ASSIGNMENT NO.2

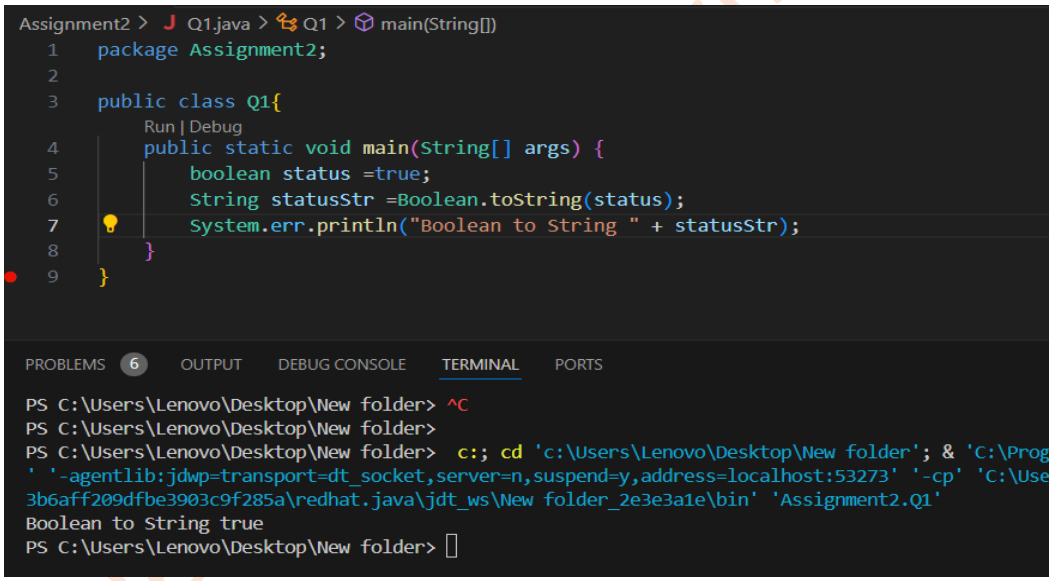
Note: Consider the following before starting the assignment:

- A **static field** declared inside a class is called a **class-level variable**. To access this variable, use the class name and the dot operator (e.g., `Integer.MAX_VALUE`).
- A **static method** defined inside a class is called a **class-level method**. To access this method, use the class name and the dot operator (e.g., `Integer.parseInt()`).
- When accessing static members within the same class, you do not need to use the class name.

1. Working with `java.lang.Boolean`

a. Explore the Java API documentation for `java.lang.Boolean` and observe its modifiers and super types.

b. Declare a method-local variable `status` of type `boolean` with the value `true` and convert it to a `String` using the `toString` method. (Hint: Use `Boolean.toString(Boolean)`).



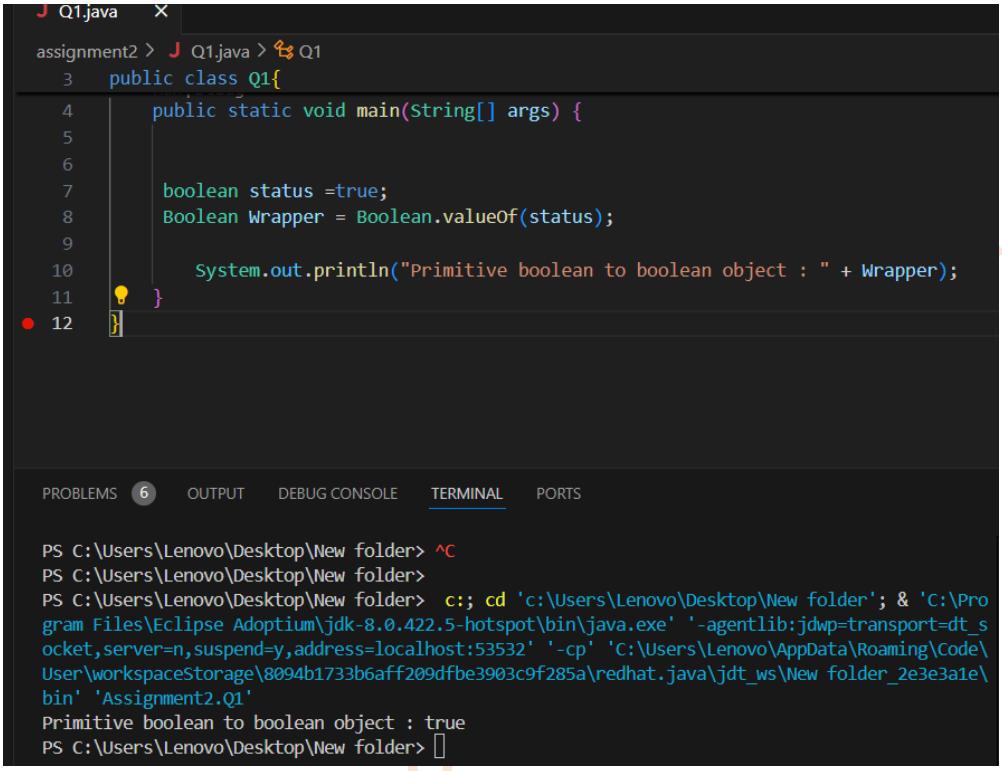
c. Declare a method-local variable `strStatus` of type `String` with the value `"true"` and convert it to a `boolean` using the `parseBoolean` method. (Hint: Use `Boolean.parseBoolean(String)`).

```
assignment2 > Q1.java > Q1
  1  package Assignment2;
  2
  3  public class Q1{
         Run | Debug
  4      public static void main(String[] args) {
  5
  6      String strStatus="true";
  7      boolean status =Boolean.parseBoolean(strStatus);
  8
  9          System.out.println("String to Boolean " + status);
 10      }
 11  }

PROBLEMS 6  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

PS C:\Users\Lenovo\Desktop\New folder> clear^C
PS C:\Users\Lenovo\Desktop\New folder>
PS C:\Users\Lenovo\Desktop\New folder>  c:; cd 'c:\Users\Lenovo\Desktop\New folder'; & 'C:\Program Files\Eclipse
' '-agentlib:jdwp=transport=dt_socket,server=n,suspend=y,address=localhost:53484' '-cp' 'C:\Users\Lenovo\AppData
3b6aff209dfbe3903c9f285a\redhat.java\jdt_ws\New folder_2e3e3a1e\bin' 'Assignment2.Q1'
String to Boolean true
PS C:\Users\Lenovo\Desktop\New folder>
```

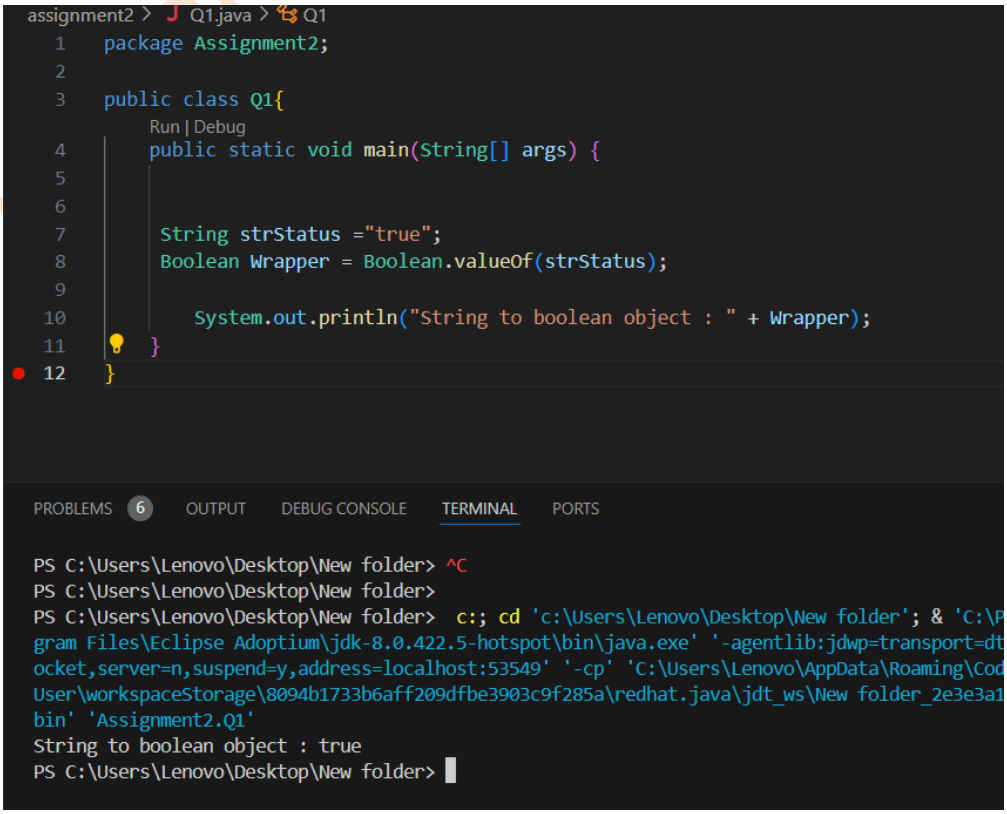
d. Declare a method-local variable `strStatus` of type `String` with the value `"1"` or `"0"` and attempt to convert it to a `boolean`. (Hint: `parseBoolean` method will not work as expected with `"1"` or `"0"`).

```
Q1.java
assignment2 > Q1.java > Q1 > main(String[])
  1  package Assignment2;
  2
  3  public class Q1{
         Run | Debug
  4      public static void main(String[] args) {
  5
  6      String strStatus="1";
  7      boolean status =Boolean.parseBoolean(strStatus);
  8
  9          System.out.println("String '1' to Boolean " + status);
 10      }
 11  }

PROBLEMS 6  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

PS C:\Users\Lenovo\Desktop\New folder> ^C
PS C:\Users\Lenovo\Desktop\New folder>
PS C:\Users\Lenovo\Desktop\New folder>  c:; cd 'c:\Users\Lenovo\Desktop\New folder'; & 'C:
gram Files\Eclipse Adoptium\jdk-8.0.422.5-hotspot\bin\java.exe' '-agentlib:jdwp=transport=
ocket,server=n,suspend=y,address=localhost:53511' '-cp' 'C:\Users\Lenovo\AppData\Roaming\C
User\workspaceStorage\8094b1733b6aff209dfbe3903c9f285a\redhat.java\jdt_ws\New folder_2e3e3
bin' 'Assignment2.Q1'
String '1' to Boolean false
PS C:\Users\Lenovo\Desktop\New folder>
```

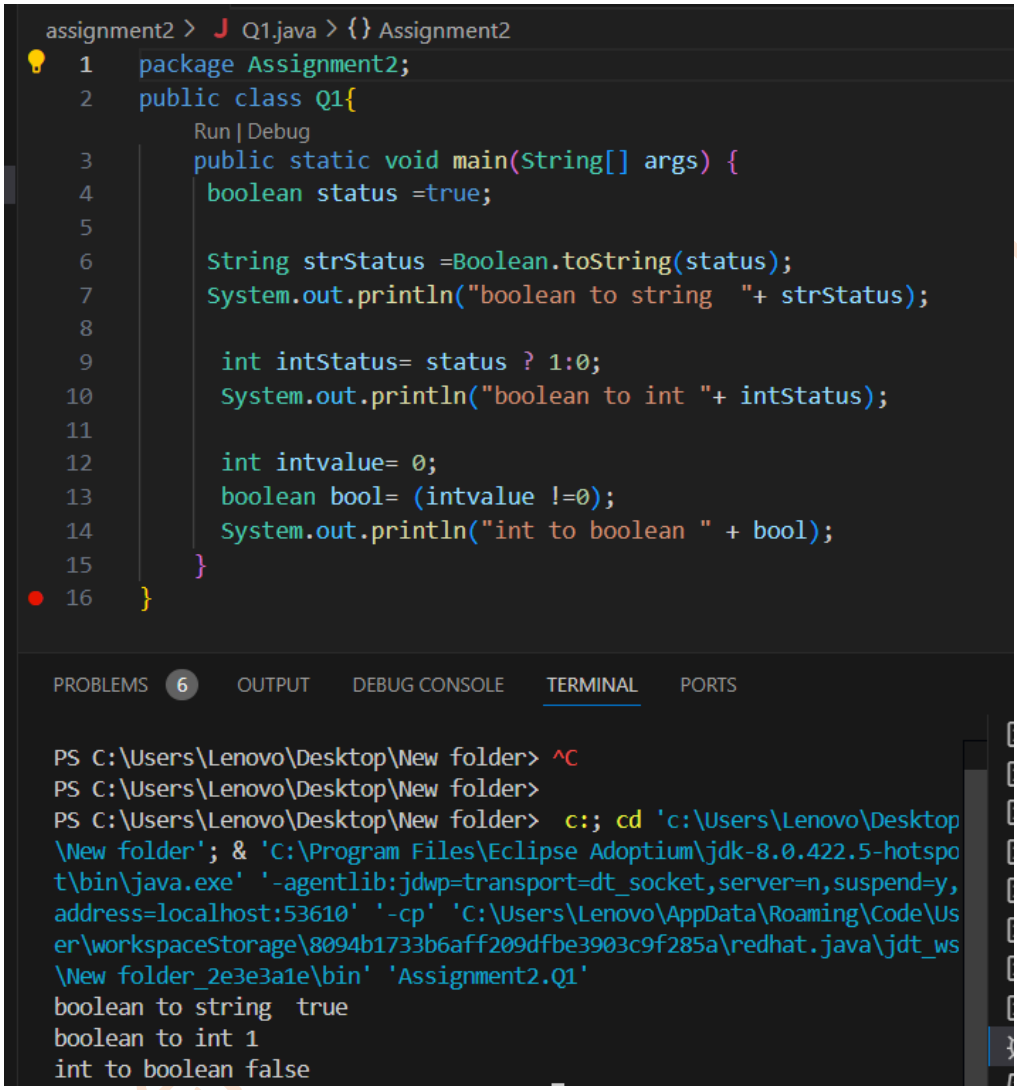
e. Declare a method-local variable `status` of type `boolean` with the value `true` and convert it to the corresponding wrapper class using `Boolean.valueOf()`. (Hint: Use `Boolean.valueOf(boolean)`).



f. Declare a method-local variable `strStatus` of type `String` with the value `"true"` and convert it to the corresponding wrapper class using `Boolean.valueOf()`. (Hint: Use `Boolean.valueOf(String)`).



g. Experiment with converting a `boolean` value into other primitive types or vice versa and observe the results.

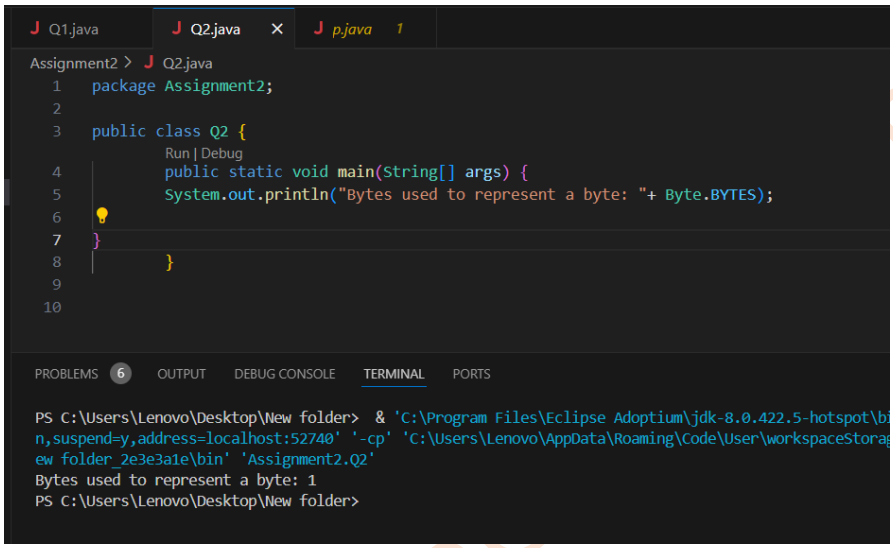


sandeep

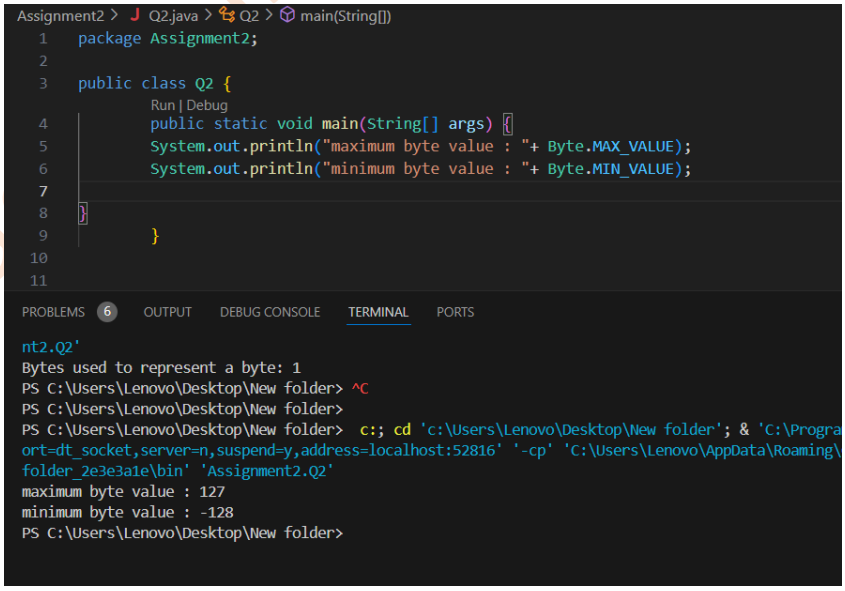
2. Working with `java.lang.Byte`

a. Explore the Java API documentation for `java.lang.Byte` and observe its modifiers and super types.

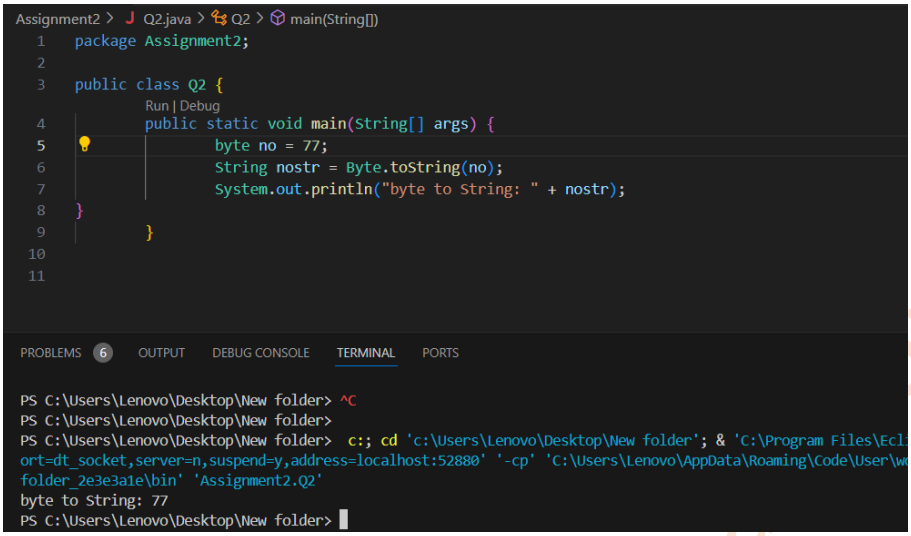
b. Write a program to test how many bytes are used to represent a `byte` value using the `BYTES` field. (Hint: Use `Byte.BYTES`).



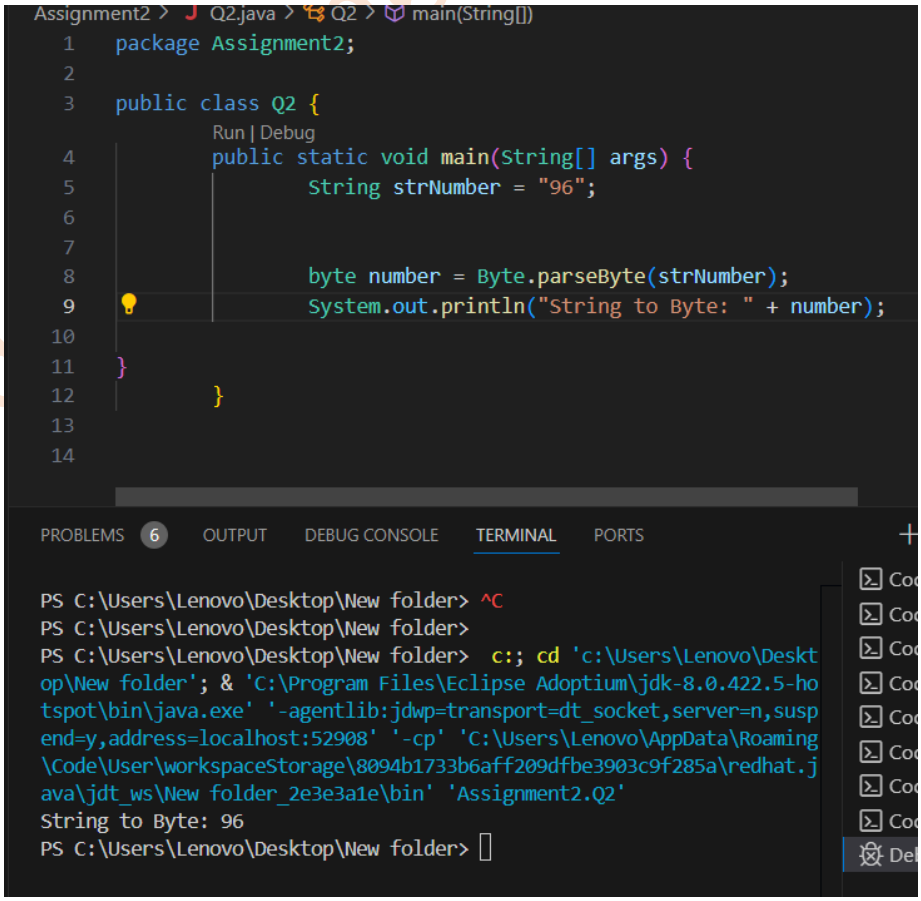
c. Write a program to find the minimum and maximum values of `byte` using the `MIN_VALUE` and `MAX_VALUE` fields. (Hint: Use `Byte.MIN_VALUE` and `Byte.MAX_VALUE`).



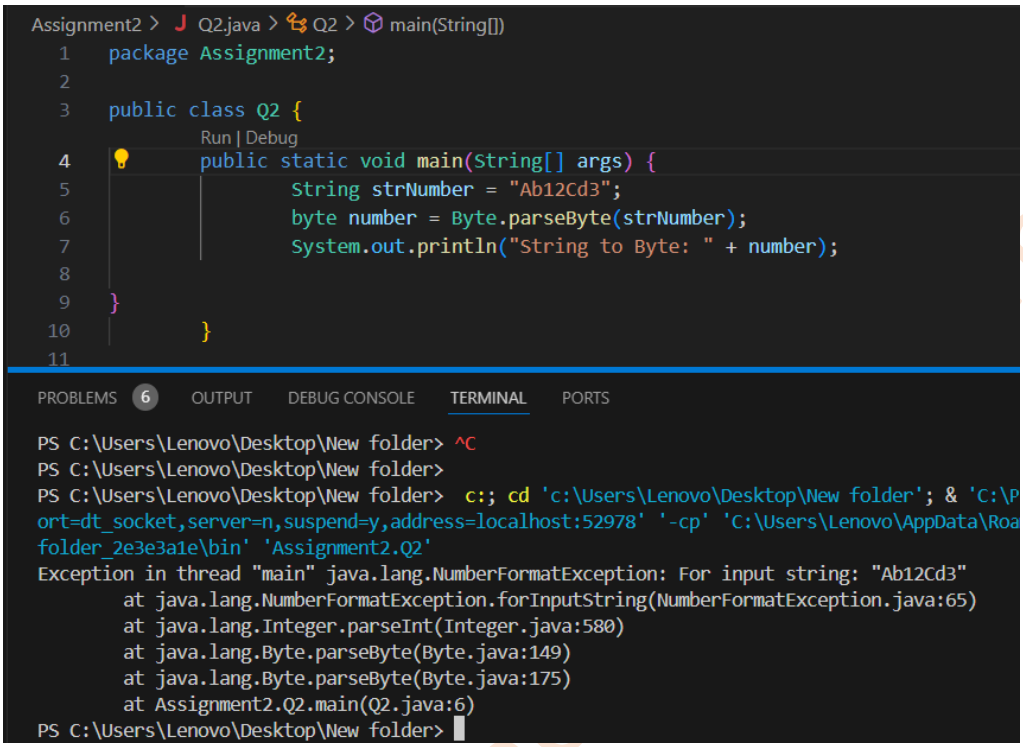
d. Declare a method-local variable `number` of type `byte` with some value and convert it to a `String` using the `toString` method. (Hint: Use `Byte.toString(byte)`).



e. Declare a method-local variable `strNumber` of type `String` with some value and convert it to a `byte` value using the `parseByte` method. (Hint: Use `Byte.parseByte(String)`).



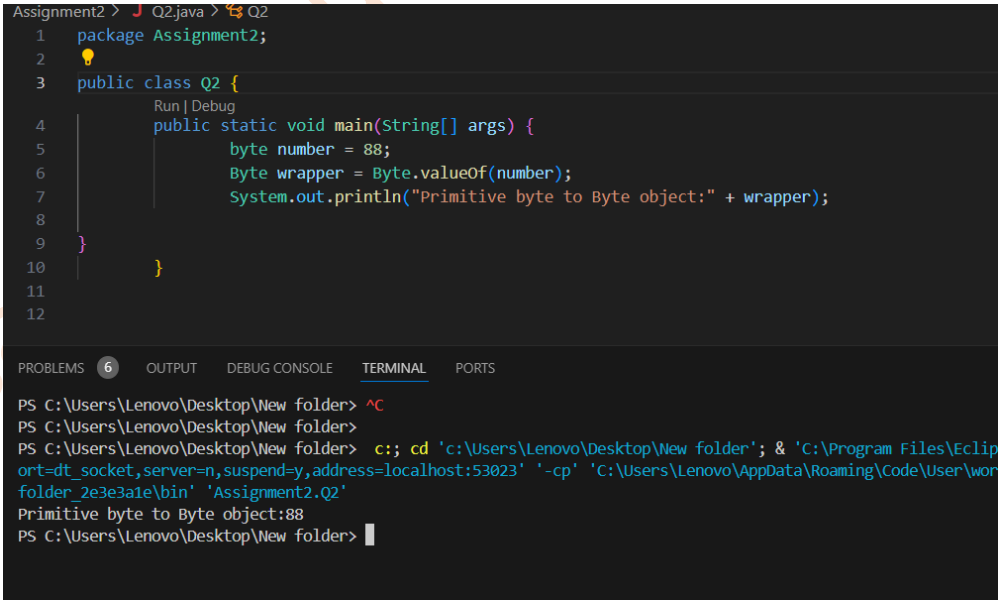
f. Declare a method-local variable `strNumber` of type `String` with the value `"Ab12Cd3"` and attempt to convert it to a `byte` value. (Hint: `parseByte` method will throw a `NumberFormatException`).



```
Assignment2 > Q2.java > Q2 > main(String[])
1   package Assignment2;
2
3   public class Q2 {
            Run | Debug
4           public static void main(String[] args) {
5               String strNumber = "Ab12Cd3";
6               byte number = Byte.parseByte(strNumber);
7               System.out.println("String to Byte: " + number);
8
9   }
10          }
11
```

```
PROBLEMS 6  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

PS C:\Users\Lenovo\Desktop\New folder> ^C
PS C:\Users\Lenovo\Desktop\New folder>
PS C:\Users\Lenovo\Desktop\New folder>  c:; cd 'c:\Users\Lenovo\Desktop\New folder'; & 'C:\P
ort=dt_socket,server=n,suspend=y,address=localhost:52978' '-cp' 'C:\Users\Lenovo\AppData\Roa
folder_2e3e3a1e\bin' 'Assignment2.Q2'
Exception in thread "main" java.lang.NumberFormatException: For input string: "Ab12Cd3"
        at java.lang.NumberFormatException.forInputString(NumberFormatException.java:65)
        at java.lang.Integer.parseInt(Integer.java:580)
        at java.lang.Byte.parseByte(Byte.java:149)
        at java.lang.Byte.parseByte(Byte.java:175)
        at Assignment2.Q2.main(Q2.java:6)
PS C:\Users\Lenovo\Desktop\New folder>
```

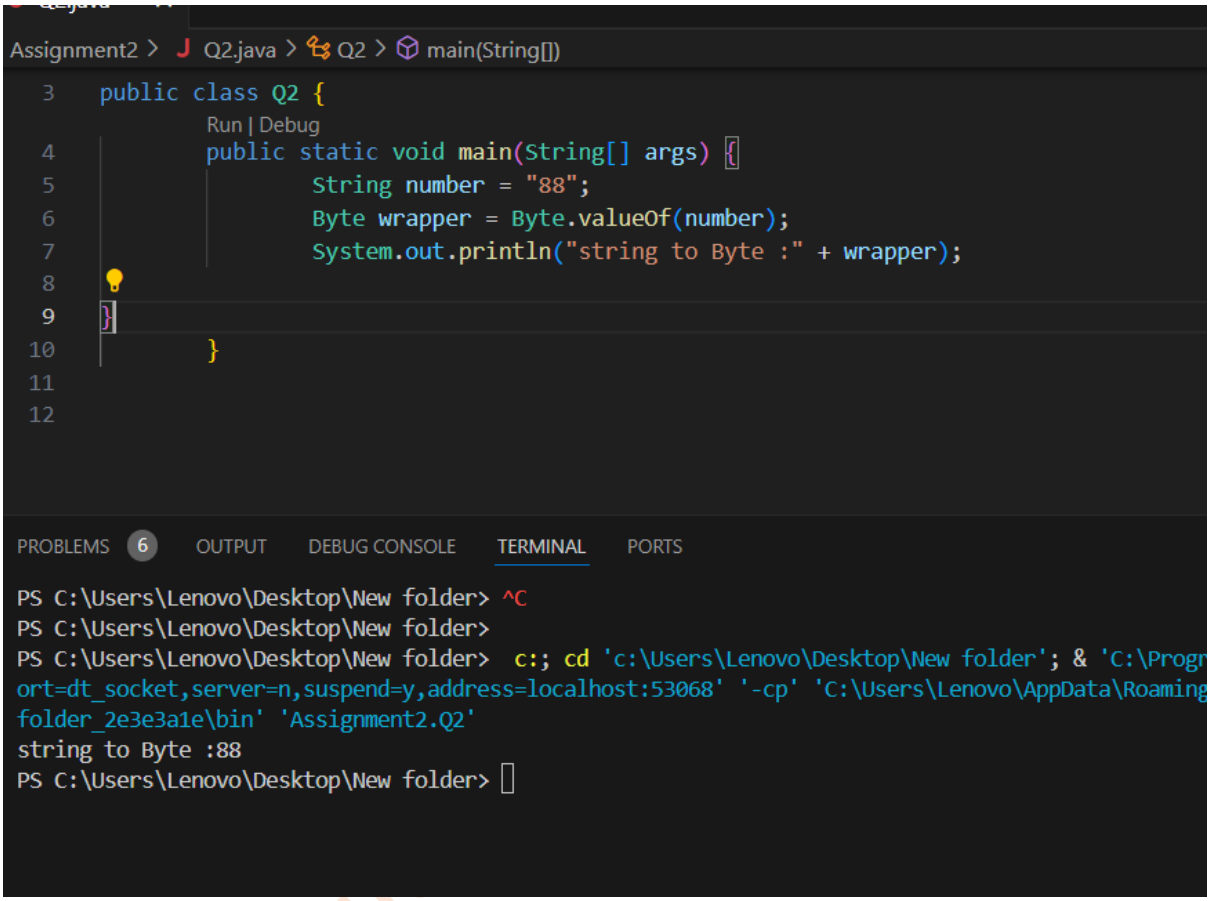
g. Declare a method-local variable `number` of type `byte` with some value and convert it to the corresponding wrapper class using `Byte.valueOf()`. (Hint: Use `Byte.valueOf(byte)`).



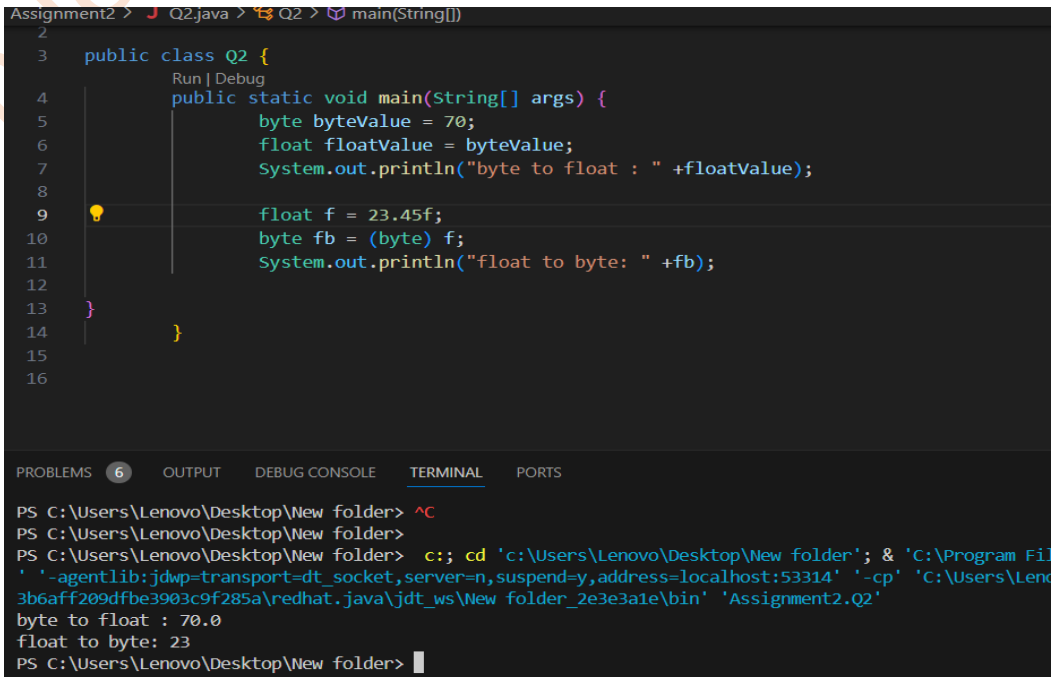
```
Assignment2 > Q2.java > Q2
1   package Assignment2;
2
3   public class Q2 {
            Run | Debug
4           public static void main(String[] args) {
5               byte number = 88;
6               Byte wrapper = Byte.valueOf(number);
7               System.out.println("Primitive byte to Byte object:" + wrapper);
8
9   }
10          }
11
12
```

```
PROBLEMS 6  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

PS C:\Users\Lenovo\Desktop\New folder> ^C
PS C:\Users\Lenovo\Desktop\New folder>
PS C:\Users\Lenovo\Desktop\New folder>  c:; cd 'c:\Users\Lenovo\Desktop\New folder'; & 'C:\Program Files\Eclip
ort=dt_socket,server=n,suspend=y,address=localhost:53023' '-cp' 'C:\Users\Lenovo\AppData\Roaming\Code\User\wor
folder_2e3e3a1e\bin' 'Assignment2.Q2'
Primitive byte to Byte object:88
PS C:\Users\Lenovo\Desktop\New folder>
```

h. Declare a method-local variable `strNumber` of type `String` with some `byte` value and convert it to the corresponding wrapper class using `Byte.valueOf()`. (Hint: Use `Byte.valueOf(String)`).



i. Experiment with converting a `byte` value into other primitive types or vice versa and observe the results.

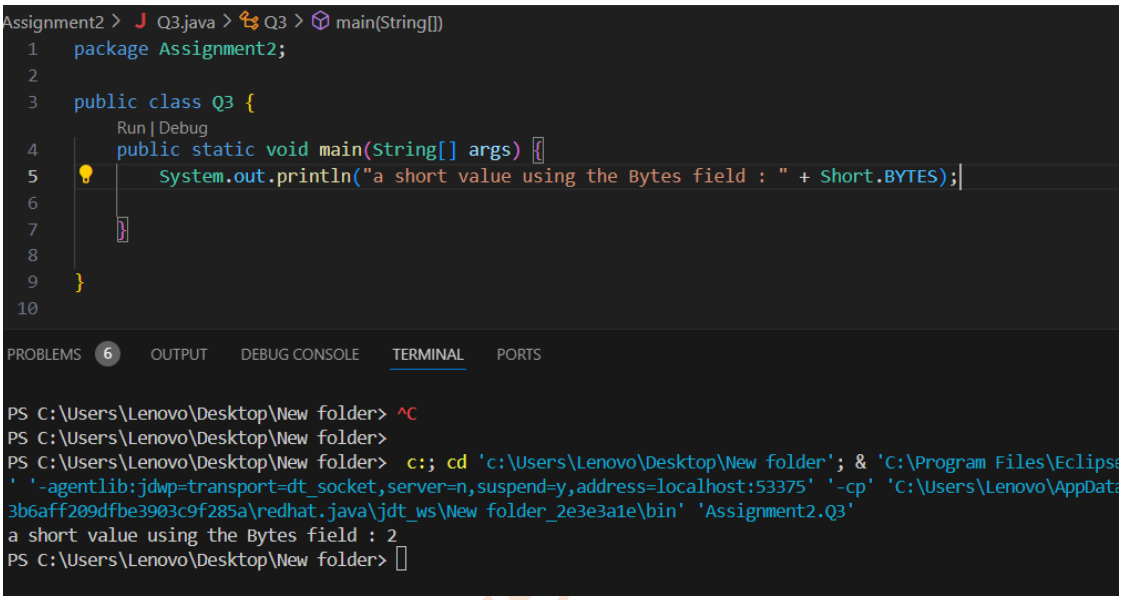


sandeepkun

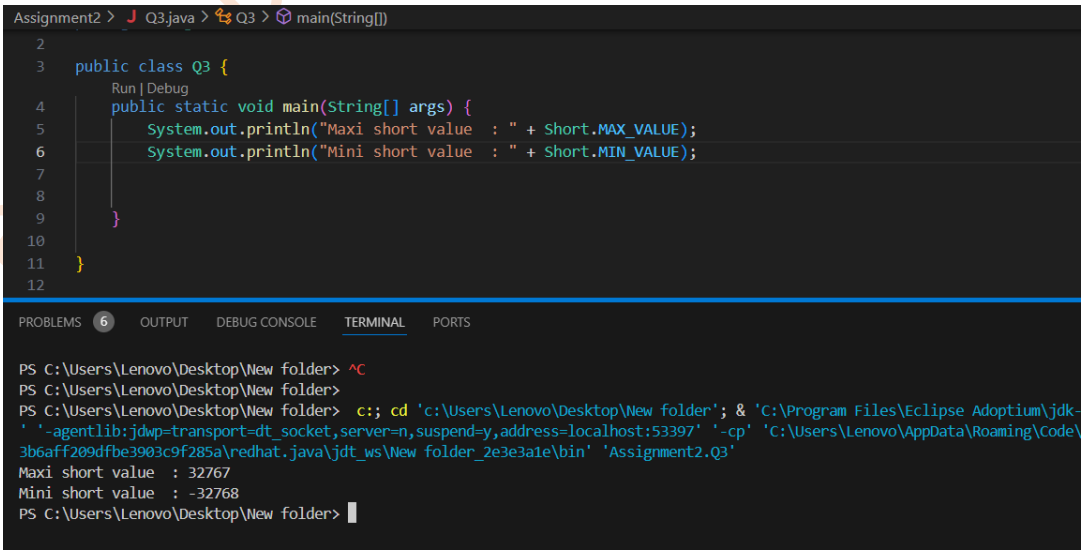
3. Working with `java.lang.Short`

a. Explore the Java API documentation for `java.lang.Short` and observe its modifiers and super types.

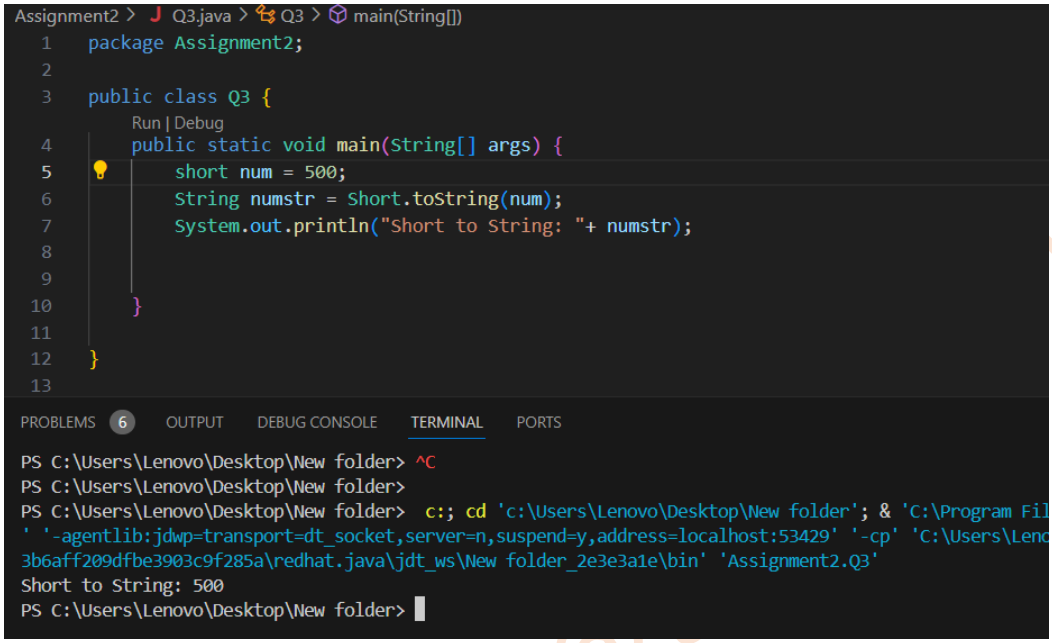
b. Write a program to test how many bytes are used to represent a `short` value using the `BYTES` field. (Hint: Use `Short.BYTES`).



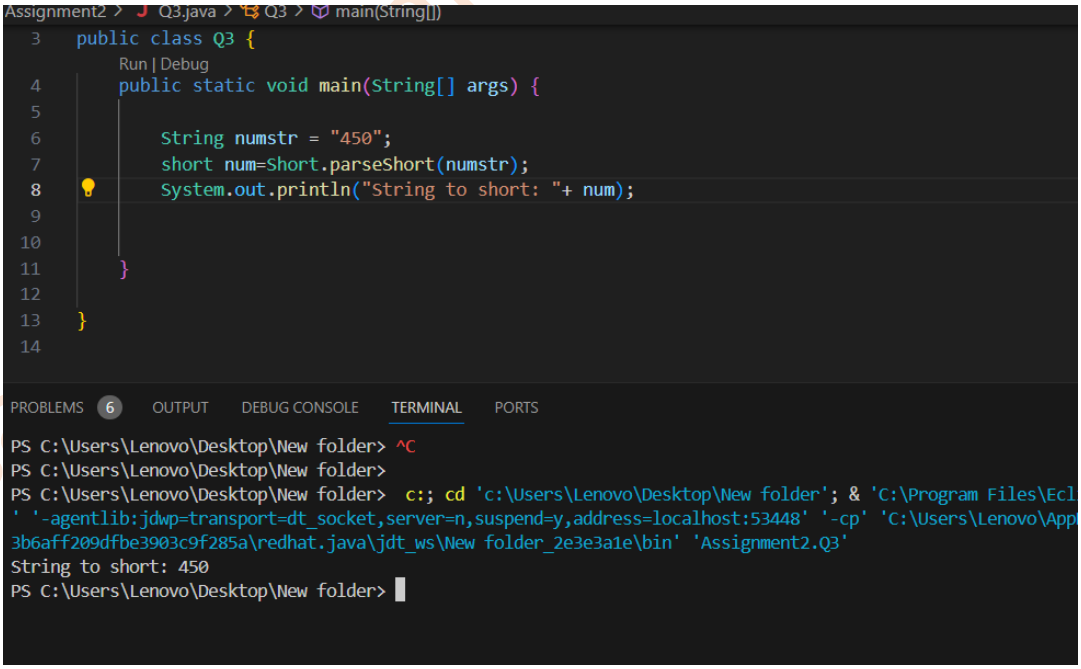
c. Write a program to find the minimum and maximum values of `short` using the `MIN_VALUE` and `MAX_VALUE` fields. (Hint: Use `Short.MIN_VALUE` and `Short.MAX_VALUE`).



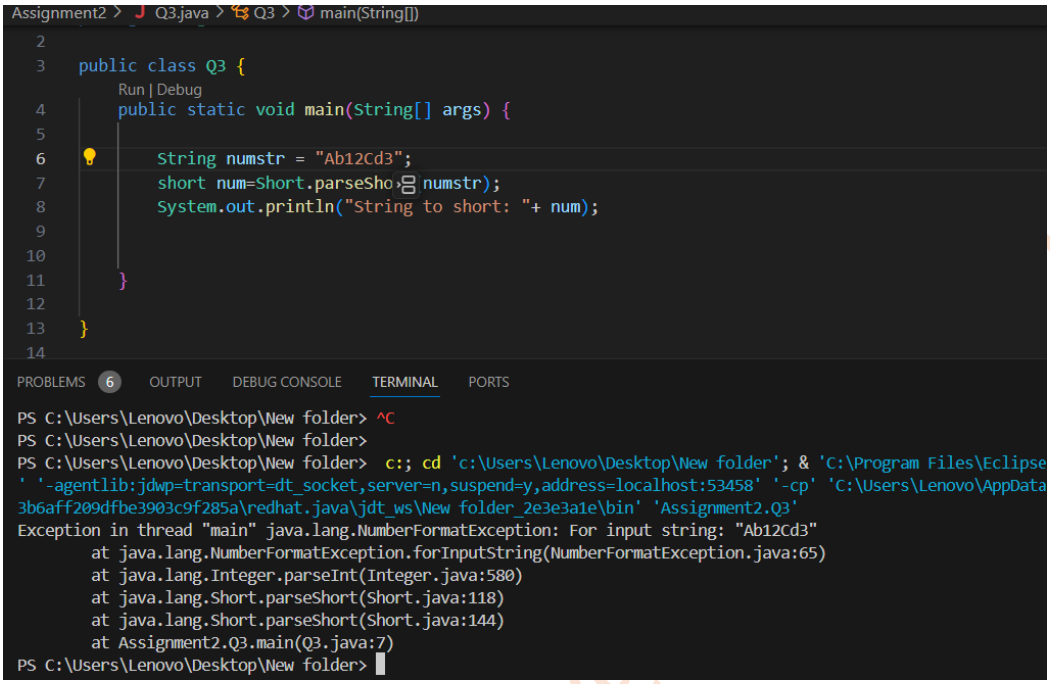
d. Declare a method-local variable `number` of type `short` with some value and convert it to a `String` using the `toString` method. (Hint: Use `Short.toString(short)`).



e. Declare a method-local variable `strNumber` of type `String` with some value and convert it to a `short` value using the `parseShort` method. (Hint: Use `Short.parseShort(String)`).

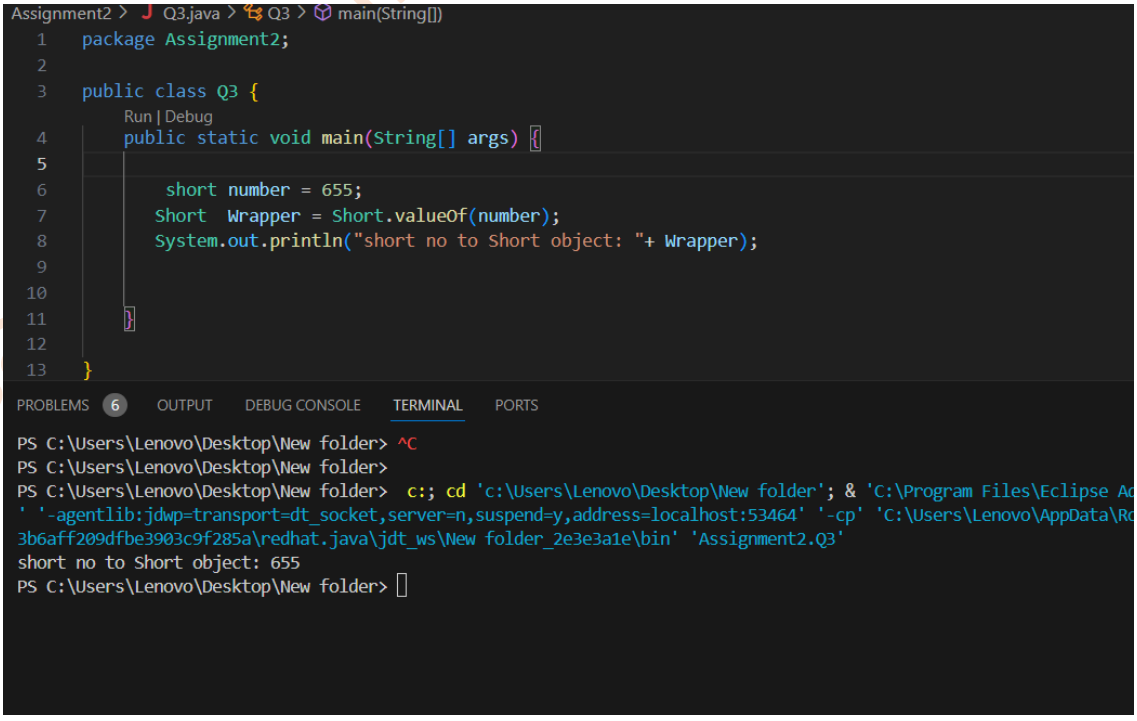


f. Declare a method-local variable `strNumber` of type `String` with the value `"Ab12Cd3"` and attempt to convert it to a `short` value. (Hint: `parseShort` method will throw a `NumberFormatException`).



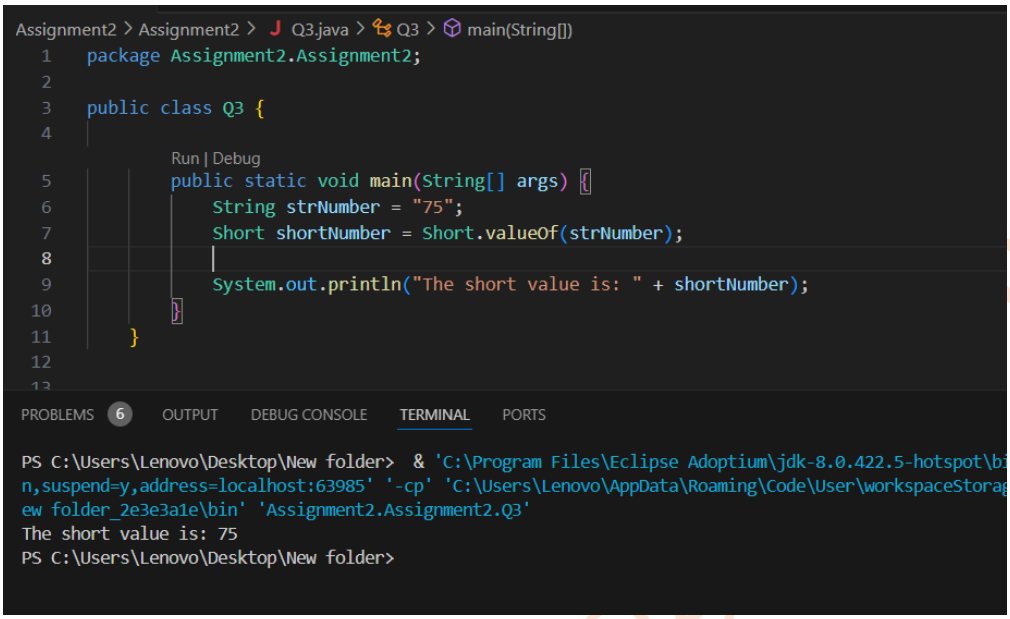
```
Assignment2 > Q3.java > Q3 > main(String[])
2
3   public class Q3 {
        Run | Debug
4       public static void main(String[] args) {
5
6           String numstr = "Ab12Cd3";
7           short num=Short.parseSho(numstr);
8           System.out.println("String to short: "+ num);
9
10
11      }
12
13  }
14
PROBLEMS 6  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

PS C:\Users\Lenovo\Desktop\New folder> ^C
PS C:\Users\Lenovo\Desktop\New folder>
PS C:\Users\Lenovo\Desktop\New folder>  c:; cd 'c:\Users\Lenovo\Desktop\New folder'; & 'C:\Program Files\Eclipse
' '-agentlib:jdwp=transport=dt_socket,server=n,suspend=y,address=localhost:53458' '-cp' 'C:\Users\Lenovo\AppData
3b6aff209dfbe3903c9f285a\redhat.java\jdt_ws\New folder_2e3e3a1e\bin' 'Assignment2.Q3'
Exception in thread "main" java.lang.NumberFormatException: For input string: "Ab12Cd3"
        at java.lang.NumberFormatException.forInputString(NumberFormatException.java:65)
        at java.lang.Integer.parseInt(Integer.java:580)
        at java.lang.Short.parseShort(Short.java:118)
        at java.lang.Short.parseShort(Short.java:144)
        at Assignment2.Q3.main(Q3.java:7)
PS C:\Users\Lenovo\Desktop\New folder>
```

g. Declare a method-local variable `number` of type `short` with some value and convert it to the corresponding wrapper class using `Short.valueOf()`. (Hint: Use `Short.valueOf(short)`).

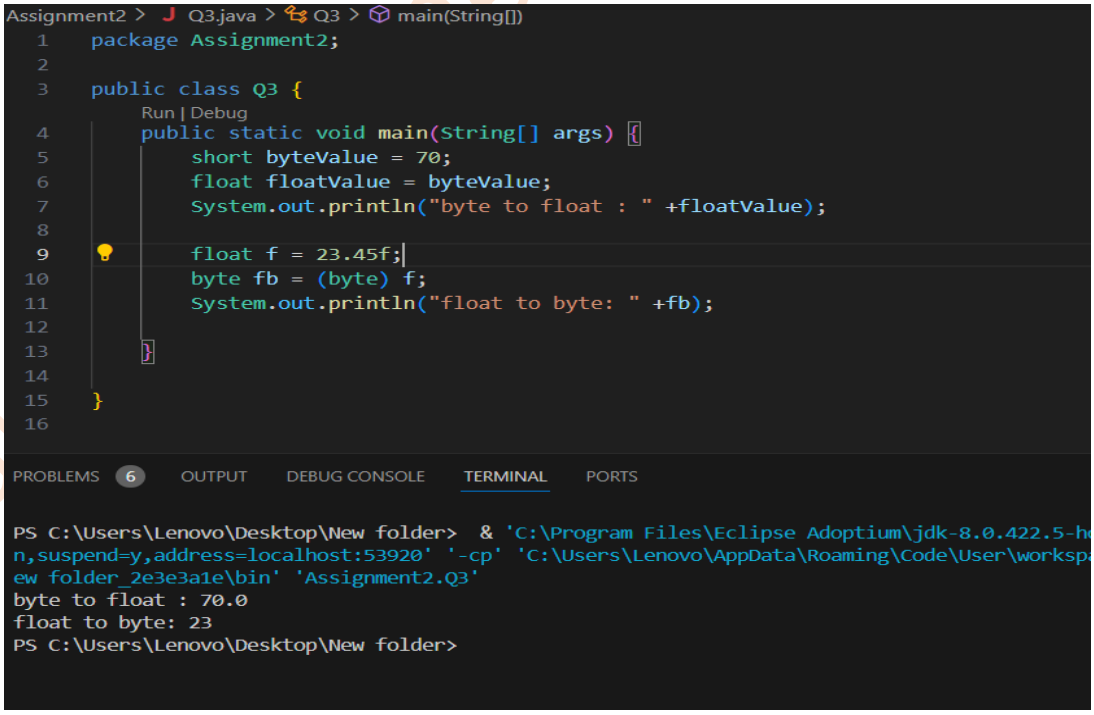


```
Assignment2 > Q3.java > Q3 > main(String[])
1   package Assignment2;
2
3   public class Q3 {
        Run | Debug
4       public static void main(String[] args) {
5
6           short number = 655;
7          Short  Wrapper = Short.valueOf(number);
8          System.out.println("short no to Short object: "+ Wrapper);
9
10
11      }
12
13  }
PROBLEMS 6  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

PS C:\Users\Lenovo\Desktop\New folder> ^C
PS C:\Users\Lenovo\Desktop\New folder>
PS C:\Users\Lenovo\Desktop\New folder>  c:; cd 'c:\Users\Lenovo\Desktop\New folder'; & 'C:\Program Files\Eclipse Ad
' '-agentlib:jdwp=transport=dt_socket,server=n,suspend=y,address=localhost:53464' '-cp' 'C:\Users\Lenovo\AppData\Ro
3b6aff209dfbe3903c9f285a\redhat.java\jdt_ws\New folder_2e3e3a1e\bin' 'Assignment2.Q3'
short no to Short object: 655
PS C:\Users\Lenovo\Desktop\New folder>
```

h. Declare a method-local variable `strNumber` of type `String` with some `short` value and convert it to the corresponding wrapper class using `Short.valueOf()`. (Hint: Use `Short.valueOf(String)`).



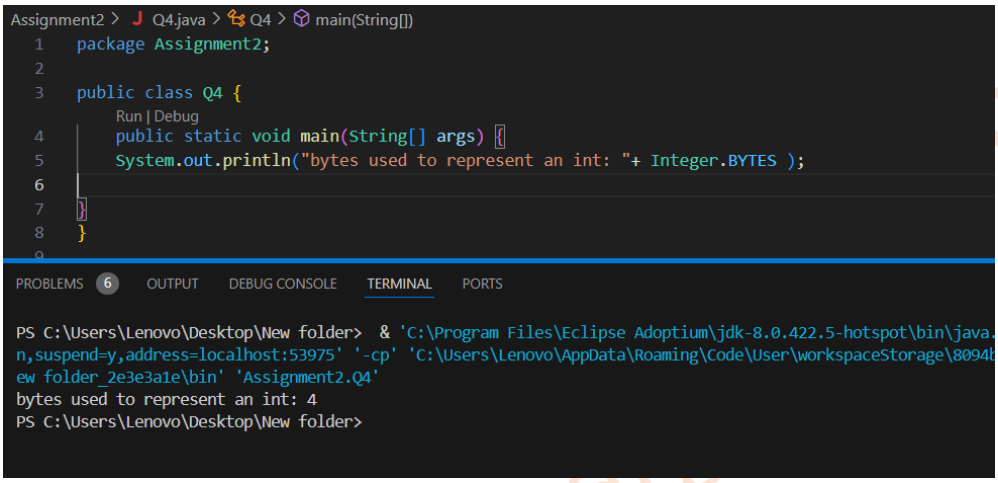
i. Experiment with converting a `short` value into other primitive types or vice versa and observe the results.



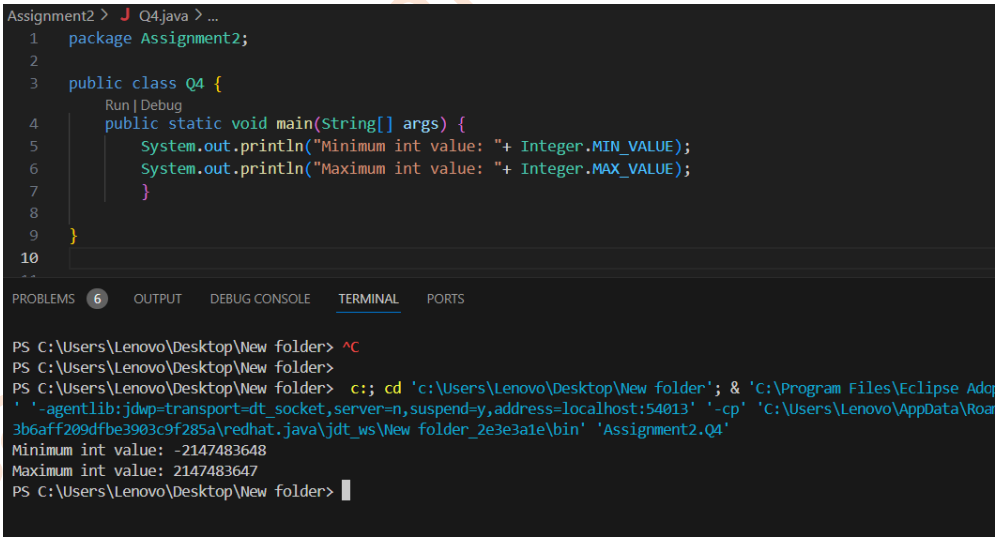
4. Working with `java.lang.Integer`

a. Explore the Java API documentation for `java.lang.Integer` and observe its modifiers and super types.

b. Write a program to test how many bytes are used to represent an `int` value using the `BYTES` field. (Hint: Use `Integer.BYTES`).



c. Write a program to find the minimum and maximum values of `int` using the `MIN_VALUE` and `MAX_VALUE` fields. (Hint: Use `Integer.MIN_VALUE` and `Integer.MAX_VALUE`).



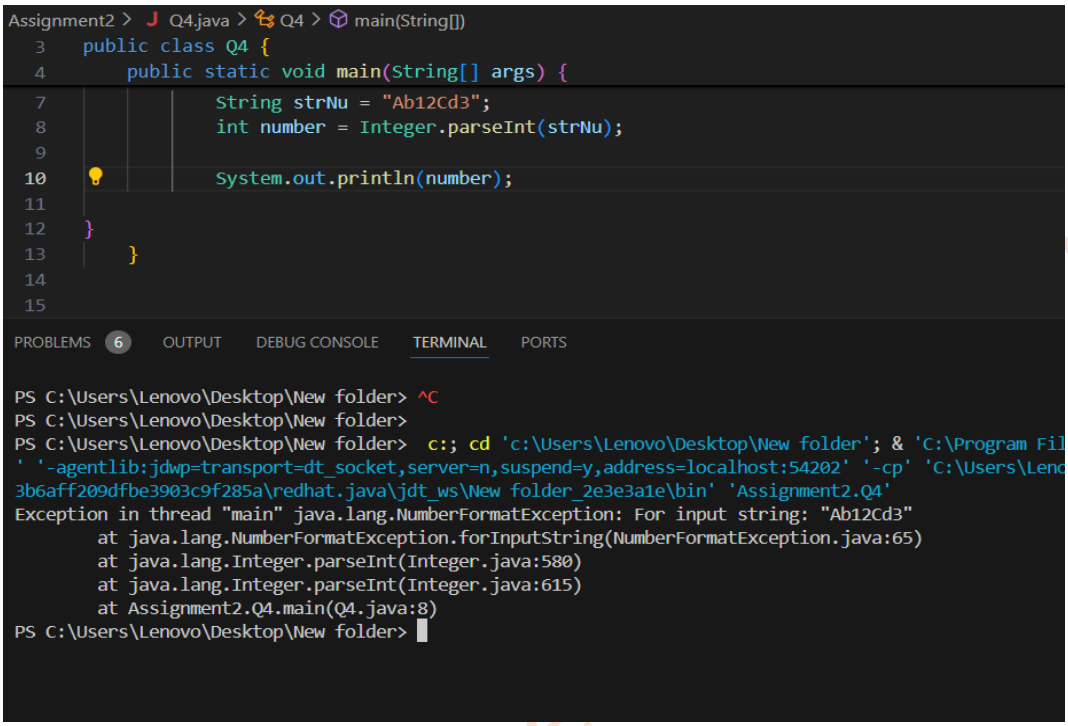
d. Declare a method-local variable `number` of type `int` with some value and convert it to a `String` using the `toString` method. (Hint: Use `Integer.toString(int)`).

```
Assignment2 > Q4.java > Q4 > main(String[])
1   package Assignment2;
2
3   public class Q4 {
        Run | Debug
4       public static void main(String[] args) {
5           String strNu = "123";
6           int number = Integer.parseInt(strNu);
7           System.out.println("String to Int: "+ number);
8   }
9           }
10

PROBLEMS 6   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS

PS C:\Users\Lenovo\Desktop\New folder> ^C
PS C:\Users\Lenovo\Desktop\New folder>
PS C:\Users\Lenovo\Desktop\New folder>  c:; cd 'c:\Users\Lenovo\Desktop\New folder'; & 'C:
' '-agentlib:jdwp=transport=dt_socket,server=n,suspend=y,address=localhost:54114' '-cp' 'C
3b6aff209dfbe3903c9f285a\redhat.java\jdt_ws\New folder_2e3e3a1e\bin' 'Assignment2.Q4'
Int to String: 483
PS C:\Users\Lenovo\Desktop\New folder>
```

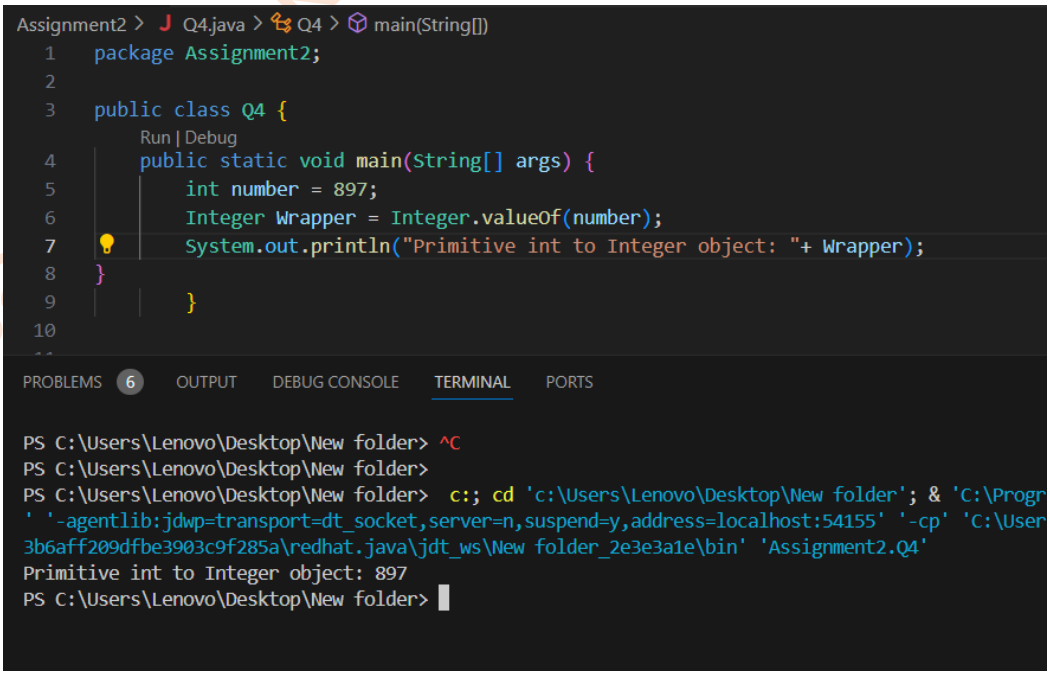
e. Declare a method-local variable `strNumber` of type `String` with some value and convert it to an `int` value using the `parseInt` method. (Hint: Use `Integer.parseInt(String)`).

```
Assignment2 > Q4.java > Q4 > main(String[])
1   package Assignment2;
2
3   public class Q4 {
        Run | Debug
4       public static void main(String[] args) {
5           int number = 483;
6           String numberStr = Integer.toString(number);
7           System.out.println("Int to String: " + numberStr);
8   }
9       }
10

PROBLEMS 6   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS

PS C:\Users\Lenovo\Desktop\New folder> ^C
PS C:\Users\Lenovo\Desktop\New folder>
PS C:\Users\Lenovo\Desktop\New folder>  c:; cd 'c:\Users\Lenovo\Desktop\New folder'; & 'C:\Program Files\Eclipse Ado
' '-agentlib:jdwp=transport=dt_socket,server=n,suspend=y,address=localhost:54114' '-cp' 'C:\Users\Lenovo\AppData\Roa
3b6aff209dfbe3903c9f285a\redhat.java\jdt_ws\New folder_2e3e3a1e\bin' 'Assignment2.Q4'
Int to String: 483
PS C:\Users\Lenovo\Desktop\New folder>
```

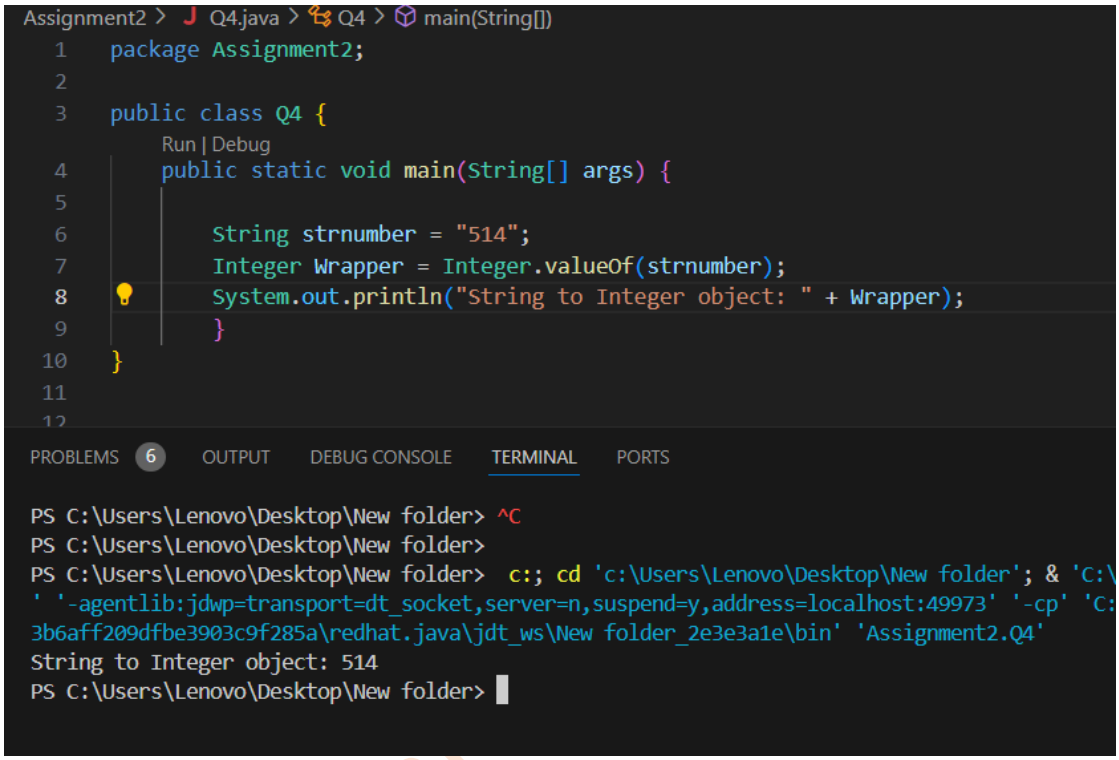
f. Declare a method-local variable `strNumber` of type `String` with the value `"Ab12Cd3"` and attempt to convert it to an `int` value. (Hint: `parseInt` method will throw a `NumberFormatException`).



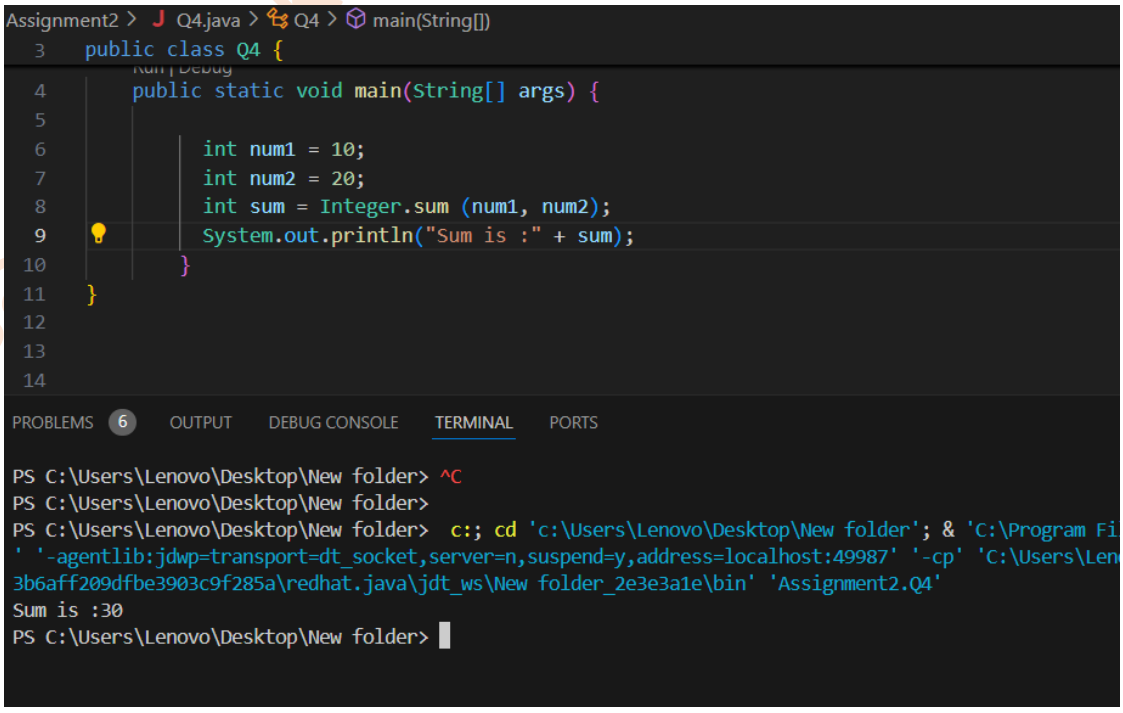
g. Declare a method-local variable `number` of type `int` with some value and convert it to the corresponding wrapper class using `Integer.valueOf()`. (Hint: Use `Integer.valueOf(int)`).



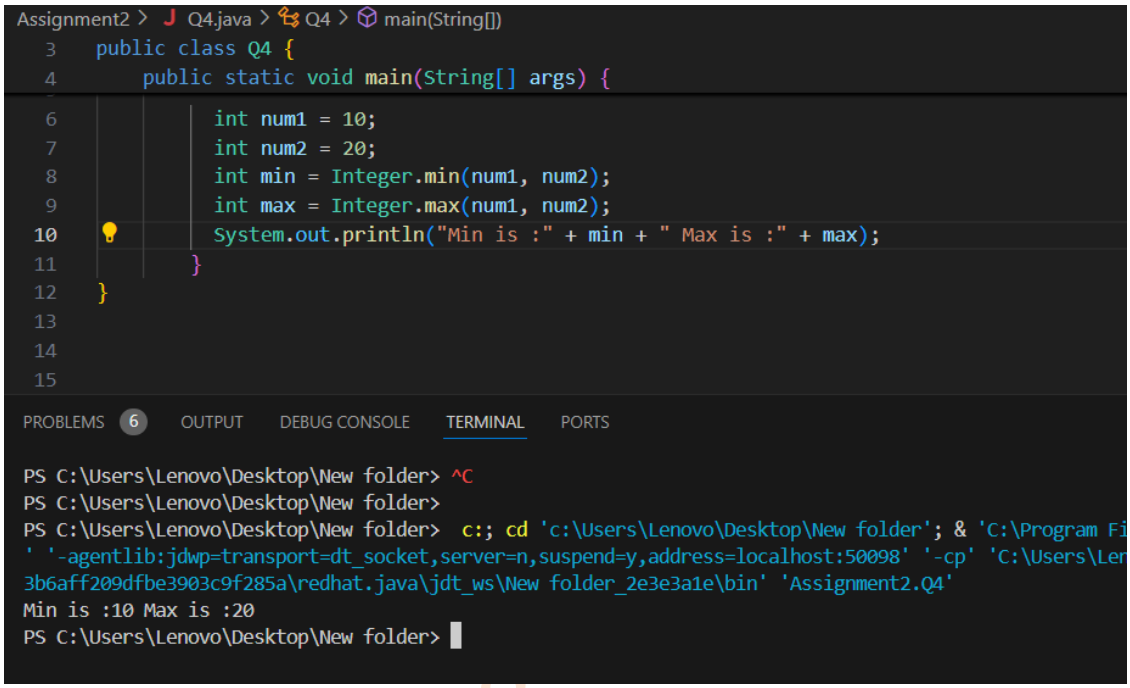
h. Declare a method-local variable `strNumber` of type `String` with some integer value and convert it to the corresponding wrapper class using `Integer.valueOf()`. (Hint: Use `Integer.valueOf(String)`).



i. Declare two integer variables with values `10` and `20`, and add them using a method from the `Integer` class. (Hint: Use `Integer.sum(int, int)`).



j. Declare two integer variables with values `10` and `20`, and find the minimum and maximum values using the `Integer` class. (Hint: Use `Integer.min(int, int)` and `Integer.max(int, int)`).



k. Declare an integer variable with the value `7`. Convert it to binary, octal, and hexadecimal strings using methods from the `Integer` class. (Hint: Use `Integer.toBinaryString(int)`, `Integer.toOctalString(int)`, and `Integer.toHexString(int)`).

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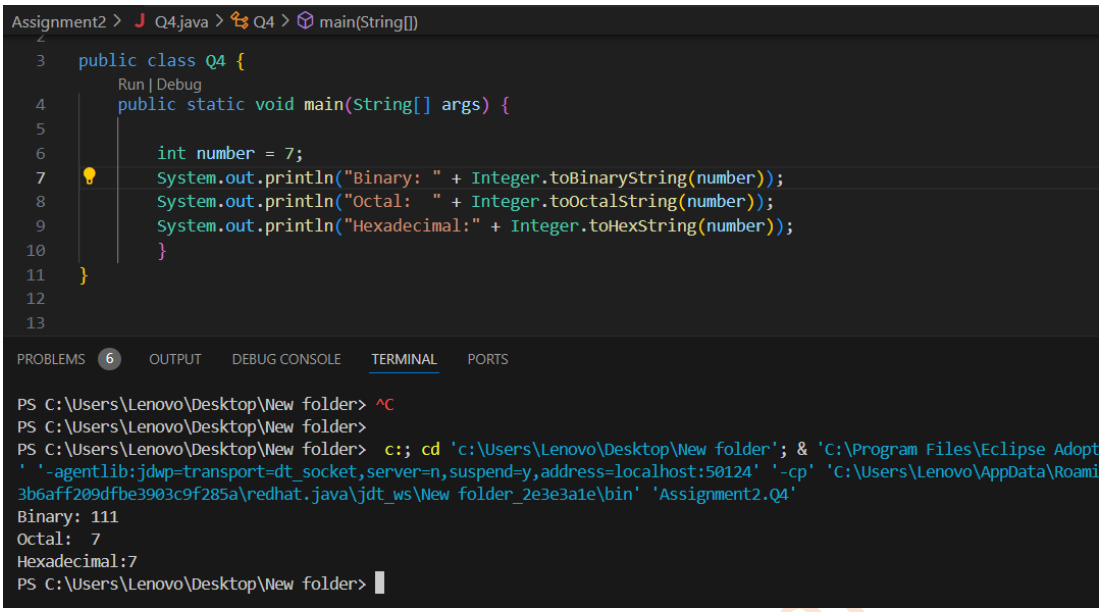
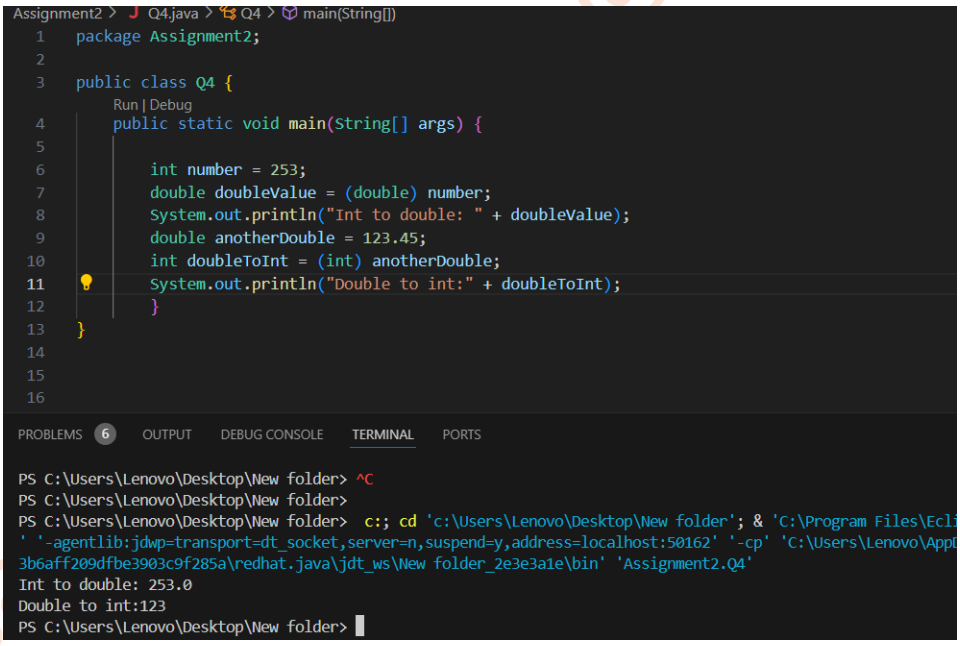


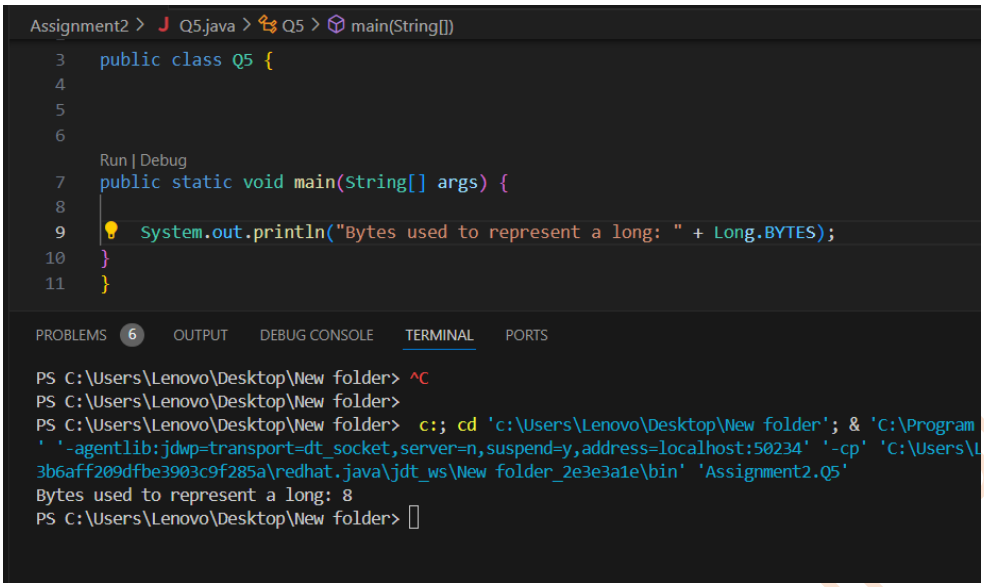
I. Experiment with converting an `int` value into other primitive types or vice versa and observe the results.



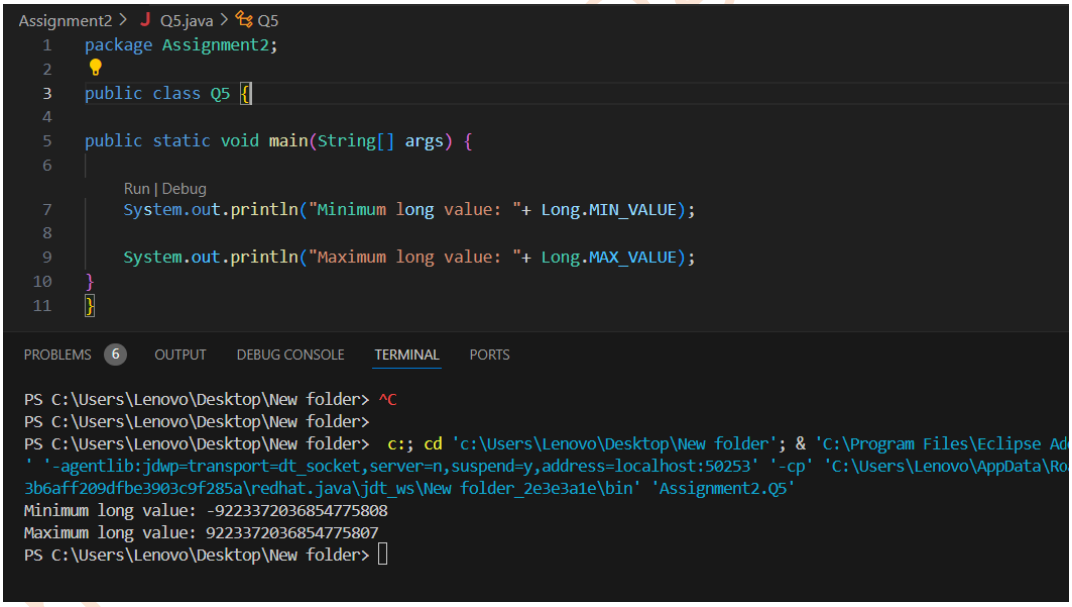
5. Working with `java.lang.Long`

a. Explore the Java API documentation for `java.lang.Long` and observe its modifiers and super types.

b. Write a program to test how many bytes are used to represent a `long` value using the `BYTES` field. (Hint: Use `Long.BYTES`).



c. Write a program to find the minimum and maximum values of `long` using the `MIN_VALUE` and `MAX_VALUE` fields. (Hint: Use `Long.MIN_VALUE` and `Long.MAX_VALUE`).



d. Declare a method-local variable `number` of type `long` with some value and convert it to a `String` using the `toString` method. (Hint: Use `Long.toString(long)`).

```
Assignment2 > Q5.java > Q5 > main(String[])
1   package Assignment2;
2
3   public class Q5 {
4
    Run | Debug
5   public static void main(String[] args) {
6
7     long number = 1239L;
8     String numberstr = Long.toString(number);
9
10    System.out.println("Long to String :" + numberstr);
11  }
12  }
```

```
PROBLEMS 6  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

PS C:\Users\Lenovo\Desktop\New folder> ^C
PS C:\Users\Lenovo\Desktop\New folder>
PS C:\Users\Lenovo\Desktop\New folder>  c:; cd 'c:\Users\Lenovo\Desktop\New folder'; & 'C:\Program Files\Eclipse
' '-agentlib:jdwp=transport=dt_socket,server=n,suspend=y,address=localhost:50291' '-cp' 'C:\Users\Lenovo\AppData
3b6aff209dfbe3903c9f285a\redhat.java\jdt_ws\New folder_2e3e3a1e\bin' 'Assignment2.Q5'
Long to String :1239
PS C:\Users\Lenovo\Desktop\New folder>
```

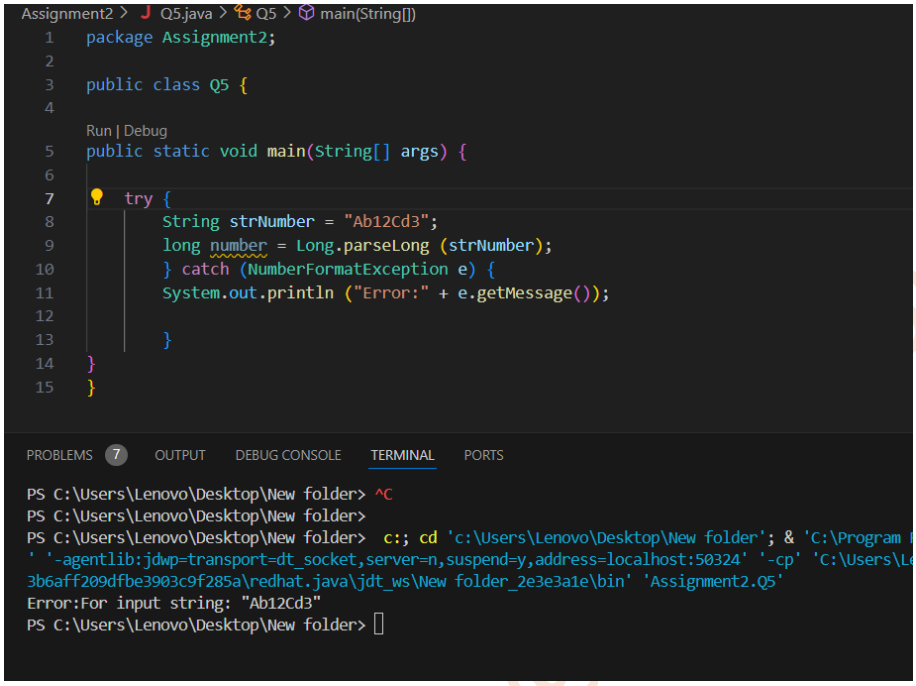
e. Declare a method-local variable `strNumber` of type `String` with some value and convert it to a `long` value using the `parseLong` method. (Hint: Use `Long.parseLong(String)`).

```
Assignment2 > Q5.java > Q5 > main(String[])
3   public class Q5 {
4
    Run | Debug
5   public static void main(String[] args) {
6
7       String strNumber = "5679";
8   long number = Long.parseLong (strNumber);
9   System.out.println("String to long: "+ number);
10
11
12  }
13  }
```

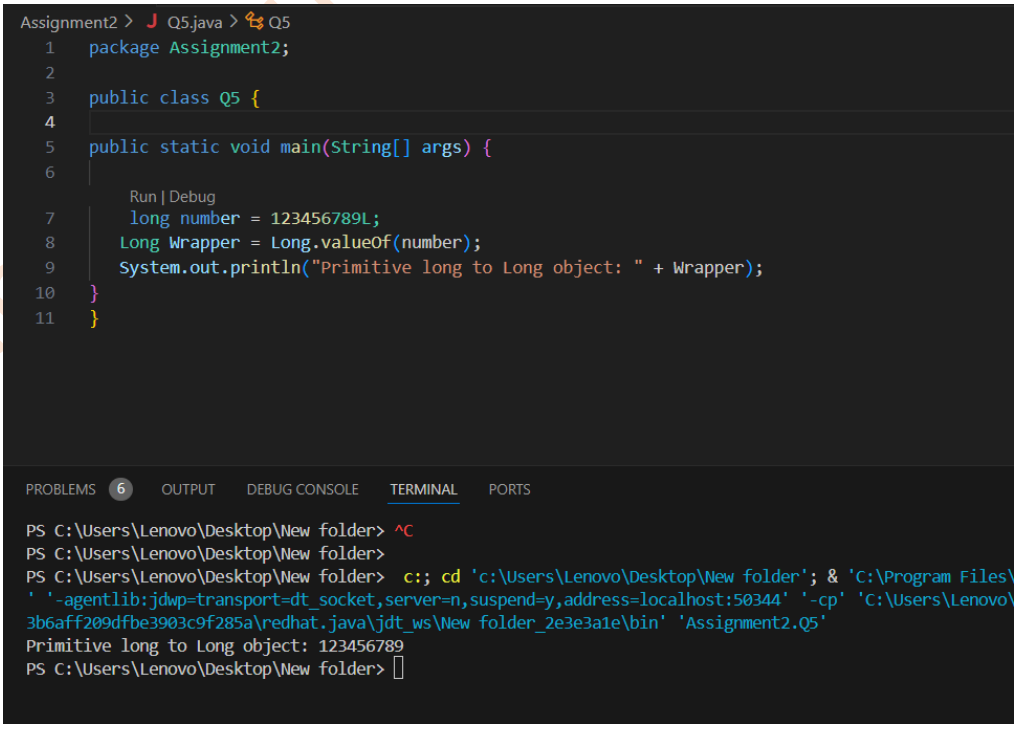
```
PROBLEMS 6  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

PS C:\Users\Lenovo\Desktop\New folder> ^C
PS C:\Users\Lenovo\Desktop\New folder>
PS C:\Users\Lenovo\Desktop\New folder>  c:; cd 'c:\Users\Lenovo\Desktop\New folder'; & 'C:\Program
' '-agentlib:jdwp=transport=dt_socket,server=n,suspend=y,address=localhost:50305' '-cp' 'C:\Users\L
3b6aff209dfbe3903c9f285a\redhat.java\jdt_ws\New folder_2e3e3a1e\bin' 'Assignment2.Q5'
String to long: 5679
PS C:\Users\Lenovo\Desktop\New folder>
```

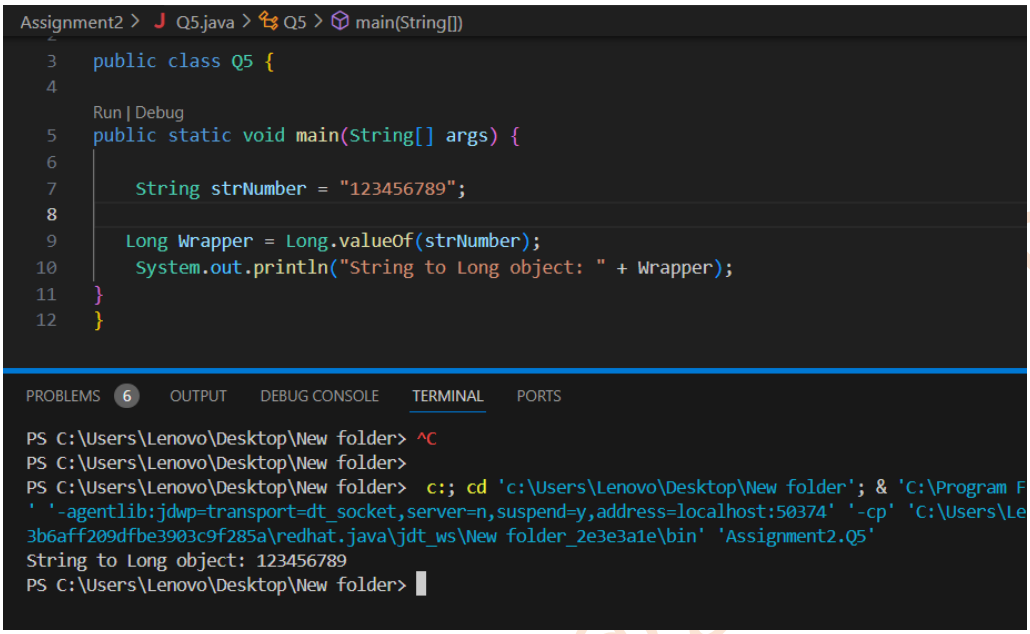
f. Declare a method-local variable `strNumber` of type `String` with the value `"Ab12Cd3"` and attempt to convert it to a `long` value. (Hint: `parseLong` method will throw a `NumberFormatException`).



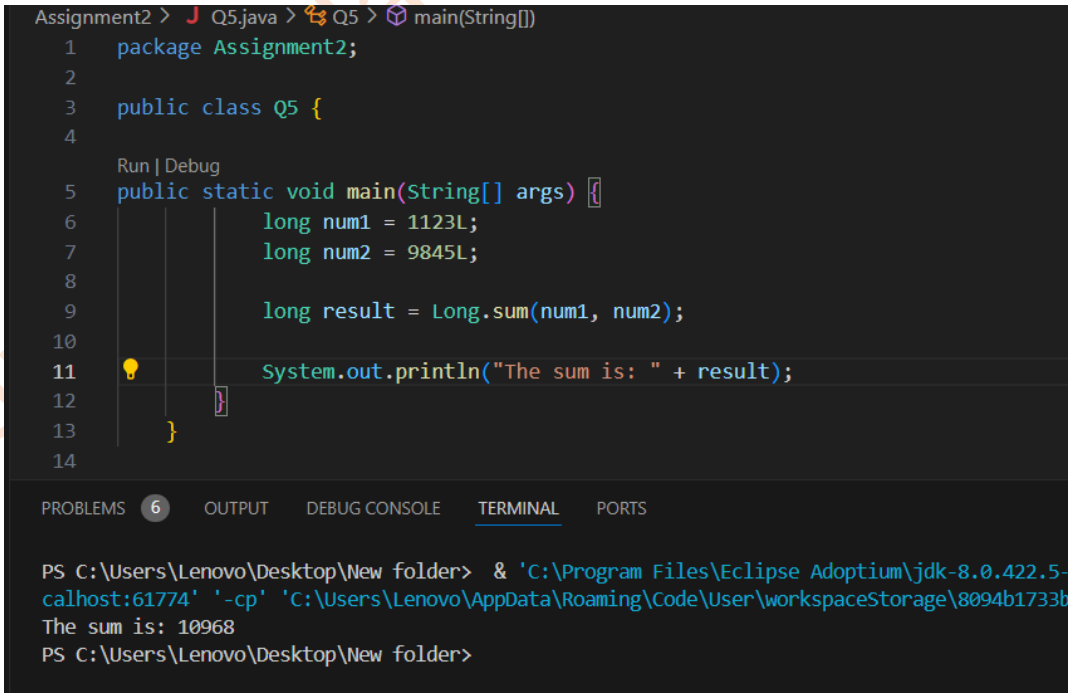
g. Declare a method-local variable `number` of type `long` with some value and convert it to the corresponding wrapper class using `Long.valueOf()`. (Hint: Use `Long.valueOf(long)`).



h. Declare a method-local variable `strNumber` of type `String` with some `long` value and convert it to the corresponding wrapper class using `Long.valueOf()`. (Hint: Use `Long.valueOf(String)`).

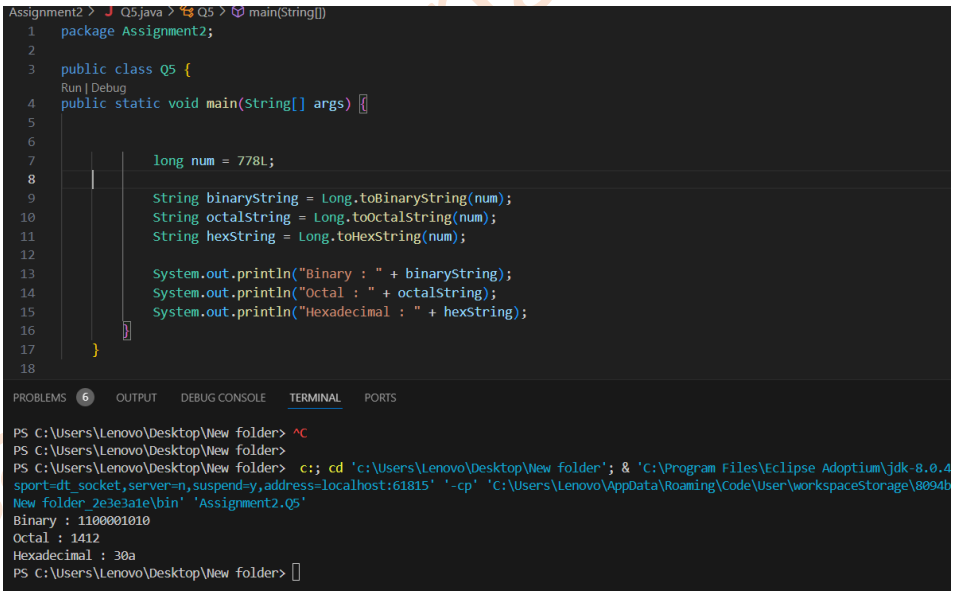


i. Declare two long variables with values `1123` and `9845`, and add them using a method from the `Long` class. (Hint: Use `Long.sum(long, long)`).

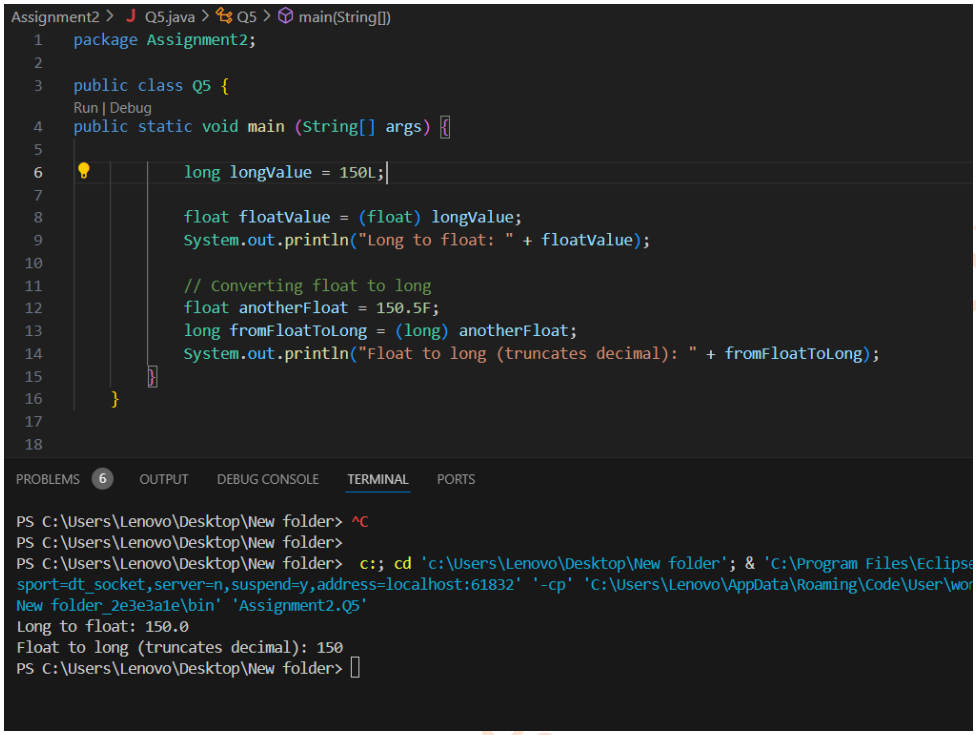


j. Declare two long variables with values `1122` and `5566`, and find the minimum and maximum values using the `Long` class. (Hint: Use `Long.min(long, long)` and `Long.max(long, long)`).

k. Declare a long variable with the value `7`. Convert it to binary, octal, and hexadecimal strings using methods from the `Long` class. (Hint: Use `Long.toBinaryString(long)`, `Long.toOctalString(long)`, and `Long.toHexString(long)`).



I. Experiment with converting a `long` value into other primitive types or vice versa and observe the results.



6. Working with `java.lang.Float`

a. Explore the Java API documentation for `java.lang.Float` and observe its modifiers and super types.

b. Write a program to test how many bytes are used to represent a `float` value using the `BYTES` field. (Hint: Use `Float.BYTES`).

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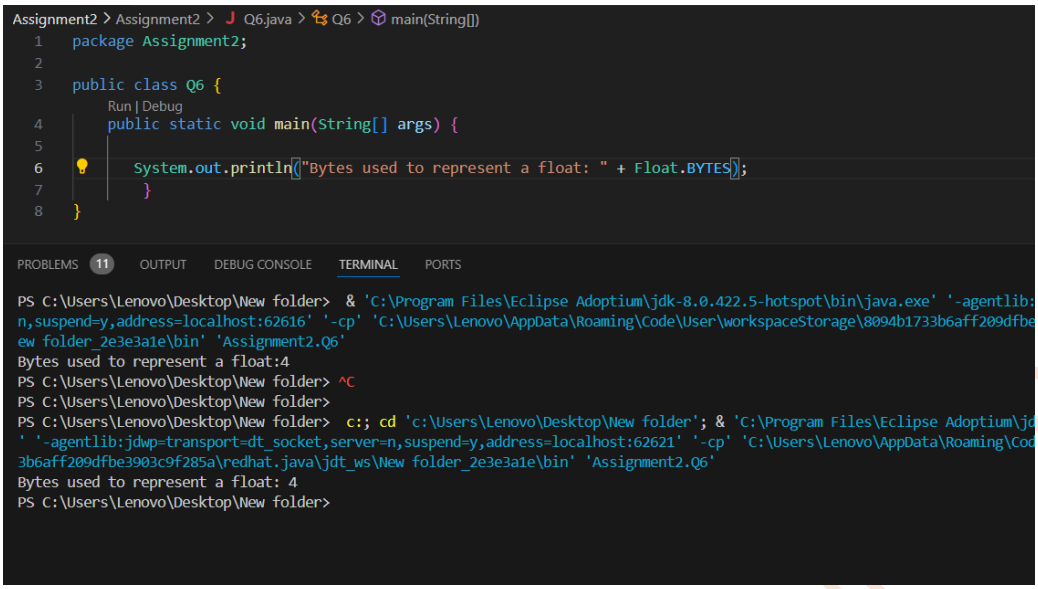
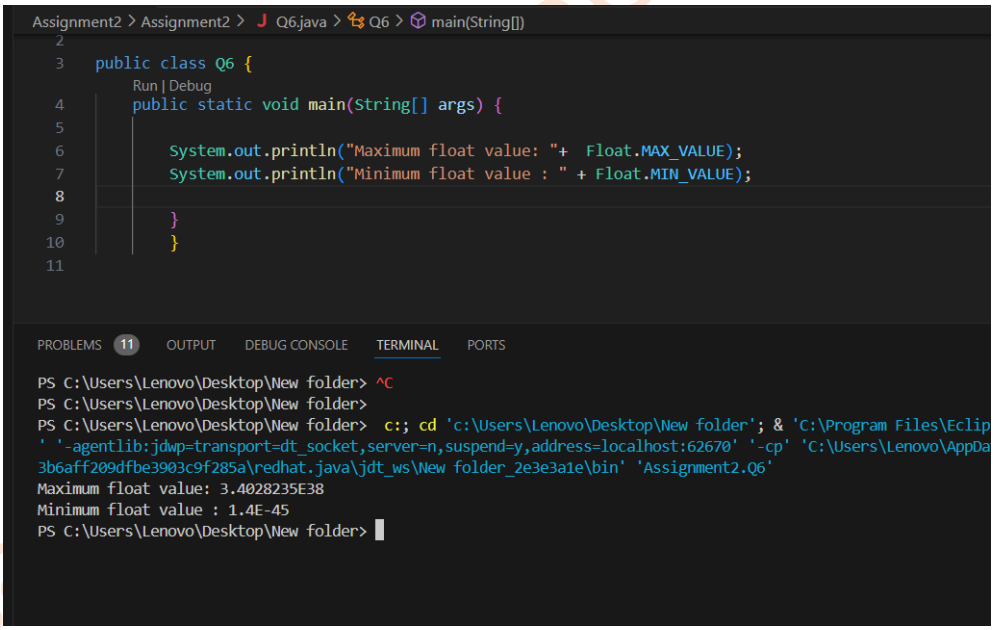
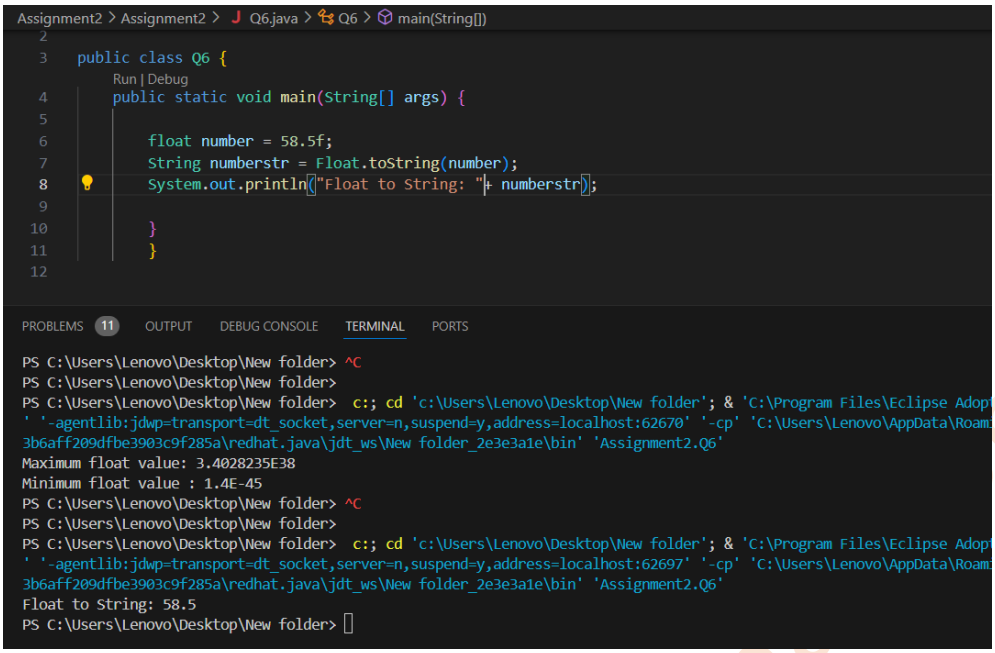


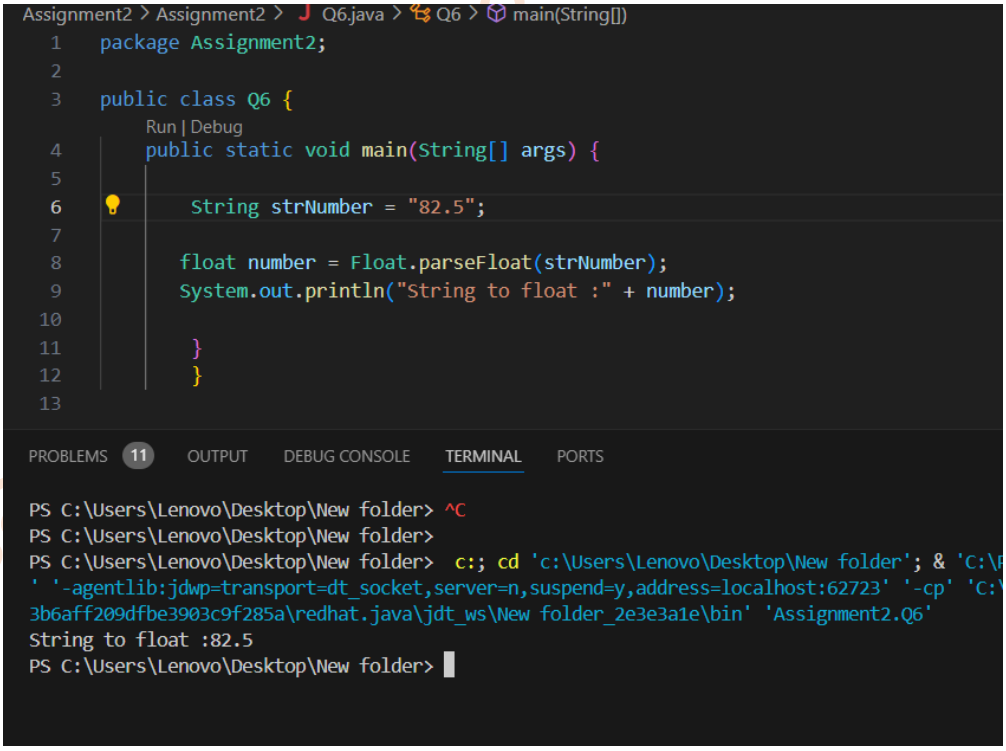
c. Write a program to find the minimum and maximum values of `float` using the `MIN_VALUE` and `MAX_VALUE` fields. (Hint: Use `Float.MIN_VALUE` and `Float.MAX_VALUE`).



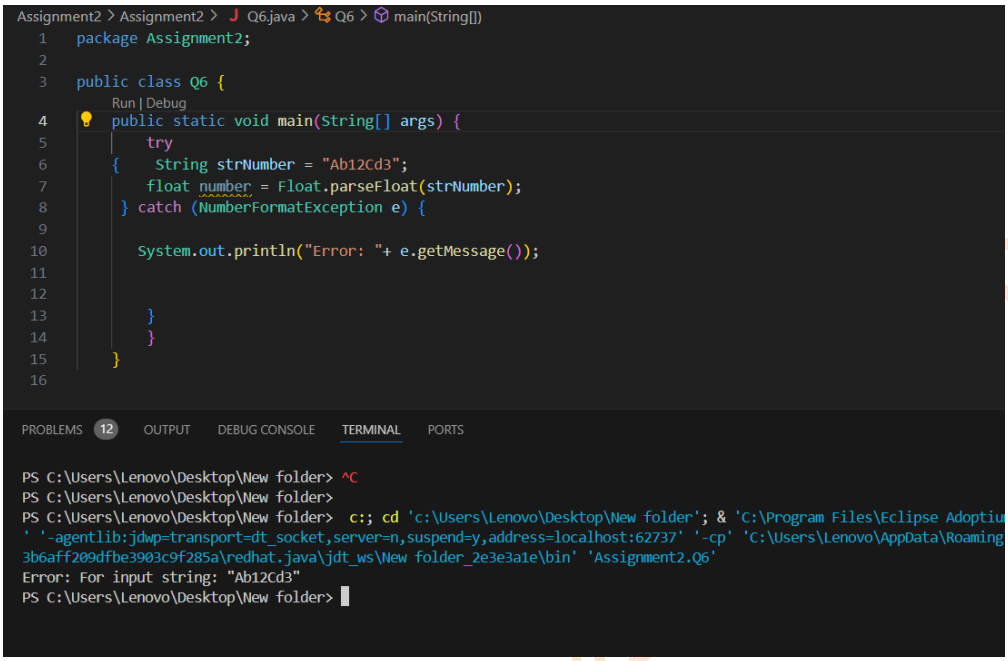
d. Declare a method-local variable `number` of type `float` with some value and convert it to a `String` using the `toString` method. (Hint: Use `Float.toString(float)`).



e. Declare a method-local variable `strNumber` of type `String` with some value and convert it to a `float` value using the `parseFloat` method. (Hint: Use `Float.parseFloat(String)`).

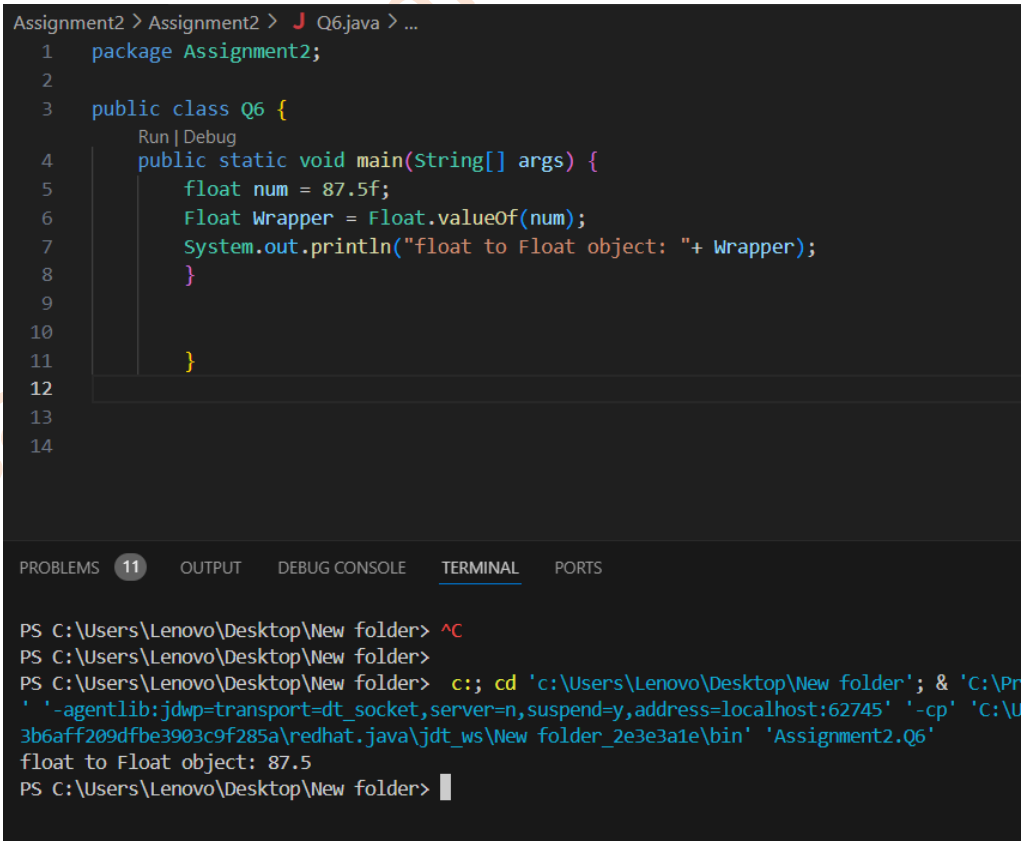


f. Declare a method-local variable `strNumber` of type `String` with the value `"Ab12Cd3"` and attempt to convert it to a `float` value. (Hint: `parseFloat` method will throw a `NumberFormatException`).



```
Assignment2 > Assignment2 > Q6.java > Q6 > main(String[])
1   package Assignment2;
2
3   public class Q6 {
        Run | Debug
4       public static void main(String[] args) {
5           try
6       {    String strNumber = "Ab12Cd3";
7           float number = Float.parseFloat(strNumber);
8       } catch (NumberFormatException e) {
9
10          System.out.println("Error: "+ e.getMessage());
11
12
13          }
14          }
15      }
16

PROBLEMS 12  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

PS C:\Users\Lenovo\Desktop\New folder> ^C
PS C:\Users\Lenovo\Desktop\New folder>
PS C:\Users\Lenovo\Desktop\New folder>  c:; cd 'c:\Users\Lenovo\Desktop\New folder'; & 'C:\Program Files\Eclipse Adoptiu
' '-agentlib:jdwp=transport=dt_socket,server=n,suspend=y,address=localhost:62737' '-cp' 'C:\Users\Lenovo\AppData\Roaming
3b6aff209dfbe3903c9f285a\redhat.java\jdt_ws\New folder_2e3e3a1e\bin' 'Assignment2.Q6'
Error: For input string: "Ab12Cd3"
PS C:\Users\Lenovo\Desktop\New folder>
```

g. Declare a method-local variable `number` of type `float` with some value and convert it to the corresponding wrapper class using `Float.valueOf()`. (Hint: Use `Float.valueOf(float)`).



```
Assignment2 > Assignment2 > Q6.java > ...
1   package Assignment2;
2
3   public class Q6 {
        Run | Debug
4       public static void main(String[] args) {
5           float num = 87.5f;
6           Float Wrapper = Float.valueOf(num);
7           System.out.println("float to Float object: "+ Wrapper);
8           }
9
10
11          }
12
13
14

PROBLEMS 11  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

PS C:\Users\Lenovo\Desktop\New folder> ^C
PS C:\Users\Lenovo\Desktop\New folder>
PS C:\Users\Lenovo\Desktop\New folder>  c:; cd 'c:\Users\Lenovo\Desktop\New folder'; & 'C:\Pr
' '-agentlib:jdwp=transport=dt_socket,server=n,suspend=y,address=localhost:62745' '-cp' 'C:\U
3b6aff209dfbe3903c9f285a\redhat.java\jdt_ws\New folder_2e3e3a1e\bin' 'Assignment2.Q6'
float to Float object: 87.5
PS C:\Users\Lenovo\Desktop\New folder>
```

h. Declare a method-local variable `strNumber` of type `String` with some `float` value and convert it to the corresponding wrapper class using `Float.valueOf()`. (Hint: Use `Float.valueOf(String)`).

```
Assignment2 > Assignment2 > Q6.java > Q6 > main(String[])
1   package Assignment2;
2
3   public class Q6 {
        Run | Debug
4       public static void main(String[] args) {
5           String strNum= "82.5";
6           Float Wrapper = Float.valueOf(strNum);
7           System.out.println("String to Float object: " + Wrapper);
8       }
9
10
11      }
12
13
14
```

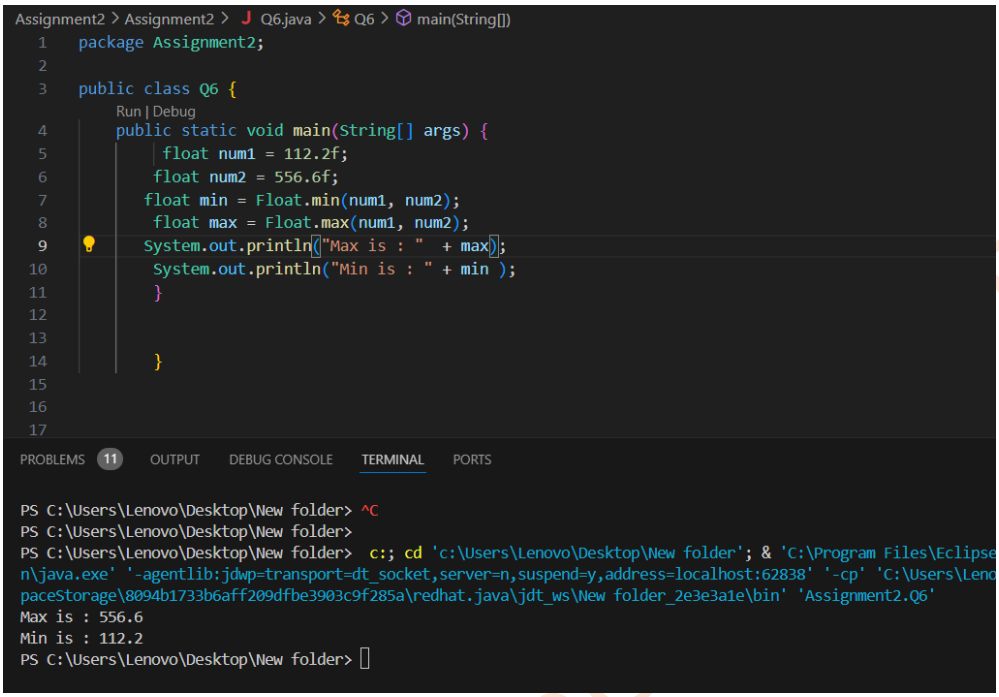
```
PROBLEMS 11  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

PS C:\Users\Lenovo\Desktop\New folder> ^C
PS C:\Users\Lenovo\Desktop\New folder>
PS C:\Users\Lenovo\Desktop\New folder>  c:; cd 'c:\Users\Lenovo\Desktop\New folder'; & 'C:\Prograr
' '-agentlib:jdwp=transport=dt_socket,server=n,suspend=y,address=localhost:62764' '-cp' 'C:\Users'
3b6aff209dfbe3903c9f285a\redhat.java\jdt_ws\New folder_2e3e3a1e\bin' 'Assignment2.Q6'
String to Float object: 82.5
PS C:\Users\Lenovo\Desktop\New folder>
```

i. Declare two float variables with values `112.3` and `984.5`, and add them using a method from the `Float` class. (Hint: Use `Float.sum(float, float)`).

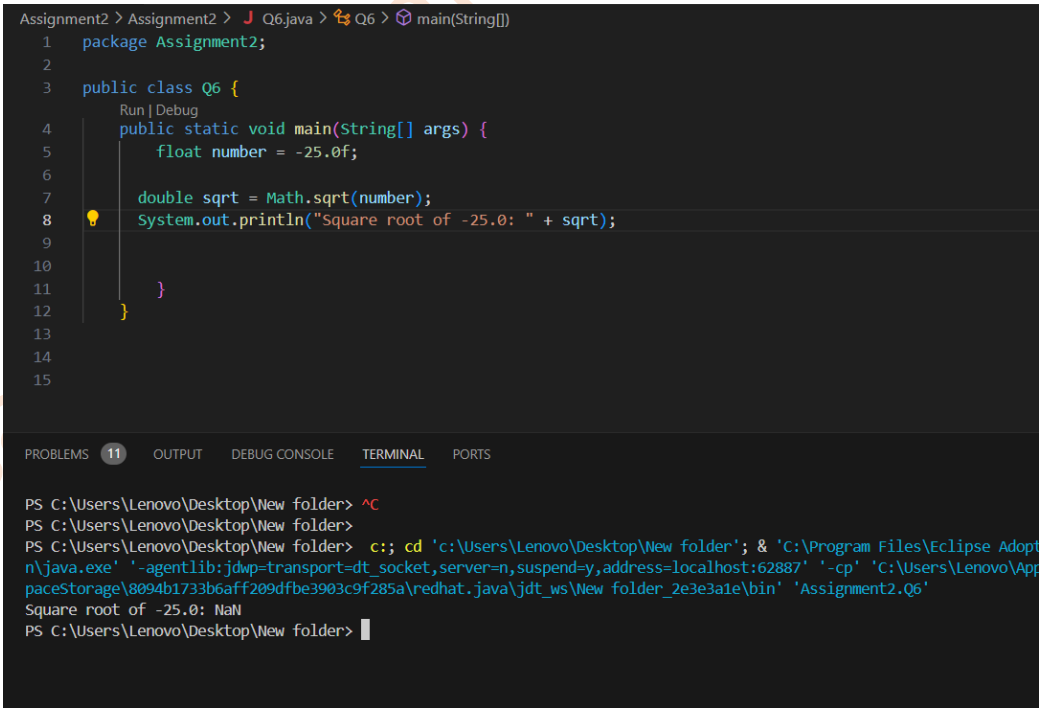
```
Assignment2 > Assignment2 > Q6.java > Q6 > main(String[])
1   package Assignment2;
2
3   public class Q6 {
        Run | Debug
4       public static void main(String[] args) {
5           float num1 = 112.3f;
6
7           float num2 = 984.5f;
8           float sum = Float.sum (num1, num2);
9           System.out.println("Sum is : "+ sum);
10          }
11
12
13          }
14
15
16
```

```
PROBLEMS 11  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

PS C:\Users\Lenovo\Desktop\New folder> ^C
PS C:\Users\Lenovo\Desktop\New folder>
PS C:\Users\Lenovo\Desktop\New folder>  c:; cd 'c:\Users\Lenovo\Desktop\New folder'; & 'C:\Program
' '-agentlib:jdwp=transport=dt_socket,server=n,suspend=y,address=localhost:62783' '-cp' 'C:\Users\L
3b6aff209dfbe3903c9f285a\redhat.java\jdt_ws\New folder_2e3e3a1e\bin' 'Assignment2.Q6'
Sum is : 1096.8
PS C:\Users\Lenovo\Desktop\New folder>
```

j. Declare two float variables with values `112.2` and `556.6`, and find the minimum and maximum values using the `Float` class. (Hint: Use `Float.min(float, float)` and `Float.max(float, float)`).

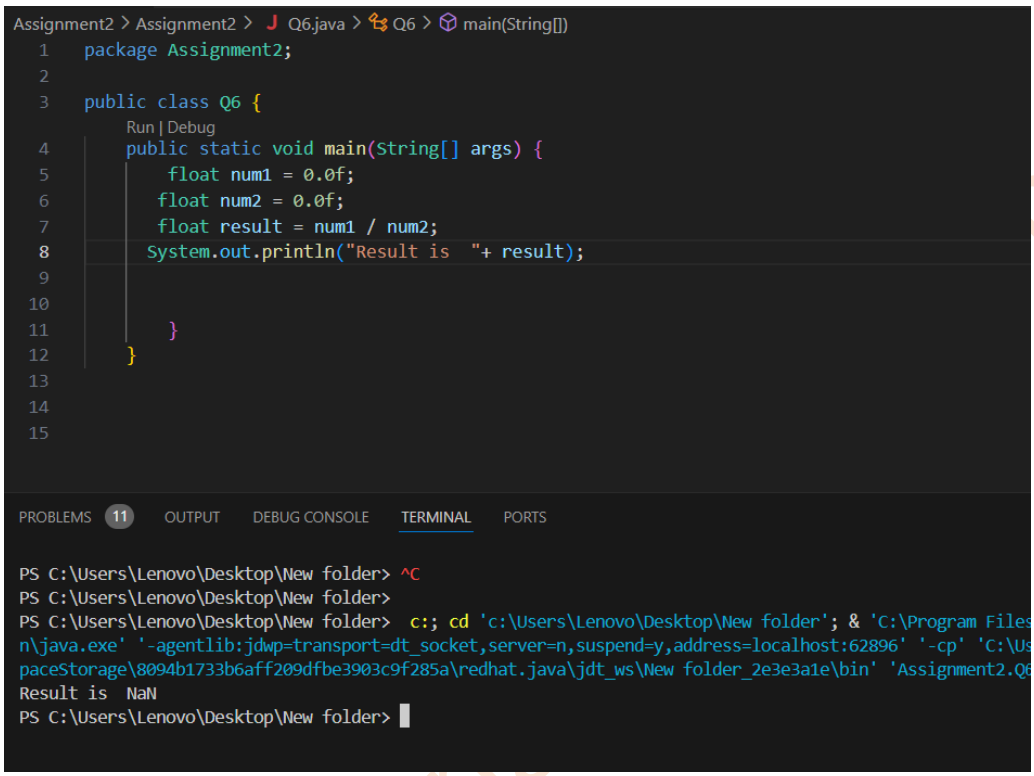


k. Declare a float variable with the value `-25.0f`. Find the square root of this value. (Hint: Use `Math.sqrt()` method).

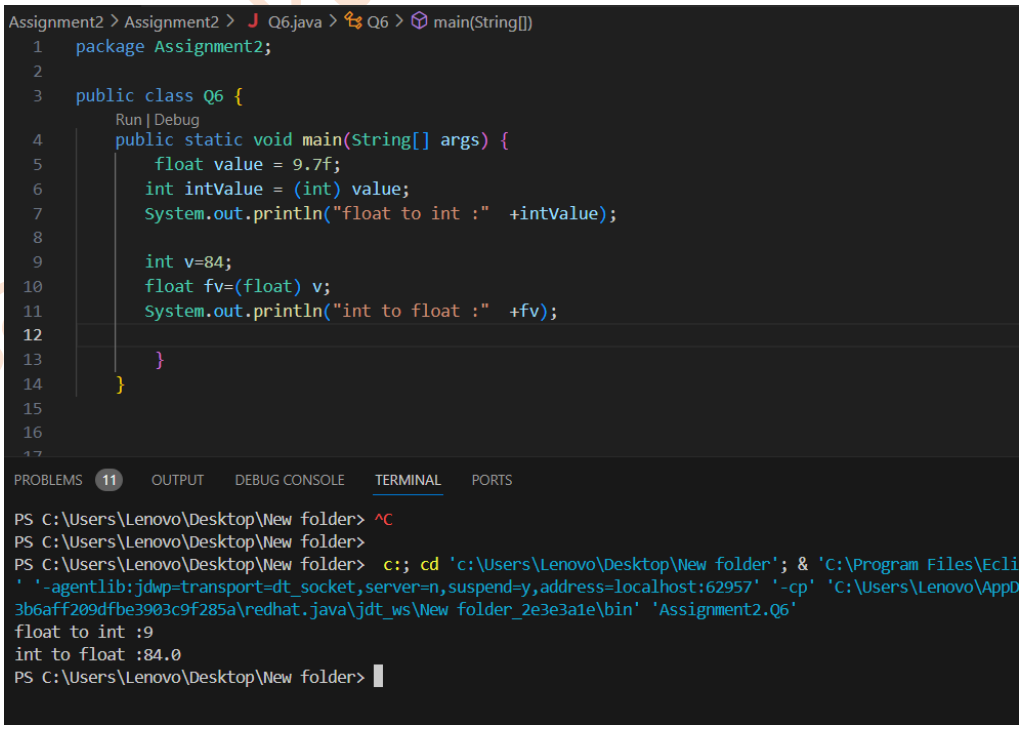


ASSIGNMENT NO.2

l. Declare two float variables with the same value, `0.0f`, and divide them. (Hint: Observe the result and any special floating-point behavior).



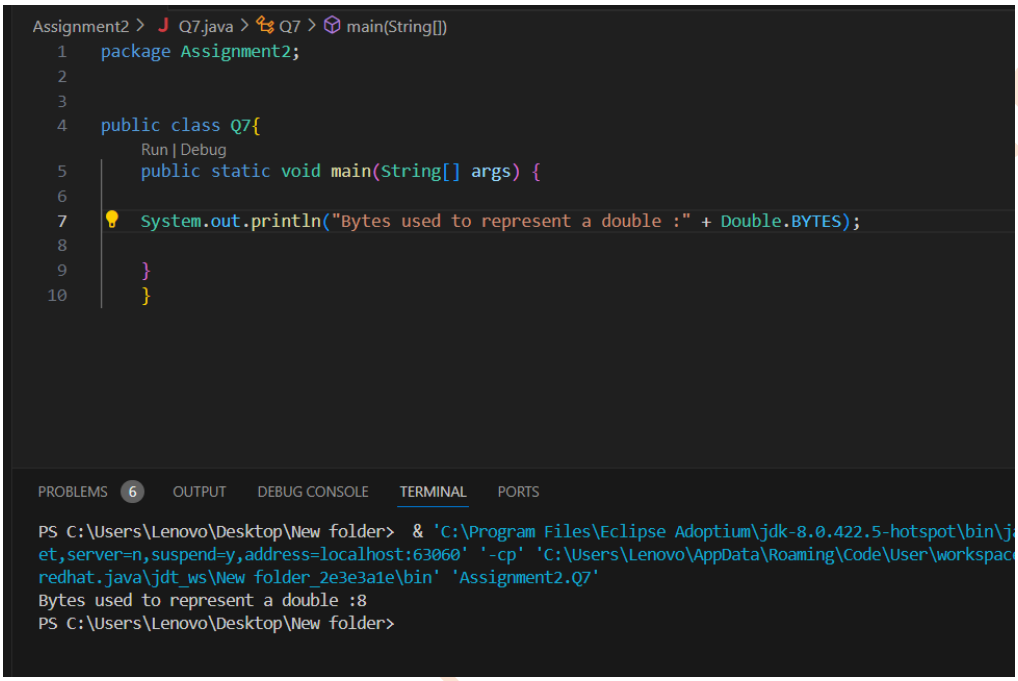
m. Experiment with converting a `float` value into other primitive types or vice versa and observe the results.



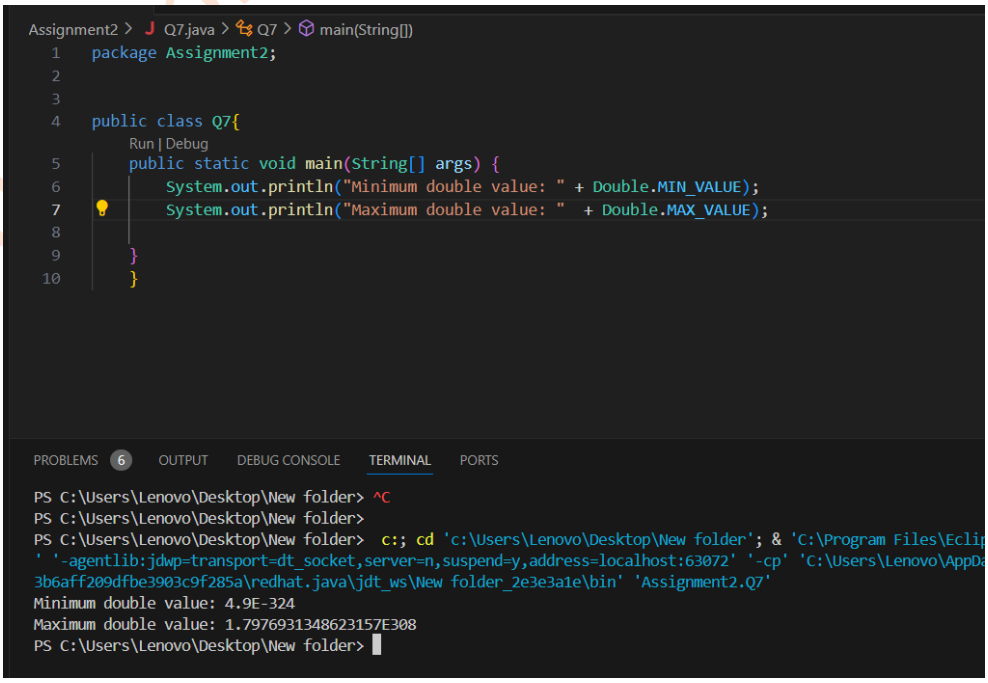
7. Working with `java.lang.Double`

a. Explore the Java API documentation for `java.lang.Double` and observe its modifiers and super types.

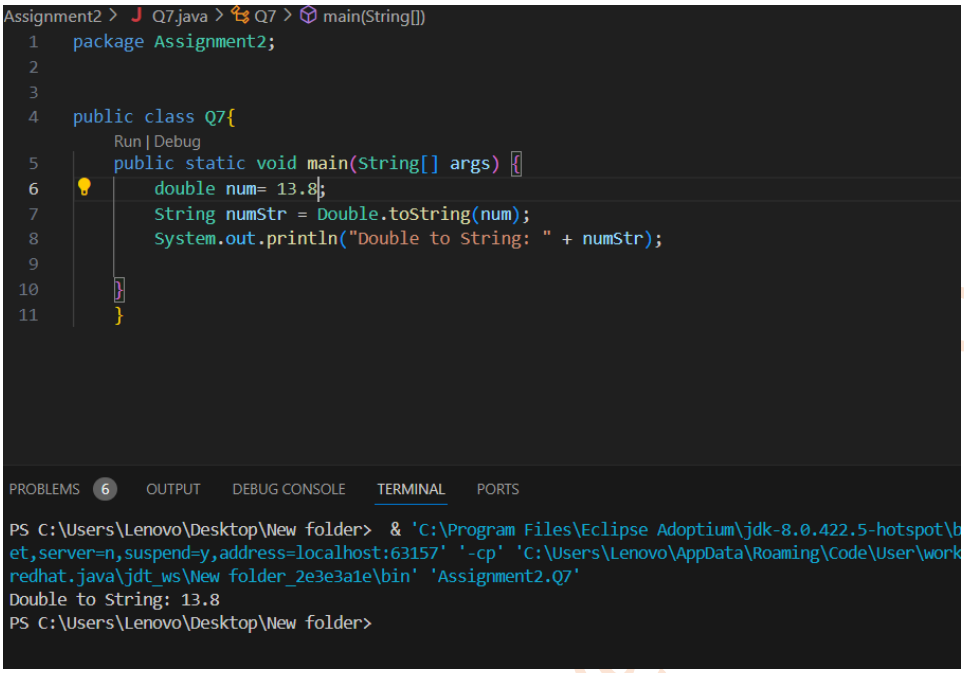
b. Write a program to test how many bytes are used to represent a `double` value using the `BYTES` field. (Hint: Use `Double.BYTES`).



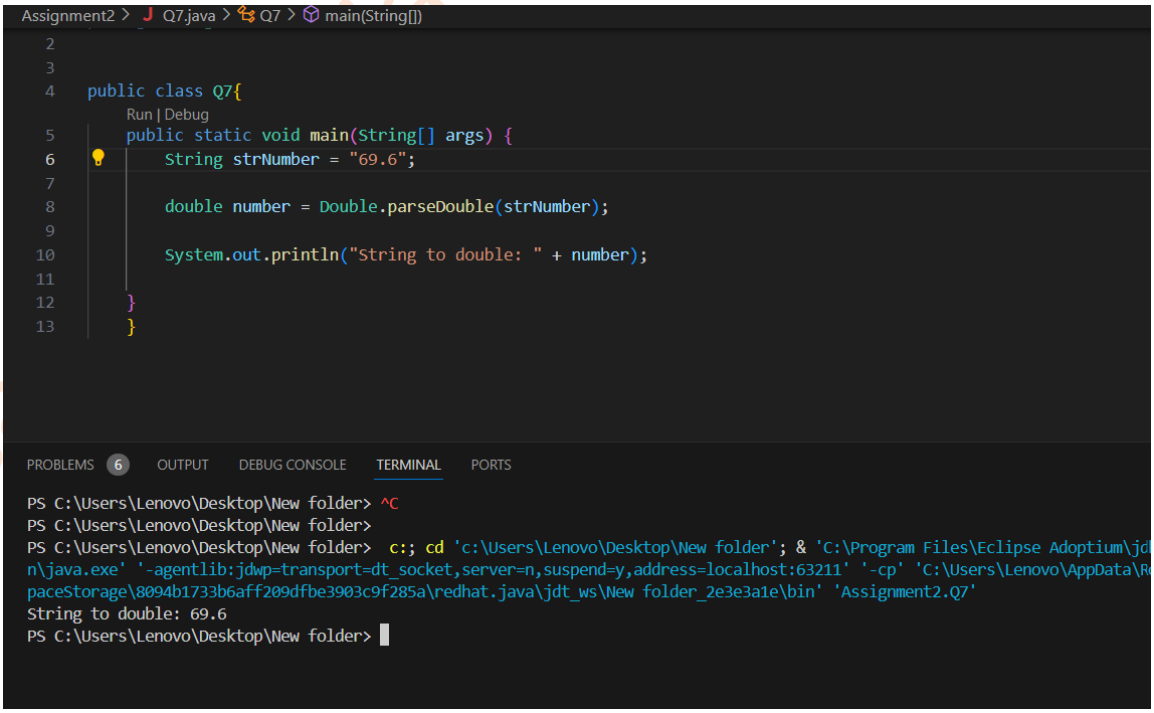
c. Write a program to find the minimum and maximum values of `double` using the `MIN_VALUE` and `MAX_VALUE` fields. (Hint: Use `Double.MIN_VALUE` and `Double.MAX_VALUE`).



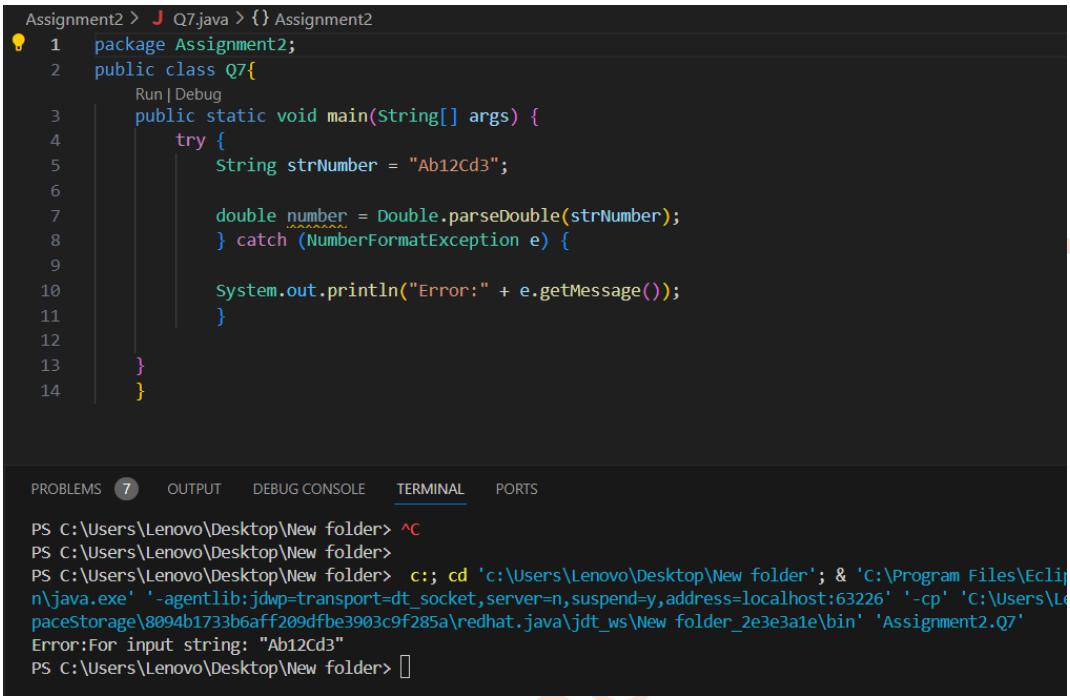
d. Declare a method-local variable `number` of type `double` with some value and convert it to a `String` using the `toString` method. (Hint: Use `Double.toString(double)`).



e. Declare a method-local variable `strNumber` of type `String` with some value and convert it to a `double` value using the `parseDouble` method. (Hint: Use `Double.parseDouble(String)`).

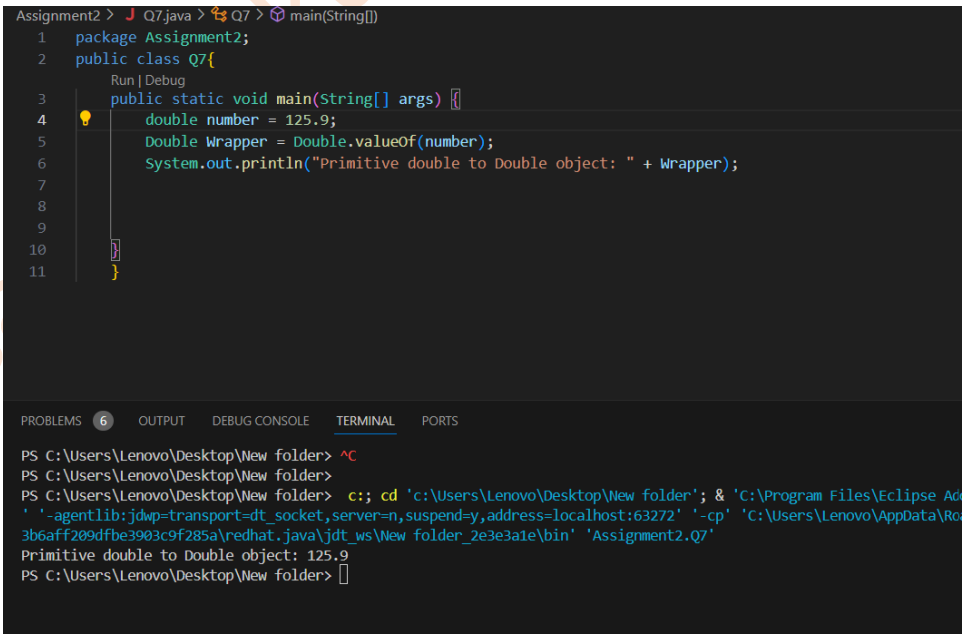


f. Declare a method-local variable `strNumber` of type `String` with the value `"Ab12Cd3"` and attempt to convert it to a `double` value. (Hint: `parseDouble` method will throw a `NumberFormatException`).



```
Assignment2 > Q7.java > {} Assignment2
1   package Assignment2;
2   public class Q7{
        Run | Debug
3       public static void main(String[] args) {
4           try {
5               String strNumber = "Ab12Cd3";
6
7               double number = Double.parseDouble(strNumber);
8               } catch (NumberFormatException e) {
9
10              System.out.println("Error:" + e.getMessage());
11              }
12
13      }
14      }

PROBLEMS 7  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

PS C:\Users\Lenovo\Desktop\New folder> ^C
PS C:\Users\Lenovo\Desktop\New folder>
PS C:\Users\Lenovo\Desktop\New folder>  c:; cd 'c:\Users\Lenovo\Desktop\New folder'; & 'C:\Program Files\Eclip
n\java.exe' '-agentlib:jdwp=transport=dt_socket,server=n,suspend=y,address=localhost:63226' '-cp' 'C:\Users\Le
paceStorage\8094b1733b6aff209dfbe3903c9f285a\redhat.java\jdt_ws\New folder_2e3e3a1e\bin' 'Assignment2.Q7'
Error:For input string: "Ab12Cd3"
PS C:\Users\Lenovo\Desktop\New folder>
```

g. Declare a method-local variable `number` of type `double` with some value and convert it to the corresponding wrapper class using `Double.valueOf()`. (Hint: Use `Double.valueOf(double)`).



```
Assignment2 > Q7.java > Q7 > main(String[])
1   package Assignment2;
2   public class Q7{
        Run | Debug
3       public static void main(String[] args) {
4           double number = 125.9;
5           Double Wrapper = Double.valueOf(number);
6           System.out.println("Primitive double to Double object: " + Wrapper);
7
8
9
10      }
11      }

PROBLEMS 6  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

PS C:\Users\Lenovo\Desktop\New folder> ^C
PS C:\Users\Lenovo\Desktop\New folder>
PS C:\Users\Lenovo\Desktop\New folder>  c:; cd 'c:\Users\Lenovo\Desktop\New folder'; & 'C:\Program Files\Eclipse Ad
' '-agentlib:jdwp=transport=dt_socket,server=n,suspend=y,address=localhost:63272' '-cp' 'C:\Users\Lenovo\AppData\Ro
3b6aff209dfbe3903c9f285a\redhat.java\jdt_ws\New folder_2e3e3a1e\bin' 'Assignment2.Q7'
Primitive double to Double object: 125.9
PS C:\Users\Lenovo\Desktop\New folder>
```

h. Declare a method-local variable `strNumber` of type `String` with some `double` value and convert it to the corresponding wrapper class using `Double.valueOf()`. (Hint: Use `Double.valueOf(String)`).

```
Assignment2 > Q7.java > Q7 > main(String[])
1   package Assignment2;
2   public class Q7{
        Run | Debug
3       public static void main(String[] args) {
4           String strNumber = "125.9";
5           Double Wrapper = Double.valueOf(strNumber);
6           System.out.println("String to Double object: "+ Wrapper);
7
8
9       }
10      }
```

```
PROBLEMS 6   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS

PS C:\Users\Lenovo\Desktop\New folder> ^C
PS C:\Users\Lenovo\Desktop\New folder>
PS C:\Users\Lenovo\Desktop\New folder>  c:; cd 'c:\Users\Lenovo\Desktop\New folder'; & 'C:\Program Files\Eclipse Adoptium\jdk-8
' '-agentlib:jdwp=transport=dt_socket,server=n,suspend=y,address=localhost:63329' '-cp' 'C:\Users\Lenovo\AppData\Roaming\Code\U
3b6aff209dfbe3903c9f285a\redhat.java\jdt_ws\New folder_2e3e3a1e\bin' 'Assignment2.Q7'
String to Double object: 125.9
PS C:\Users\Lenovo\Desktop\New folder>
```

i. Declare two double variables with values `112.3` and `984.5`, and add them using a method from the `Double` class. (Hint: Use `Double.sum(double, double)`).

```
Assignment2 > Q7.java > Q7 > main(String[])
1   package Assignment2;
2   public class Q7{
        Run | Debug
3       public static void main(String[] args) {
4           double num1 = 112.3;
5           double num2 = 984.5;
6           double sum = Double.sum (num1, num2);
7       System.out.println("Sum is: "+ sum);
8       }
9       }
```

```
PROBLEMS 6   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS

PS C:\Users\Lenovo\Desktop\New folder> ^C
PS C:\Users\Lenovo\Desktop\New folder>
PS C:\Users\Lenovo\Desktop\New folder>  c:; cd 'c:\Users\Lenovo\Desktop\New folder'; & 'C:\Prog
' '-agentlib:jdwp=transport=dt_socket,server=n,suspend=y,address=localhost:63375' '-cp' 'C:\Use
3b6aff209dfbe3903c9f285a\redhat.java\jdt_ws\New folder_2e3e3a1e\bin' 'Assignment2.Q7'
Sum is: 1096.8
PS C:\Users\Lenovo\Desktop\New folder>
```

j. Declare two double variables with values `112.2` and `556.6`, and find the minimum and maximum values using the `Double` class. (Hint: Use `Double.min(double, double)` and `Double.max(double, double)`).

```
Assignment2 > Q7.java > ...
1   package Assignment2;
2   public class Q7{
        Run | Debug
3       public static void main(String[] args) {
4           double num1 = 112.2;
5         double num2 = 556.6;
6           double min = Double.min(num1, num2);
7         double max = Double.max(num1, num2);
8           System.out.println("Max is :"  + max);
9           System.out.println("Min is :" + min );
10  }
11      }
12
```

```
PROBLEMS 6  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

PS C:\Users\Lenovo\Desktop\New folder> ^C
PS C:\Users\Lenovo\Desktop\New folder>
PS C:\Users\Lenovo\Desktop\New folder>  c:; cd 'c:\Users\Lenovo\Desktop\New folder'; & 'C:\Program File
' '-agentlib:jdwp=transport=dt_socket,server=n,suspend=y,address=localhost:63398' '-cp' 'C:\Users\Lenov
3b6aff209dfbe3903c9f285a\redhat.java\jdt_ws\New folder_2e3e3a1e\bin' 'Assignment2.Q7'
Max is :556.6
Min is :112.2
PS C:\Users\Lenovo\Desktop\New folder>
```

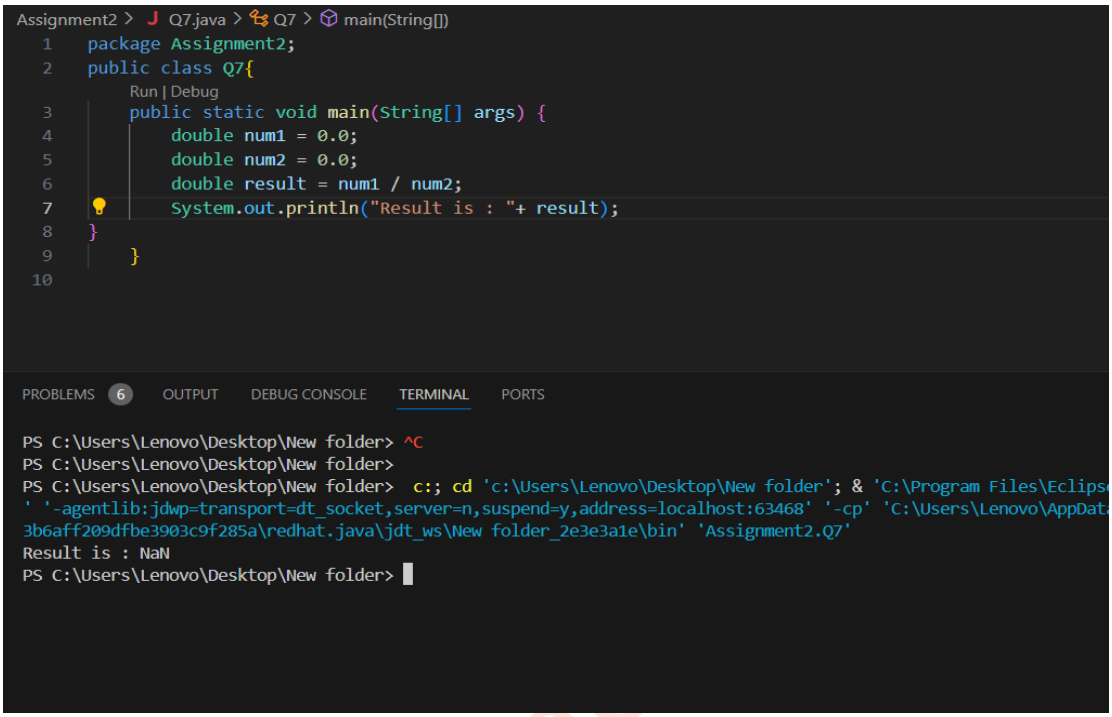
k. Declare a double variable with the value `-25.0`. Find the square root of this value. (Hint: Use `Math.sqrt()` method).

```
Assignment2 > Q7.java > Q7 > main(String[])
1   package Assignment2;
2   public class Q7{
        Run | Debug
3       public static void main(String[] args) {
4           double number = -25.0;
5
6           double sqrt = Math.sqrt(number);
7           System.out.println("Square root of -25.0 :" + sqrt);
8   }
9       }
10
```

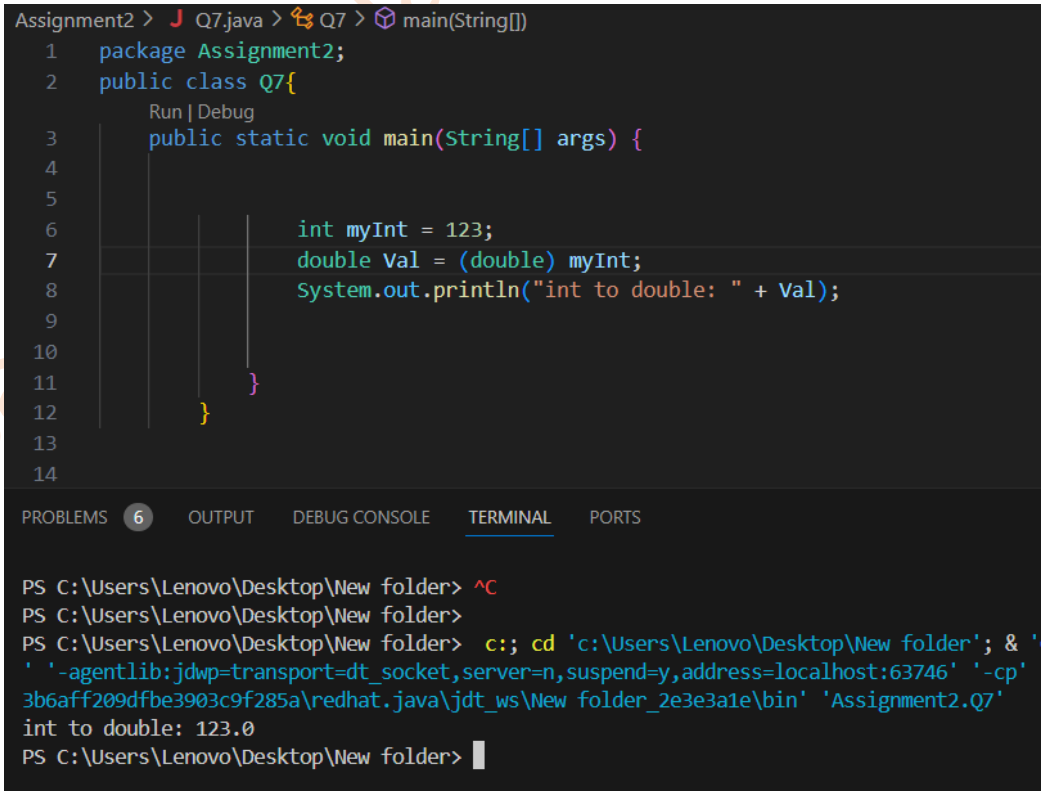
```
PROBLEMS 6  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

PS C:\Users\Lenovo\Desktop\New folder> ^C
PS C:\Users\Lenovo\Desktop\New folder>
PS C:\Users\Lenovo\Desktop\New folder>  c:; cd 'c:\Users\Lenovo\Desktop\New folder'; & 'C:\Program Files\Ecli
' '-agentlib:jdwp=transport=dt_socket,server=n,suspend=y,address=localhost:63445' '-cp' 'C:\Users\Lenovo\AppD
3b6aff209dfbe3903c9f285a\redhat.java\jdt_ws\New folder_2e3e3a1e\bin' 'Assignment2.Q7'
Square root of -25.0 :NaN
PS C:\Users\Lenovo\Desktop\New folder>
```

ASSIGNMENT NO.2

l. Declare two double variables with the same value, `0.0`, and divide them. (Hint: Observe the result and any special floating-point behavior).



m. Experiment with converting a `double` value into other primitive types or vice versa and observe the results.



8. Conversion between Primitive Types and Strings

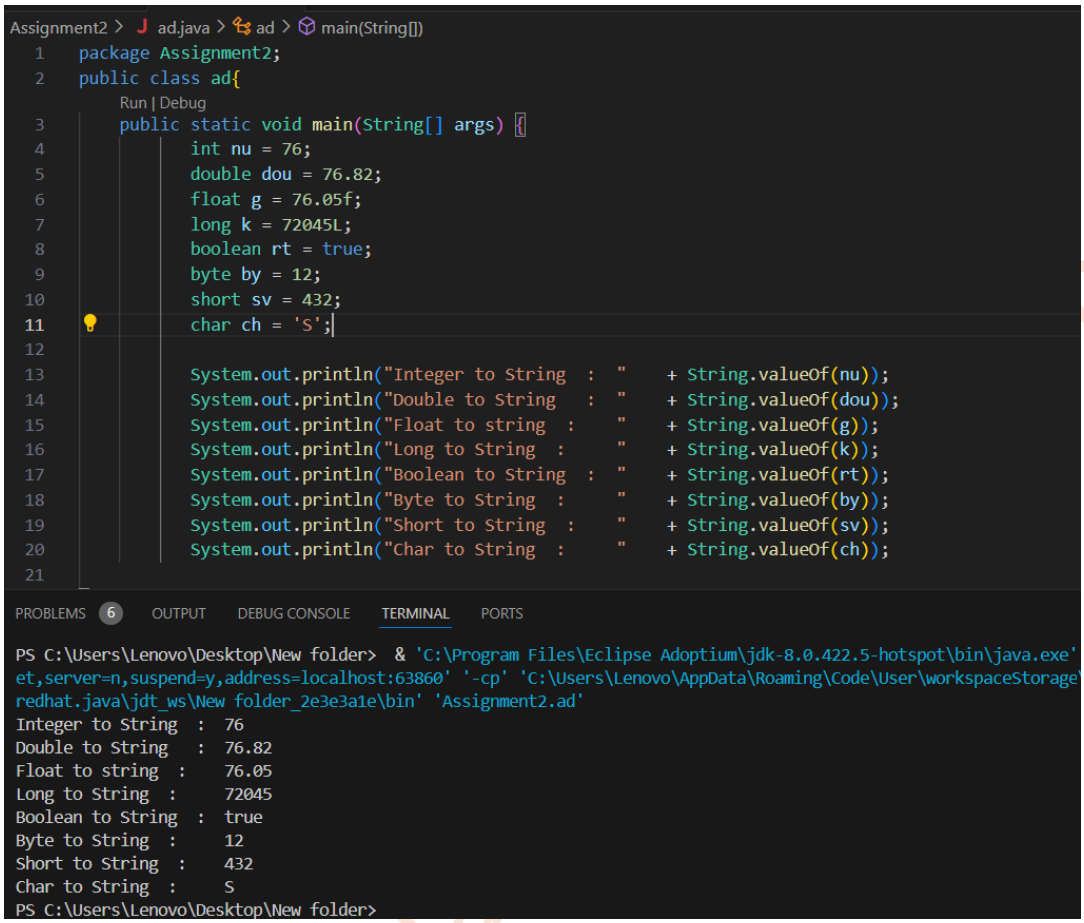
Initialize a variable of each primitive type with a user-defined value and convert it into `String`:

- First, use the `toString` method of the corresponding wrapper class. (e.g., `Integer.toString()`).

```
Assignment2 > Q8.java > Q8
1   package Assignment2;
2   public class Q8{
        Run | Debug
3       public static void main(String[] args) {
4           int nu = 76;
5           double dou = 76.82;
6           float g = 76.05f;
7           long k = 72045L;
8           boolean rt = true;
9           byte by = 12;
10          short sv = 432;
11          char ch = 'S';
12
13          System.out.println("integer to String :   " + Integer.toString(nu));
14          System.out.println("Double to String :    " + Double.toString(dou));
15          System.out.println("float to String :     " + Float.toString (g));
16          System.out.println("Long to String :      " + Long.toString(k));
17          System.out.println("Boolean to String :   " + Boolean.toString(rt));
18          System.out.println("Byte to String :      " + Byte.toString(by));
19          System.out.println("Short to String :     " + Short.toString(sv));
20          System.out.println("Char to String :      " + Character.toString(ch));
21
```

```
PROBLEMS 6   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS

PS C:\Users\Lenovo\Desktop\New folder>  c:; cd 'c:\Users\Lenovo\Desktop\New folder'; & 'C:\Program Files\Ecl
' '-agentlib:jdwp=transport=dt_socket,server=n,suspend=y,address=localhost:63802' '-cp' 'C:\Users\Lenovo\App
3b6aff209dfbe3903c9f285a\redhat.java\jdt_ws\New folder_2e3e3a1e\bin' 'Assignment2.Q8'
integer to String :   76
Double to String :    76.82
float to String :     76.05
Long to String :      72045
Boolean to String :   true
Byte to String :      12
Short to String :     432
Char to String :      S
```

- Then, use the `valueOf` method of the `String` class. (e.g., `String.valueOf()`).



```
Assignment2 > ad.java > ad > main(String[])
1  package Assignment2;
2  public class ad{
       Run | Debug
3      public static void main(String[] args) {
4          int nu = 76;
5          double dou = 76.82;
6          float g = 76.05f;
7          long k = 72045L;
8          boolean rt = true;
9          byte by = 12;
10         short sv = 432;
11         char ch = 'S';
12
13         System.out.println("Integer to String  :  "    + String.valueOf(nu));
14         System.out.println("Double to String   :  "    + String.valueOf(dou));
15         System.out.println("Float to string  :    "    + String.valueOf(g));
16         System.out.println("Long to String  :     "    + String.valueOf(k));
17         System.out.println("Boolean to String  :  "    + String.valueOf(rt));
18         System.out.println("Byte to String  :     "    + String.valueOf(by));
19         System.out.println("Short to String  :    "    + String.valueOf(sv));
20         System.out.println("Char to String  :     "    + String.valueOf(ch));
21
```

```
PROBLEMS 6  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

PS C:\Users\Lenovo\Desktop\New folder>  & 'C:\Program Files\Eclipse Adoptium\jdk-8.0.422.5-hotspot\bin\java.exe'
et,server=n,suspend=y,address=localhost:63860' '-cp' 'C:\Users\Lenovo\AppData\Roaming\Code\User\workspaceStorage'
redhat.java\jdt_ws\New folder_2e3e3a1e\bin' 'Assignment2.ad'
Integer to String  :  76
Double to String   :  76.82
Float to string  :    76.05
Long to String  :     72045
Boolean to String  :  true
Byte to String  :     12
Short to String  :    432
Char to String  :     S
PS C:\Users\Lenovo\Desktop\New folder>
```

9. Default Values of Primitive Types

Declare variables of each primitive type as fields of a class and check their default values. (Note: Default values depend on whether the variables are instance variables or static variables).

sandeepkula

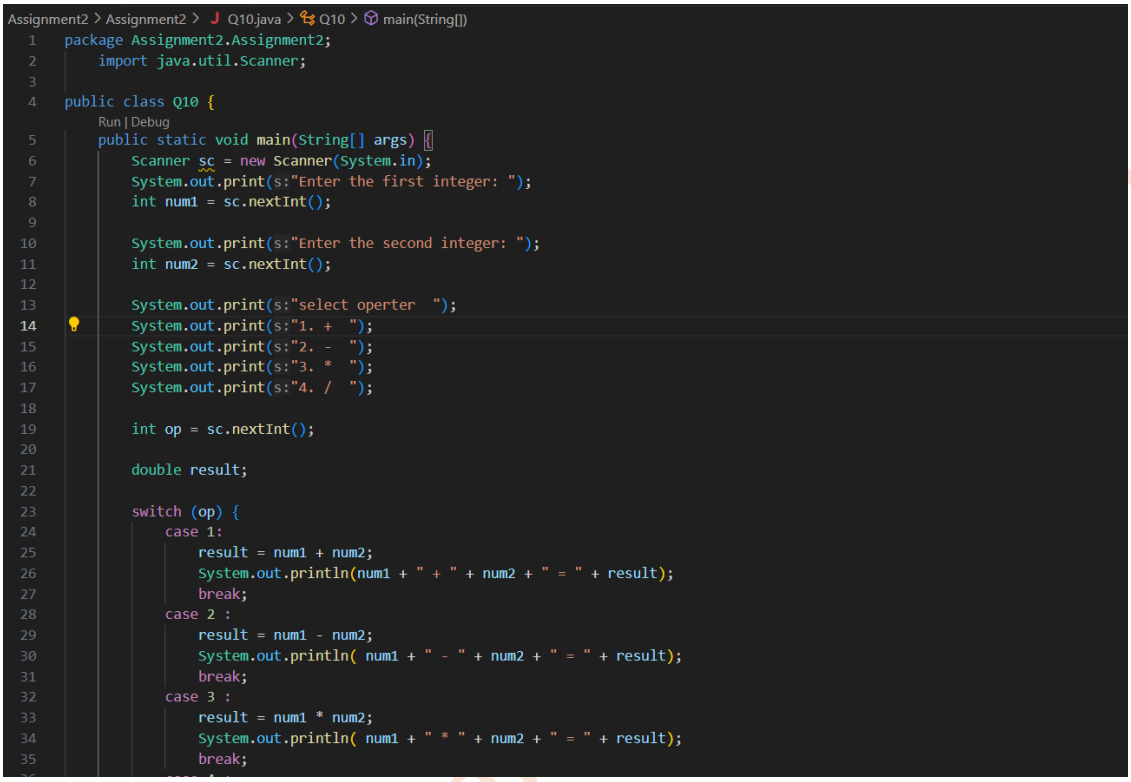
ASSIGNMENT NO.2

```java
package Assignment2.Assignment2;

public class Q9 {
        byte By;
        short Sh;
        int in;
        long ng;
        float Fl;
        double le;
        char ar;
        boolean an;

        Run | Debug
        public static void main(String[] args) {

            Q9 obj = new Q9();

            System.out.println(x:"     Default values     :");
            System.out.println(x:"                        :");
            System.out.println("byte:     "   + obj.By);
            System.out.println("short:    "   + obj.Sh);
            System.out.println("int:      "   + obj.in);
            System.out.println("long:     "   + obj.ng);
            System.out.println("float:    "   + obj.Fl);
            System.out.println("double:   "   + obj.le);
            System.out.println("char:     "   + obj.ar );
            System.out.println("boolean:  "   + obj.an);
    ;
        }
    }
```

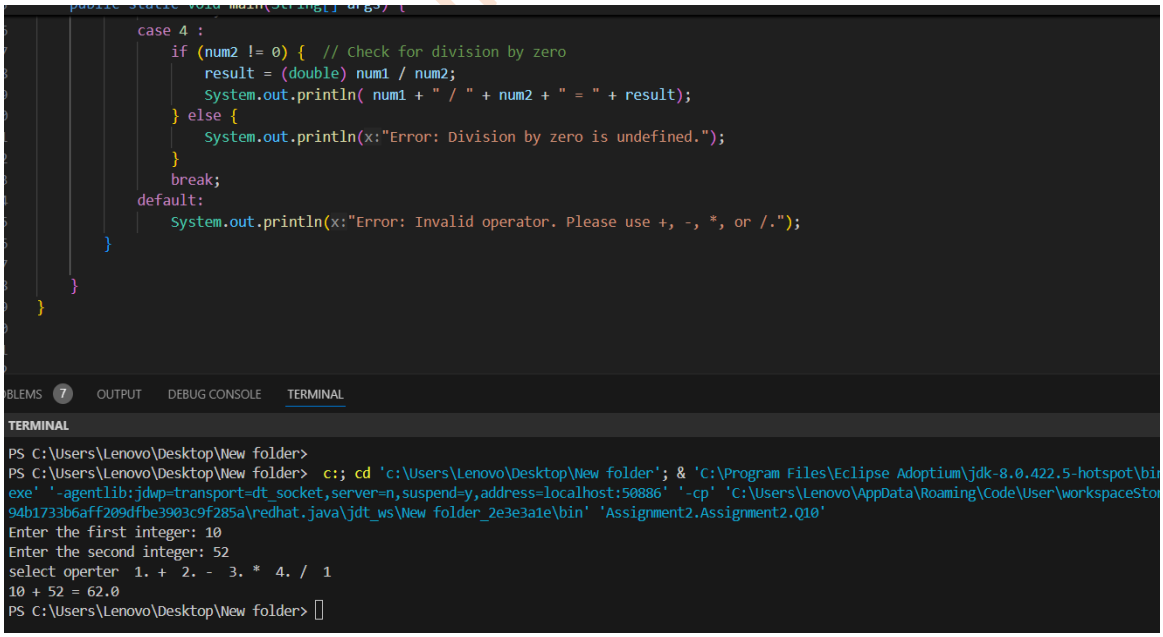
```
PS C:\Users\Lenovo\Desktop\New folder>  & 'C:\Program Files\Eclipse Ad
er=n,suspend=y,address=localhost:64041' '-cp' 'C:\Users\Lenovo\AppData'
t_ws\New folder_2e3e3a1e\bin' 'Assignment2.Assignment2.Q9'
     Default values     :
                        :
byte:     0
short:    0
int:      0
long:     0
float:    0.0
double:   0.0
char:
boolean:  false
PS C:\Users\Lenovo\Desktop\New folder>
```

10. Arithmetic Operations with Command Line Input

Write a program that accepts two integers and an arithmetic operator (+, –, *, /) from the command line. Perform the specified arithmetic operation based on the operator provided. (Hint: Use `switch-case` for operations).



```
Assignment2 > Assignment2 > Q10.java > Q10 > main(String[])
package Assignment2.Assignment2;
    import java.util.Scanner;

public class Q10 {
    Run | Debug
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print(s:"Enter the first integer: ");
        int num1 = sc.nextInt();

        System.out.print(s:"Enter the second integer: ");
        int num2 = sc.nextInt();

        System.out.print(s:"select operter  ");
        System.out.print(s:"1. +  ");
        System.out.print(s:"2. -  ");
        System.out.print(s:"3. *  ");
        System.out.print(s:"4. /  ");

        int op = sc.nextInt();

        double result;

        switch (op) {
            case 1:
                result = num1 + num2;
                System.out.println(num1 + " + " + num2 + " = " + result);
                break;
            case 2 :
                result = num1 - num2;
                System.out.println( num1 + " - " + num2 + " = " + result);
                break;
            case 3 :
                result = num1 * num2;
                System.out.println( num1 + " * " + num2 + " = " + result);
                break;
```



```
            case 4 :
                if (num2 != 0) {  // Check for division by zero
                    result = (double) num1 / num2;
                    System.out.println( num1 + " / " + num2 + " = " + result);
                } else {
                    System.out.println(x:"Error: Division by zero is undefined.");
                }
                break;
            default:
                System.out.println(x:"Error: Invalid operator. Please use +, -, *, or /.");
        }

    }
}
```

```
PROBLEMS 7   OUTPUT   DEBUG CONSOLE   TERMINAL
TERMINAL
PS C:\Users\Lenovo\Desktop\New folder>
PS C:\Users\Lenovo\Desktop\New folder>  c:; cd 'c:\Users\Lenovo\Desktop\New folder'; & 'C:\Program Files\Eclipse Adoptium\jdk-8.0.422.5-hotspot\bin
exe' '-agentlib:jdwp=transport=dt_socket,server=n,suspend=y,address=localhost:50886' '-cp' 'C:\Users\Lenovo\AppData\Roaming\Code\User\workspaceSto
94b1733b6aff209dfbe3903c9f285a\redhat.java\jdt_ws\New folder_2e3e3a1e\bin' 'Assignment2.Assignment2.Q10'
Enter the first integer: 10
Enter the second integer: 52
select operter  1. +  2. -  3. *  4. /  1
10 + 52 = 62.0
PS C:\Users\Lenovo\Desktop\New folder>
```