Explorer, Edge, Mail, Photos, File History), and system status (battery, signal, volume, date/time). On the desktop, there is a single open window titled "C:\Windows\System32\cmd.exe". The window shows the following command-line session:

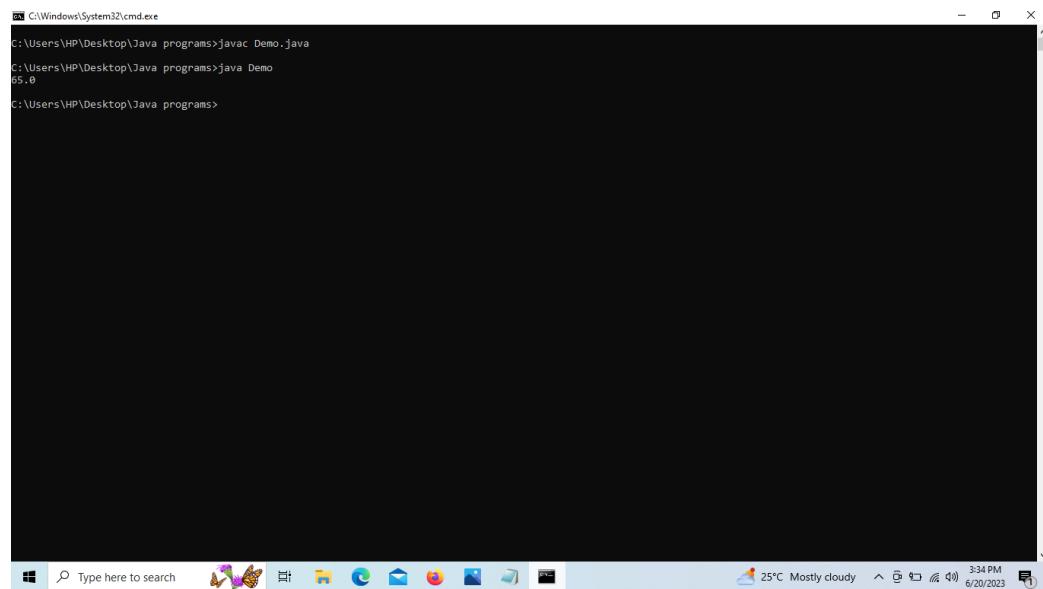
```
C:\Users\HP\Desktop\Java programs>javac Demo.java
C:\Users\HP\Desktop\Java programs>java Demo
65.0
C:\Users\HP\Desktop\Java programs>
```

Implicit Type Casting

PROGRAM 6



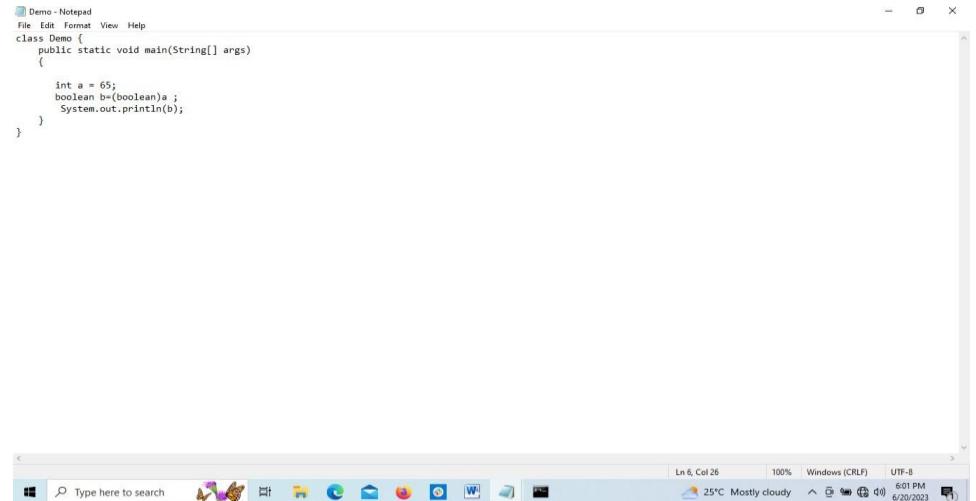
```
*Demo - Notepad
File Edit Format View Help
class Demo {
    public static void main(String[] args) {
        int a = 65;
        double b = a ;
        System.out.println(b);
    }
}
```



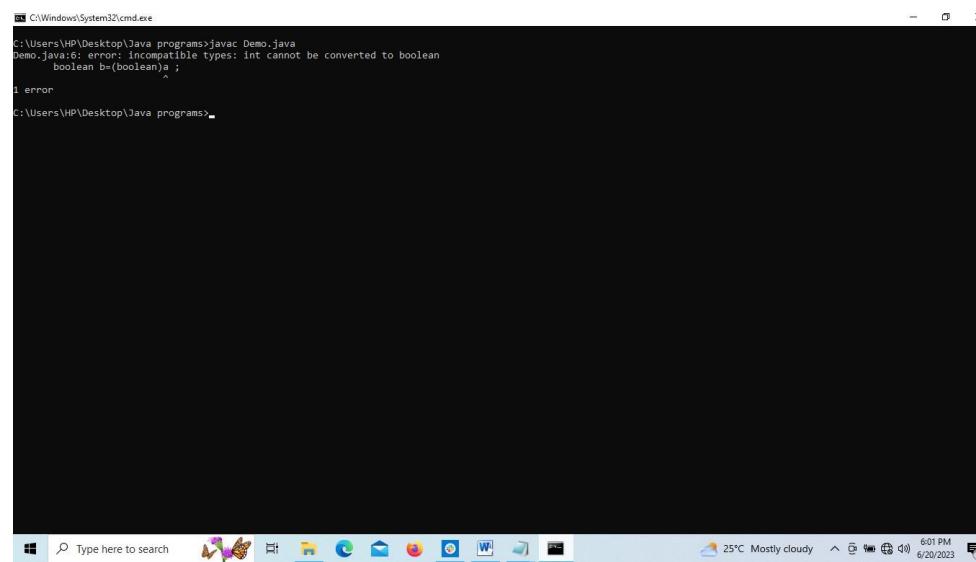
```
C:\Windows\System32\cmd.exe
C:\Users\HP\Desktop\Java programs>javac Demo.java
C:\Users\HP\Desktop\Java programs>java Demo
65.0
C:\Users\HP\Desktop\Java programs>
```

Implicit Type Casting

PROGRAM 7



```
Demo - Notepad
File Edit Format View Help
class Demo {
    public static void main(String[] args)
    {
        int a = 65;
        boolean b=(boolean)a ;
        System.out.println(b);
    }
}
```

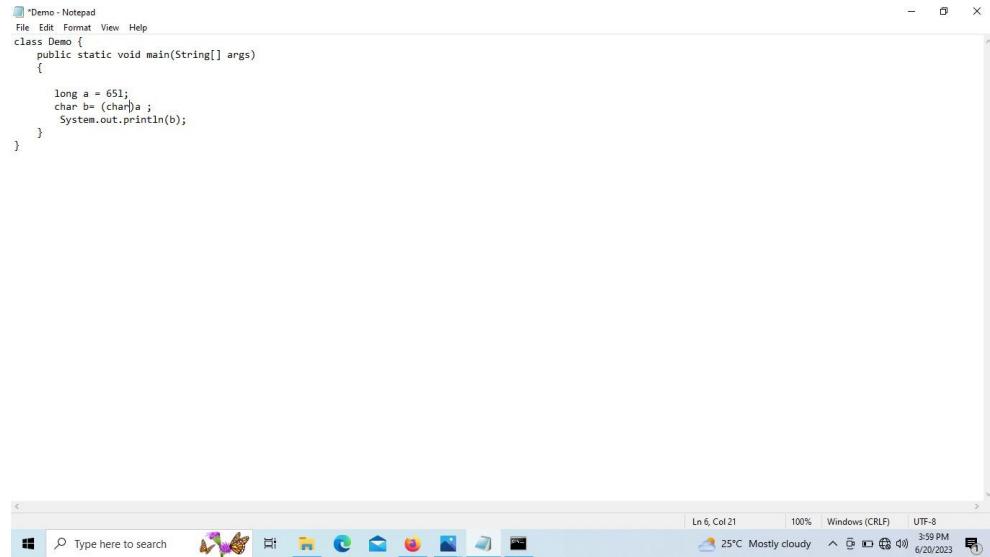


```
C:\Windows\System32\cmd.exe
C:\Users\HP\Desktop\Java programs>javac Demo.java
Demo.java:8: error: incompatible types: int cannot be converted to boolean
        boolean b=(boolean)a ;
                           ^
1 error
C:\Users\HP\Desktop\Java programs>
```

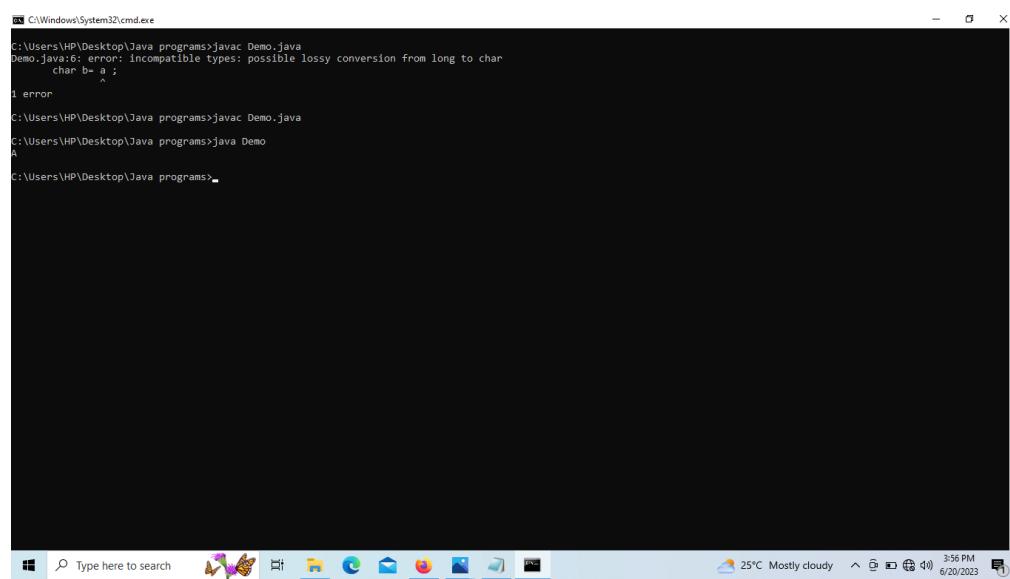
Incompatible

LONG DATATYPE

PROGRAM 1



```
Demo - Notepad
File Edit Format View Help
class Demo {
    public static void main(String[] args) {
        long a = 651;
        char b= (char)a ;
        System.out.println(b);
    }
}
```



```
C:\Windows\System32\cmd.exe
C:\Users\HP\Desktop\Java programs>javac Demo.java
Demo.java:6: error: incompatible types: possible lossy conversion from long to char
        char b= a ;
                           ^
1 error
C:\Users\HP\Desktop\Java programs>javac Demo.java
C:\Users\HP\Desktop\Java programs>java Demo
A
C:\Users\HP\Desktop\Java programs>
```

Explicit Type Casting

PROGRAM 2

A screenshot of a Windows desktop environment. At the top is a dark brown horizontal bar containing the title "Java Assignment". Below it is a white Notepad window titled "Demo - Notepad" with the following Java code:

```
class Demo {  
    public static void main(String[] args) {  
        long a = 65L;  
        byte b=(byte)a ;  
        System.out.println(b);  
    }  
}
```

The Notepad window has standard file menu options: File, Edit, Format, View, Help. The status bar at the bottom shows "Ln 6, Col 21", "100%", "Windows (CRLF)", and "UTF-8". The taskbar below the desktop shows icons for various applications like File Explorer, Edge, and Mail, along with the Notepad icon. The system tray shows the date and time as "6/20/2023 6:13 PM".

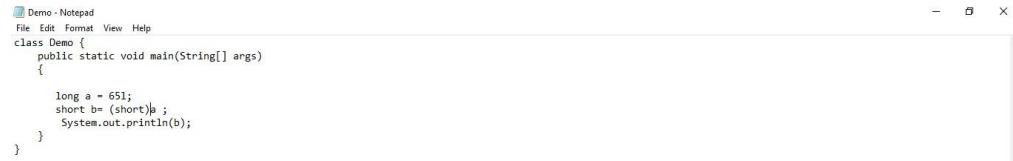
A screenshot of a Windows desktop environment. At the top is a dark brown horizontal bar containing the title "Java Assignment". Below it is a Command Prompt window titled "C:\Windows\System32\cmd.exe" with the following text:

```
C:\Users\HP\Desktop\Java programs>javac Demo.java  
Demo.java:6: error: incompatible types: possible lossy conversion from long to byte  
        byte b=a ;  
                ^  
1 error  
C:\Users\HP\Desktop\Java programs>javac Demo.java  
C:\Users\HP\Desktop\Java programs>java Demo  
65  
C:\Users\HP\Desktop\Java programs>
```

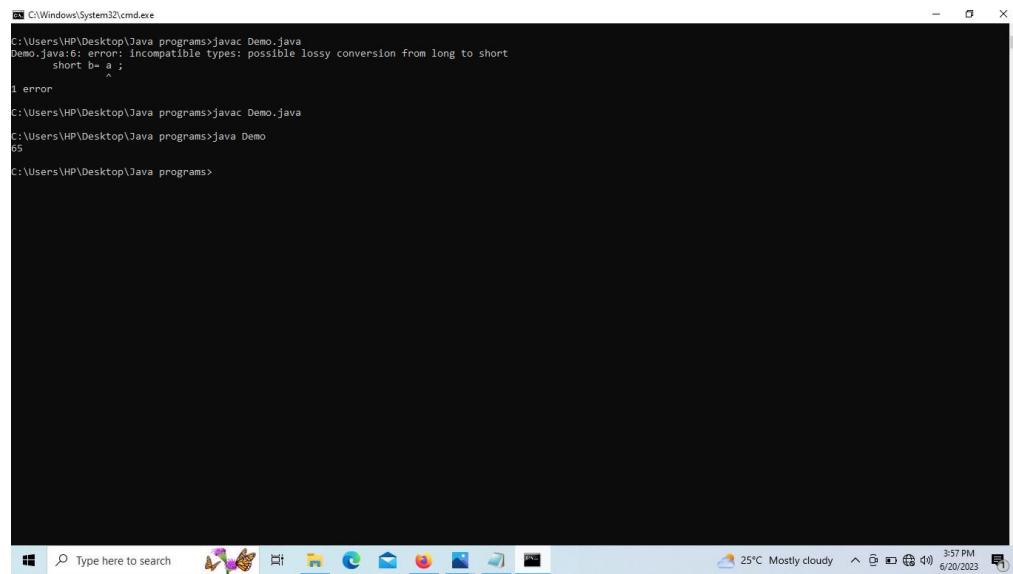
The Command Prompt window has a standard title bar with the path "C:\Windows\System32\cmd.exe". The status bar at the bottom shows "Ln 6, Col 21", "100%", "Windows (CRLF)", and "UTF-8". The taskbar below the desktop shows icons for various applications like File Explorer, Edge, and Mail, along with the Command Prompt icon. The system tray shows the date and time as "6/20/2023 6:13 PM".

Explicit Type Casting

PROGRAM 3



```
Demo - Notepad
File Edit Format View Help
class Demo {
    public static void main(String[] args) {
        long a = 651;
        short b = (short)a ;
        System.out.println(b);
    }
}
```

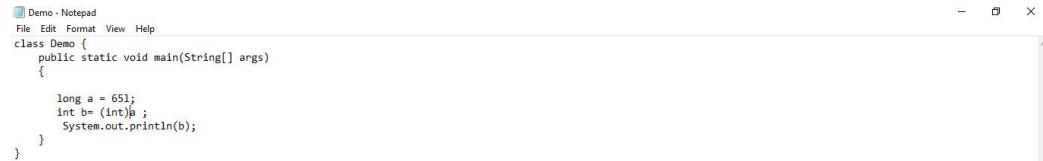


```
C:\Windows\System32\cmd.exe
C:\Users\HP\Desktop\Java programs>javac Demo.java
Demo.java:6: error: incompatible types: possible lossy conversion from long to short
        short b= a ;
                           ^
1 error
C:\Users\HP\Desktop\Java programs>javac Demo.java
C:\Users\HP\Desktop\Java programs>java Demo
65
C:\Users\HP\Desktop\Java programs>
```

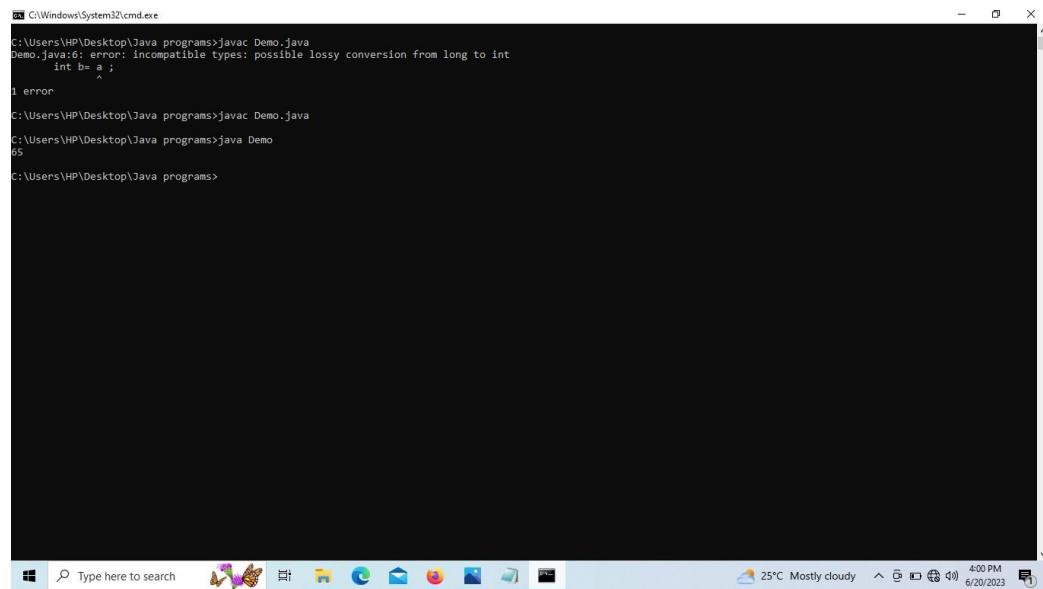
Explicit Type Casting

Java Assignment

PROGRAM 4



```
 Demo - Notepad
File Edit Format View Help
class Demo {
    public static void main(String[] args) {
        long a = 651;
        int b= (int)a ;
        System.out.println(b);
    }
}
```



```
C:\Windows\System32\cmd.exe
C:\Users\HP\Desktop\Java programs>javac Demo.java
Demo.java:6: error: incompatible types: possible lossy conversion from long to int
        int b= a ;
                           ^
1 error
C:\Users\HP\Desktop\Java programs>javac Demo.java
C:\Users\HP\Desktop\Java programs>java Demo
65
C:\Users\HP\Desktop\Java programs>
```

Explicit Type Casting

PROGRAM 5

The image shows a Windows desktop environment. At the top, there is a taskbar with various icons. Below the taskbar are two windows:

- Notepad Window:** The title bar says "Demo - Notepad". The content area contains the following Java code:

```
class Demo {  
    public static void main(String[] args) {  
        long a = 651;  
        float b= a ;  
        System.out.println(b);  
    }  
}
```
- Command Prompt Window:** The title bar says "C:\Windows\System32\cmd.exe". The content area shows the following command-line session:

```
C:\Users\HP\Desktop\Java programs>javac Demo.java  
C:\Users\HP\Desktop\Java programs>java Demo  
65.0  
C:\Users\HP\Desktop\Java programs>
```

Implicit Type Casting

PROGRAM 6

A screenshot of a Windows desktop environment. At the top is a dark brown header bar. Below it is a white taskbar with several icons: Start, Search, File Explorer, Edge browser, Mail, Photos, and Task View. To the right of the taskbar is a system tray showing weather (25°C Mostly cloudy), battery level, and date/time (6/20/2023 4:01 PM). In the center of the screen is a Notepad window titled "Demo - Notepad". The code inside is:

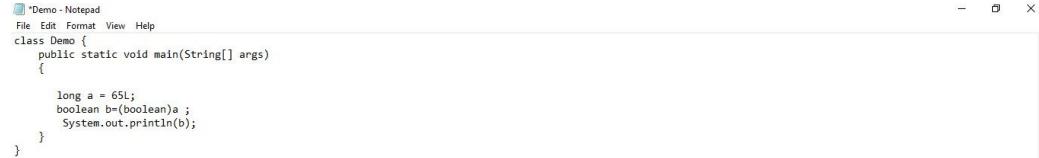
```
/* Demo - Notepad
File Edit Format View Help
class Demo {
    public static void main(String[] args) {
        long a = 651;
        double b = a ;
        System.out.println(b);
    }
}
```

A screenshot of a Windows desktop environment, similar to the one above. It shows a Command Prompt window titled "C:\Windows\System32\cmd.exe". The command history shows:

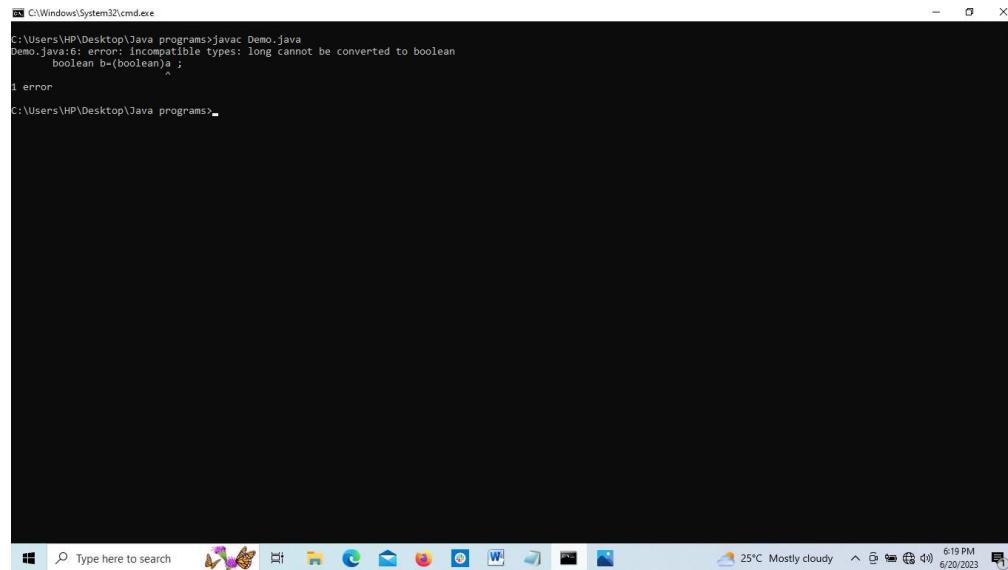
```
C:\Users\HP\Desktop\Java programs>javac Demo.java
C:\Users\HP\Desktop\Java programs>java Demo
65.0
C:\Users\HP\Desktop\Java programs>
```

Implicit Type Casting

PROGRAM 7



```
/* Demo - Notepad
File Edit Format View Help
class Demo {
public static void main(String[] args)
{
long a = 65L;
boolean b=(boolean)a ;
System.out.println(b);
}
}
```

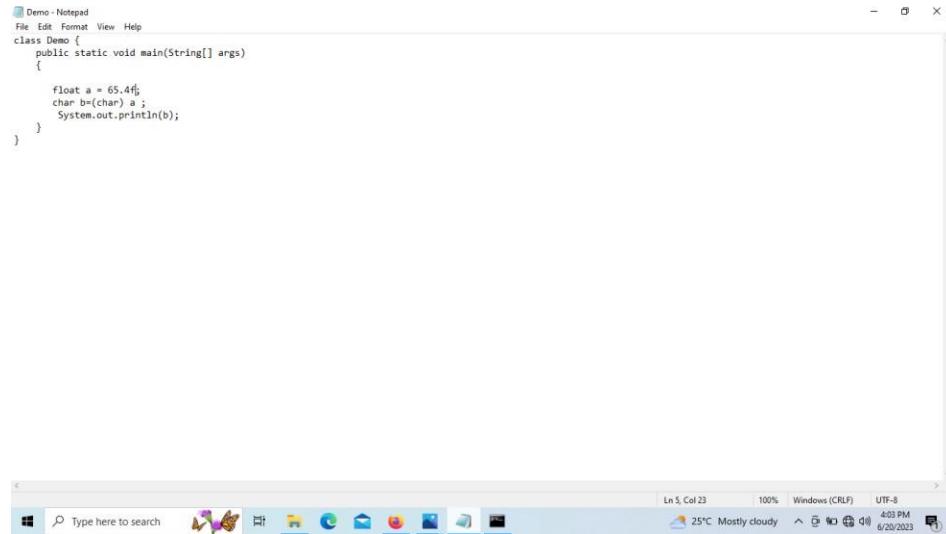


```
C:\Windows\System32\cmd.exe
C:\Users\HP\Desktop\Java programs>javac Demo.java
Demo.java:8: error: incompatible types: long cannot be converted to boolean
        boolean b=(boolean)a ;
                           ^
1 error
C:\Users\HP\Desktop\Java programs>
```

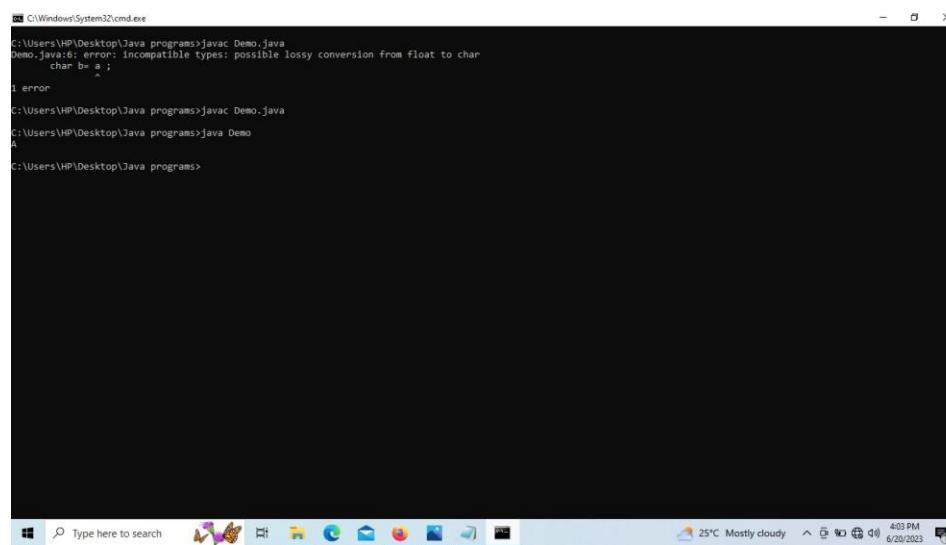
Incompatible

FLOAT DATATYPE

PROGRAM 1



```
Demo - Notepad
File Edit Format View Help
class Demo {
    public static void main(String[] args) {
        float a = 65.4f;
        char b=(char) a ;
        System.out.println(b);
    }
}
```



```
C:\Windows\System32\cmd.exe
C:\Users\HP\Desktop\Java programs>javac Demo.java
Demo.java:8: error: incompatible types: possible lossy conversion from Float to char
        char b=(char) a ;
                           ^
1 error
C:\Users\HP\Desktop\Java programs>javac Demo.java
C:\Users\HP\Desktop\Java programs>java Demo
A
C:\Users\HP\Desktop\Java programs>
```

Explicit Type Casting

PROGRAM 2

Demo - Notepad

```
File Edit Format View Help
class Demo {
    public static void main(String[] args) {
        float a = 65.4f;
        byte b=(byte)a ;
        System.out.println(b);
    }
}
```

Ln 6, Col 21 100% Windows (CRLF) UTF-8

25°C Mostly cloudy 4:03 PM 6/20/2023

```
C:\Windows\System32\cmd.exe
C:\Users\HP\Desktop\Java programs>javac Demo.java
Demo.java:6: error: incompatible types: possible lossy conversion from float to byte
        byte b= a ;
                           ^
1 error
C:\Users\HP\Desktop\Java programs>javac Demo.java
C:\Users\HP\Desktop\Java programs>java Demo
65
C:\Users\HP\Desktop\Java programs>
```

25°C Mostly cloudy 4:03 PM 6/20/2023

Explicit Type Casting

PROGRAM 3

Demo - Notepad

```
File Edit Format View Help
class Demo {
    public static void main(String[] args) {
        float a = 65.4f;
        short b=(short)a;
        System.out.println(b);
    }
}
```

Ln 6, Col 23 100% Windows (CRLF) UTF-8

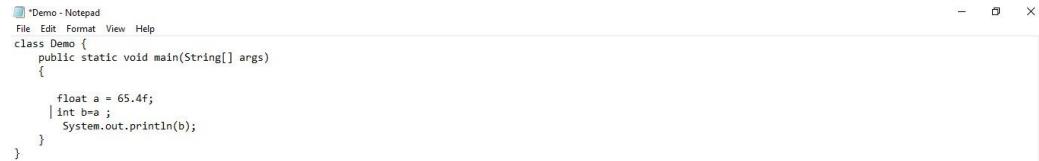
25°C Mostly cloudy 4:05 PM 6/20/2023

```
C:\Windows\System32\cmd.exe
C:\Users\HP\Desktop\Java programs>javac Demo.java
Demo.java:6: error: incompatible types: possible lossy conversion from float to short
        short b=a ;
               ^
1 error
C:\Users\HP\Desktop\Java programs>javac Demo.java
C:\Users\HP\Desktop\Java programs>java Demo
65
C:\Users\HP\Desktop\Java programs>
```

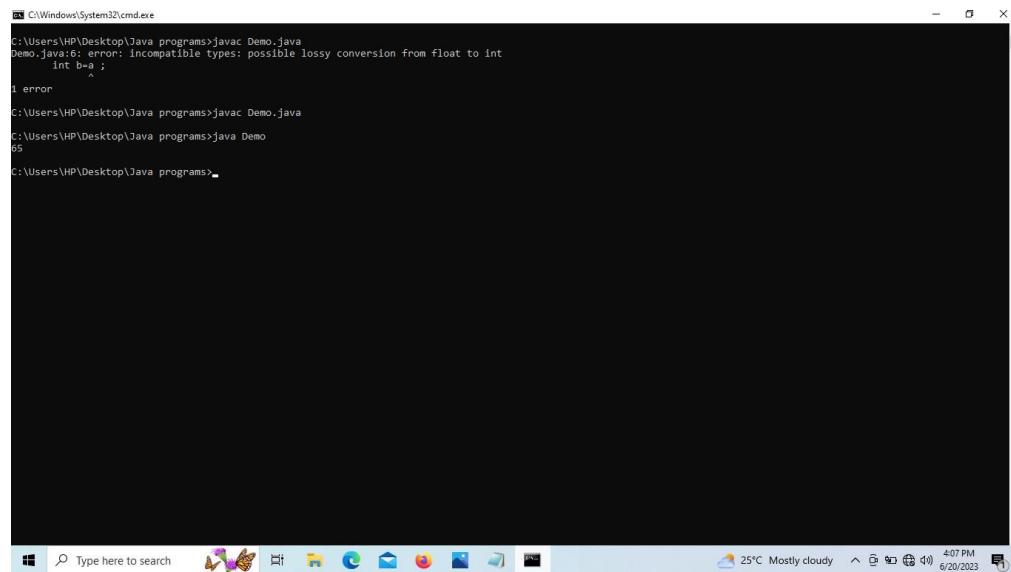
25°C Mostly cloudy 4:04 PM 6/20/2023

Explicit Type Casting

PROGRAM 4



```
/*Demo - Notepad
File Edit Format View Help
class Demo {
    public static void main(String[] args) {
        float a = 65.4f;
        int b=a ;
        System.out.println(b);
    }
}
```



```
C:\Windows\System32\cmd.exe
C:\Users\HP\Desktop\Java programs>javac Demo.java
Demo.java:6: error: incompatible types: possible lossy conversion from float to int
        int b=a ;
                  ^
1 error

C:\Users\HP\Desktop\Java programs>javac Demo.java
C:\Users\HP\Desktop\Java programs>java Demo
65

C:\Users\HP\Desktop\Java programs>
```

Explicit Type Casting

PROGRAM 5

A screenshot of a Windows desktop environment. At the top is a dark brown header bar. Below it is a white taskbar with several icons: Start, Search, File Explorer, Mail, Edge, and others. The main area shows a Notepad window titled "Demo - Notepad" containing Java code. The code defines a class "Demo" with a main method that prints the value of a float variable "a" cast to a long variable "b".

```
/* Demo - Notepad
File Edit Format View Help
class Demo {
    public static void main(String[] args)
    {
        float a = 65.4f;
        long b=(long)a ;
        System.out.println(b);
    }
}
```

A screenshot of a Windows desktop environment. At the top is a dark brown header bar. Below it is a white taskbar with several icons: Start, Search, File Explorer, Mail, Edge, and others. The main area shows a Command Prompt window titled "C:\Windows\System32\cmd.exe". It displays the output of running javac and java commands on a Java program named "Demo.java". The output shows a compilation error due to incompatible types and a runtime error indicating a lossy conversion from float to long.

```
C:\Users\HP\Desktop\Java programs>javac Demo.java
Demo.java:6: error: incompatible types: possible lossy conversion from float to long
        long b=a ;
               ^
1 error
C:\Users\HP\Desktop\Java programs>javac Demo.java
C:\Users\HP\Desktop\Java programs>java Demo
65
C:\Users\HP\Desktop\Java programs>
```

Explicit Type Casting

Java Assignment

PROGRAM 6

A screenshot of a Windows desktop environment. At the top is a dark brown header bar. Below it is a white taskbar with several icons: Start, Search, File Explorer, Edge browser, Mail, Photos, and Videos. The system tray shows the date (6/20/2023), time (6:31 PM), weather (25°C Mostly cloudy), and battery status. In the center of the screen is a Notepad window titled "Demo - Notepad". The code inside the window is:

```
/* Demo - Notepad
File Edit Format View Help
class Demo {
    public static void main(String[] args) {
        float a = 65.4f;
        double b=a ;
        System.out.println(b);
    }
}
```

A screenshot of a Windows desktop environment. At the top is a dark brown header bar. Below it is a white taskbar with the same set of icons as the previous screenshot. The system tray shows the date (6/20/2023), time (4:08 PM), weather (25°C Mostly cloudy), and battery status. In the center of the screen is a Command Prompt window titled "C:\Windows\System32\cmd.exe". The command history shows:

```
C:\Users\HP\Desktop\Java programs>javac Demo.java
C:\Users\HP\Desktop\Java programs>java Demo
65.4000015258789
C:\Users\HP\Desktop\Java programs>
```

Implicit Type Casting

PROGRAM 7

Demo - Notepad

```
File Edit Format View Help
class Demo {
    public static void main(String[] args)
    {

        float a = 65.4f;
        boolean b=(boolean)a ;
        System.out.println(b);
    }
}
```

Ln 6, Col 27 100% Windows (CRLF) UTF-8

25°C Mostly cloudy 4:09 PM 6/20/2023

C:\Windows\System32\cmd.exe

```
C:\Users\HP\Desktop\Java programs>javac Demo.java
Demo.java:6: error: incompatible types: float cannot be converted to boolean
    boolean b=(boolean)a ;
                           ^
1 error

C:\Users\HP\Desktop\Java programs>javac Demo.java
Demo.java:6: error: incompatible types: float cannot be converted to boolean
    boolean b=(boolean)a ;
                           ^
1 error

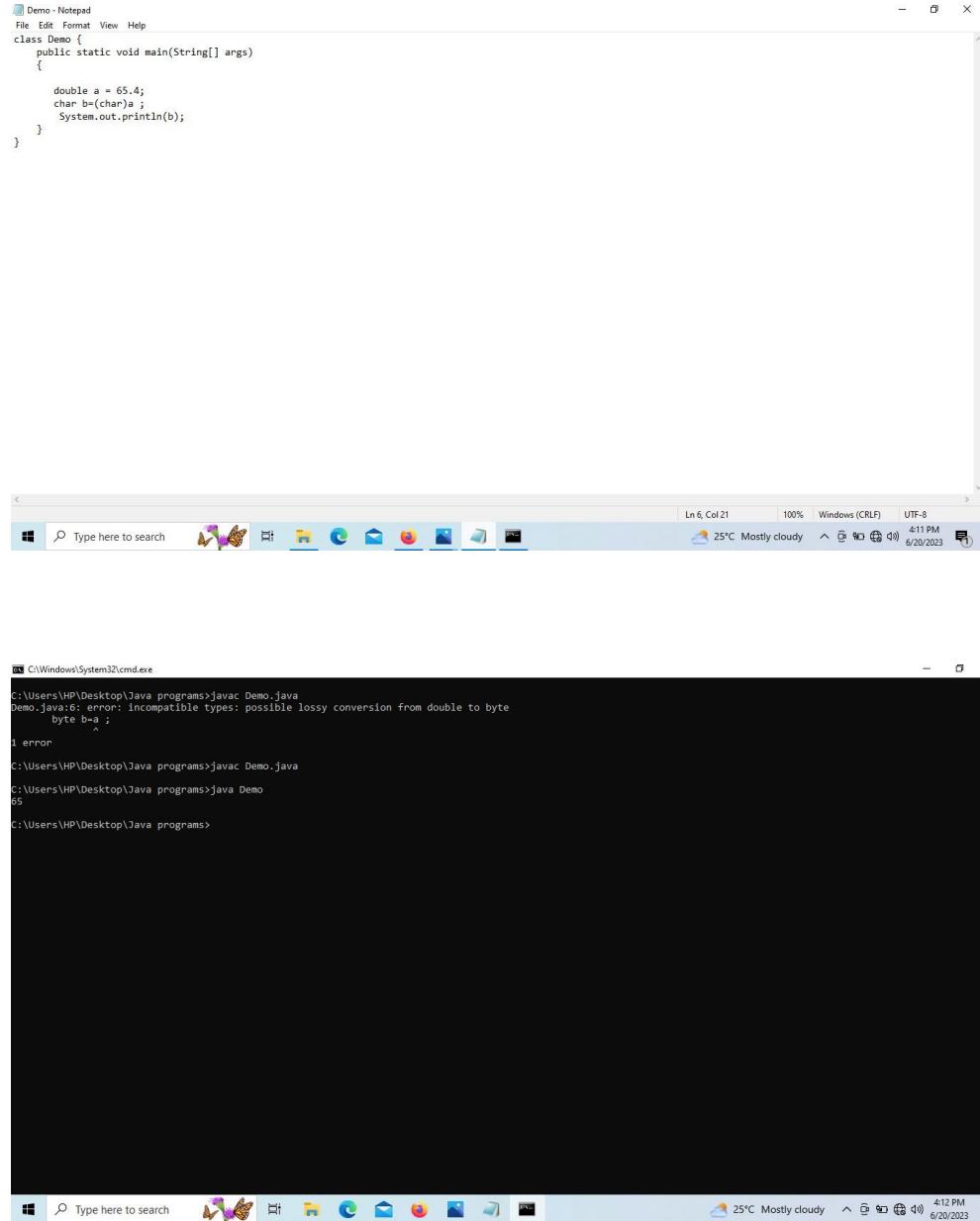
C:\Users\HP\Desktop\Java programs>
```

25°C Mostly cloudy 4:09 PM 6/20/2023

Incompatible

DOUBLE DATATYPE

PROGRAM 1



Demo - Notepad

```
File Edit Format View Help
class Demo {
    public static void main(String[] args) {
        double a = 65.4;
        char b=(char)a ;
        System.out.println(b);
    }
}
```

Ln 6, Col 21 100% Windows (CRLF) UTF-8

Type here to search 25°C Mostly cloudy 4:11 PM 6/20/2023


```
C:\Windows\System32\cmd.exe
C:\Users\HP\Desktop\Java programs>javac Demo.java
Demo.java:6: error: incompatible types: possible lossy conversion from double to byte
        byte b=a ;
                           ^
1 error
C:\Users\HP\Desktop\Java programs>javac Demo.java
C:\Users\HP\Desktop\Java programs>java Demo
65
C:\Users\HP\Desktop\Java programs>
```

25°C Mostly cloudy 4:12 PM 6/20/2023

Explicit Type Casting

PROGRAM 2

Demo - Notepad

```
File Edit Format View Help
class Demo {
    public static void main(String[] args) {
        double a = 65.4;
        byte b=(byte)a ;
        System.out.println(b);
    }
}
```

Ln 6, Col 21 100% Windows (CRLF) UTF-8

25°C Mostly cloudy 6:56 PM 6/20/2023

```
C:\Windows\System32\cmd.exe
C:\Users\HP\Desktop\Java programs>javac Demo.java
Demo.java:6: error: incompatible types: possible lossy conversion from double to byte
        byte b=a ;
                           ^
1 error
C:\Users\HP\Desktop\Java programs>javac Demo.java
C:\Users\HP\Desktop\Java programs>java Demo
65
C:\Users\HP\Desktop\Java programs>
```

25°C Mostly cloudy 6:56 PM 6/20/2023

Explicit Type Casting

PROGRAM 3

Demo - Notepad

```
File Edit Format View Help
class Demo {
    public static void main(String[] args) {
        double a = 65.4;
        short b=(short)a;
        System.out.println(b);
    }
}
```

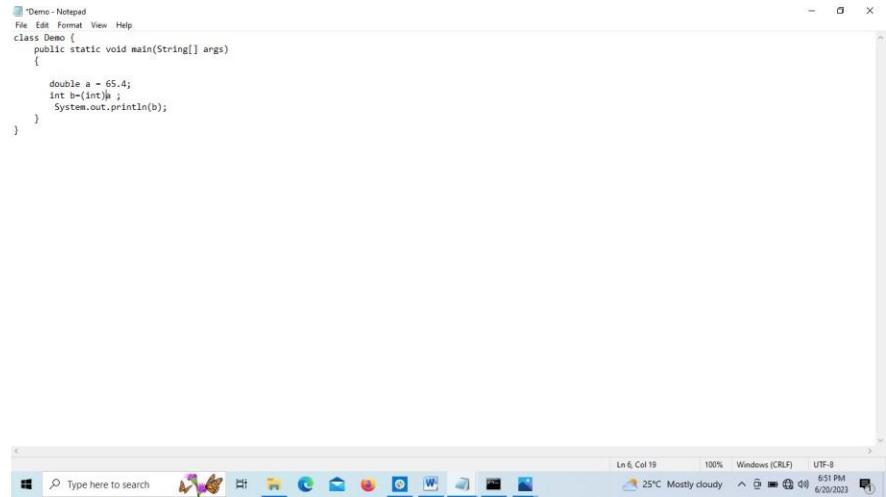
Type here to search Ln 6, Col 23 100% Windows (CRLF) UTF-8 25°C Mostly cloudy 4:13 PM 6/20/2023

```
C:\Windows\System32\cmd.exe
C:\Users\HP\Desktop\Java programs>javac Demo.java
Demo.java:6: error: incompatible types: possible lossy conversion from double to short
        short b=a;
                           ^
1 error
C:\Users\HP\Desktop\Java programs>javac Demo.java
C:\Users\HP\Desktop\Java programs>java Demo
65
C:\Users\HP\Desktop\Java programs>
```

Type here to search 25°C Mostly cloudy 4:12 PM 6/20/2023

Explicit Type Casting

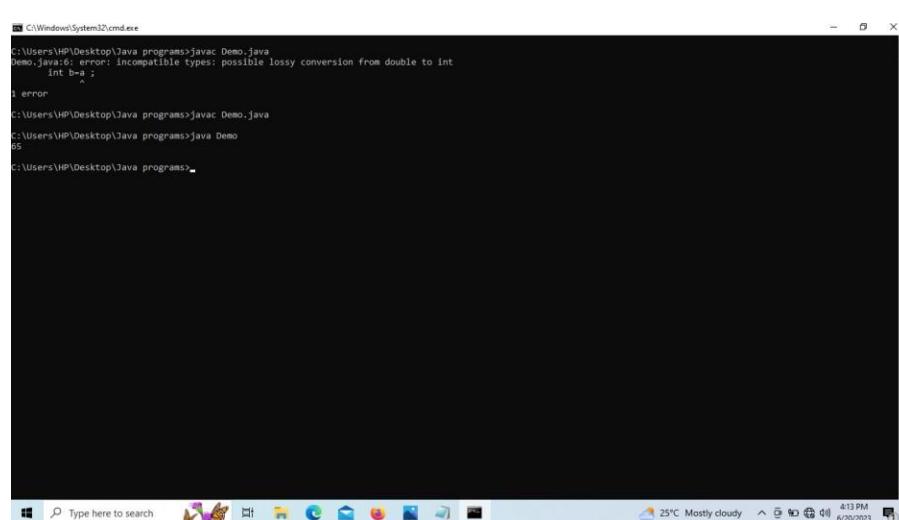
PROGRAM 4



The screenshot shows a Windows Notepad window titled "Demo - Notepad". It contains the following Java code:

```
/* Demo - Notepad
File Edit Format View Help
class Demo {
    public static void main(String[] args) {
        double a = 65.4;
        int b=(int)a;
        System.out.println(b);
    }
}
```

The code has a syntax error at the line `int b=(int)a;`. The Java compiler will catch this error during compilation.



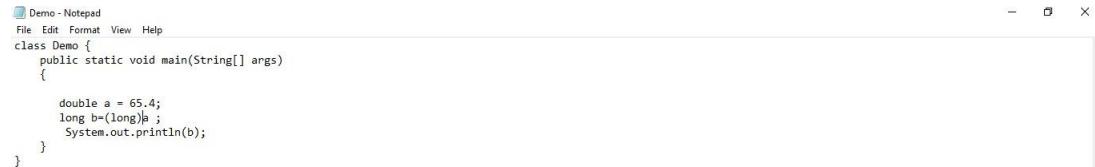
The screenshot shows a Windows Command Prompt window titled "C:\Windows\System32\cmd.exe". It displays the following command-line session:

```
C:\Users\HP\Desktop\Java programs>javac Demo.java
Demo.java: error: incompatible types: possible lossy conversion from double to int
    int b=a;
           ^
1 error
C:\Users\HP\Desktop\Java programs>javac Demo.java
C:\Users\HP\Desktop\Java programs>java Demo
65
C:\Users\HP\Desktop\Java programs>
```

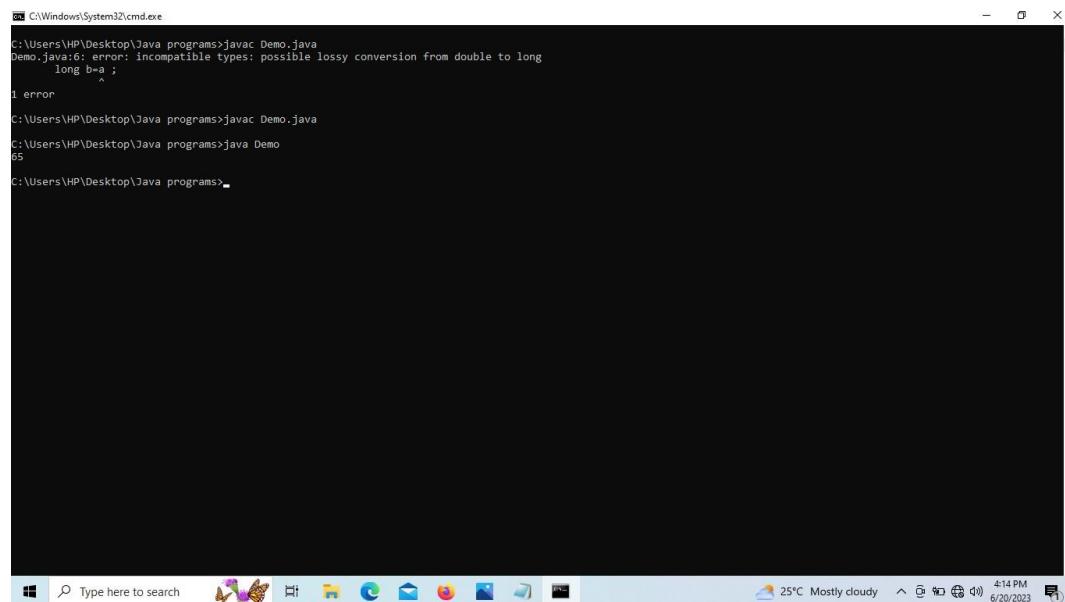
The output shows that the Java compiler found a type conversion error (lossy conversion from double to int) and produced one error. The program then runs successfully, printing the value 65 to the console.

Explicit Type Casting

PROGRAM 5



```
Demo - Notepad
File Edit Format View Help
class Demo {
    public static void main(String[] args)
    {
        double a = 65.4;
        long b=(long)a ;
        System.out.println(b);
    }
}
```



```
C:\Windows\System32\cmd.exe
C:\Users\HP\Desktop\Java programs>javac Demo.java
Demo.java:6: error: incompatible types: possible lossy conversion from double to long
        long b=a ;
                           ^
1 error

C:\Users\HP\Desktop\Java programs>javac Demo.java
C:\Users\HP\Desktop\Java programs>java Demo
65

C:\Users\HP\Desktop\Java programs>
```

Explicit Type Casting

Java Assignment

PROGRAM 6



Demo - Notepad

```
File Edit Format View Help
class Demo {
    public static void main(String[] args) {
        double a = 65.4;
        float b=(float)a ;
        System.out.println(b);
    }
}
```

Type here to search

Ln 6, Col 23 100% Windows (CRLF) UTF-8

25°C Mostly cloudy 4:15 PM 6/20/2023

C:\Windows\System32\cmd.exe

```
C:\Users\HP\Desktop\Java programs>javac Demo.java
Demo.java:6: error: incompatible types: possible lossy conversion from double to float
    float b=a ;
           ^
1 error
C:\Users\HP\Desktop\Java programs>javac Demo.java
C:\Users\HP\Desktop\Java programs>java Demo
65.4
C:\Users\HP\Desktop\Java programs>
```

Type here to search

25°C Mostly cloudy 4:15 PM 6/20/2023

Explicit Type Casting

PROGRAM 7

Demo - Notepad

```
File Edit Format View Help
class Demo {
    public static void main(String[] args)
    {
        double a = 65.4;
        boolean b=(boolean)a ;
        System.out.println(b);
    }
}
```

Ln 6, Col 27 100% Windows (CRLF) UTF-8

25°C Mostly cloudy 4:16 PM 6/20/2023

```
C:\Windows\System32\cmd.exe
C:\Users\HP\Desktop\Java programs>javac Demo.java
Demo.java:6: error: incompatible types: double cannot be converted to boolean
    boolean b=a ;
               ^
1 error

C:\Users\HP\Desktop\Java programs>javac Demo.java
Demo.java:6: error: incompatible types: double cannot be converted to boolean
    boolean b=(boolean)a ;
               ^
1 error

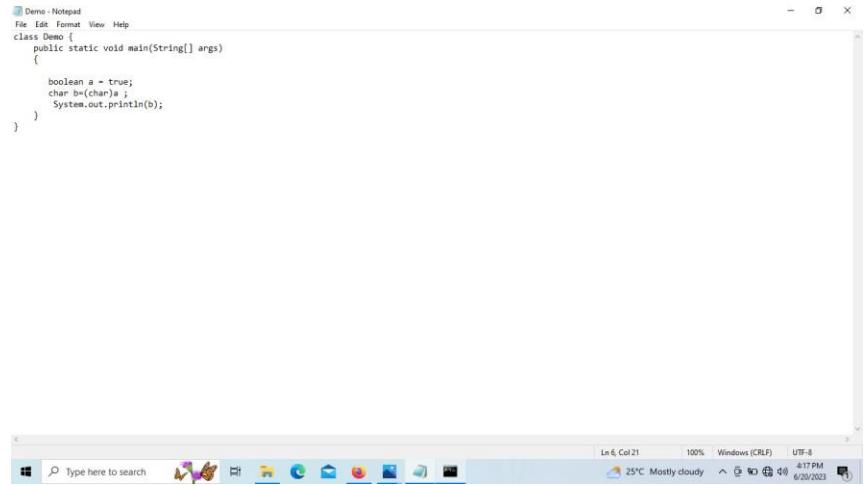
C:\Users\HP\Desktop\Java programs>
```

25°C Mostly cloudy 4:16 PM 6/20/2023

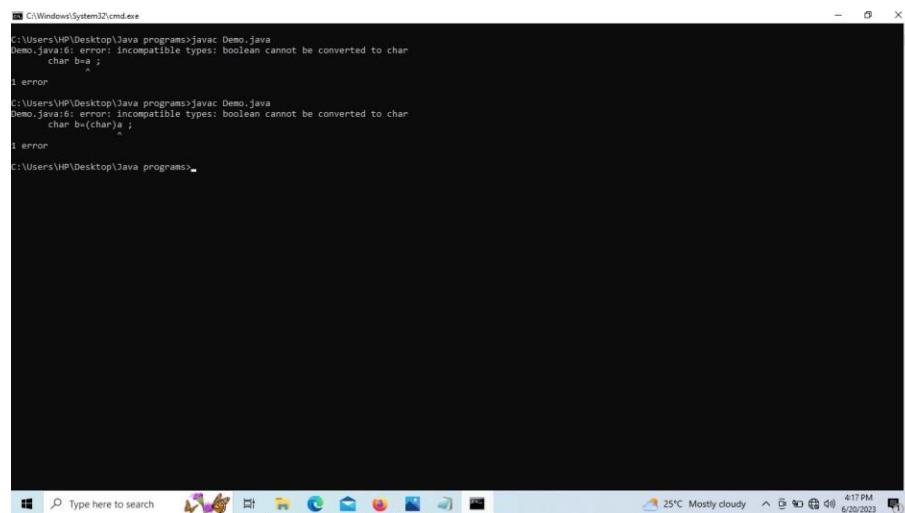
Incompatible

BOOLEAN DATATYPE

PROGRAM 1



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



```
C:\Windows\System32\cmd.exe
C:\Users\HP\Desktop\Java programs>javac Demo.java
Demo.java:6: error: incompatible types: boolean cannot be converted to char
        char b=a;
               ^
1 error

C:\Users\HP\Desktop\Java programs>javac Demo.java
Demo.java:6: error: incompatible types: boolean cannot be converted to char
        char b=(char)a;
               ^
1 error

C:\Users\HP\Desktop\Java programs>
```

Incompatible

PROGRAM 2

Demo - Notepad

```
File Edit Format View Help
class Demo {
    public static void main(String[] args)
    {

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

The screenshot shows a Windows desktop environment. In the center is a Notepad window titled "Demo - Notepad" containing Java code. The code defines a class named "Demo" with a single method "main". Inside "main", there is a declaration of a boolean variable "a" set to true, followed by a line where "a" is cast to a byte variable "b". Finally, "b" is printed to the console using "System.out.println". The Notepad window has standard menu options like File, Edit, Format, View, and Help. The taskbar at the bottom of the screen displays various pinned icons and the system tray.

C:\Windows\System32\cmd.exe

```
C:\Users\HP\Desktop>javac Demo.java
Demo.java:6: error: incompatible types: boolean cannot be converted to byte
        byte b=(byte)a ;
                           ^
1 error

C:\Users\HP\Desktop\Java programs>
```

The screenshot shows a Windows desktop environment. In the center is a Command Prompt window titled "C:\Windows\System32\cmd.exe". It displays the output of a "javac" command run on a file named "Demo.java". The output shows one error: an incompatible type error at line 6, where a boolean variable "a" is being cast to a byte variable "b". The Command Prompt window has a standard title bar and a black background for the text area. The taskbar at the bottom of the screen displays various pinned icons and the system tray.

Incompatible

PROGRAM 3

Demo - Notepad

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

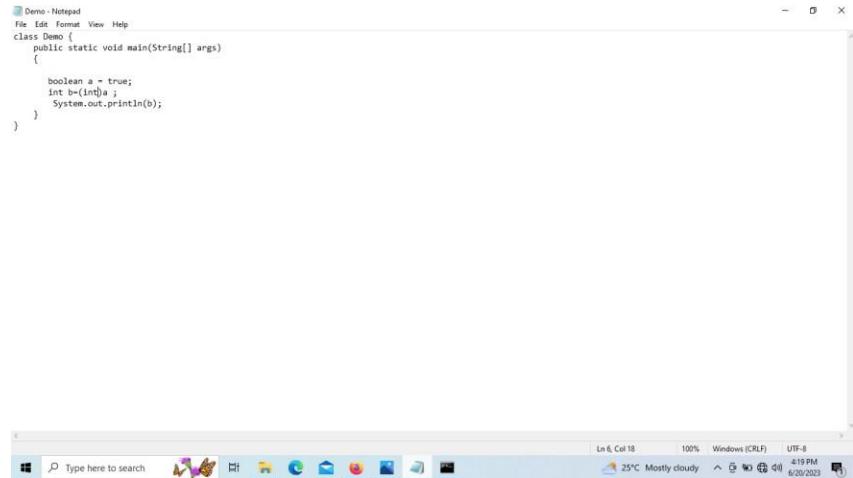
Ln 6, Col 22 100% Windows (CRLF) UTF-8
25°C Mostly cloudy 4:18 PM 6/20/2023

```
C:\Windows\System32\cmd.exe
C:\Users\HP\Desktop\Java programs>javac Demo.java
Demo.java: error: incompatible types: boolean cannot be converted to short
    short b=(short)a ;
               ^
1 error
C:\Users\HP\Desktop\Java programs>
```

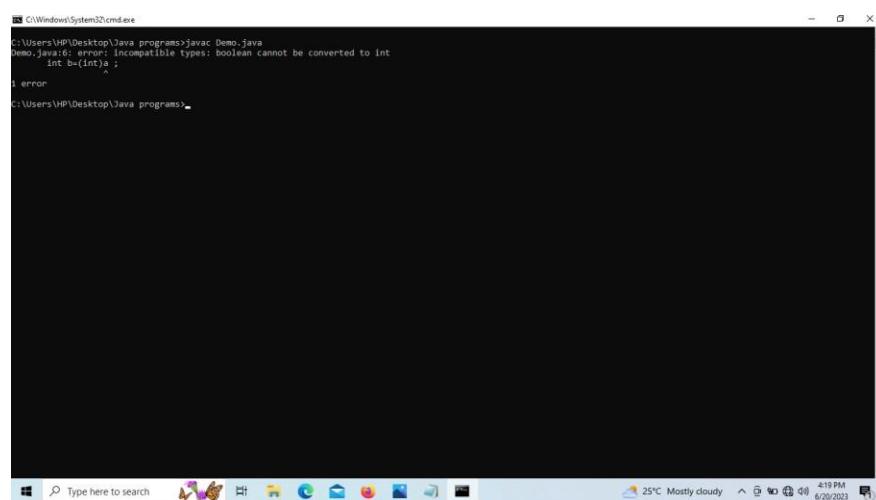
Ln 6, Col 22 100% Windows (CRLF) UTF-8
25°C Mostly cloudy 4:15 PM 6/20/2023

Incompatible

PROGRAM 4



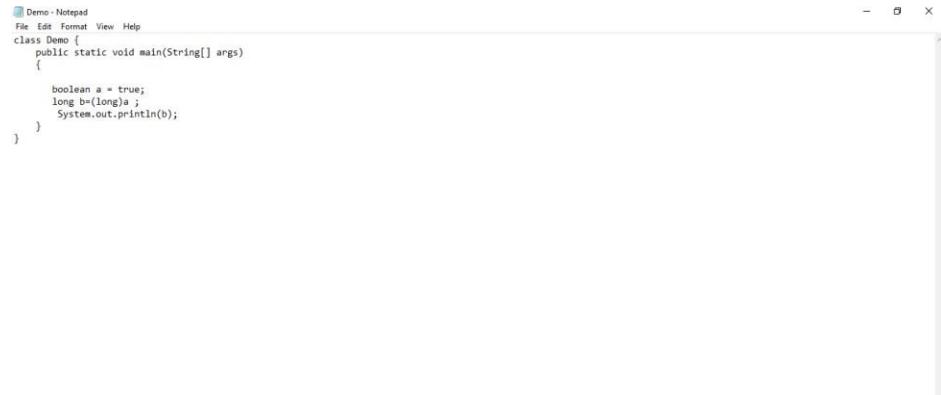
```
 Demo - Notepad
File Edit Format View Help
class Demo {
    public static void main(String[] args) {
        boolean a = true;
        int b=(int)a;
        System.out.println(b);
    }
}
```



```
C:\Windows\System32\cmd.exe
C:\Users\HP\Desktop\Java programs>javac Demo.java
Demo.java:4: error: incompatible types: boolean cannot be converted to int
    int b=(int)a
               ^
1 error
C:\Users\HP\Desktop\Java programs>
```

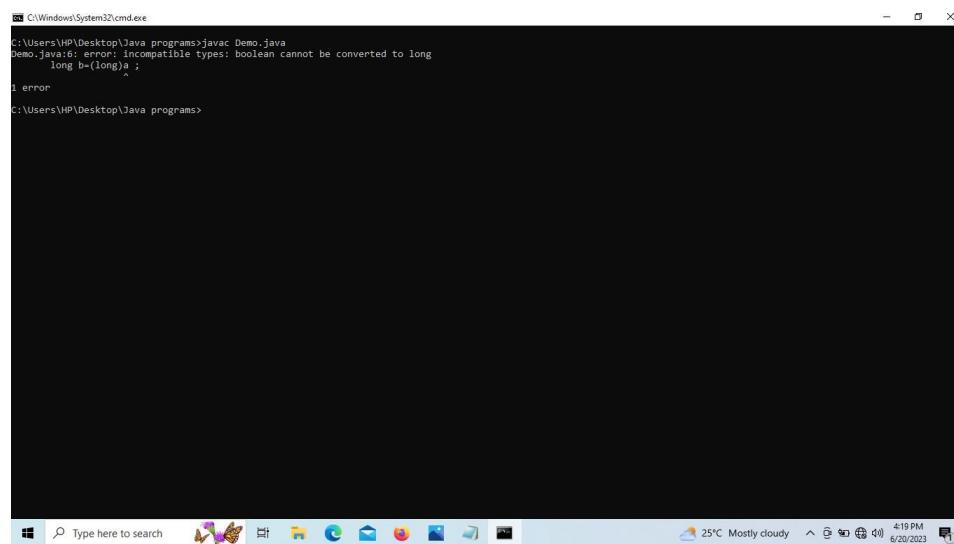
Incompatible

PROGRAM 5



```
Demo - Notepad
File Edit Format View Help
class Demo {
    public static void main(String[] args)
    {

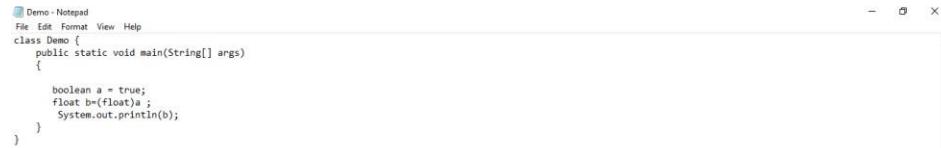
        boolean a = true;
        long b=(long)a;
        System.out.println(b);
    }
}
```



```
C:\Windows\System32\cmd.exe
C:\Users\HP\Desktop\Java programs>javac Demo.java
Demo.java:6: error: incompatible types: boolean cannot be converted to long
        long b=(long)a;
                           ^
1 error
C:\Users\HP\Desktop\Java programs>
```

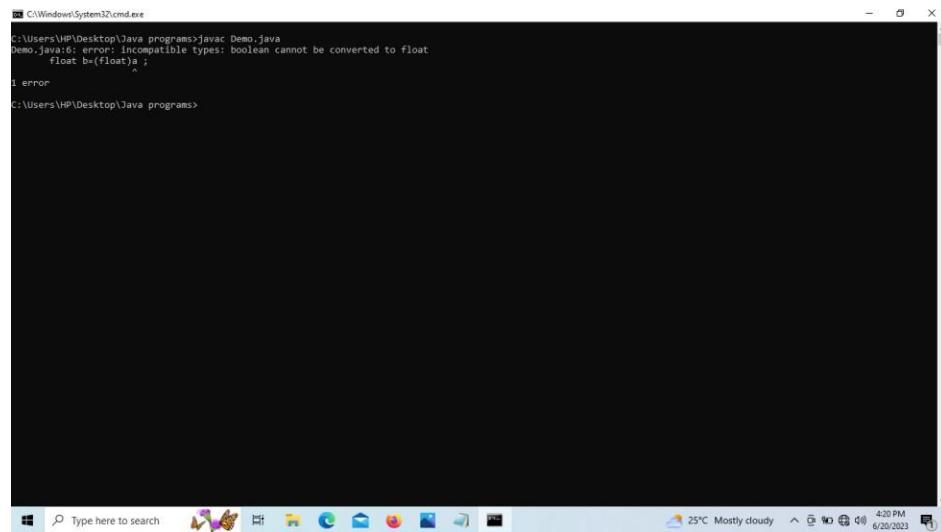
Incompatible

PROGRAM 6



```
Demo - Notepad
File Edit Format View Help
class Demo {
    public static void main(String[] args)
    {

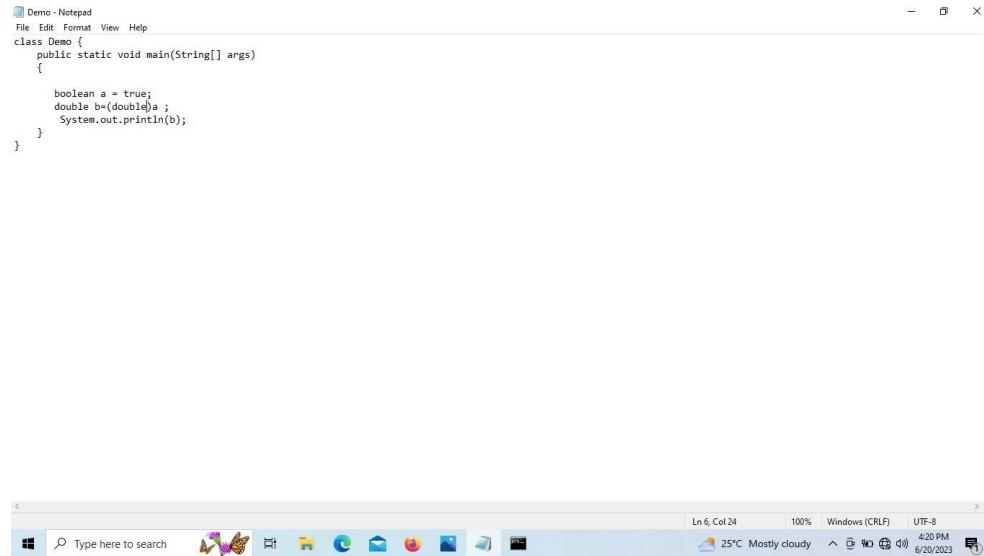
        boolean a = true;
        float b=(float)a ;
        System.out.println(b);
    }
}
```



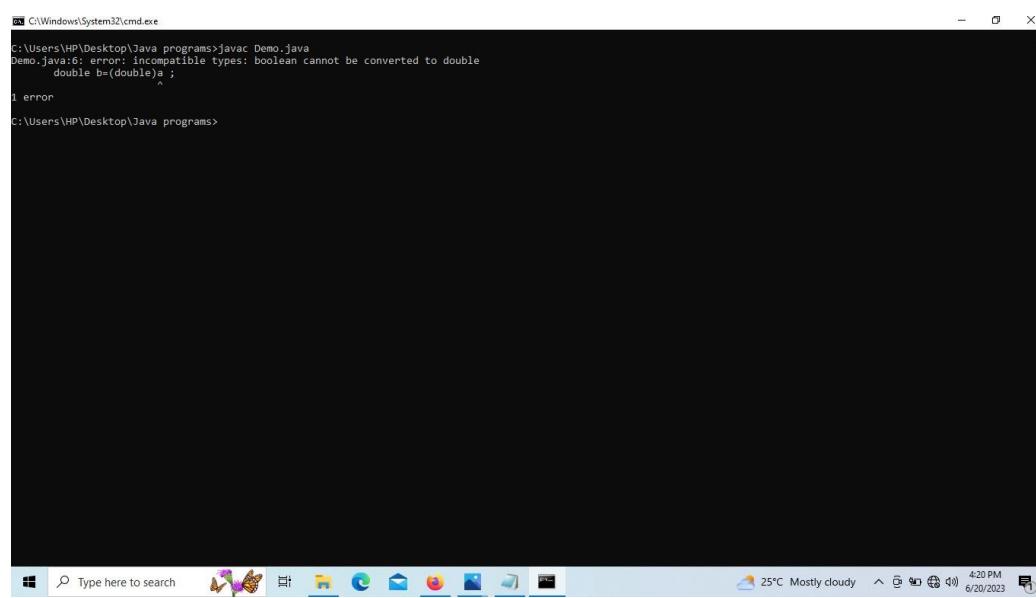
```
C:\Windows\System32\cmd.exe
C:\Users\HP\Desktop\Java programs>javac Demo.java
Demo.java:6: error: incompatible types: boolean cannot be converted to float
    float b=(Float)a;
               ^
1 error
C:\Users\HP\Desktop\Java programs>
```

Incompatible

PROGRAM 7



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



```
C:\Windows\System32\cmd.exe
C:\Users\HP\Desktop\Java programs>javac Demo.java
Demo.java:6: error: incompatible types: boolean cannot be converted to double
        double b=(double)a ;
                           ^
1 error
C:\Users\HP\Desktop\Java programs>
```

Incompatible

CASTING TABLE

	byte	short	int	long	float	double	char	boolean
byte		A	A	A	A	A	E	N
short	E		A	A	A	A	E	N
int	E	E		A	A	A	E	N
long	E	E	E		A	A	E	N
float	E	E	E	E		A	E	N
double	E	E	E	E	E		E	N
char	E	E	A	A	A	A		N
boolean	N	N	N	N	N	N	N	

A – automatic A – least significant digits may be lost E – Explicit N – Not available

FLOW CHART

