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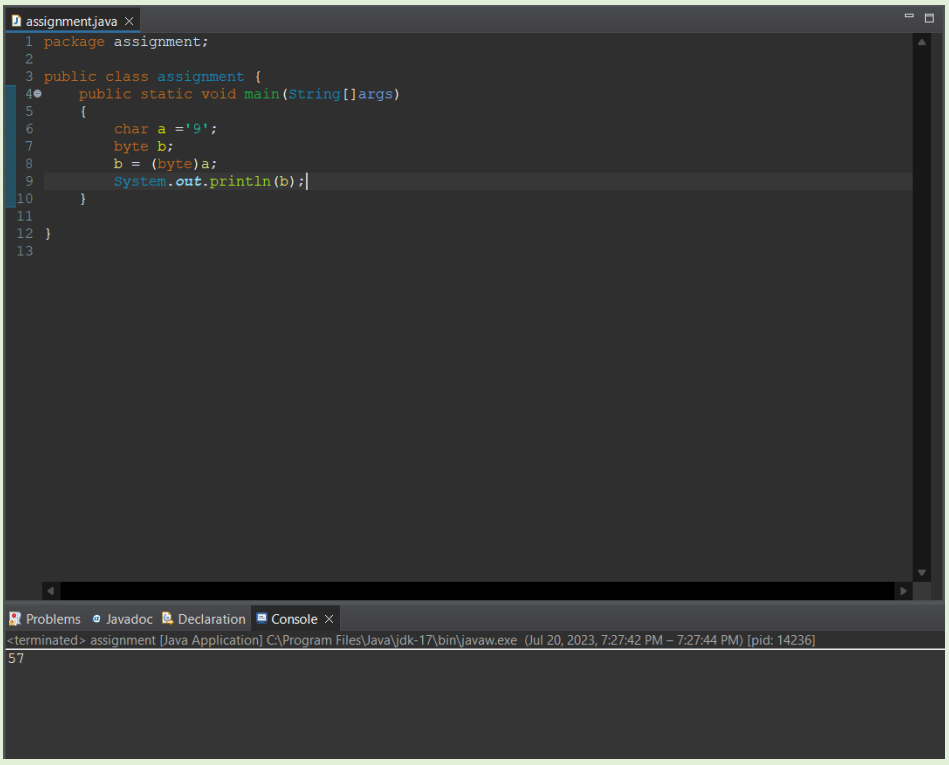
TYPE CASTING

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

1.Converting char data type to char data type:

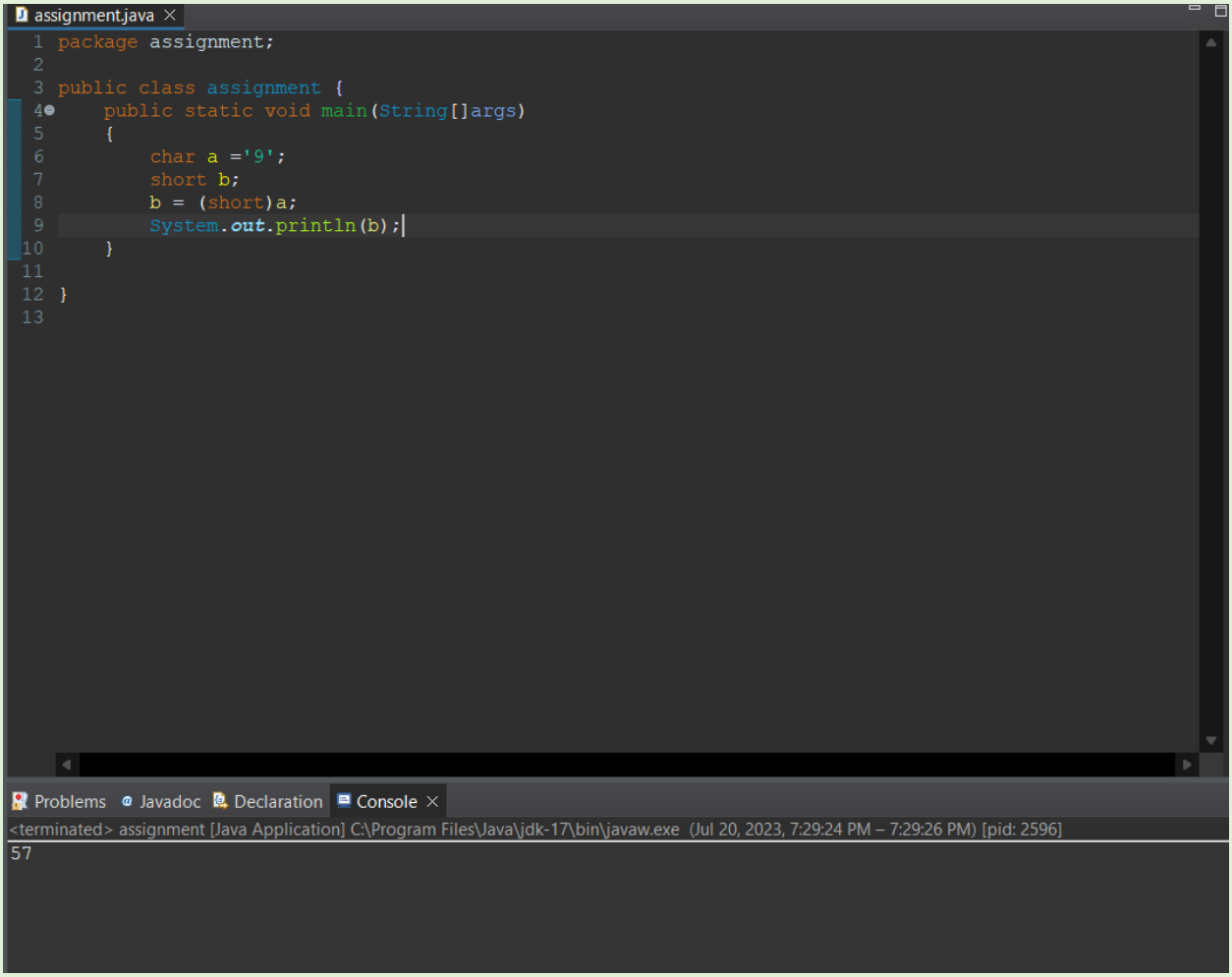
Conversion of character data type to character data type no conversion is required because both are of same date type

2. Converting char data type to byte data type:



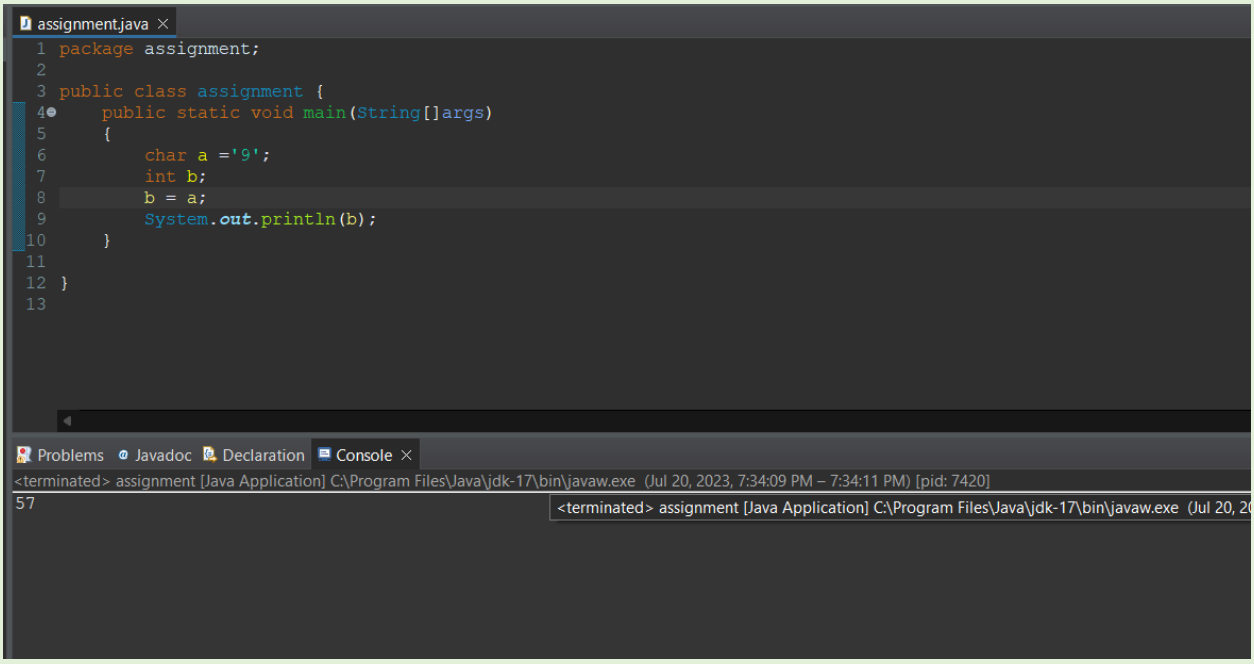
Char to byte data type conversion is an explicit type of conversion. Because char data type is larger data type (2 bytes) we converted it into smaller data type byte

Converting char data type to short data type:



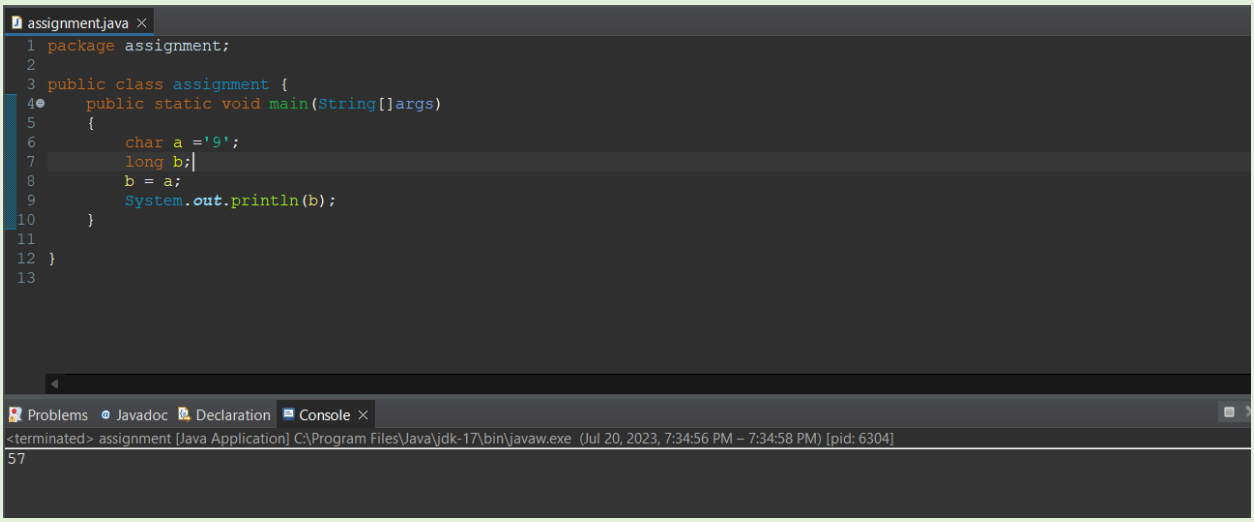
Char to short data type conversion is an explicit type of conversion. Because char data type is larger data type we converted it into smaller data type short

Converting char data type to int data type:



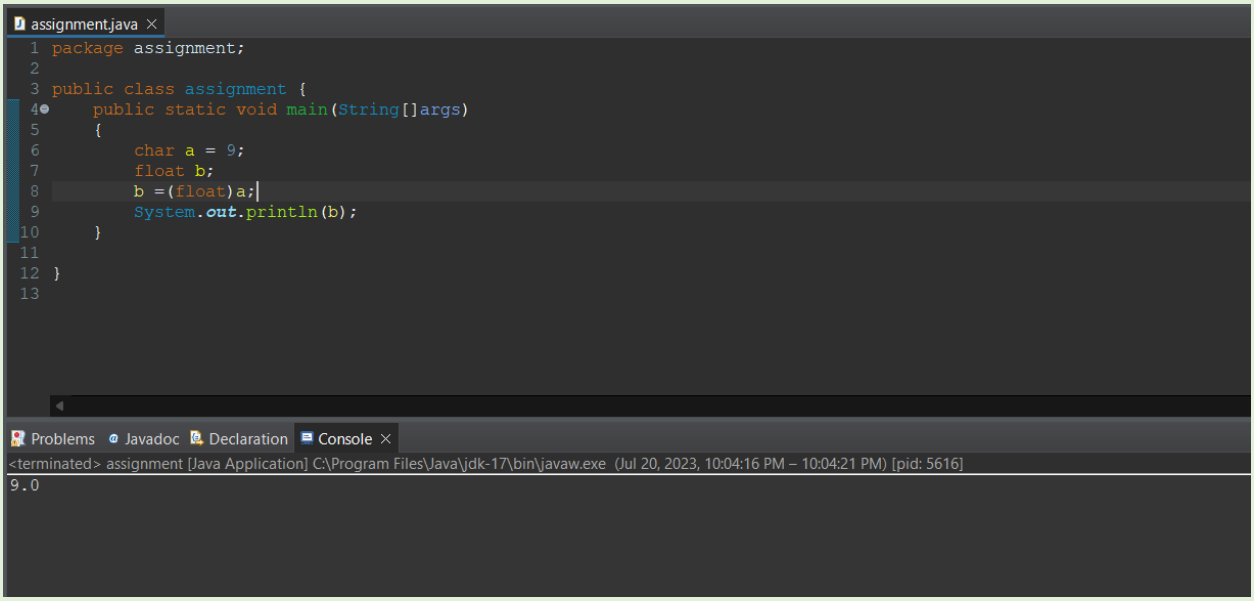
Char to int data type conversion is an implicit type of conversion.

Converting char data type to long data type:



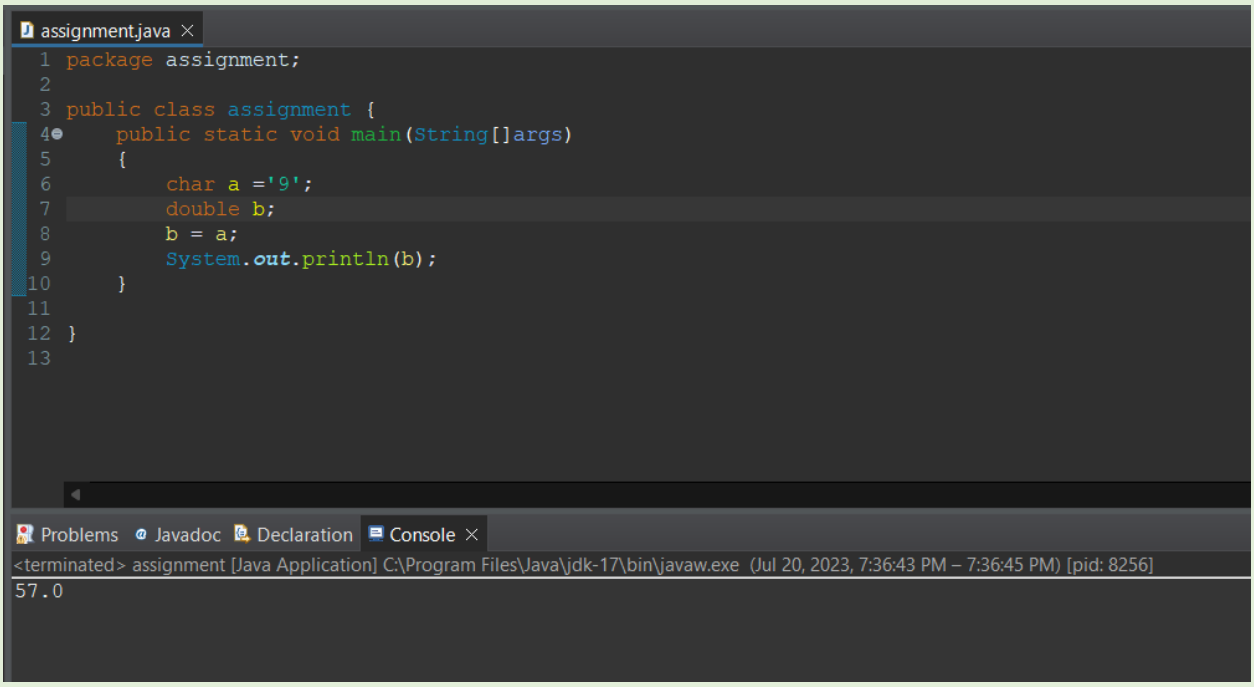
Char to long data type conversion is an implicit type of conversion.

Converting char data type to float data type:



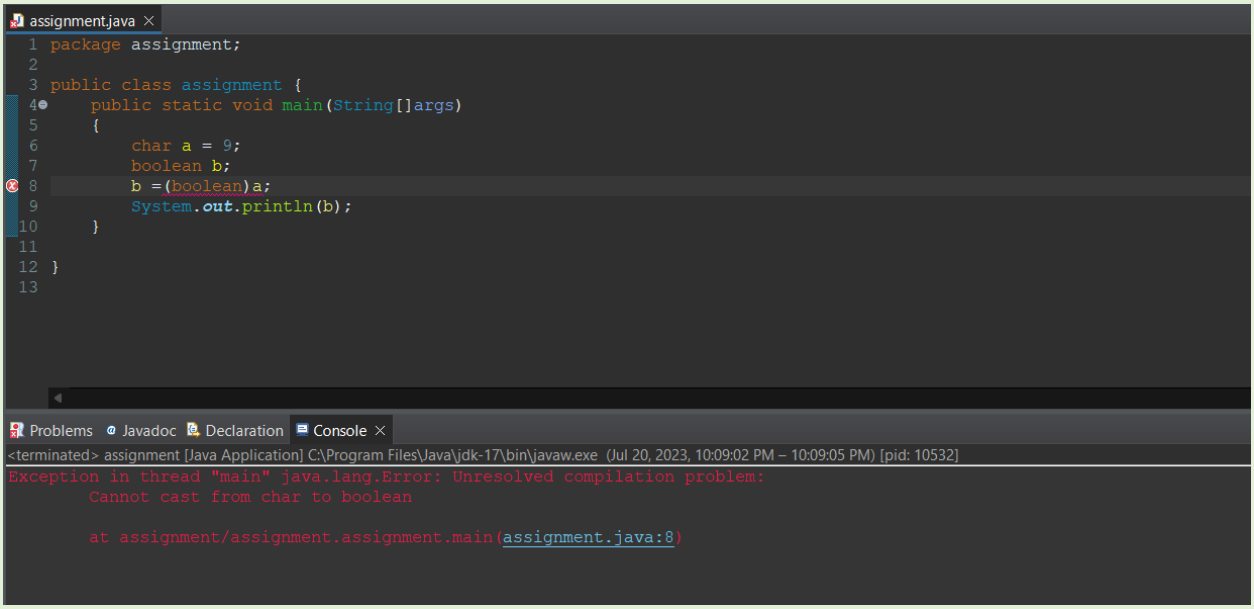
Char to float data type conversion is an implicit type of conversion.

Converting char data type to double data type:



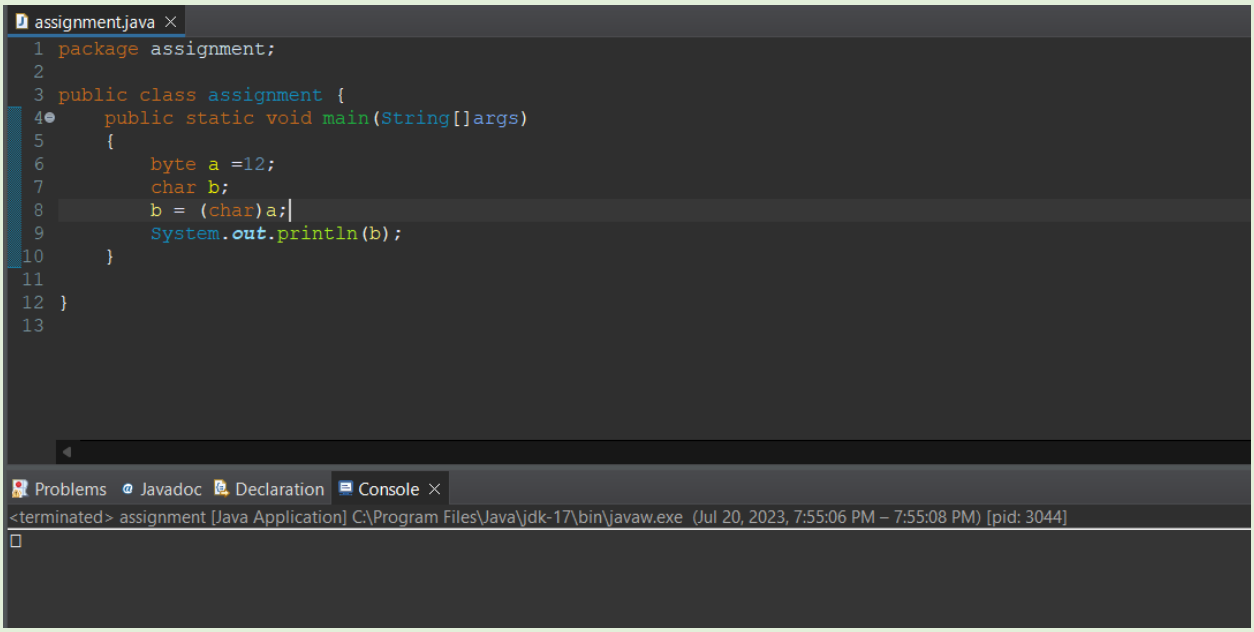
Char to double data type conversion is an implicit type of conversion.

Converting char data type to boolean data type:



Char to boolean data type conversion is not possible

Converting byte data type to char data type:

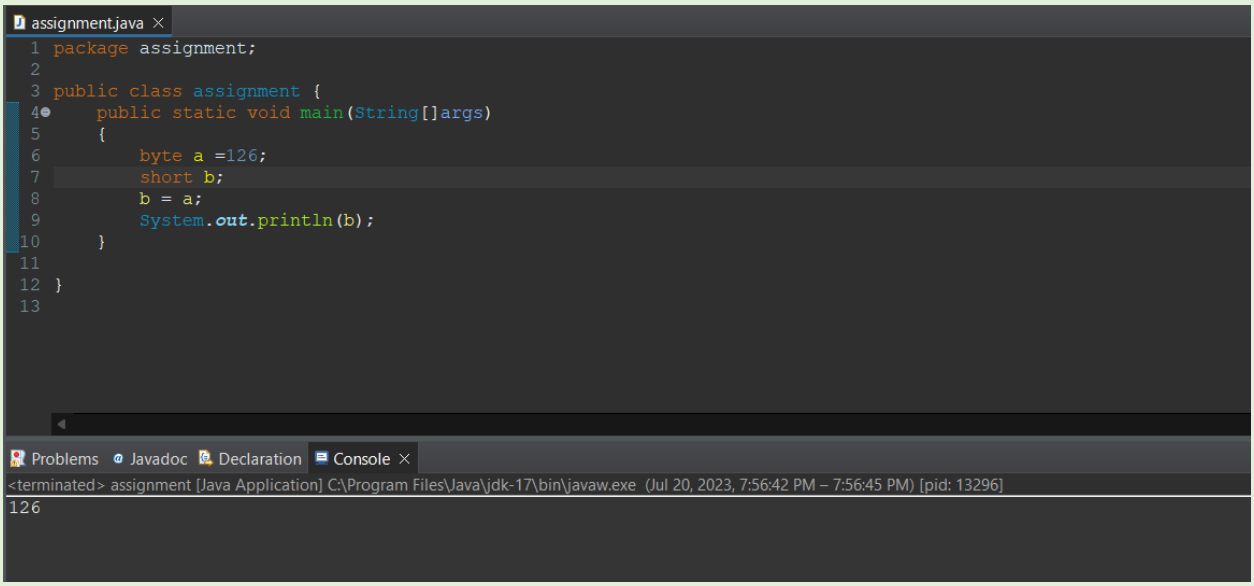


byte to char data type conversion is an explicit type of conversion.

Converting byte data type to byte data type:

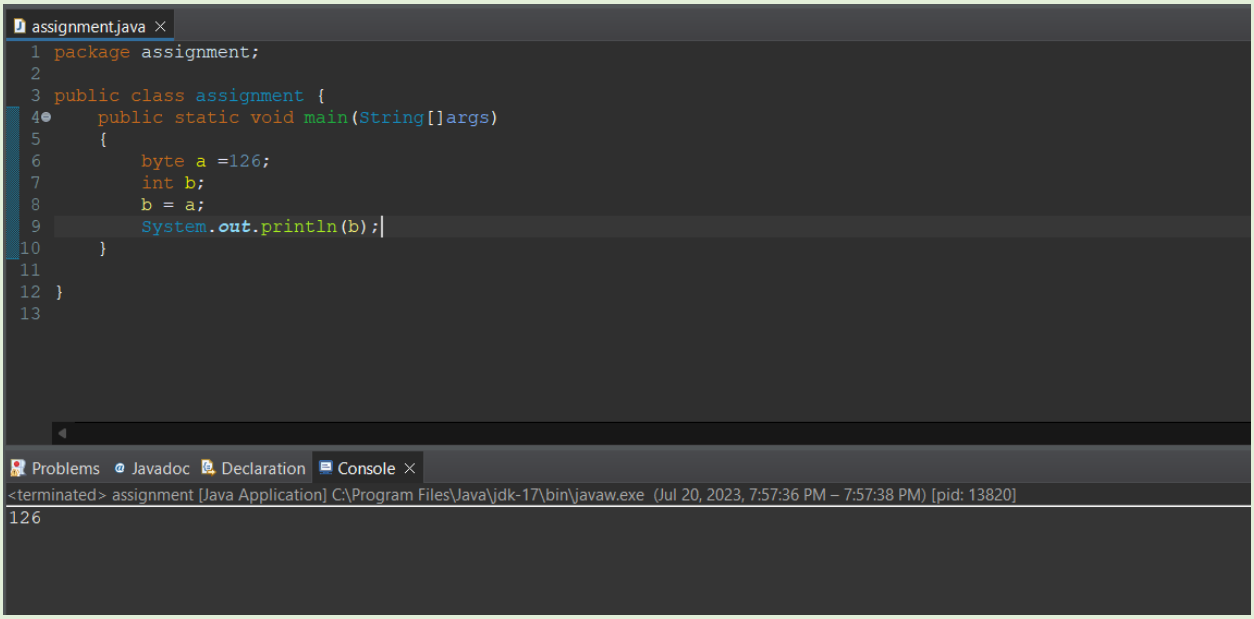
Conversion of byte data type to byte data type no conversion is required because both are of same date type

Converting byte data type to short data type:



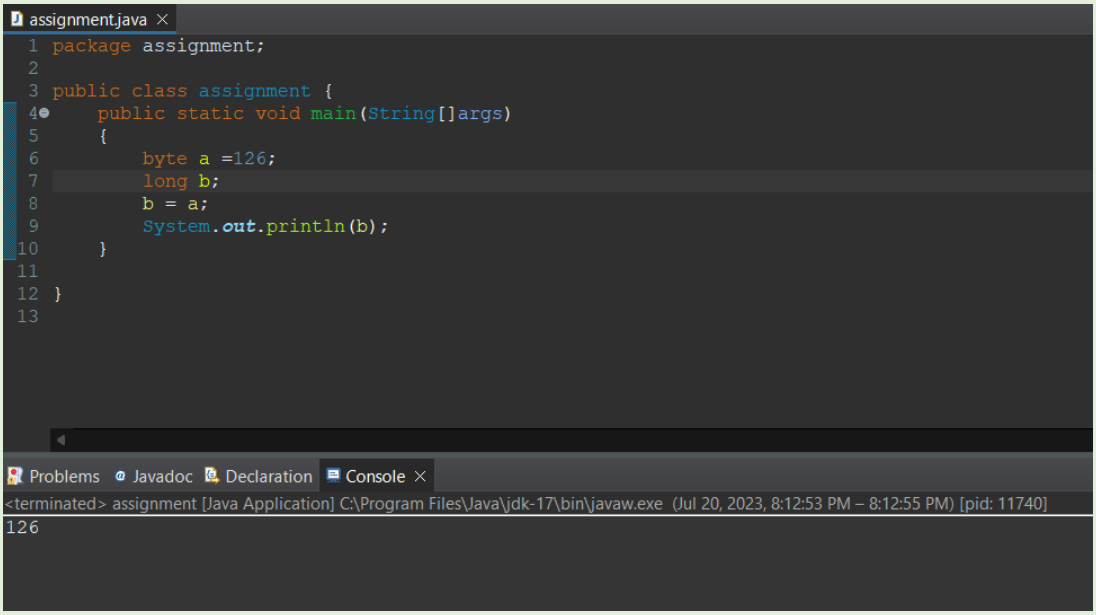
byte to short data type conversion is an implicit type of conversion.

Converting byte data type to int data type:



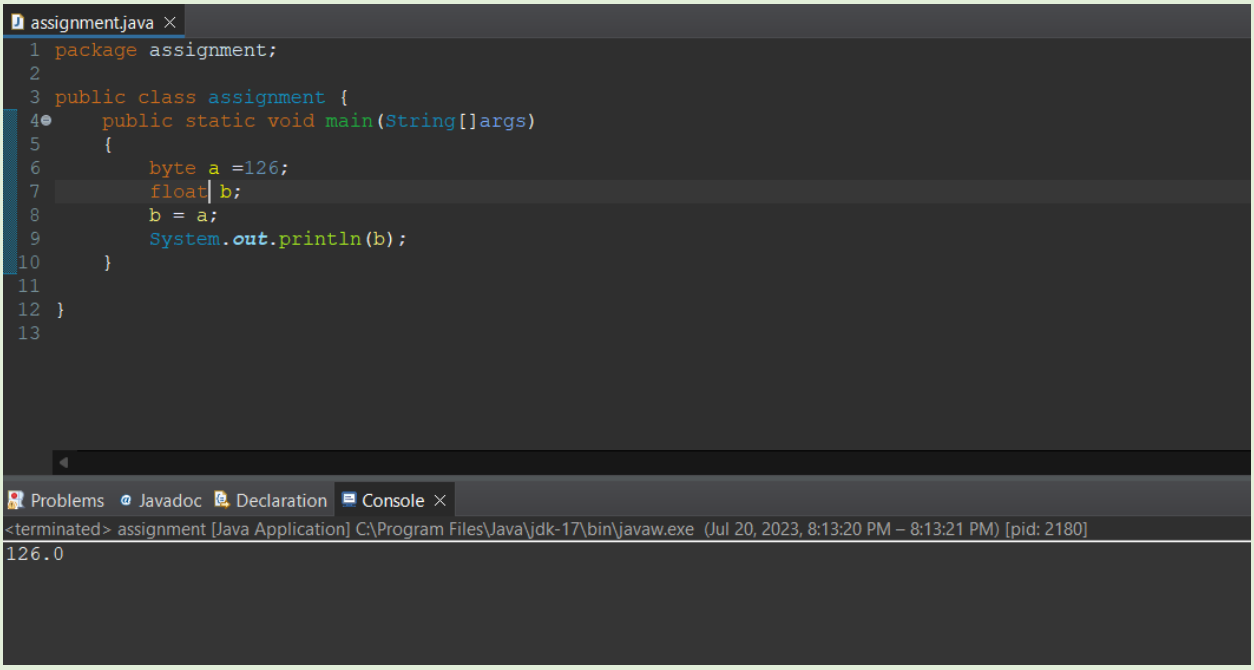
Byte data type to int data type conversion is an implicit type of conversion.

Converting byte data type to long data type:



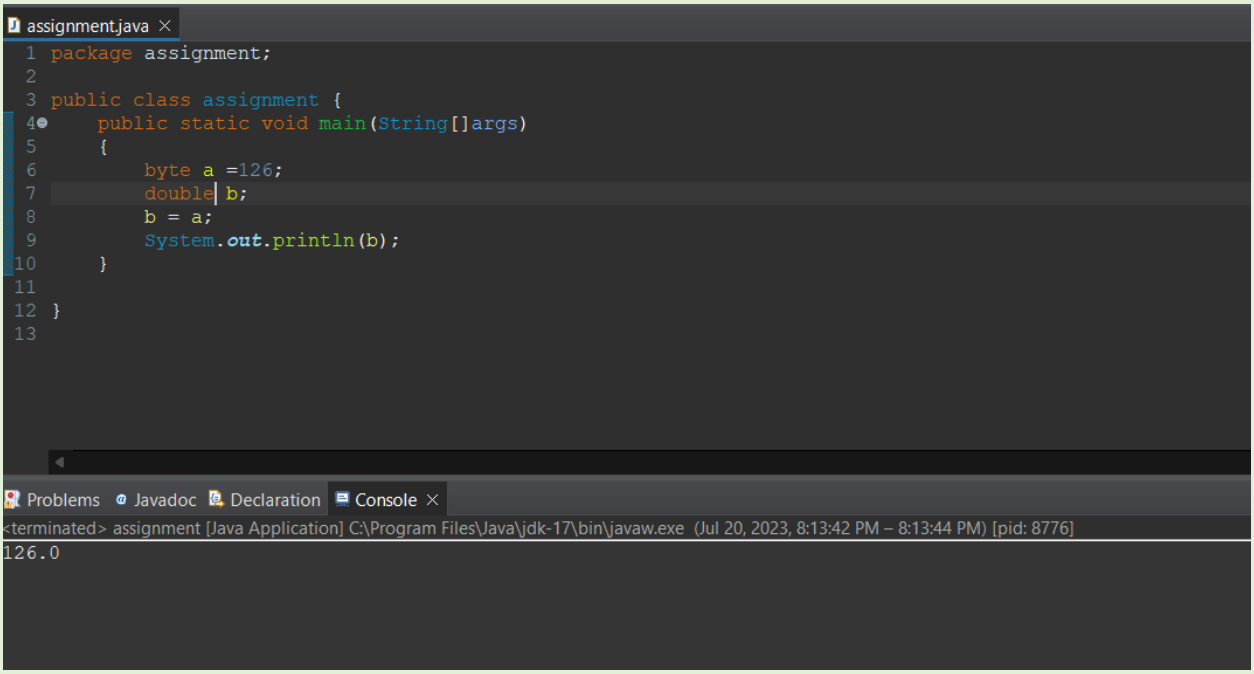
Byte data type to long data type conversion is an implicit type of conversion.

Converting byte data type to float data type:



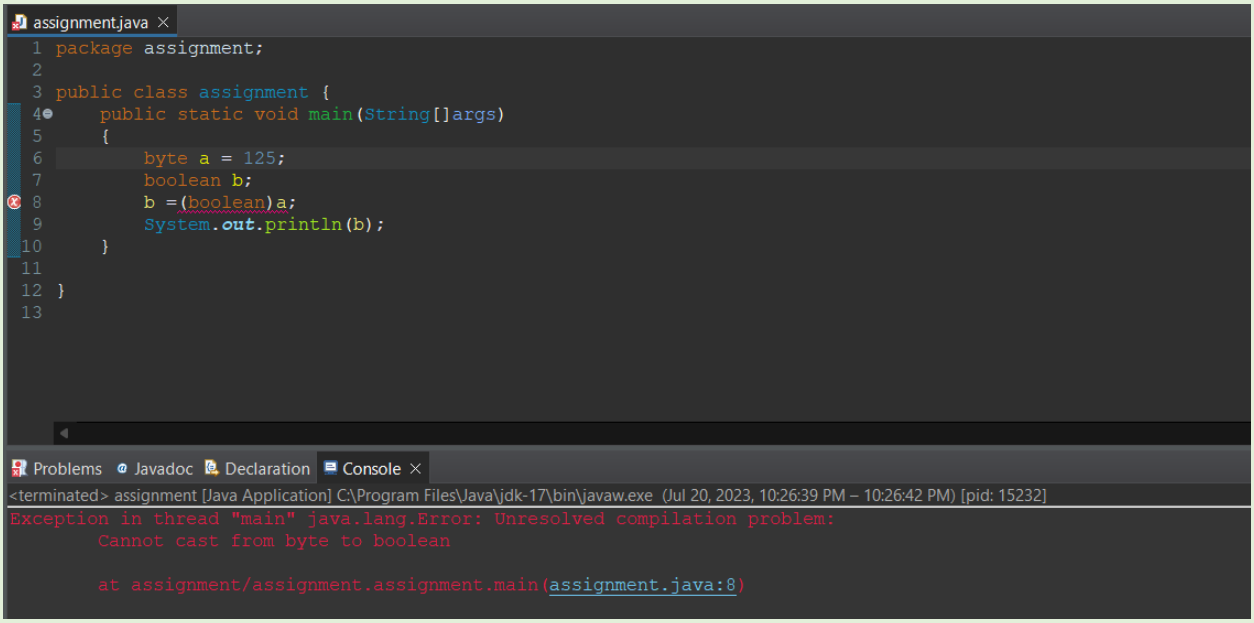
Byte data type to float data type conversion is an implicit type of conversion.

Converting byte data type to double data type:



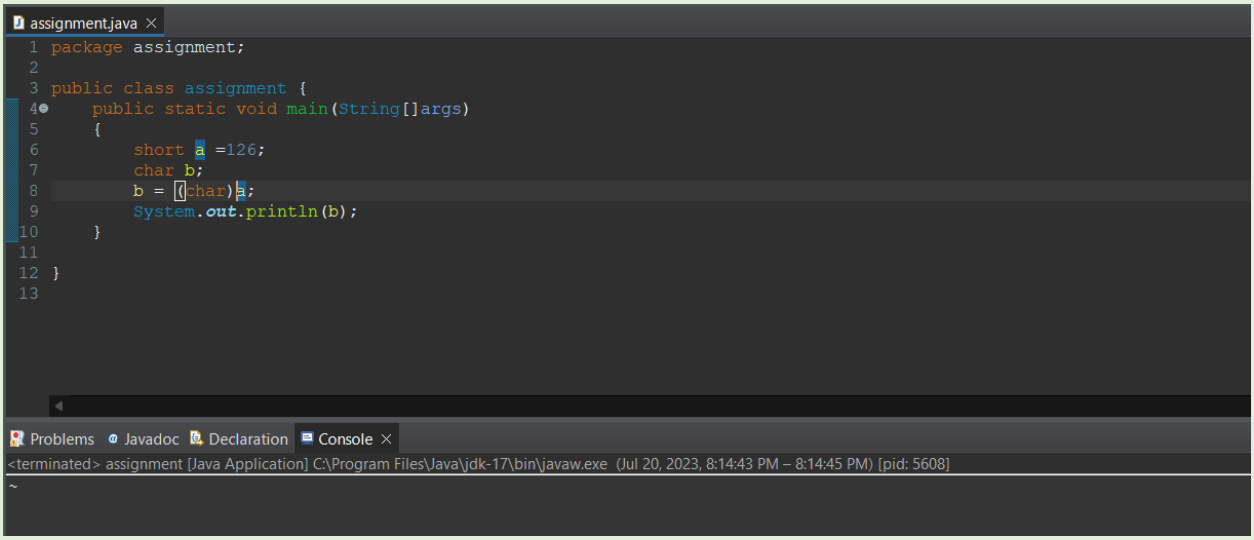
Byte data type to double data type conversion is an implicit type of conversion.

Converting byte data type to boolean data type:



byte to boolean data type conversion is not possible.

Converting short data type to char data type:



short data type to char data type conversion is an explicit type of conversion.

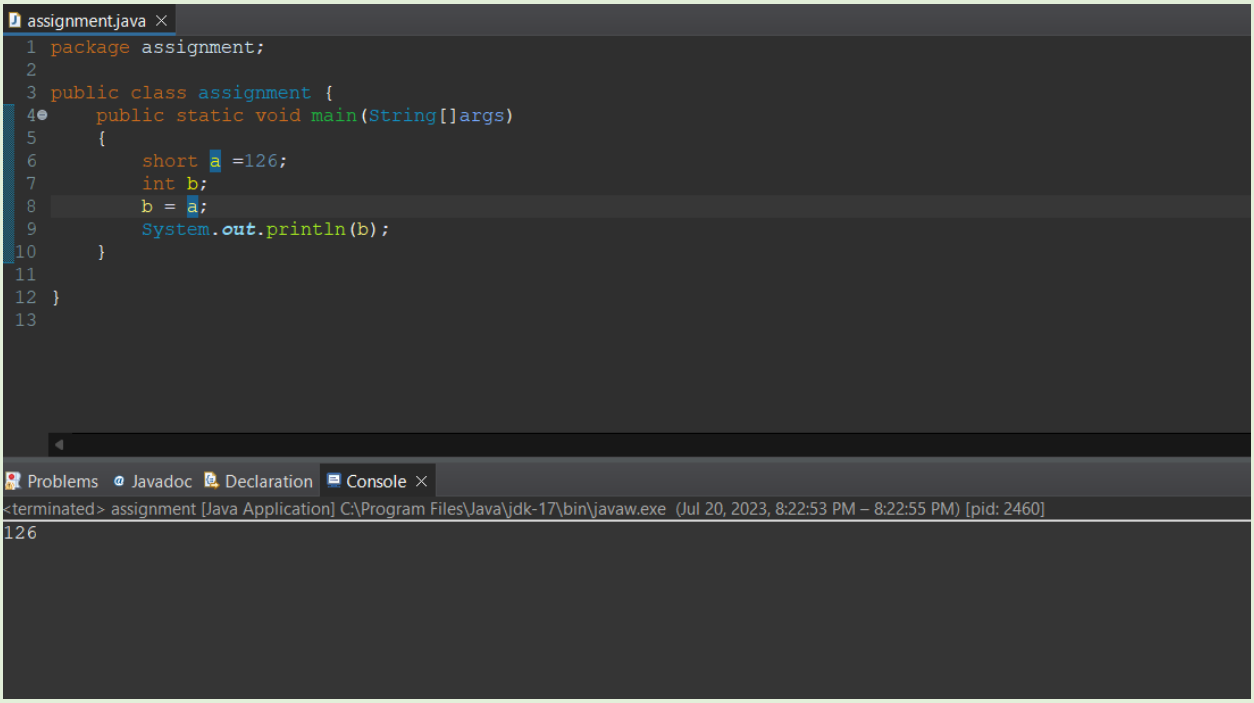
Converting short data type to byte data type:

short data type to byte data type conversion is an explicit type of conversion.

Converting short data type to short data type:

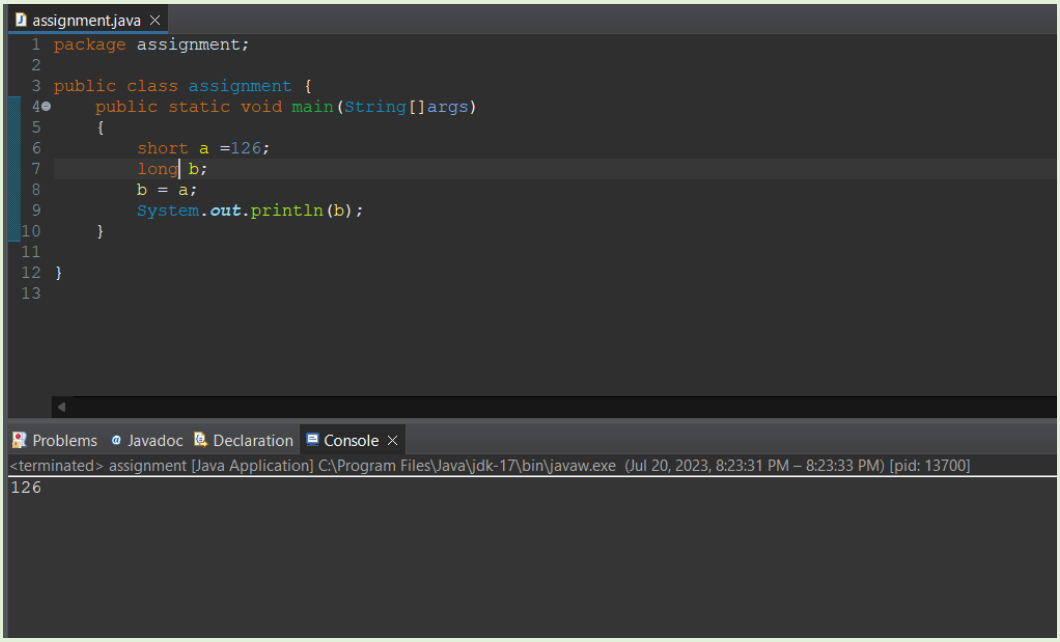
Conversion of short data type to short data type no conversion is required because both are of same date type

Converting short data type to int data type:



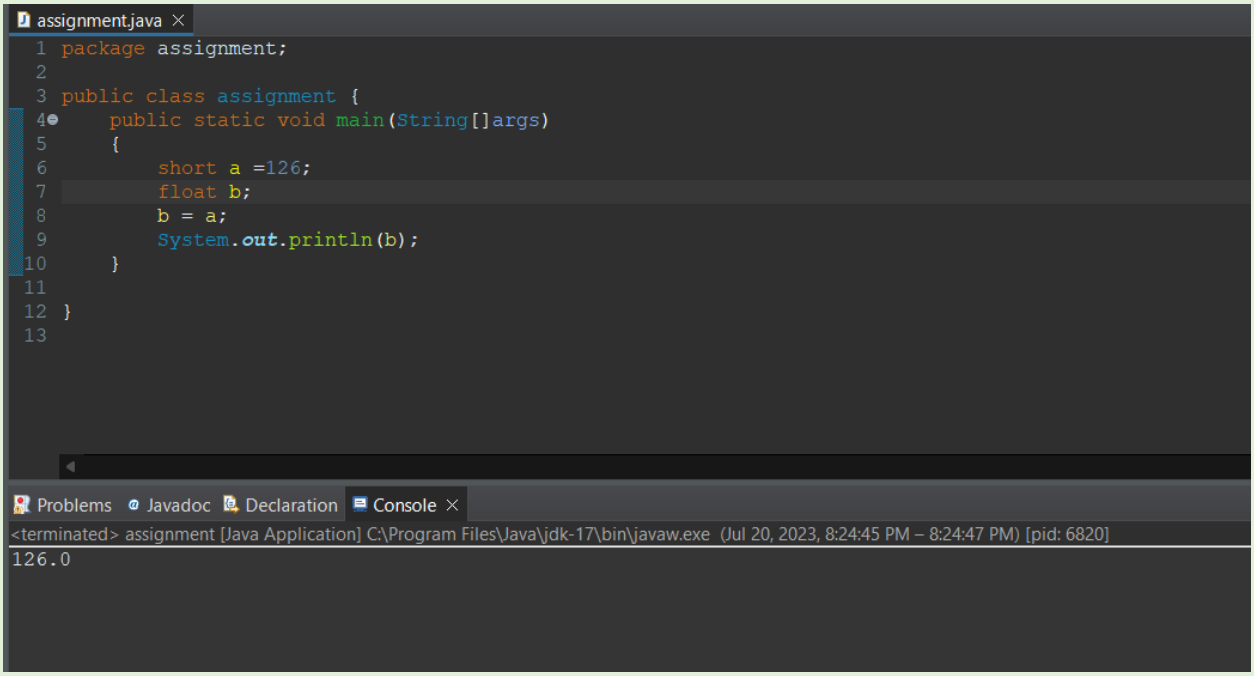
short data type to int data type conversion is an implicit type of conversion.

Converting short data type to long data type:



short data type to long data type conversion is an implicit type of conversion.

Converting short data type to float data type:

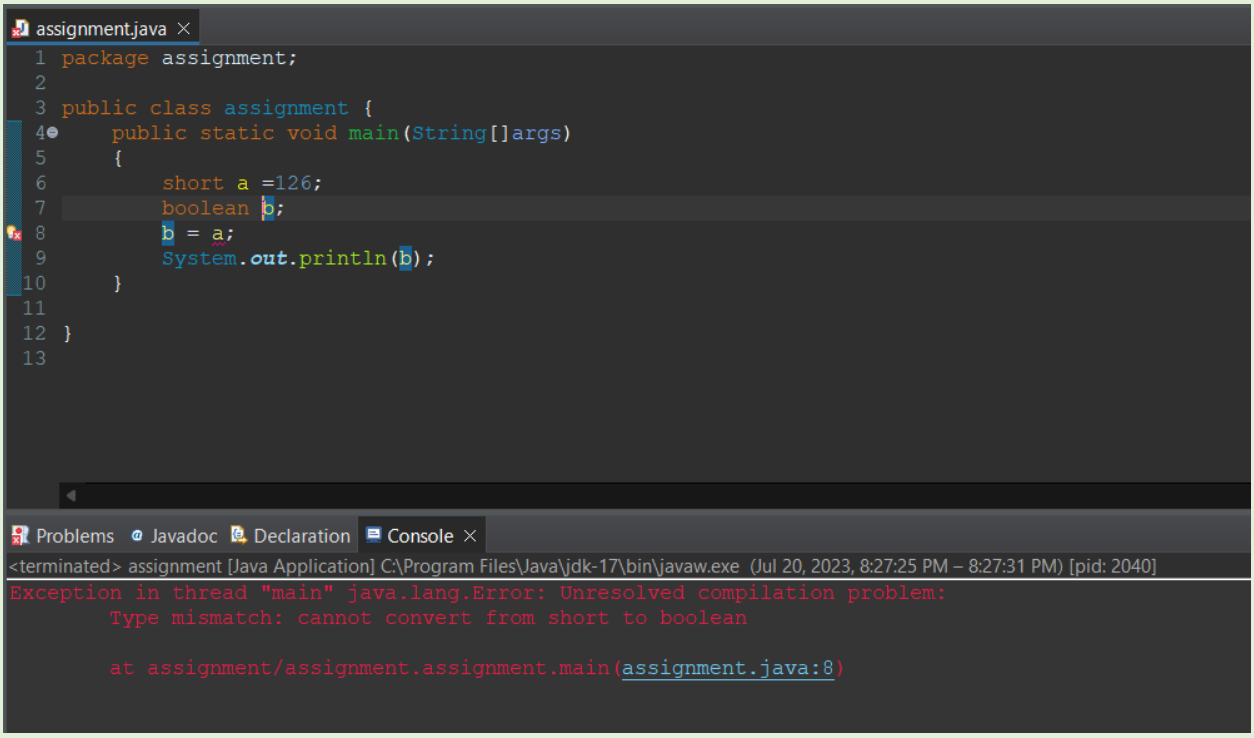


short data type to float data type conversion is an implicit type of conversion.

Converting short data type to double data type:

short data type to double data type conversion is an implicit type of conversion.

Converting short data type to boolean data type:

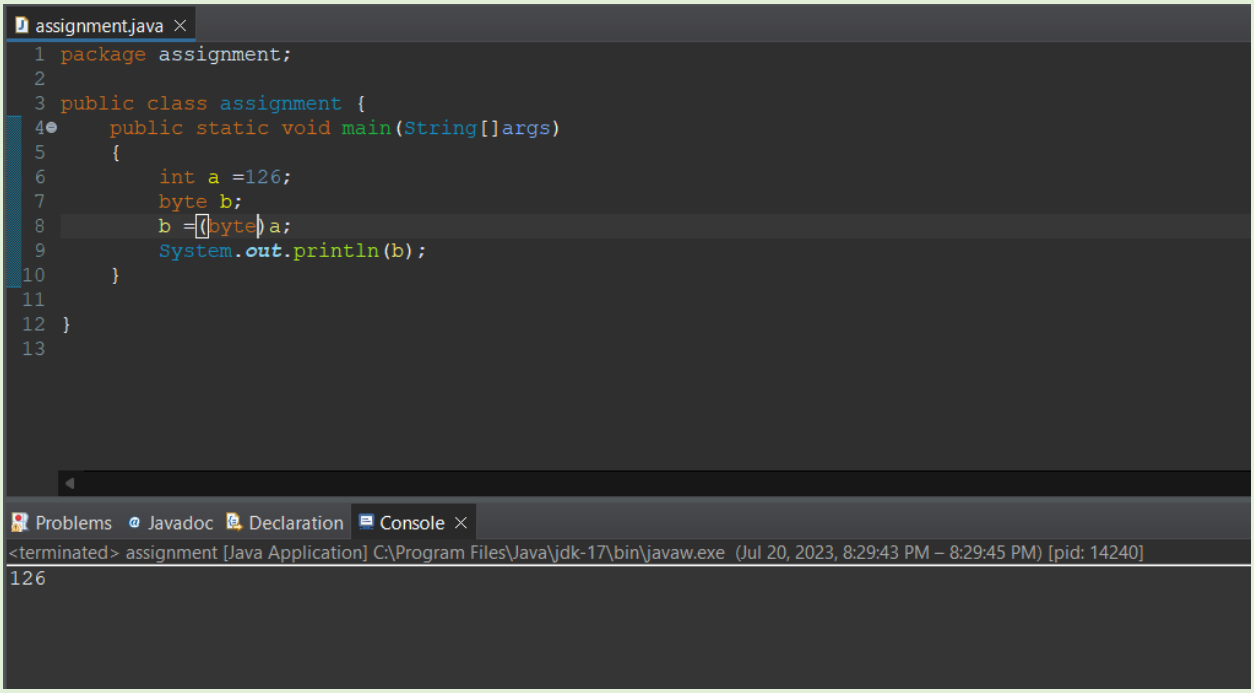


short to boolean data type conversion is not possible.

Converting int data type to char data type:

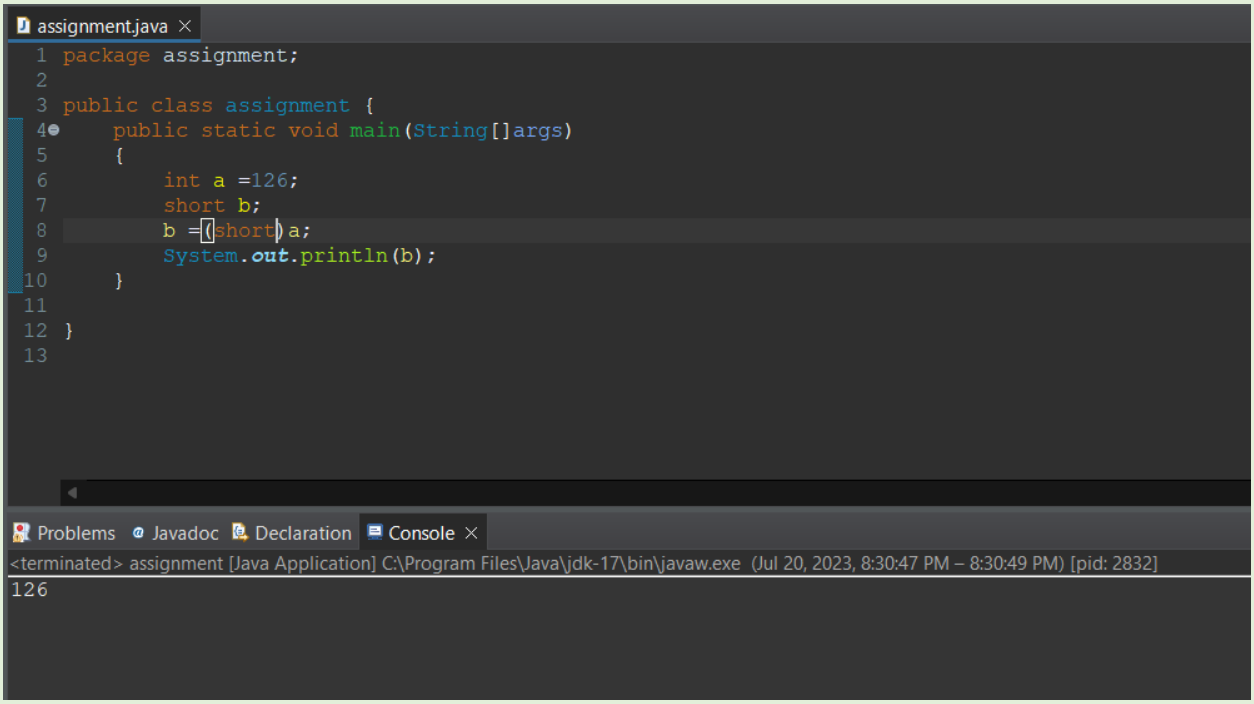
int data type to char data type conversion is an explicit type of conversion.

Converting int data type to byte data type:



int data type to byte data type conversion is an explicit type of conversion.

Converting int data type to short data type:

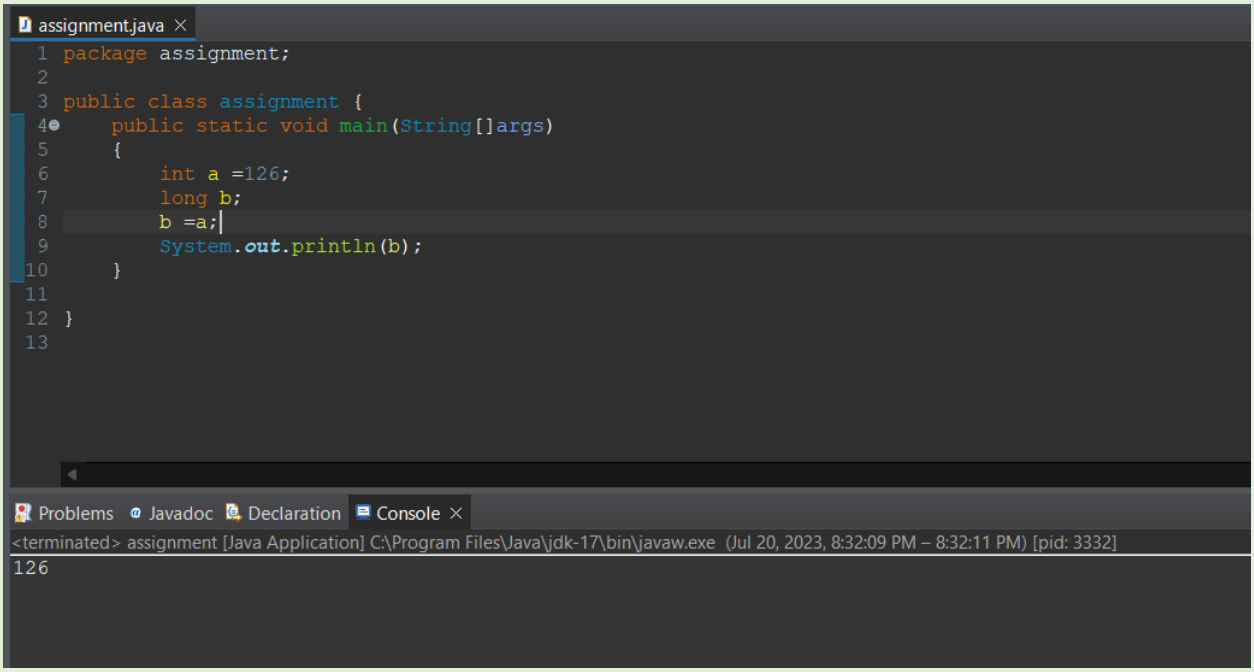


int data type to short data type conversion is an explicit type of conversion.

Converting int data type to int data type:

Conversion of int data type to int data type no conversion is required because both are of same date type

Converting int data type to long data type:

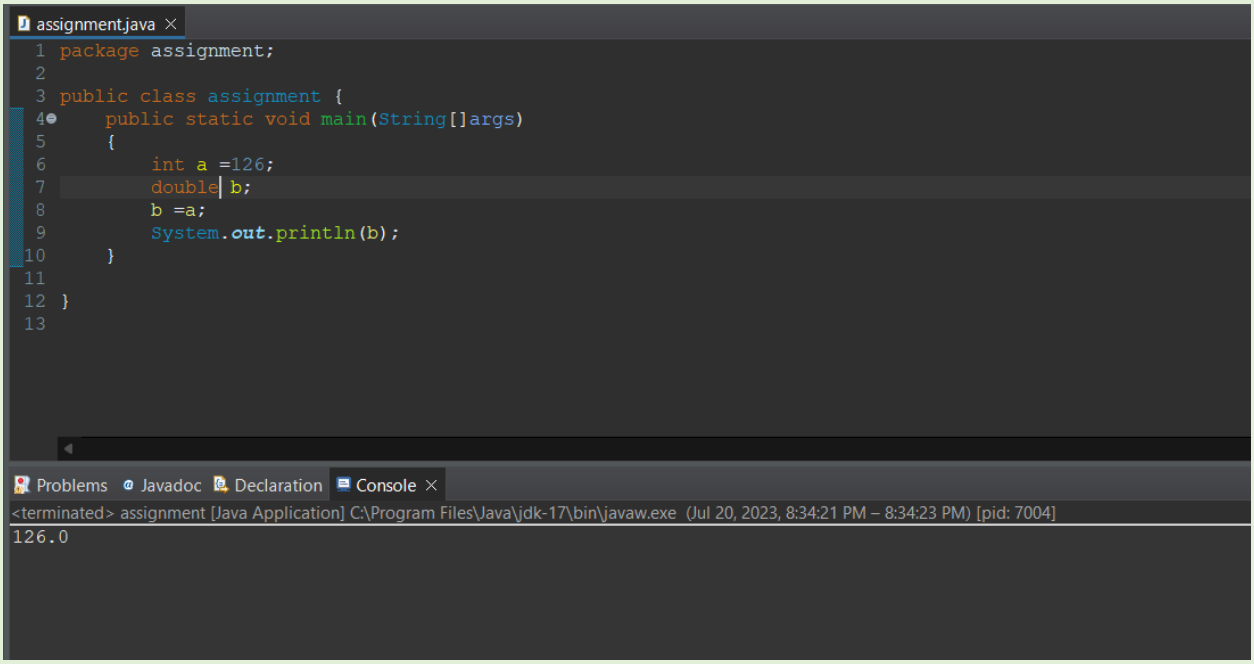


int data type to long data type conversion is an implicit type of conversion.

Converting int data type to float data type:

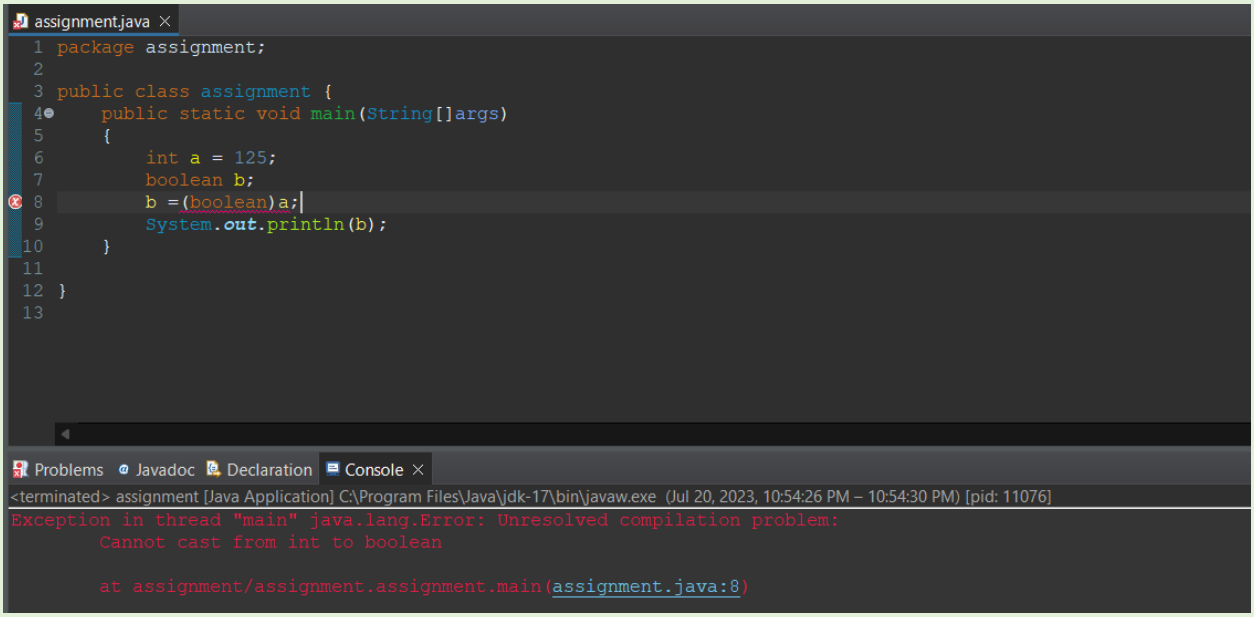
int data type to float data type conversion is an implicit type of conversion.

Converting int data type to double data type:



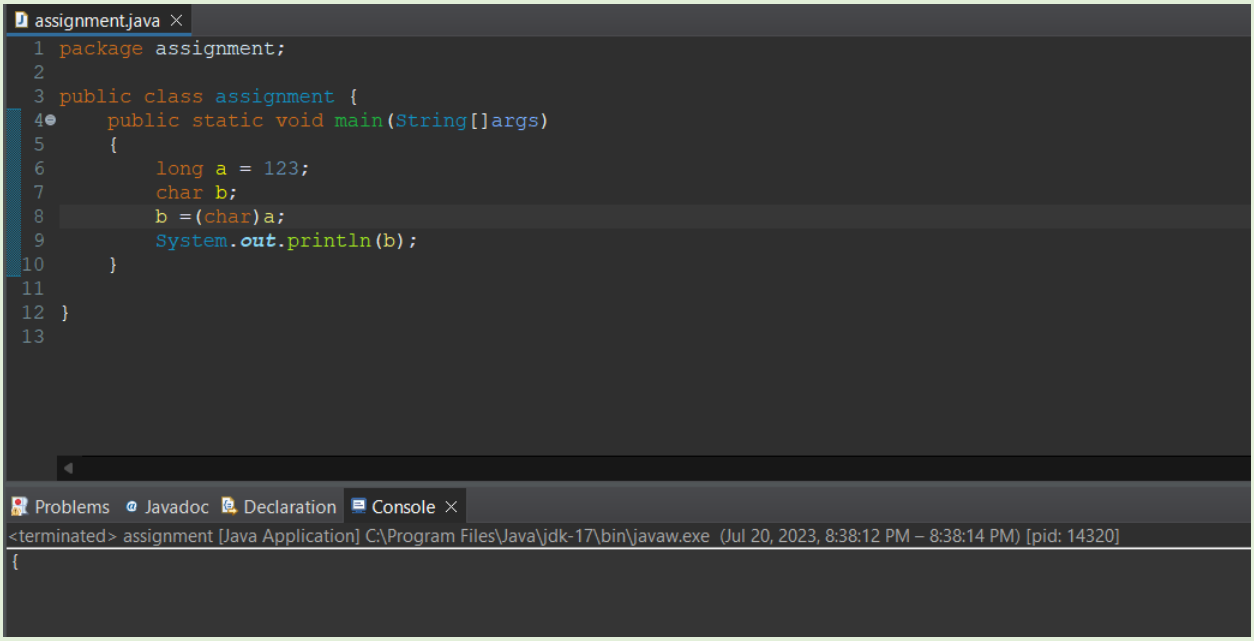
int data type to double data type conversion is an implicit type of conversion.

Converting int data type to boolean data type:



int to boolean data type conversion is not possible.

Converting long data type to char data type:

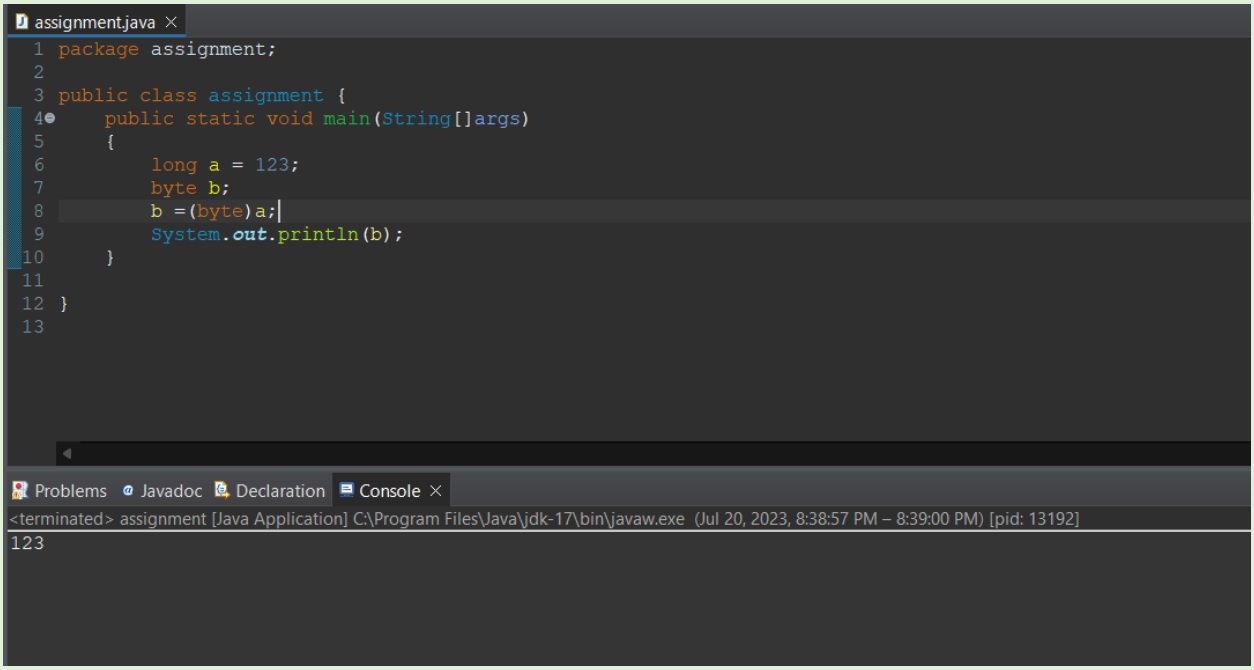


```
assignment.java
1  package assignment;
2
3  public class assignment {
4      public static void main(String[]args)
5      {
6          long a = 123;
7          char b;
8          b =(char)a;
9          System.out.println(b);
10     }
11
12 }
13
```

```
Problems  Javadoc  Declaration  Console
<terminated> assignment [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe  (Jul 20, 2023, 8:38:12 PM – 8:38:14 PM) [pid: 14320]
{
```

Long data type to char data type conversion is an explicit type of conversion.

Converting long data type to byte data type:



```
assignment.java
1  package assignment;
2
3  public class assignment {
4      public static void main(String[]args)
5      {
6          long a = 123;
7          byte b;
8          b =(byte)a;
9          System.out.println(b);
10     }
11
12 }
13
```

```
Problems  Javadoc  Declaration  Console
<terminated> assignment [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe  (Jul 20, 2023, 8:38:57 PM – 8:39:00 PM) [pid: 13192]
123
```

Long data type to byte data type conversion is an explicit type of conversion.

Converting long data type to short data type:

Long data type to short data type conversion is an explicit type of conversion.

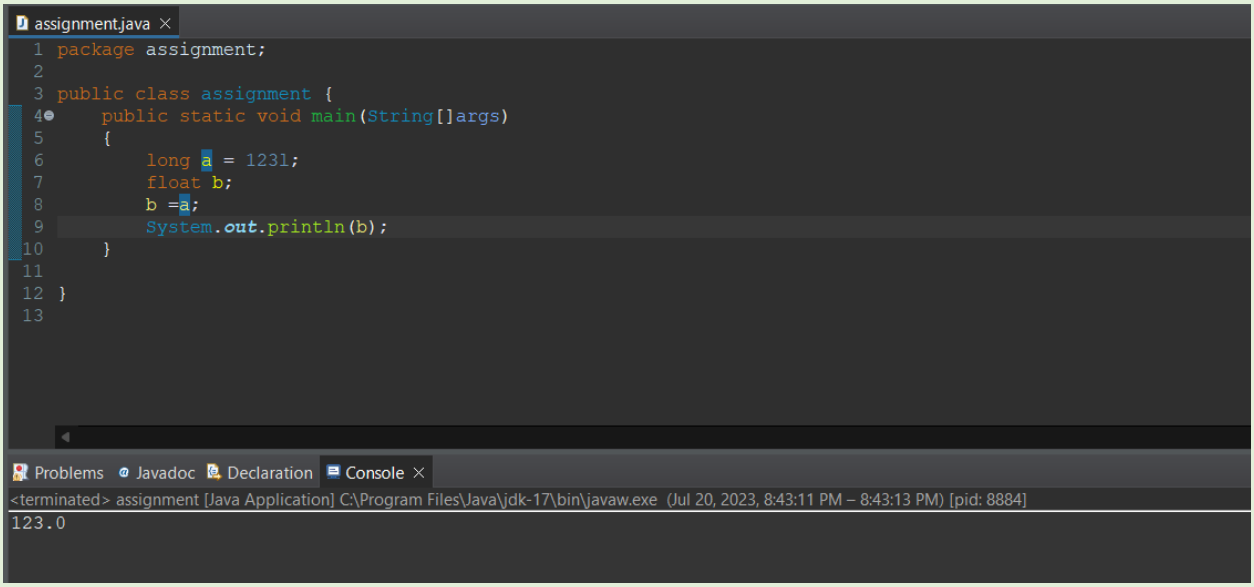
Converting long data type to integer data type:

Long data type to int data type conversion is an explicit type of conversion.

Converting long data type to long data type:

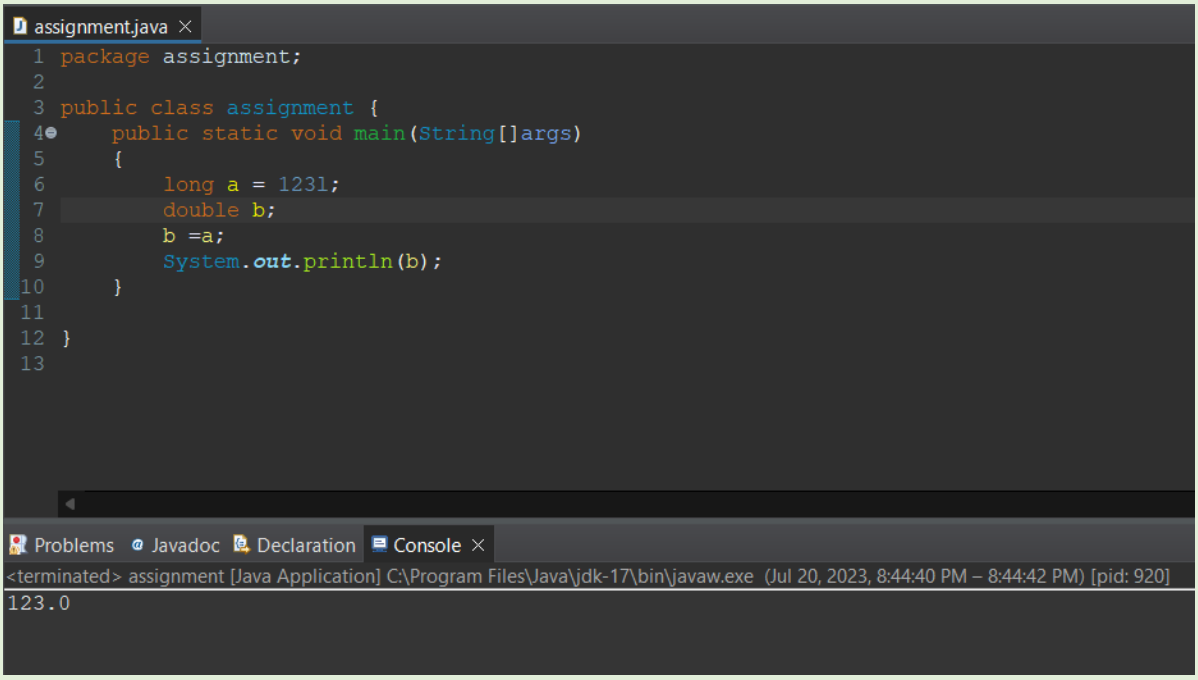
Conversion of long data type to long data type no conversion is required because both are of same date type

Converting long data type to float data type:



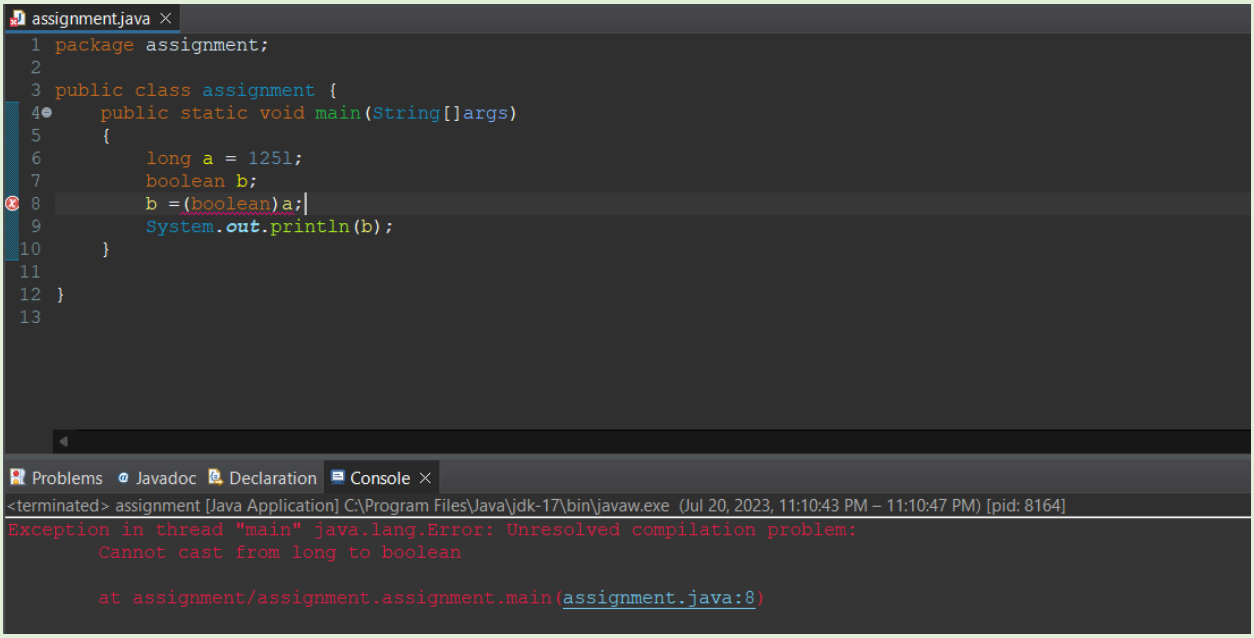
Long data type to float data type conversion is an implicit type of conversion.

Converting long data type to double data type:



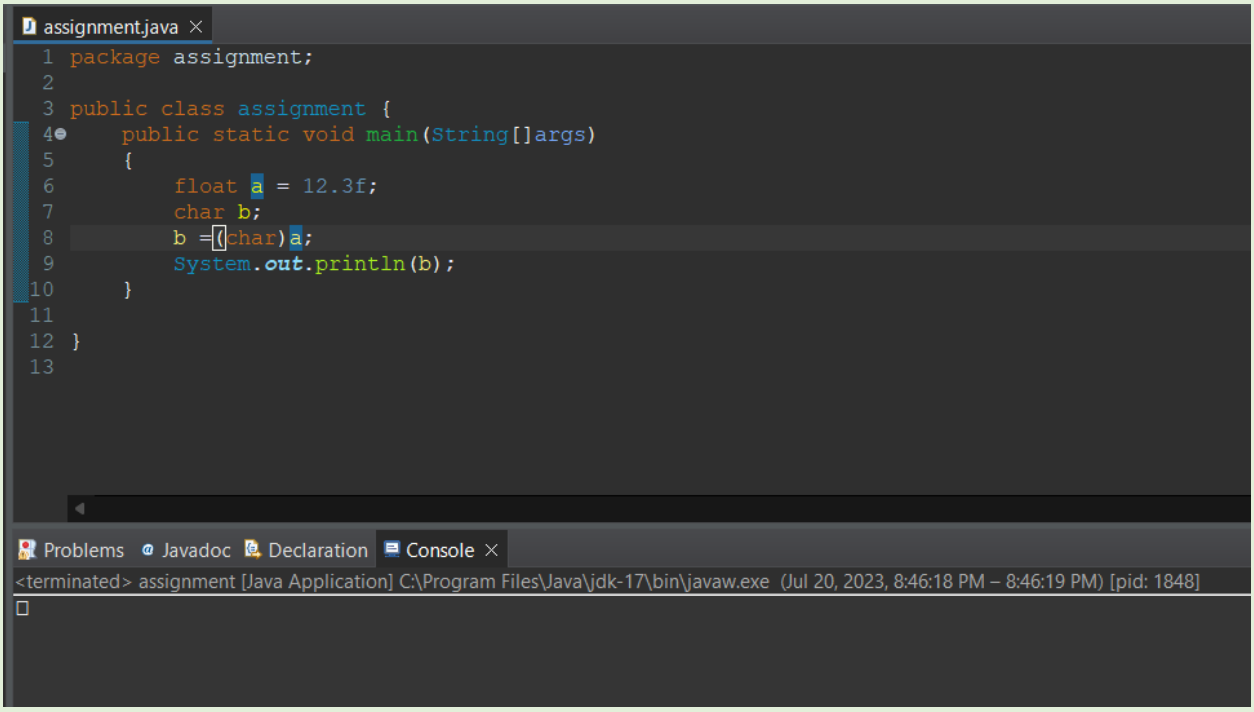
Long data type to double data type conversion is an implicit type of conversion.

Converting long data type to Boolean data type:



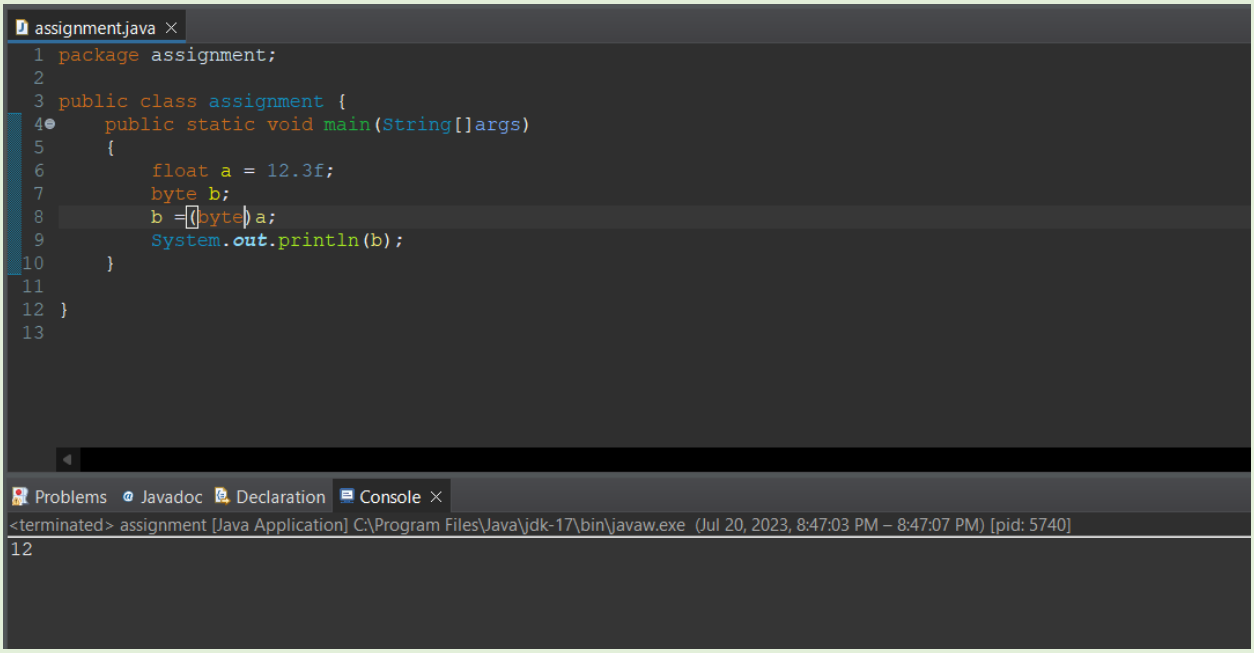
Long data type to Boolean data type conversion is not possible.

Converting float data type to char data type:



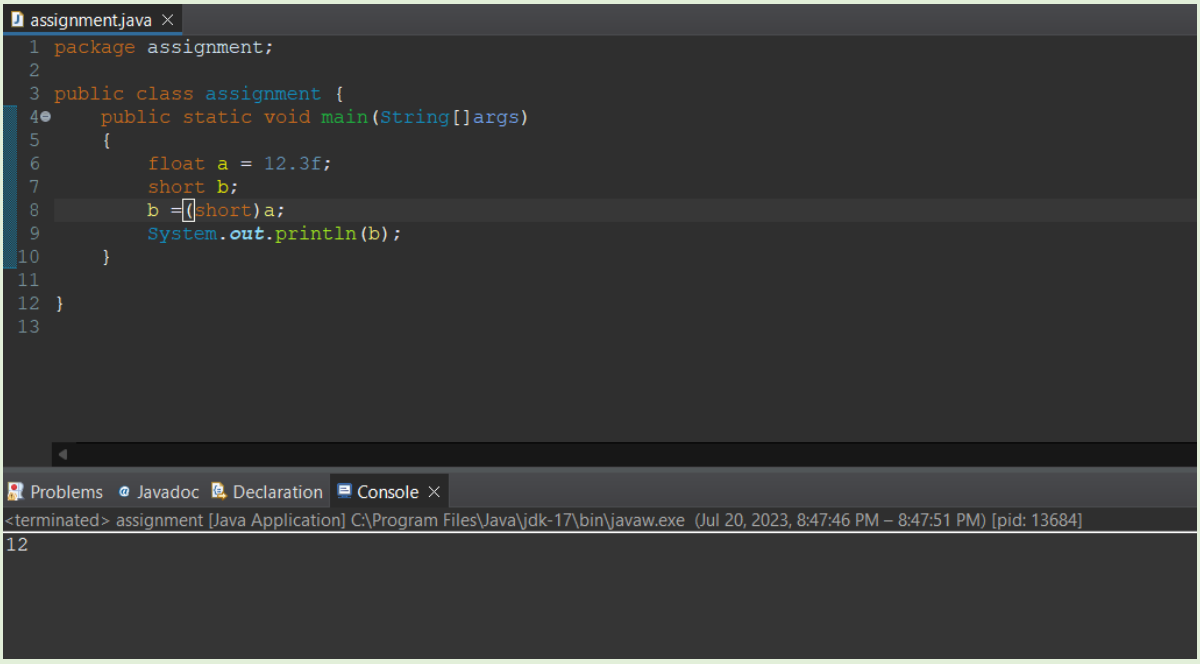
Float data type to char data type conversion is an explicit type of conversion.

Converting float data type to byte data type:



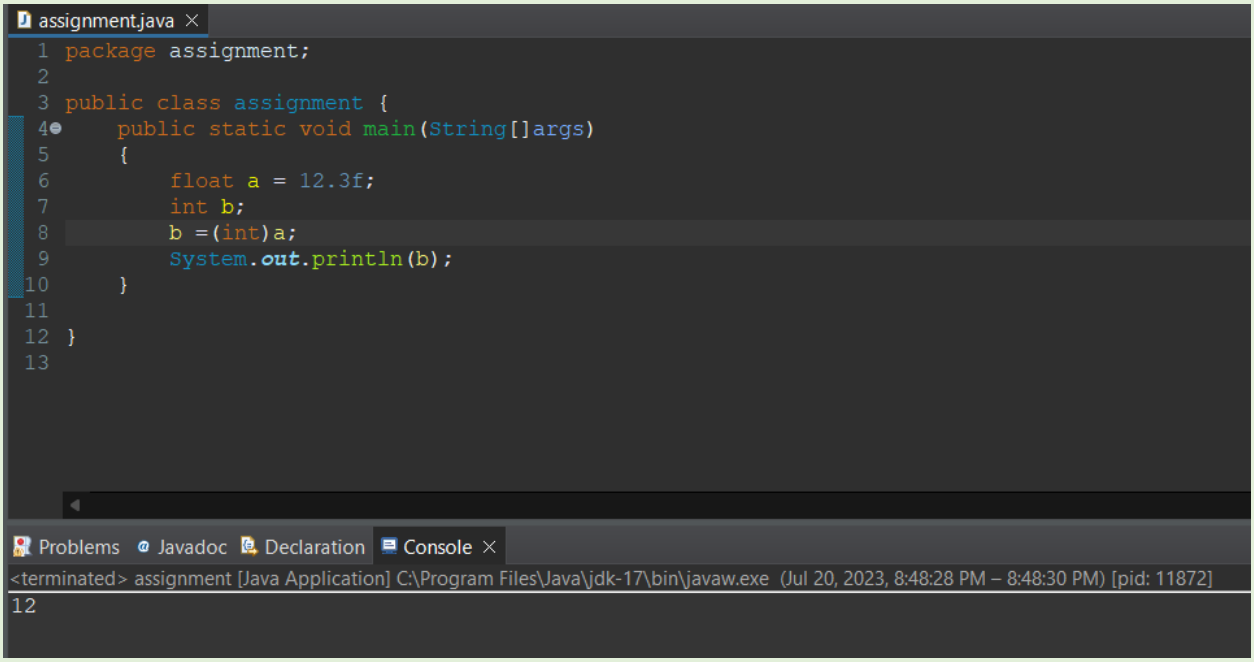
Float data type to byte data type conversion is an explicit type of conversion.

Converting float data type to short data type:



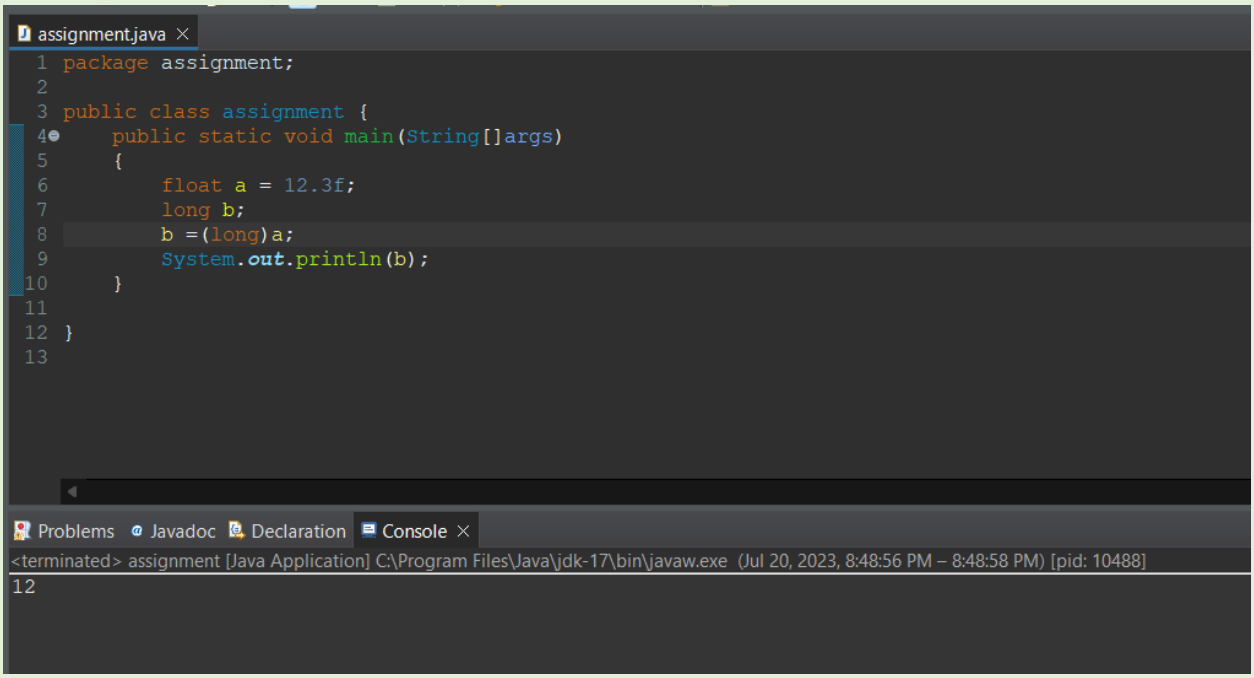
Float data type to short data type conversion is an explicit type of conversion.

Converting float data type to int data type:



Float data type to int data type conversion is an explicit type of conversion.

Converting float data type to long data type:

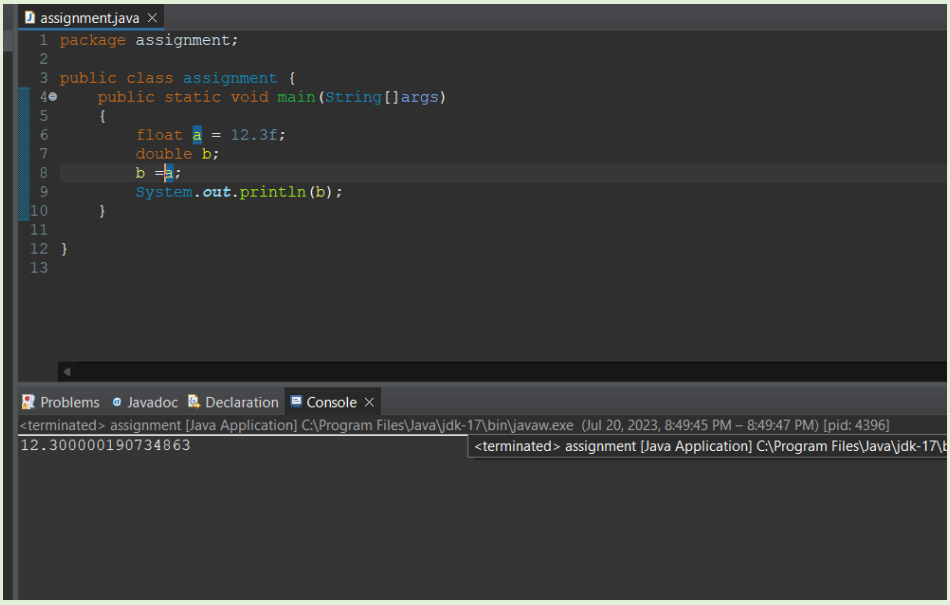


Float data type to long data type conversion is an explicit type of conversion.

Converting float data type to float data type:

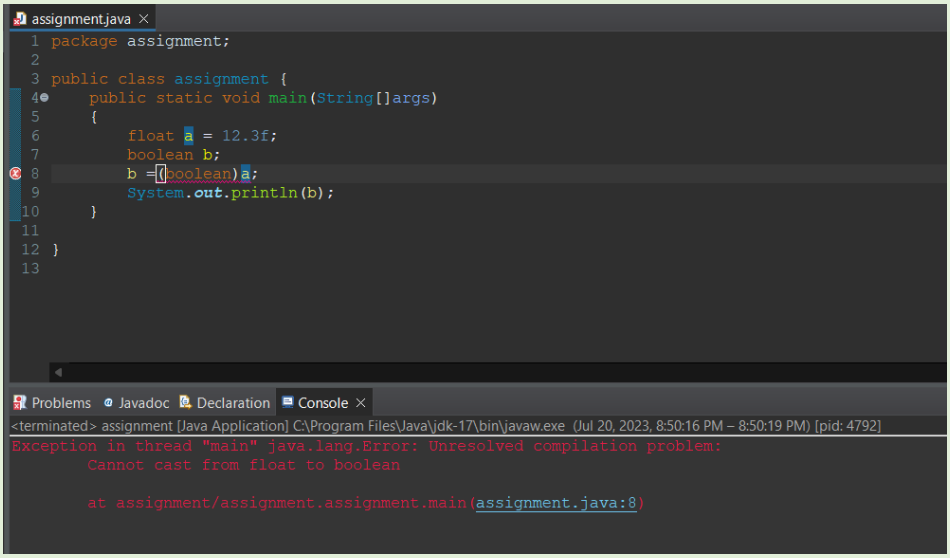
Conversion of float data type to float data type no conversion is required because both are of same date type.

Converting float data type to double data type:



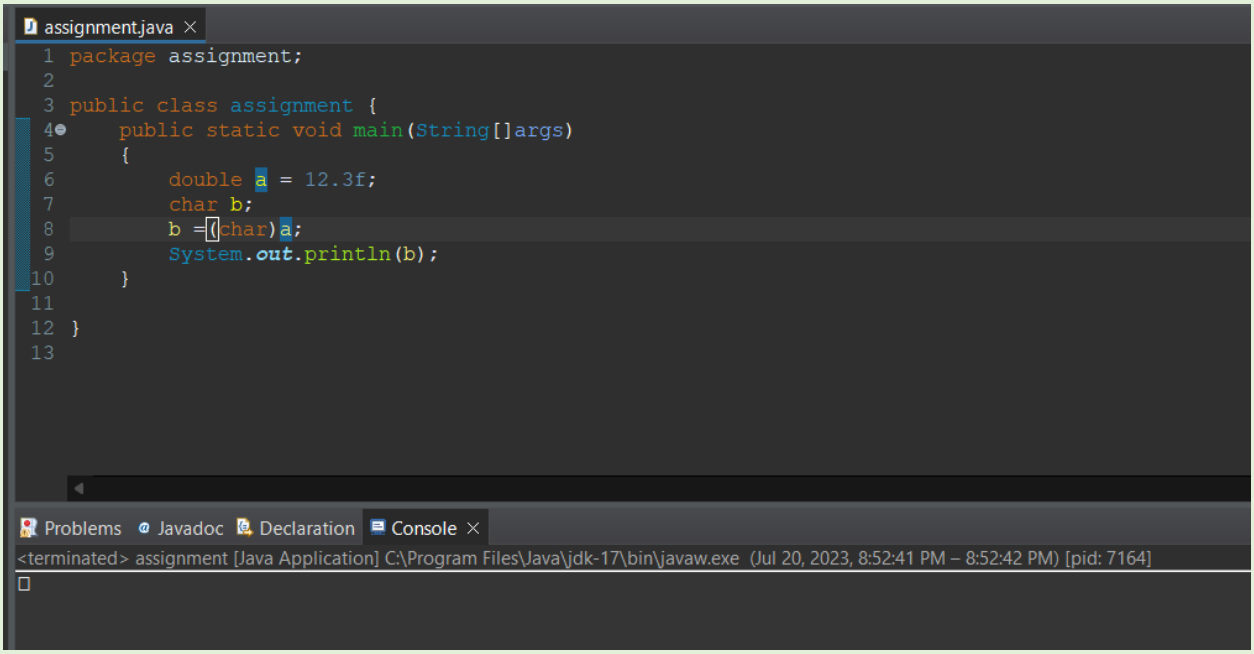
Float data type to double data type conversion is an implicit type of conversion.

Converting float data type to boolean data type:



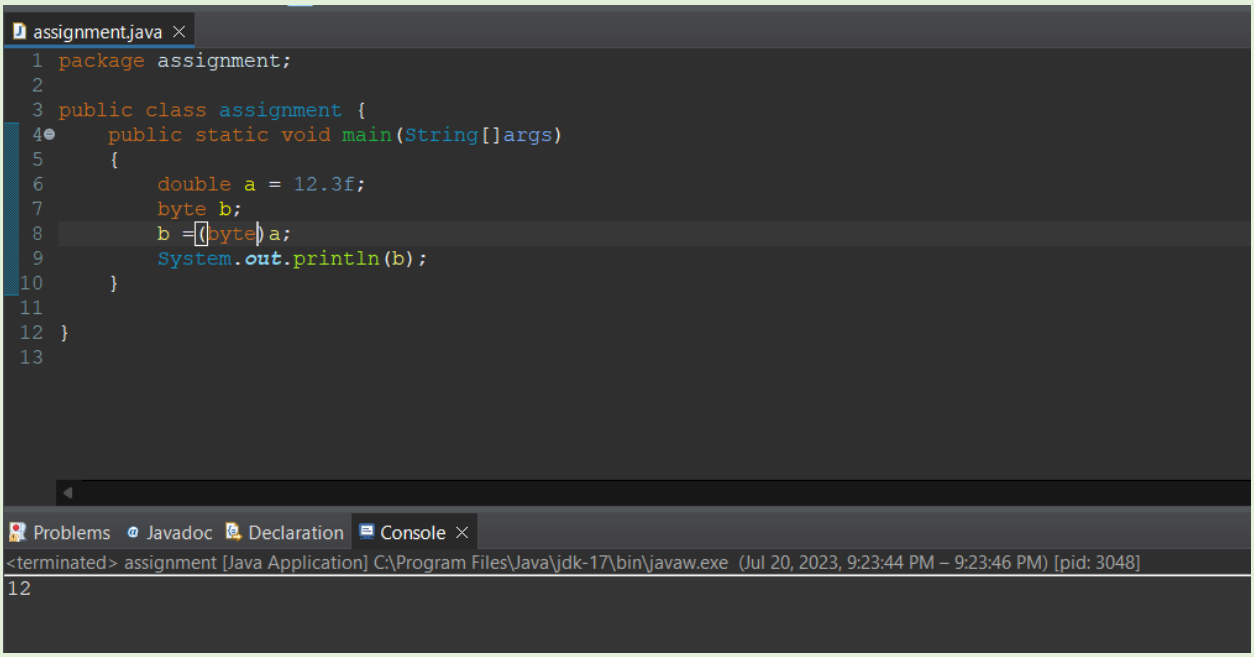
Float data type to boolean data type conversion is not possible.

Converting double data type to char data type:



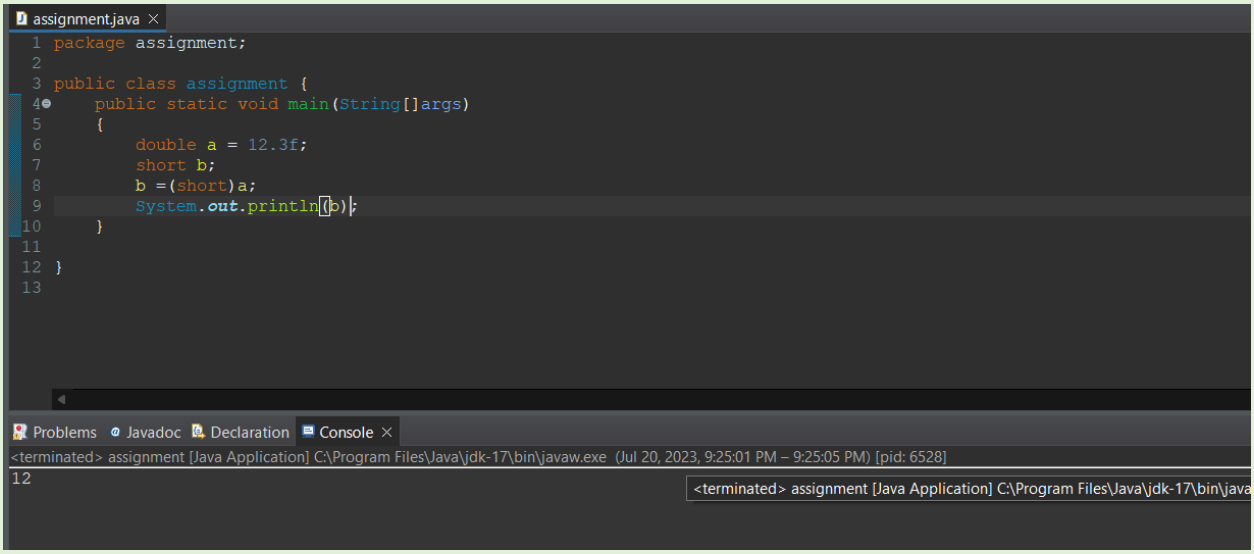
double data type to char data type conversion is an explicit type of conversion.

Converting double data type to byte data type:



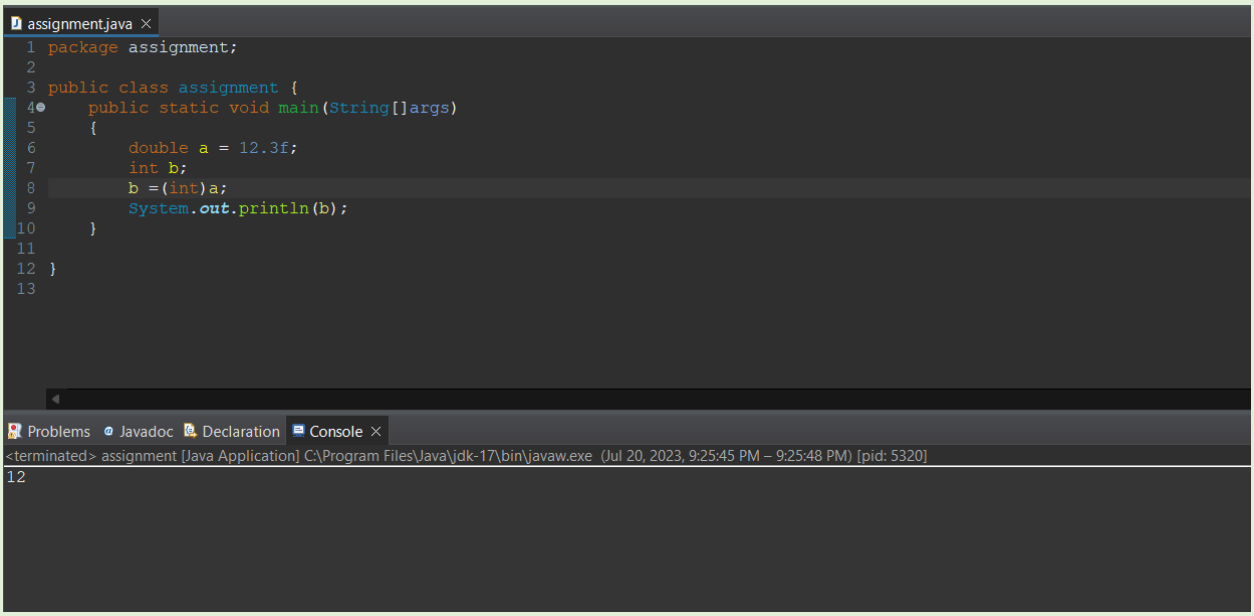
double data type to byte data type conversion is an explicit type of conversion.

Converting double data type to short data type:



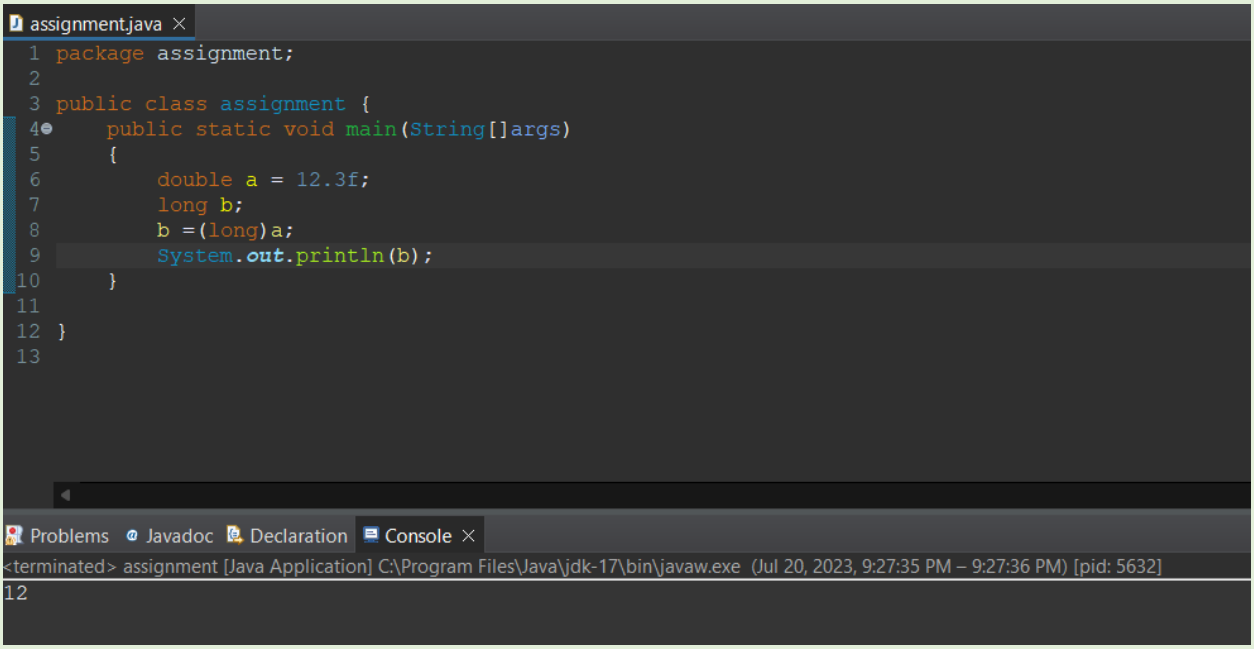
double data type to short data type conversion is an explicit type of conversion.

Converting double data type to int data type:



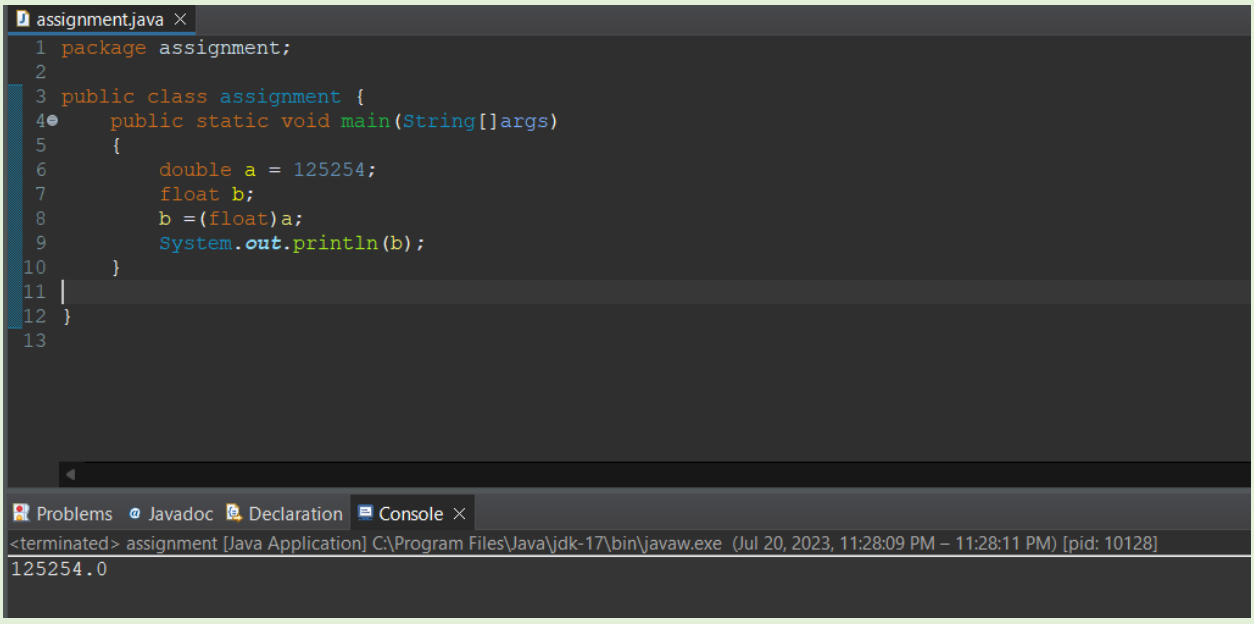
double data type to int data type conversion is an explicit type of conversion.

Converting double data type to long data type:



double data type to long data type conversion is an explicit type of conversion.

Converting double data type to float data type:

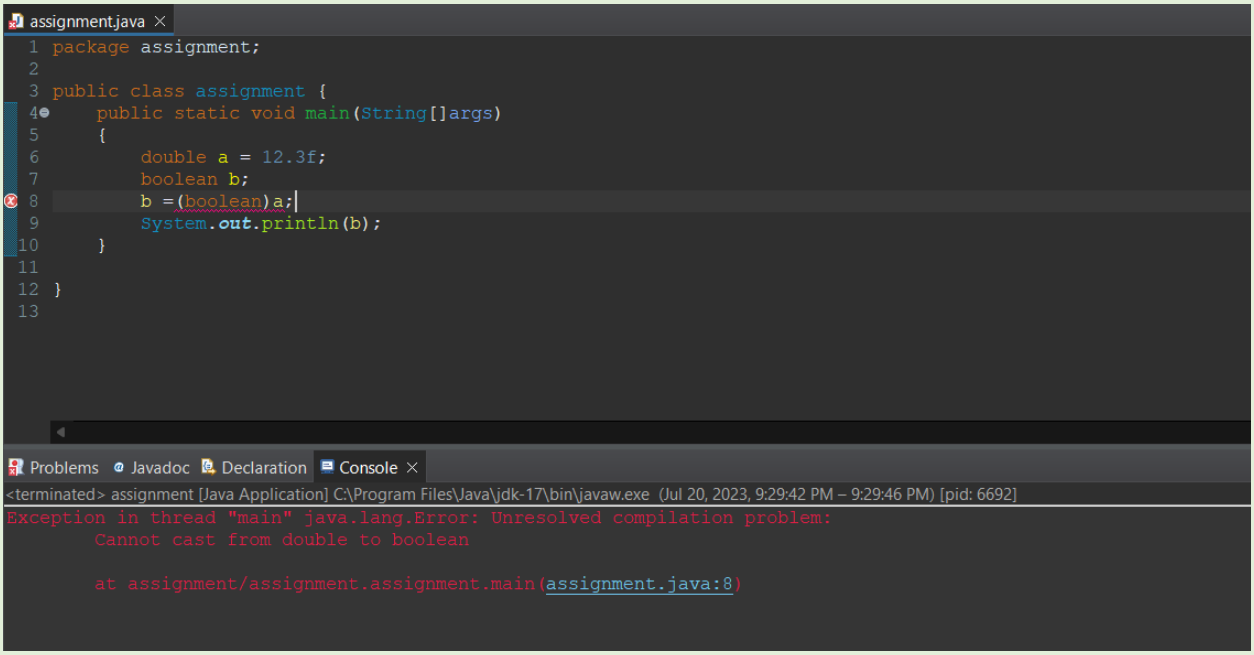


double data type to float data type conversion is an explicit type of conversion.

Converting double data type to double data type:

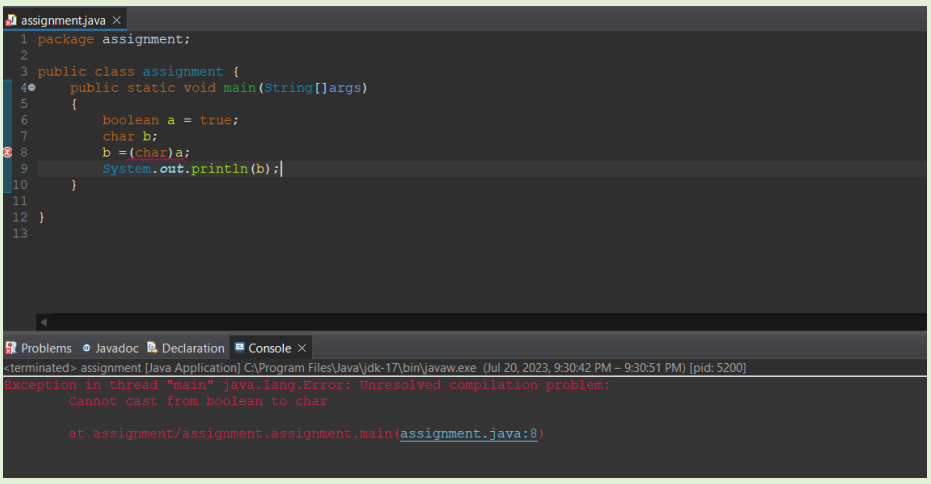
Conversion of double data type to double data type no conversion is required because both are of same date type

Converting double data type to boolean data type:



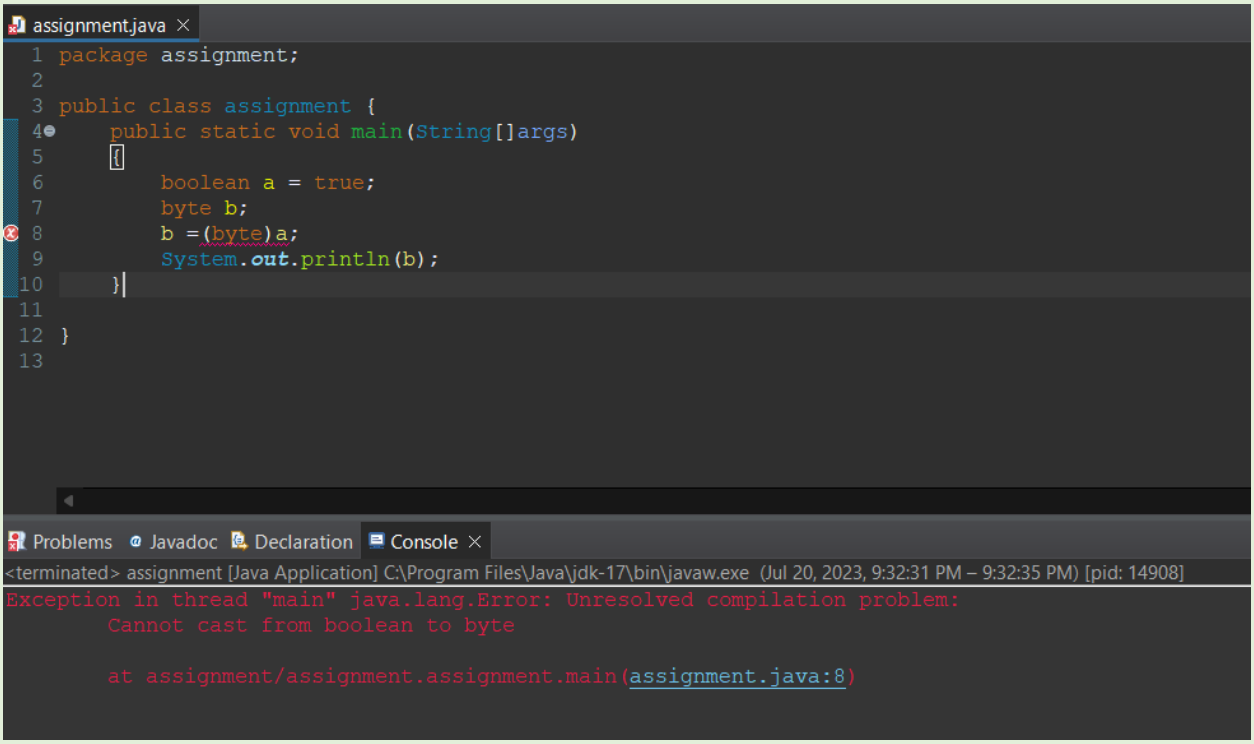
double data type to Boolean data type conversion is not possible.

Converting Boolean data type to char data type:



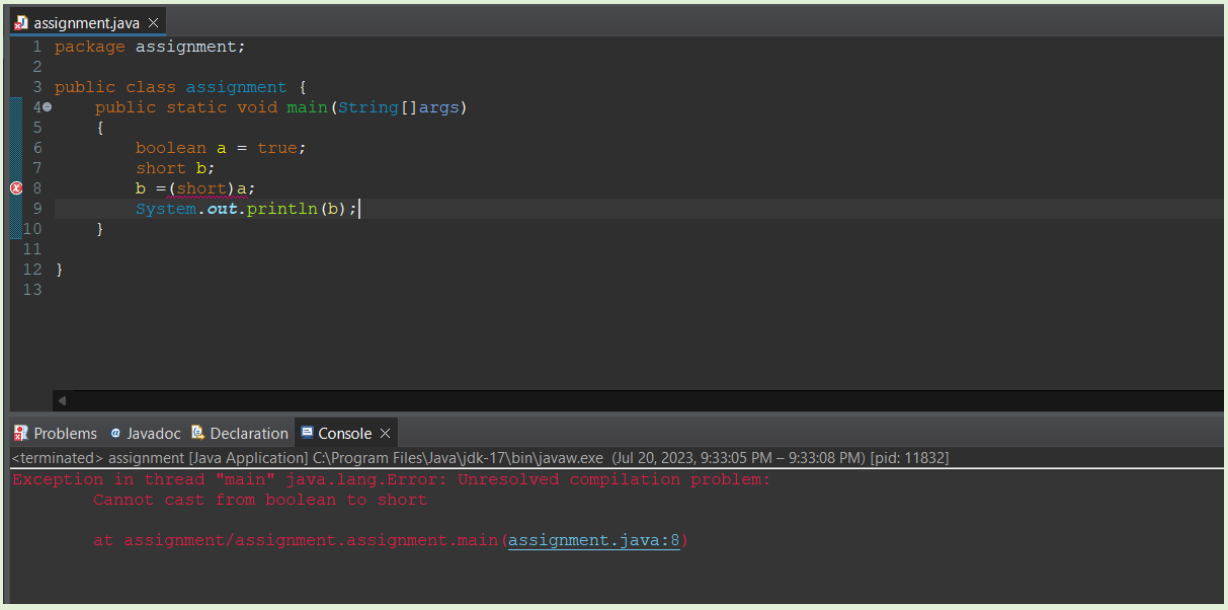
boolean data type to char data type conversion is not possible.

Converting Boolean data type to byte data type:



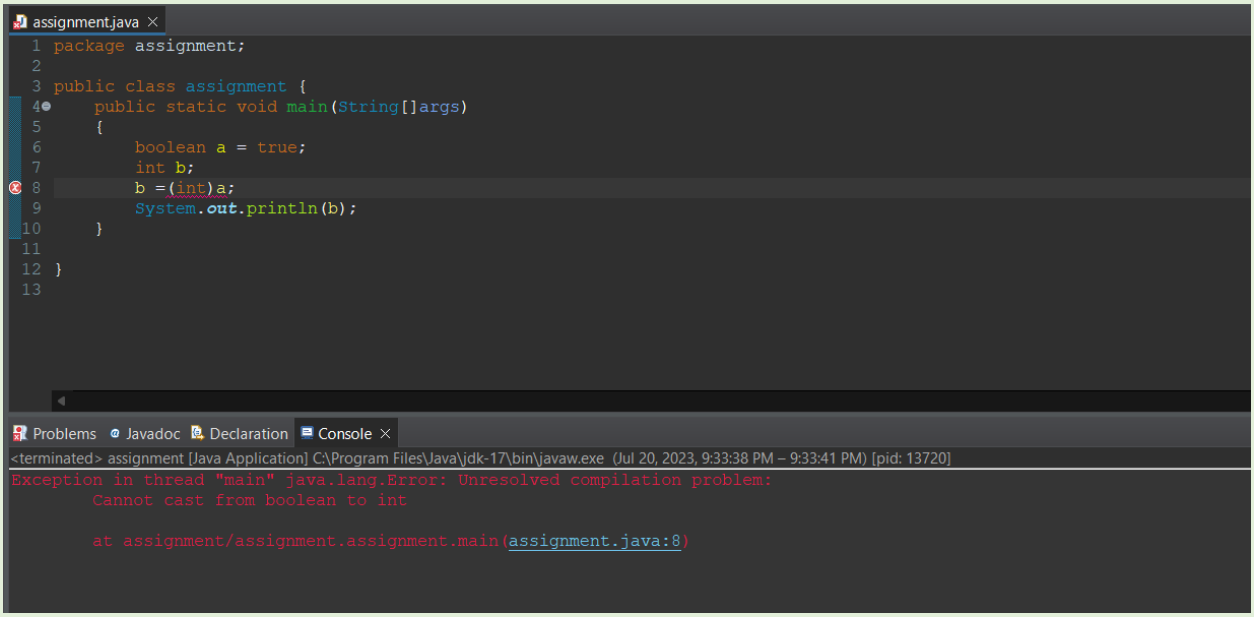
boolean data type to byte data type conversion is not possible.

Converting Boolean data type to short data type:



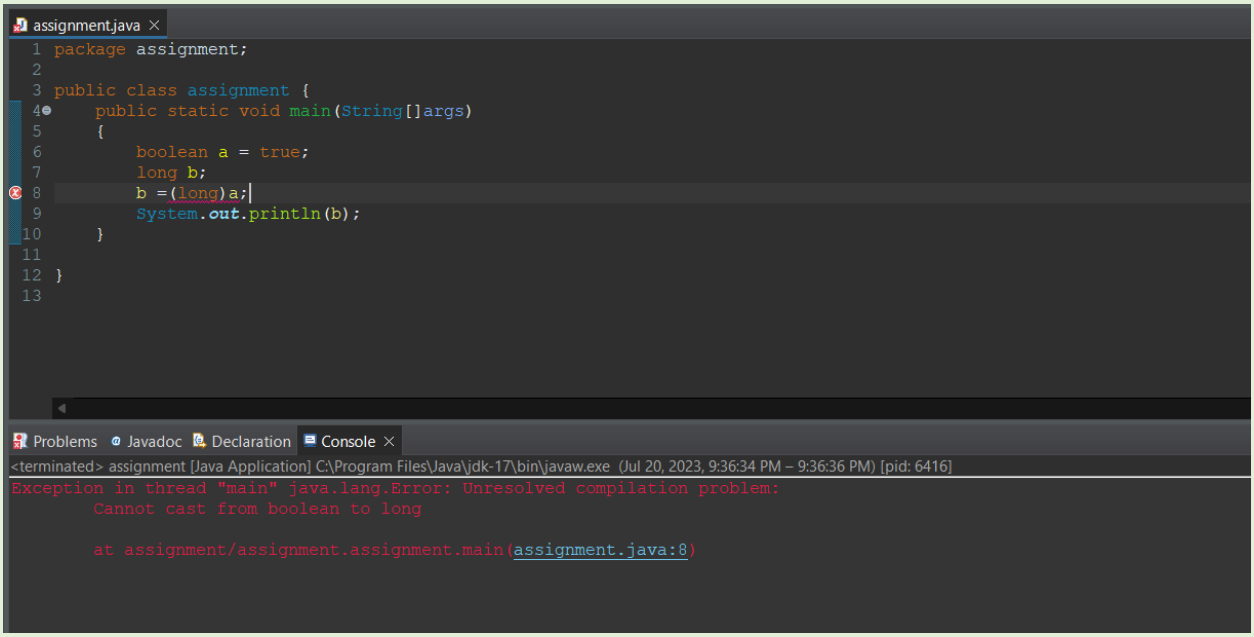
boolean data type to short data type conversion is not possible.

Converting Boolean data type to integer data type:



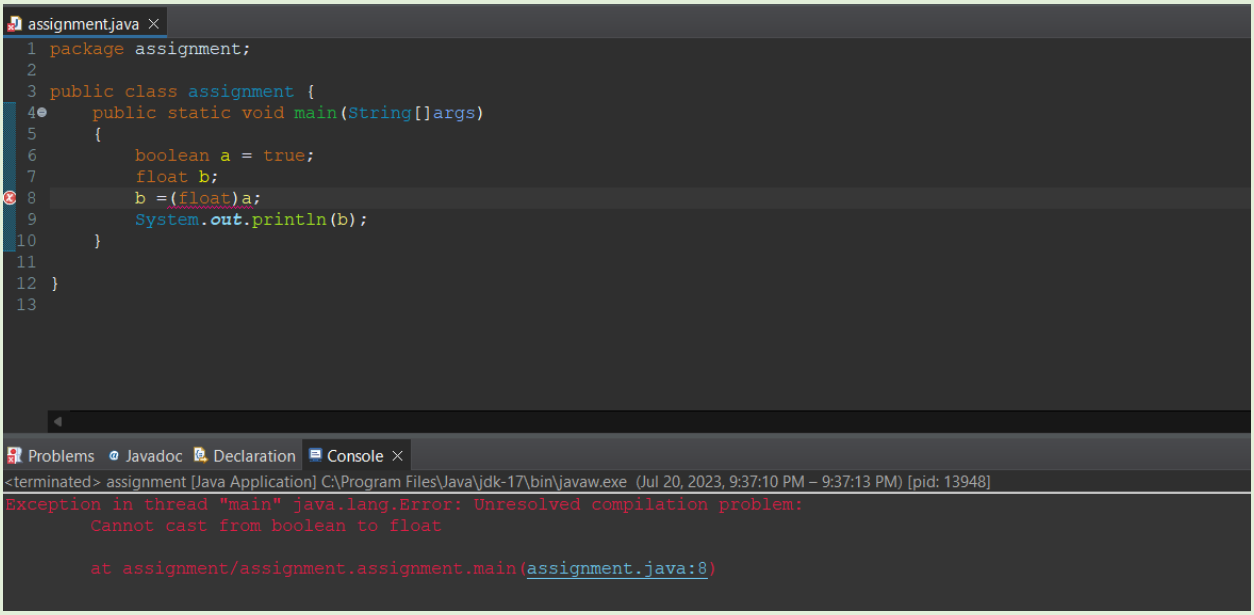
boolean data type to integer data type conversion is not possible.

Converting Boolean data type to long data type:



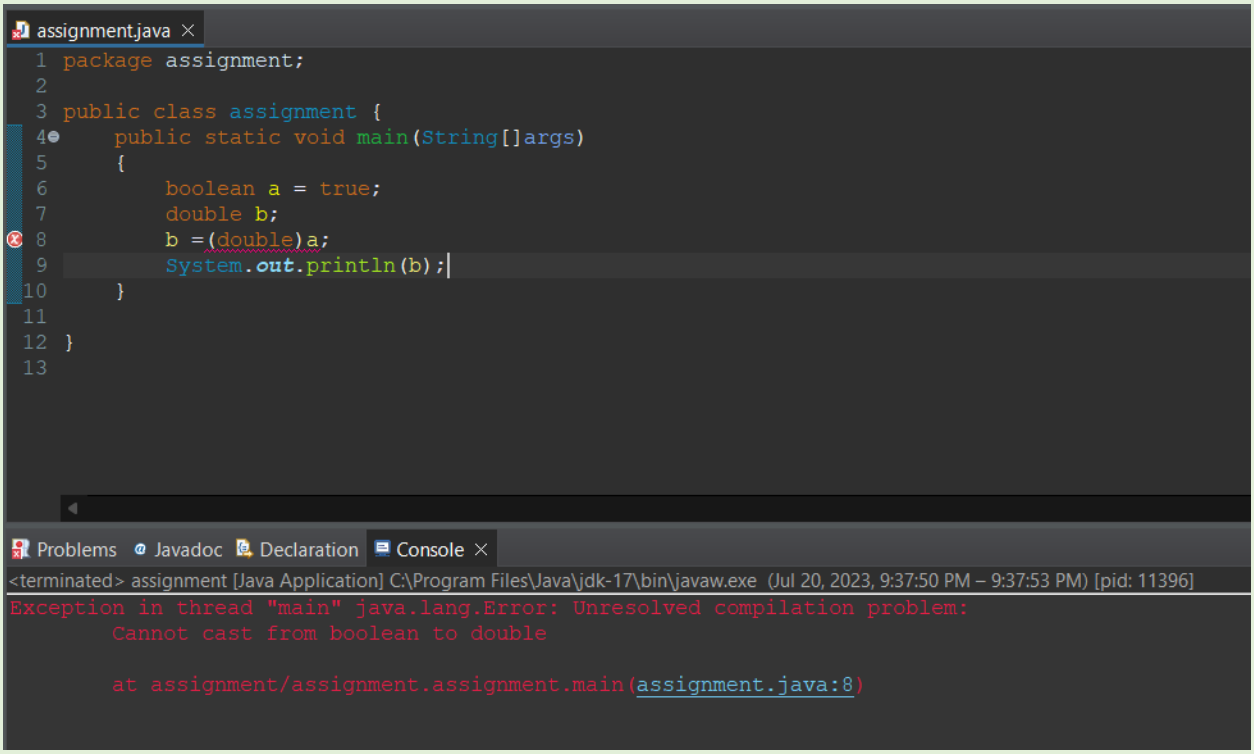
boolean data type to long data type conversion is not possible.

Converting Boolean data type to float data type:



boolean data type to float data type conversion is not possible.

Converting Boolean data type to double data type:

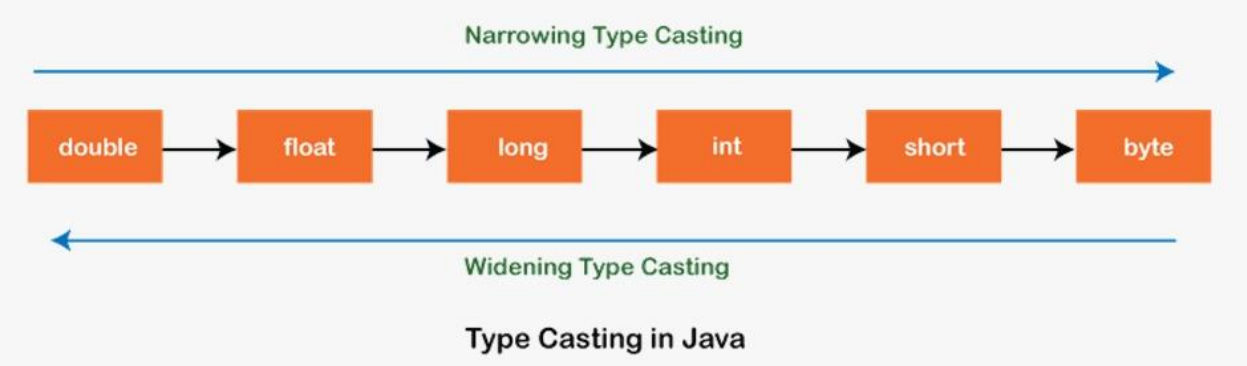


boolean data type to double data type conversion is not possible.

Converting Boolean data type to boolean data type:

Conversion of boolean data type to boolean data type no conversion is required because both are of same date type.

TABLE OF CASTING

	Char	Byte	Short	Int	Long	Float	Double	boolean
char	NCR	✓ EC	✓ EC	✓ IC	✓ IC	✓ IC	✓ IC	× CNP
byte	✓ EC	NCR	✓ IC	✓ IC	✓ IC	✓ IC	✓ IC	× CNP
short	✓ EC	✓ EC	NCR	✓ IC	✓ IC	✓ IC	✓ IC	× CNP
int	✓ EC	✓ EC	✓ EC	NCR	✓ IC	✓ IC	✓ IC	× CNP
long	✓ EC	✓ EC	✓ EC	✓ EC	NCR	✓ IC	✓ IC	× CNP
float	✓ EC	✓ EC	✓ EC	✓ EC	✓ EC	NCR	✓ IC	× CNP
double	✓ EC	✓ EC	✓ EC	✓ EC	✓ EC	✓ EC	NCR	× CNP
boolean	× CNP	× CNP	× CNP	× CNP	× CNP	× CNP	×CNP	×NCR

TYPE CASTING GRAPH