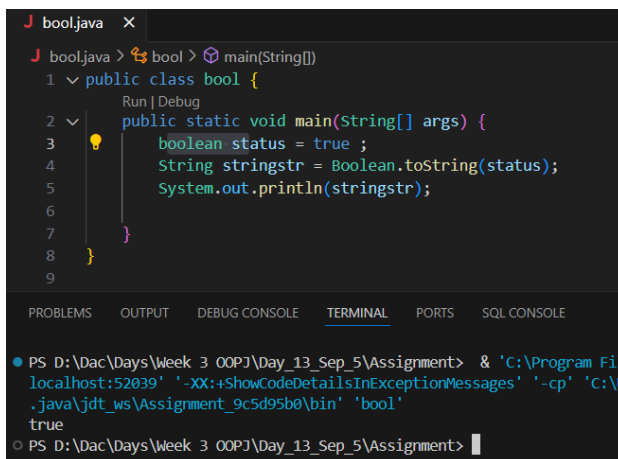# ASSIGNMENT 2

Kunal More

1. Working with `java.lang.Boolean`

a. Explore the [Java API documentation for `java.lang.Boolean`](#) and observe its modifiers and super types.

<mark>Boolean , static int , int , Boolean , static Boolean , int , static int</mark>

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)`).

```java
public class bool {
    public static void main(String[] args) {
        boolean status = true ;
        String stringstr = Boolean.toString(status);
        System.out.println(stringstr);

    }
}
```
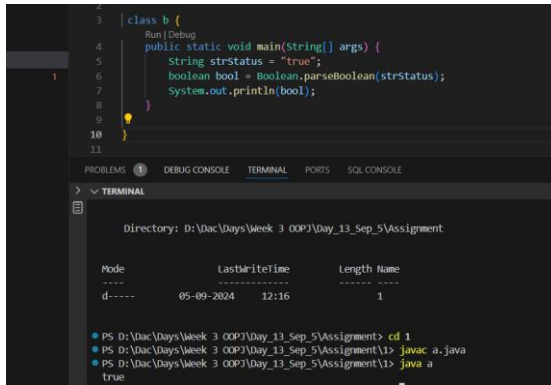

c. Declare a method-local variable `strStatus` of type `String` with the value `"true"` and convert it to a `boolean` using the `parseBoolean` method. (Hint: Use `Boolean.parseBoolean(String)`).

```java
class b {
    public static void main(String[] args) {
        String strStatus = "true";
        boolean bool = Boolean.parseBoolean(strStatus);
        System.out.println(bool);
```

ASSIGNMENT 2

```
    }

}
```


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").

```java
public class c {
    public static void main(String[] args) {
        String strStatus = "0";
        Boolean bool = Boolean.parseBoolean(strStatus);
        System.out.println(bool);
    }
}
```

ASSIGNMENT 2

```
 3    public class c {
          Run | Debug
 4        public static void main(String[] args) {
 5            String strStatus = "0";
 6            Boolean bool = Boolean.parseBoolean(strStatus);
 7            System.out.println(bool);
 8        }
 9    }
10
```

PROBLEMS   DEBUG CONSOLE   **TERMINAL**   PORTS   SQL CONSOLE

> ∨ **TERMINAL**

```
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\1> javac c.java
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\1> java c
  false
○ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\1>
```

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)`).

```java
public class e {
    public static void main(String[] args) {
        boolean status = true;
        boolean ar = Boolean.valueOf(status);
        System.out.println(ar);
    }
}
```

```
2    public class e {
         Run | Debug
3        public static void main(String[] args) {
4            boolean status = true;
5            boolean ar = Boolean.valueOf(status);
6            System.out.println(ar);
7        }
8    }
9
```

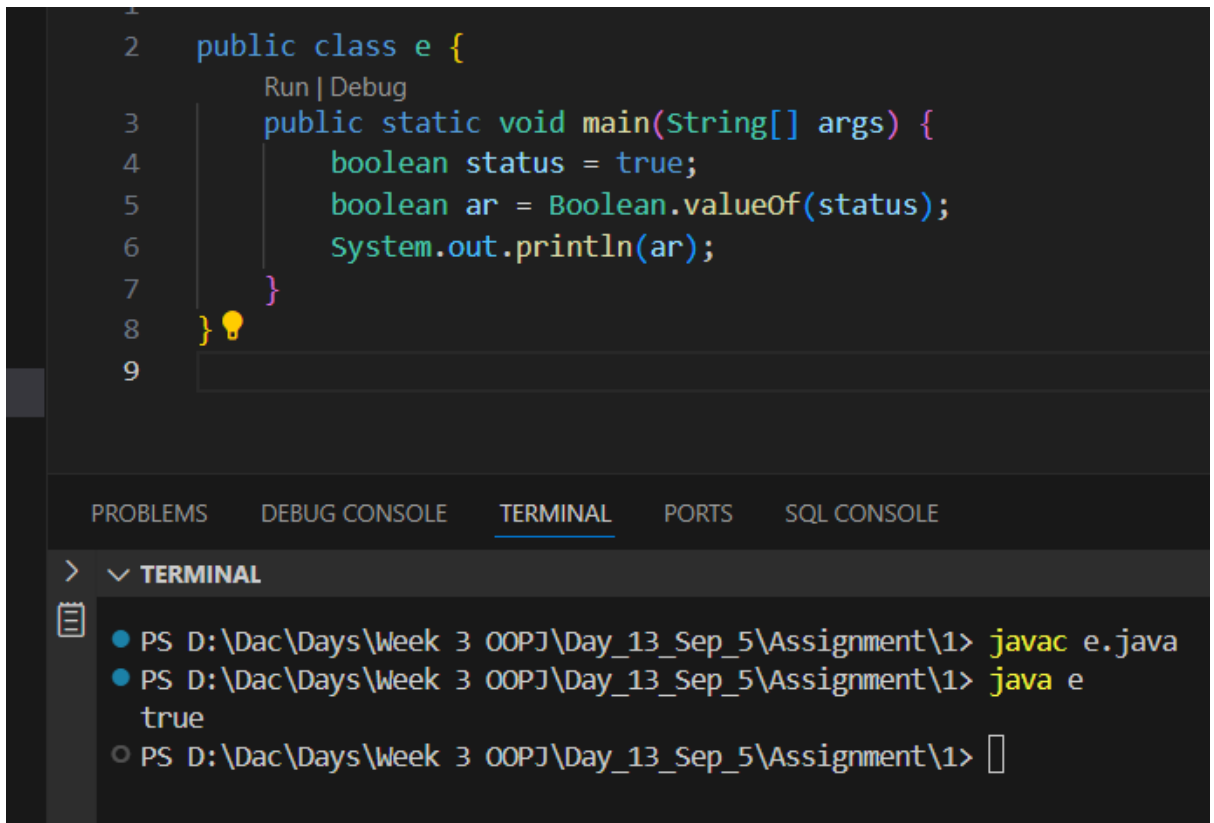PROBLEMS   DEBUG CONSOLE   TERMINAL   PORTS   SQL CONSOLE

> ✓ TERMINAL

```
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\1> javac e.java
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\1> java e
  true
○ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\1> ▯
```

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)`).

```java
public class f {
    public static void main(String[] args) {
        String strstatus = "true";
        Boolean boo = Boolean.valueOf(strstatus);
        System.out.println(boo);
    }
}
```

ASSIGNMENT 2

```
1     🔘
2
3     public class f {
         Run | Debug
4         public static void main(String[] args) {
5             String strstatus = "true";
6             Boolean boo = Boolean.valueOf(strstatus);
7             System.out.println(boo);
8         }
9     }
10
```

PROBLEMS   DEBUG CONSOLE   **TERMINAL**   PORTS   SQL CONSOLE   ⌄
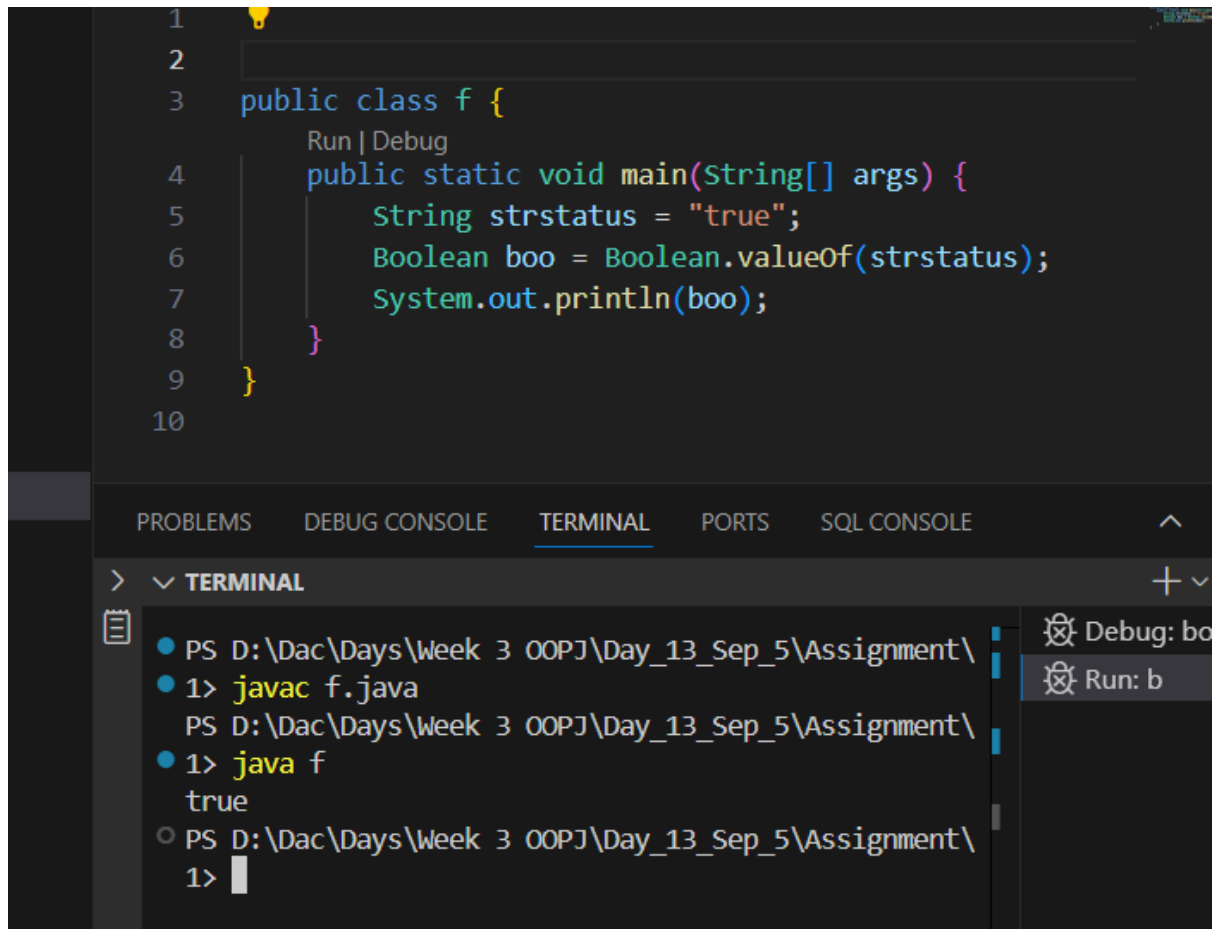
> ⌄ **TERMINAL**   +⌄

```
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\
● 1> javac f.java
  PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\
● 1> java f
  true
○ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\
  1> █
```

🐞 Debug: bo
🐞 Run: b

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

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`).

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

        System.out.println("bytes = "+ Byte.BYTES);
```

```
    }
}
```

```
1
2
3  ∨ public class b {
        Run | Debug
4  ∨     public static void main(String[] args) {
5
6  💡        System.out.println("bytes = "+ Byte.BYTES);
7        }
8    }
9
```

PROBLEMS 3   DEBUG CONSOLE   TERMINAL   PORTS   SQL CONSOLE

> ∨ TERMINAL

```
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment>  & 'C:\Program Files\Java\jdk-20\bin
  ess=localhost:53188' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'D:\Dac\Days\Week
  bytes = 1
○ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment>
```
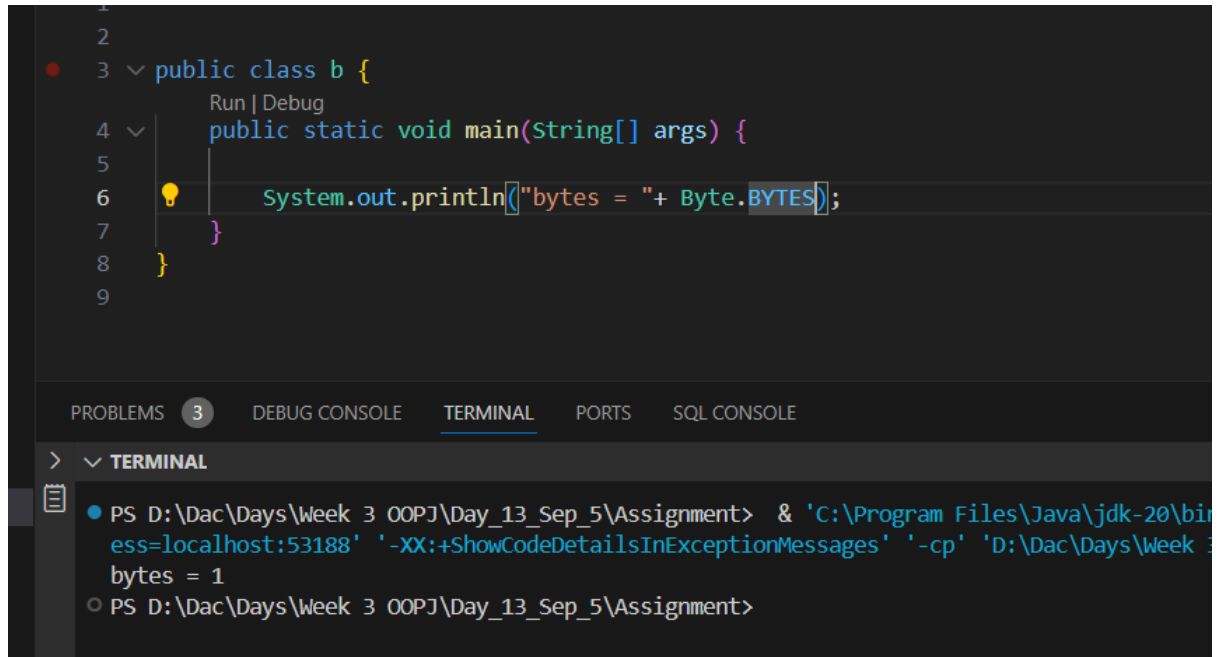
c. Write a program to find the minimum and maximum values of `byte` using the `MIN_VALUE` and `MAX_VALUE` fields. (Hint: Use `Byte.MIN_VALUE` and `Byte.MAX_VALUE`).

```java
public class c1 {
    public static void main (String args [] ){
        System.out.println("Minimum Value "+ Byte.MIN_VALUE);
    }
}

 class c2 {
    public static void main (String args [] ){
        System.out.println("Maximum Value "+ Byte.MAX_VALUE);
    }
}
```
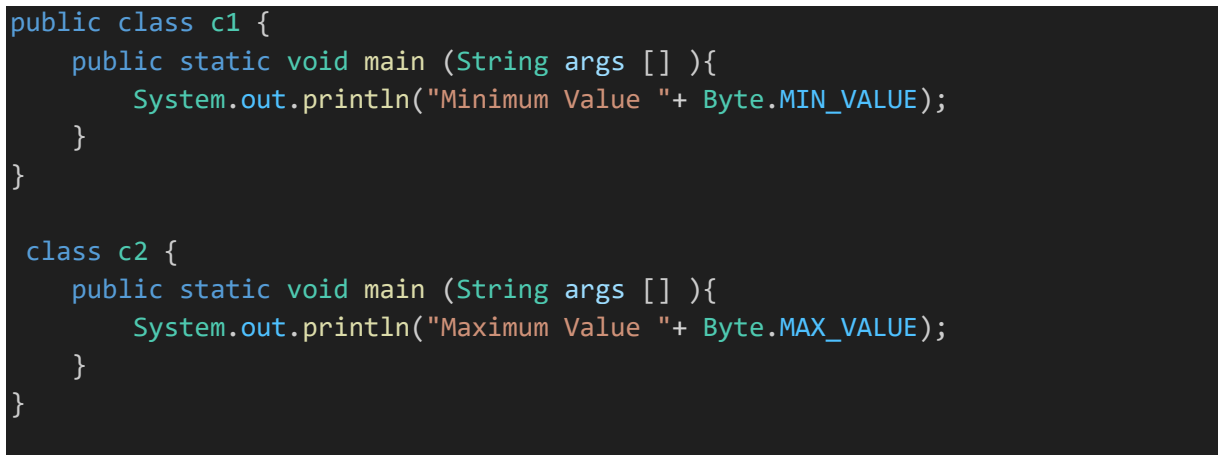
ASSIGNMENT 2

```
1    public class c1 {
         Run | Debug
2        public static void main (String args [] ){
3            System.out.println("Minimum Value "+ Byte.MIN_VALUE);
4        }
5    }

6

7    class c2 {
         Run | Debug
8        public static void main (String args [] ){
9            System.out.println("Maximum Value "+ Byte.MAX_VALUE);
10       }
```

PROBLEMS 3   DEBUG CONSOLE   TERMINAL   PORTS   SQL CONSOLE

∨ TERMINAL

```
PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\2> java c1
Minimum Value -128
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\2> java c2
Maximum Value 127
○ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\2> █
```

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)`).

```java
public class d1 {
    public static void main(String[] args) {
        byte number = 2 ;

        System.out.println("Convert to string "+Byte.toString(number));
    }
}
```

ASSIGNMENT 2

```
1    public class d1 {
         Run | Debug
2        public static void main(String[] args) {
3            byte number = 2 ;
4
5            System.out.println("Convert to string "+Byte.toString(number));
6        }
7    }
8
```

PROBLEMS 3   DEBUG CONSOLE   TERMINAL   PORTS   SQL CONSOLE

> ∨ TERMINAL

```
PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment>  & 'C:\Program Files\Java\jdk-20\bi
ess=localhost:54774' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'D:\Dac\Days\Week
Convert to string 2
PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment>
```

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)`).

```
public class e1 {
    public static void main(String[] args) {
        String strNumber = "5" ;
        System.out.println("Byte ="+ Byte.parseByte(strNumber));
    }
}
```

```
1 ∨ public class e1 {
          Run | Debug
2 ∨       public static void main(String[] args) {
3             String strNumber = "5" ;
4             System.out.println("Byte ="+ Byte.parseByte(strNumber));
5         }
6     }
7     |
```

PROBLEMS 2   DEBUG CONSOLE   TERMINAL   PORTS   SQL CONSOLE

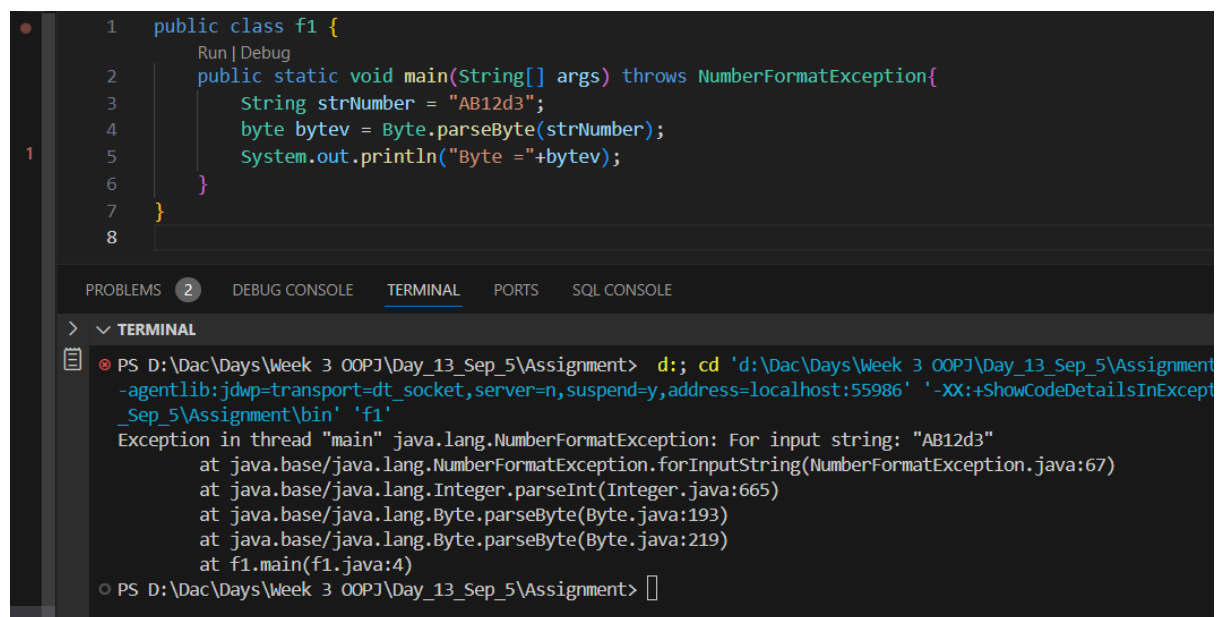> ∨ TERMINAL

```
PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment>  & 'C:\Program Files\Java\jdk-20
ess=localhost:55279' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'D:\Dac\Days\We
Byte =5
PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment>
```

ASSIGNMENT 2

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`).

```java
public class f1 {
    public static void main(String[] args) throws NumberFormatException{
        String strNumber = "AB12d3";
        byte bytev = Byte.parseByte(strNumber);
        System.out.println("Byte ="+bytev);
    }
}
```

```
1    public class f1 {
        Run | Debug
2        public static void main(String[] args) throws NumberFormatException{
3            String strNumber = "AB12d3";
4            byte bytev = Byte.parseByte(strNumber);
5            System.out.println("Byte ="+bytev);
6        }
7    }
8
```

```
PROBLEMS  2    DEBUG CONSOLE    TERMINAL    PORTS    SQL CONSOLE

>  ∨ TERMINAL
  ⊗ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment>  d:; cd 'd:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment
    -agentlib:jdwp=transport=dt_socket,server=n,suspend=y,address=localhost:55986' '-XX:+ShowCodeDetailsInExcept
    _Sep_5\Assignment\bin' 'f1'
    Exception in thread "main" java.lang.NumberFormatException: For input string: "AB12d3"
            at java.base/java.lang.NumberFormatException.forInputString(NumberFormatException.java:67)
            at java.base/java.lang.Integer.parseInt(Integer.java:665)
            at java.base/java.lang.Byte.parseByte(Byte.java:193)
            at java.base/java.lang.Byte.parseByte(Byte.java:219)
            at f1.main(f1.java:4)
  ○ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment> ▯
```

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(byAte)`).

```java
public class g1 {
    public static void main(String[] args) {

        byte number = 1 ;
        byte bytewrap = Byte.valueOf(number);
        System.out.println("Byte :"+bytewrap);
    }

}
```

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)`).

```java
public class h1 {
    public static void main(String[] args) {
        String strNumber = "25";
        Byte mind = Byte.valueOf(strNumber);
        System.out.println("Byte from string :"+mind);
    }
}
```
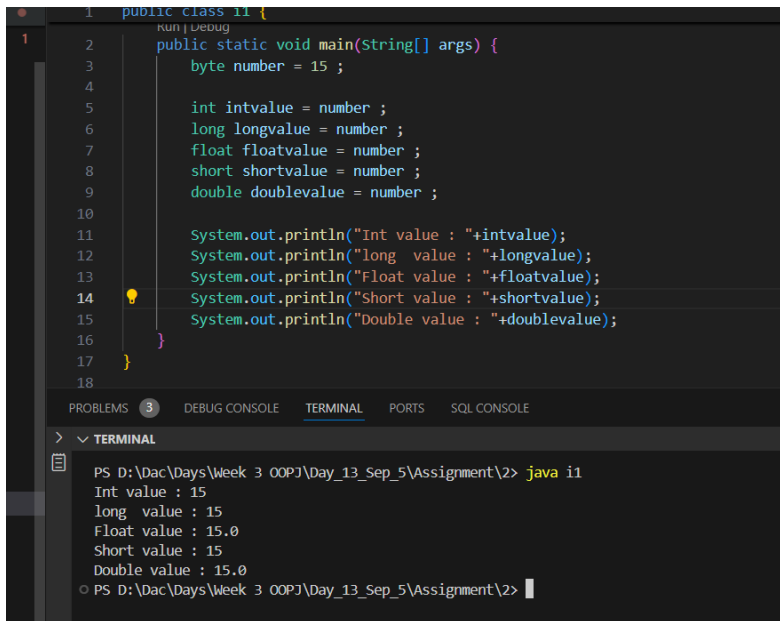
ASSIGNMENT 2

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

```
1  public class i1 {
       Run | Debug
2      public static void main(String[] args) {
3          byte number = 15 ;
4
5          int intvalue = number ;
6          long longvalue = number ;
7          float floatvalue = number ;
8          short shortvalue = number ;
9          double doublevalue = number ;
10
11         System.out.println("Int value : "+intvalue);
12         System.out.println("long  value : "+longvalue);
13         System.out.println("Float value : "+floatvalue);
14         System.out.println("Short value : "+shortvalue);
15         System.out.println("Double value : "+doublevalue);
16     }
17  }
18
```

PROBLEMS (3)   DEBUG CONSOLE   TERMINAL   PORTS   SQL CONSOLE

> ∨ TERMINAL

```
PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\2> java i1
Int value : 15
long  value : 15
Float value : 15.0
Short value : 15
Double value : 15.0
PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\2>
```

```java
    public static void main(String[] args) {
        byte number = 15 ;

        int intvalue = number ;
        long longvalue = number ;
        float floatvalue = number ;
        short shortvalue = number ;
        double doublevalue = number ;

        System.out.println("Int value : "+intvalue);
        System.out.println("long  value : "+longvalue);
        System.out.println("Float value : "+floatvalue);
        System.out.println("Short value : "+shortvalue);
        System.out.println("Double value : "+doublevalue);
    }
}
```

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`).

ASSIGNMENT 2

```
3 > J b1.java > ...
     public class b1 {
         Run | Debug
    2        public static void main(String[] args) {
    3            int byt = Short.BYTES;
    4
    5            System.out.println("Number of bytes in short : "+byt );
    6        }
    7    }
    8
```

```
PROBLEMS 4    DEBUG CONSOLE    TERMINAL    PORTS    SQL CONSOLE

> ∨ TERMINAL

● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment> cd 3
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\3> javac b1.java
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\3> ls


    Directory: D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\3


Mode                 LastWriteTime         Length Name
----                 -------------         ------ ----
-a----        09-09-2024     13:22            880 b1.class
-a----        09-09-2024     13:22            182 b1.java


● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\3> java b1
  Number of bytes in short : 2
○ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\3> ▌
```

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`).

```java
class c1 {
    public static void main (String[]args){

        System.out.println("Short Max : "+Short.MAX_VALUE);
    }
}
class c2{
    public static void main(String []args){
        System.out.println("Short Min : "+Short.MIN_VALUE);
    }
}
```

ASSIGNMENT 2

```
3 > J c1.java
  1    class c1 {
  2        public static void main (String[]args){
  3
  4            System.out.println("Short Max : "+Short.MAX_VALUE);
  5        }
  6    }
  7    class c2{
  8        public static void main(String []args){
  9            System.out.println("Short Min : "+Short.MIN_VALUE);
 10        }
 11    }
```

```
PROBLEMS  4    DEBUG CONSOLE    TERMINAL    PORTS    SQL CONSOLE

> ∨ TERMINAL

 PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\3> java c1
 Short Max : 32767
 PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\3> java c2
 Short Min : -32768
 PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\3>
```

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)`).

```java
public class d1 {
    public static void main(String[] args) {
        short number = 5 ;
        String hello = Short.toString(number);
        System.out.println("Short "+number);
    }
}
```

```
3 > J d1.java > d1 > main(String[])
  1  ∨ public class d1 {
           Run | Debug
  2  ∨     public static void main(String[] args) {
  3            short number = 5 ;
  4            String hello = Short.toString(number);
  5            System.out.println("Short "+number);
  6        }
  7    }
  8
```

```
PROBLEMS  6    DEBUG CONSOLE    TERMINAL    PORTS    SQL CONSOLE

> ∨ TERMINAL

 ● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\3> java d1
   Short 5
 ○ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\3>
```
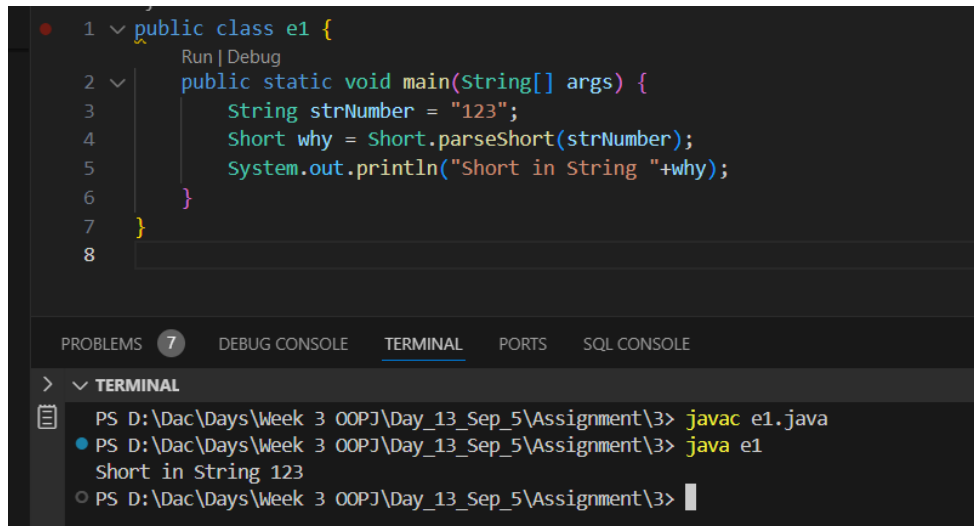
e. Declare a method-local variable `strNumber` of type `String` with some value and convert it to a `short` value using the `parseShort` method. (Hint: Use `Short.parseShort(String)`).
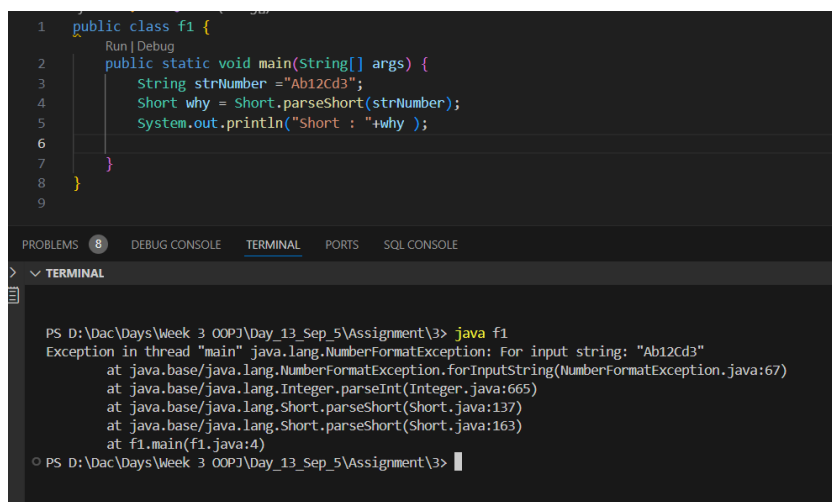
ASSIGNMENT 2

```java
public class e1 {
    public static void main(String[] args) {
        String strNumber = "123";
        Short why = Short.parseShort(strNumber);
        System.out.println("Short in String "+why);
    }
}
```

```
1 ∨ public class e1 {
        Run | Debug
2 ∨     public static void main(String[] args) {
3           String strNumber = "123";
4           Short why = Short.parseShort(strNumber);
5           System.out.println("Short in String "+why);
6       }
7   }
8
```

```
PROBLEMS  7    DEBUG CONSOLE   TERMINAL   PORTS   SQL CONSOLE

>  ∨ TERMINAL

   PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\3> javac e1.java
   PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\3> java e1
   Short in String 123
   PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\3>
```

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`).

```java
public class f1 {
    public static void main(String[] args) {
        String strNumber ="Ab12Cd3";
        Short why = Short.parseShort(strNumber);
        System.out.println("Short : "+why );

    }
}
```
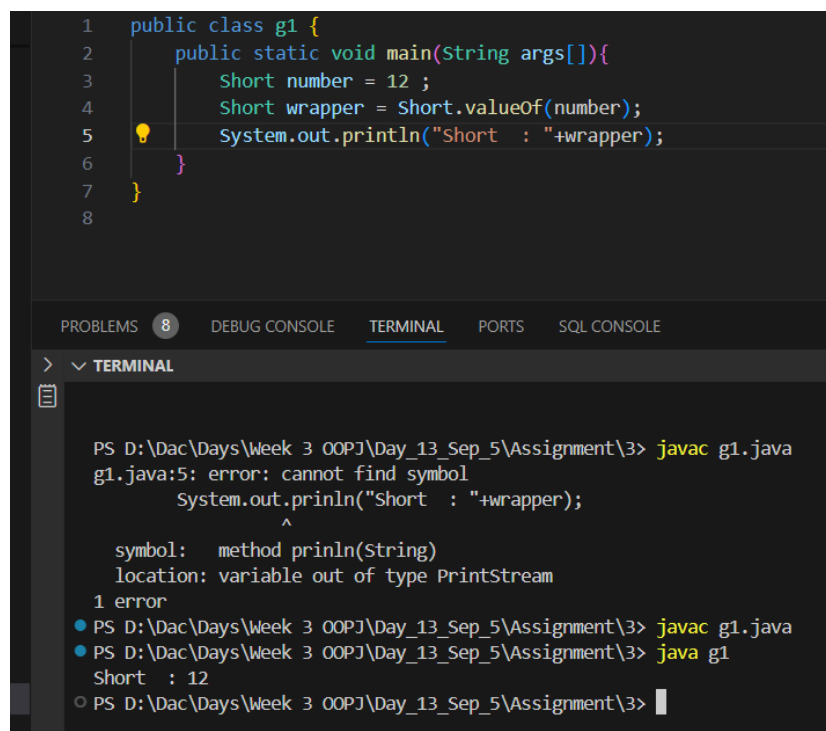
```
1   public class f1 {
        Run | Debug
2       public static void main(String[] args) {
3           String strNumber ="Ab12Cd3";
4           Short why = Short.parseShort(strNumber);
5           System.out.println("Short : "+why );
6
7       }
8   }
9
```

```
PROBLEMS  8    DEBUG CONSOLE   TERMINAL   PORTS   SQL CONSOLE
>  ∨ TERMINAL

   PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\3> java f1
   Exception in thread "main" java.lang.NumberFormatException: For input string: "Ab12Cd3"
        at java.base/java.lang.NumberFormatException.forInputString(NumberFormatException.java:67)
        at java.base/java.lang.Integer.parseInt(Integer.java:665)
        at java.base/java.lang.Short.parseShort(Short.java:137)
        at java.base/java.lang.Short.parseShort(Short.java:163)
        at f1.main(f1.java:4)
   PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\3>
```

ASSIGNMENT 2

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)`).

```java
public class g1 {
    public static void main(String args[]){
        Short number = 12 ;
        Short wrapper = Short.valueOf(number);
        System.out.println("Short   : "+wrapper);
    }
}
```

```
1   public class g1 {
2       public static void main(String args[]){
3           Short number = 12 ;
4           Short wrapper = Short.valueOf(number);
5   💡      System.out.println("Short   : "+wrapper);
6       }
7   }
8
```

```
PROBLEMS  8    DEBUG CONSOLE    TERMINAL    PORTS    SQL CONSOLE

>  ∨ TERMINAL

    PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\3> javac g1.java
    g1.java:5: error: cannot find symbol
            System.out.prinln("Short   : "+wrapper);
                      ^
        symbol:   method prinln(String)
        location: variable out of type PrintStream
    1 error
    ● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\3> javac g1.java
    ● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\3> java g1
      Short   : 12
    ○ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\3> ▌
```
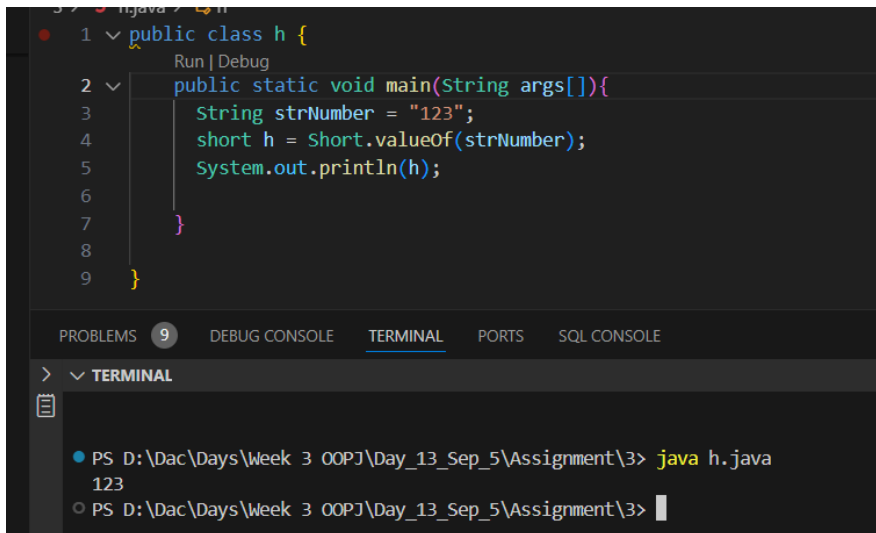
h. Declare a method-local variable `strNumber` of type `String` with some `short` value and convert it to the corresponding wrapper class using `Short.valueOf()`. (Hint: Use `Short.valueOf(String)`).

```java
public class h {
    public static void main(String args[]){
        String strNumber = "123";
        short h = Short.valueOf(strNumber);
        System.out.println(h);

    }
}
```

ASSIGNMENT 2

```
  3 >    h.java >
  1  v public class h {
          Run | Debug
  2  v       public static void main(String args[]){
  3              String strNumber = "123";
  4              short h = Short.valueOf(strNumber);
  5              System.out.println(h);
  6
  7          }
  8
  9      }

PROBLEMS  9     DEBUG CONSOLE    TERMINAL    PORTS    SQL CONSOLE

>  v TERMINAL


 ● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\3> java h.java
   123
 ○ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\3>
```
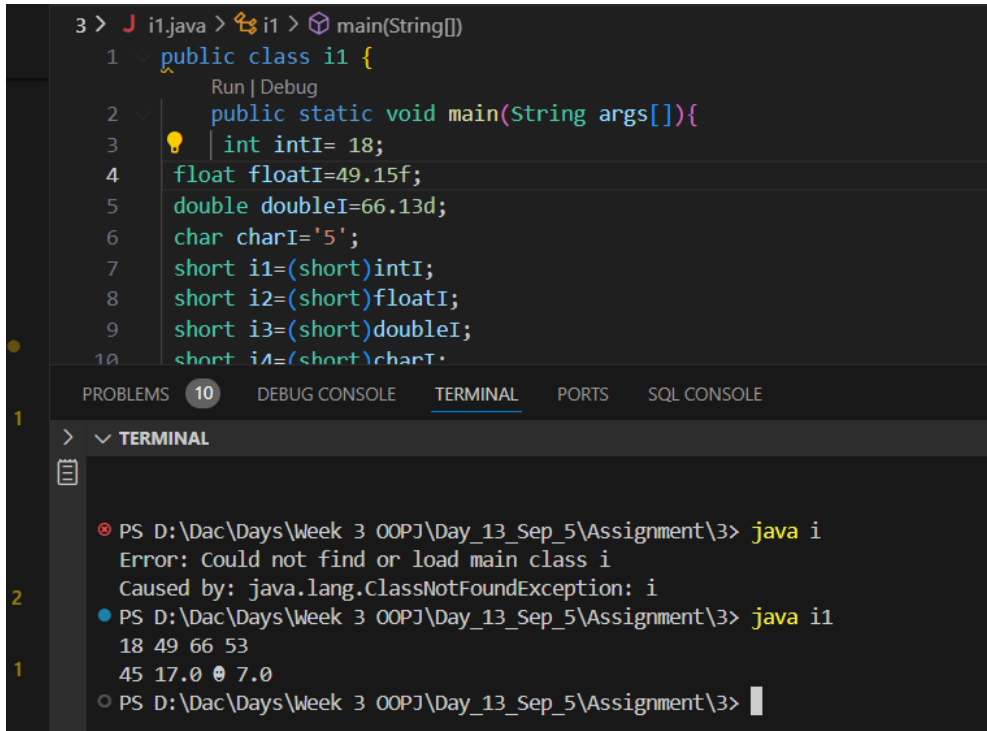
i. Experiment with converting a `short` value into other primitive types or vice versa and observe the results.

```java
public class i1 {
    public static void main(String args[]){
      int intI= 18;
 float floatI=49.15f;
 double doubleI=66.13d;
 char charI='5';
 short i1=(short)intI;
 short i2=(short)floatI;
 short i3=(short)doubleI;
 short i4=(short)charI;
 System.out.println(i1+" "+i2+" "+i3+" "+i4+" ");
 short I1=45;
 short I2=17;
 short I3=7;
 short I4=2;
 int i=(int)I1;
 float f=(float)I2;
 double di=(double)I3;
 char c=(char)I4;
 System.out.println(i+" "+f+" "+c+" "+di+" ");
    }
}
```

ASSIGNMENT 2

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`).
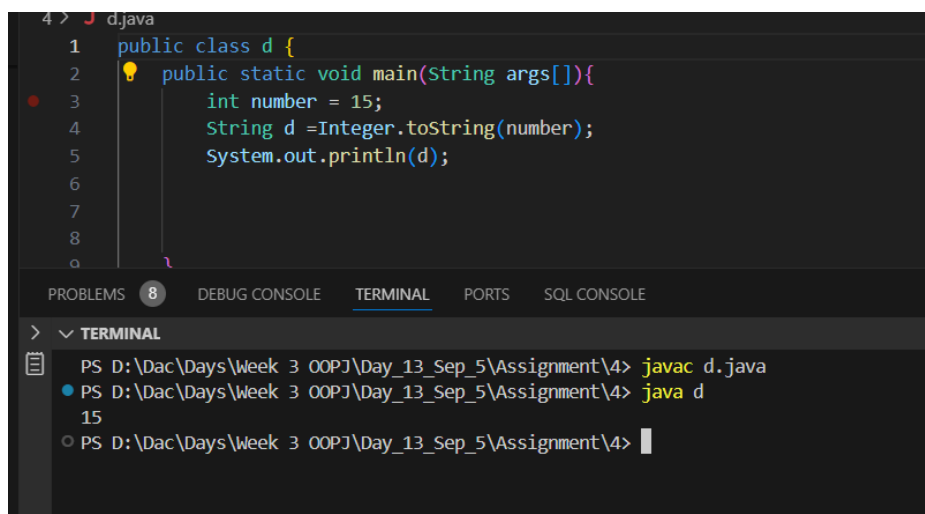
ASSIGNMENT 2

```java
public class c1 {
    public static void main (String args [] ){
        System.out.println("Minimum Value "+ Integer.MIN_VALUE);
    }
}

class c2 {
    public static void main (String args [] ){
        System.out.println("Maximum Value "+ Integer.MAX_VALUE);
    }
}
```

```
1   public class c1 {
        Run | Debug
2       public static void main (String args [] ){
3           System.out.println("Minimum Value "+ Integer.MIN_VALUE);
4       }
5   }
6
7   class c2 {
        Run | Debug
8       public static void main (String args [] ){
9           System.out.println("Maximum Value "+ Integer.MAX_VALUE);
10      }
```

PROBLEMS 3   DEBUG CONSOLE   TERMINAL   PORTS   SQL CONSOLE

> ∨ TERMINAL

```
PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\2> java c2
Maximum Value 2147483647
PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\2> java c1
Minimum Value -2147483648
PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\2>
```

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)`).
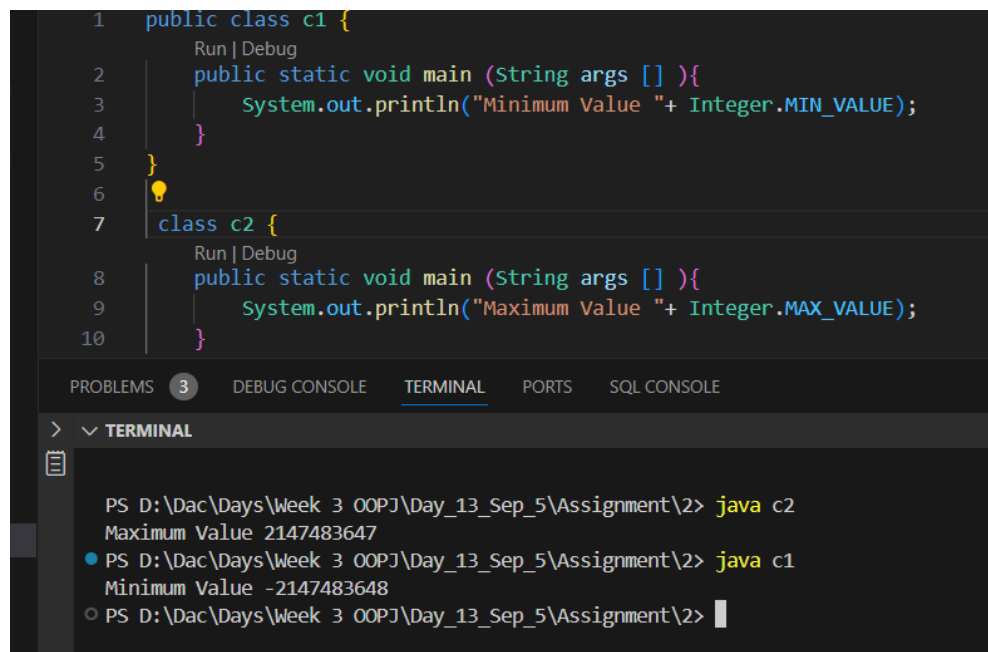
```
4 > J d.java
1   public class d {
2       public static void main(String args[]){
3           int number = 15;
4           String d =Integer.toString(number);
5           System.out.println(d);
6
7
8
9       }
```

PROBLEMS 8   DEBUG CONSOLE   TERMINAL   PORTS   SQL CONSOLE

> ∨ TERMINAL

```
PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\4> javac d.java
PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\4> java d
15
PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\4>
```

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)`).

```java
1    public class e {
         Run | Debug
2        public static void main(String args[]){
3            String strNumber = "1";
4            int e =Integer.parseInt(strNumber);
5            System.out.println(e);
6
7        }
8    }
```
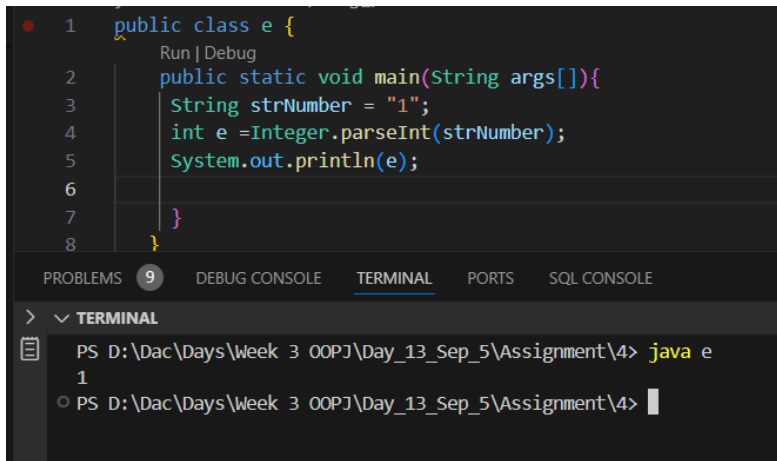
```
PROBLEMS  9    DEBUG CONSOLE    TERMINAL    PORTS    SQL CONSOLE

> ∨ TERMINAL
  PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\4> java e
  1
  PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\4>
```

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`).

```java
4 > J f.java > ❖ f
1    public class f {
         Run | Debug
2        public static void main(String args[]){
3            String strNumber = "Ab12Cd3";
4            int f =Integer.parseInt(strNumber);
5            System.out.println(f);
6
7        }
8    }
```

```
PROBLEMS  10    DEBUG CONSOLE    TERMINAL    PORTS    SQL CONSOLE

∨ TERMINAL
  PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\4> java e
  1
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\4> javac f.java
⊗ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\4> java f
  Exception in thread "main" java.lang.NumberFormatException: For input string: "Ab12Cd3"
          at java.base/java.lang.NumberFormatException.forInputString(NumberFormatException.java:67)
          at java.base/java.lang.Integer.parseInt(Integer.java:665)
          at java.base/java.lang.Integer.parseInt(Integer.java:781)
          at f.main(f.java:4)
  PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\4>
```
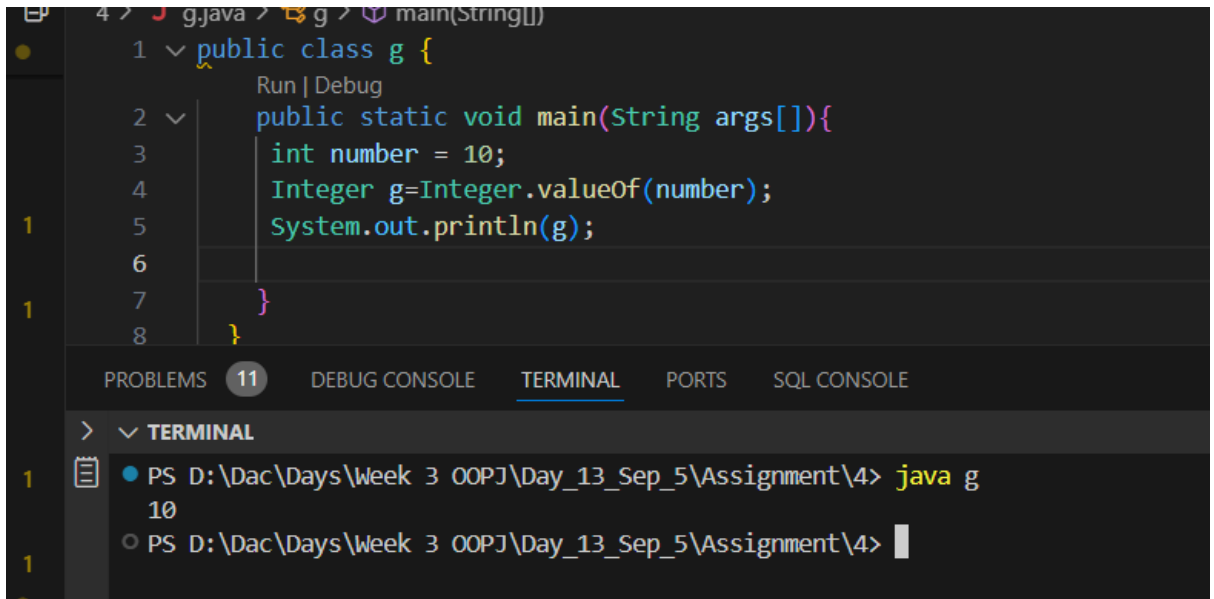
g. Declare a method-local variable `number` of type `int` with some value and convert it to the corresponding wrapper class using `Integer.valueOf()`. (Hint: Use `Integer.valueOf(int)`).

ASSIGNMENT 2
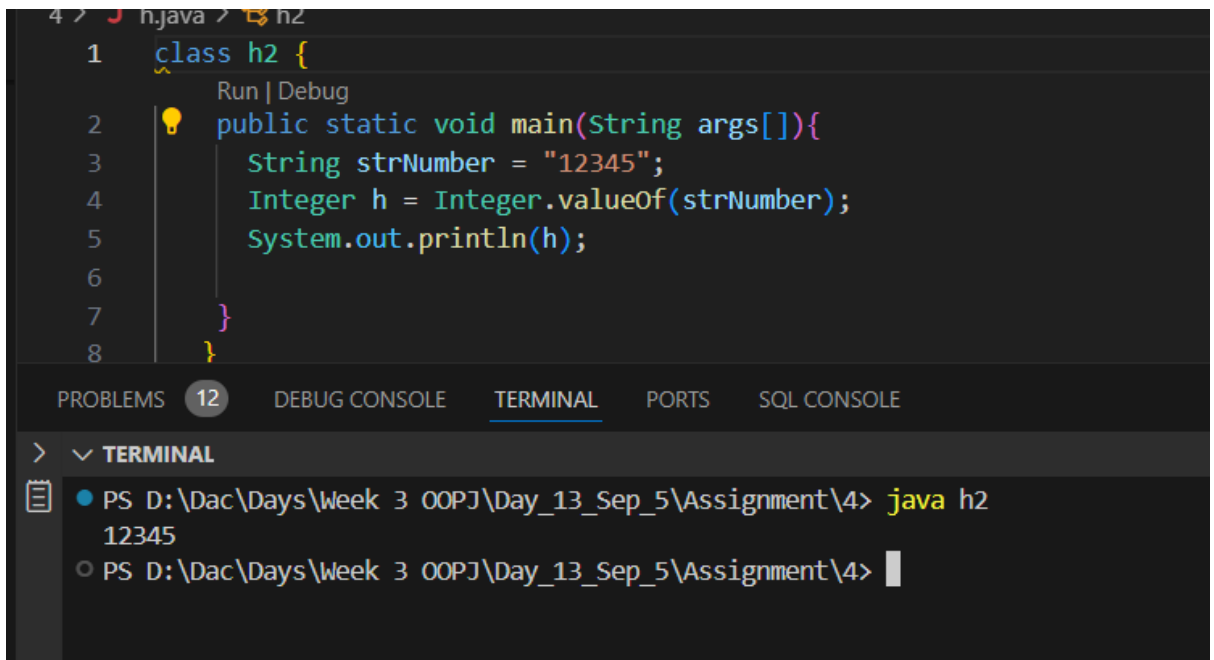
```
4 > J g.java > ⌂ g > ⓜ main(String[])
1 ∨ public class g {
        Run | Debug
2 ∨      public static void main(String args[]){
3            int number = 10;
4            Integer g=Integer.valueOf(number);
5            System.out.println(g);
6
7        }
8    }
```

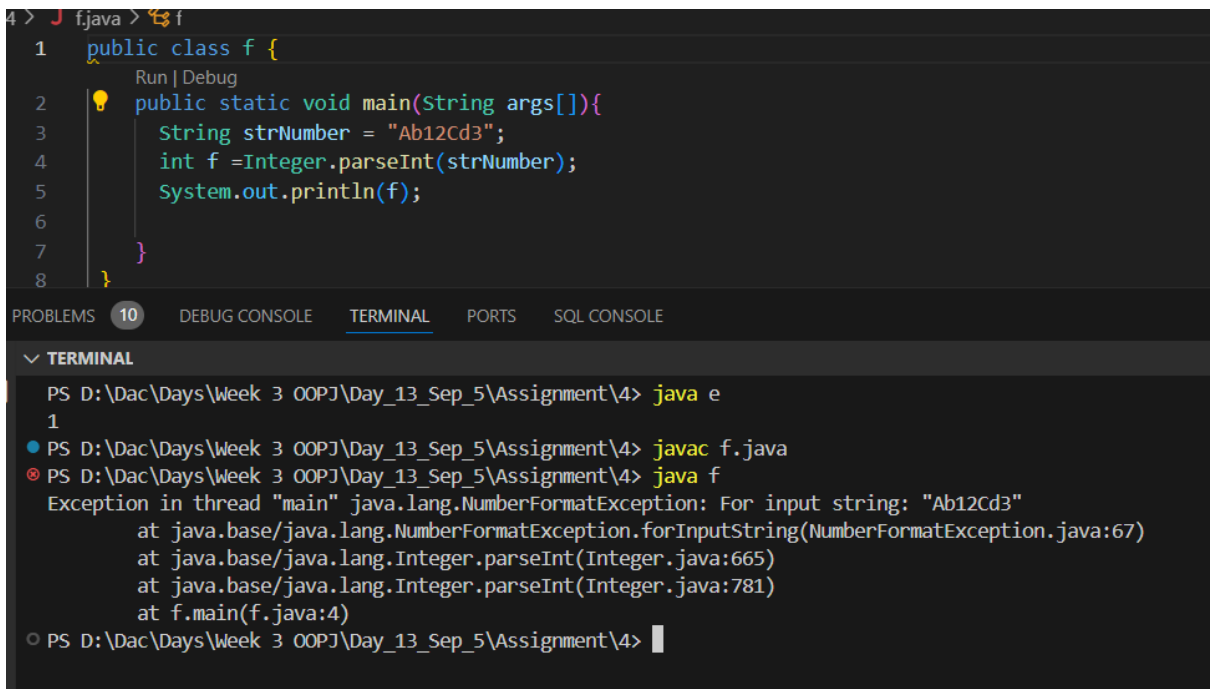PROBLEMS **11**   DEBUG CONSOLE   TERMINAL   PORTS   SQL CONSOLE

> ∨ TERMINAL

● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\4> java g
10
○ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\4> ▌

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)`).

```
4 > J h.java > ⌂ h2
1    class h2 {
        Run | Debug
2    💡 public static void main(String args[]){
3            String strNumber = "12345";
4            Integer h = Integer.valueOf(strNumber);
5            System.out.println(h);
6
7        }
8    }
```

PROBLEMS **12**   DEBUG CONSOLE   TERMINAL   PORTS   SQL CONSOLE

> ∨ TERMINAL

● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\4> java h2
12345
○ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\4> ▌

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)`).

ASSIGNMENT 2

```
4 >  J  i4.java >  i4
 1    public class i4 {
 2        public static void main(String args[]){
 5
 6            Integer i =Integer.sum( a,b );
 7            System.out.println("The sum of "+a+" and "+ b +" is "+ i+".");
 8
 9
10        }
```

PROBLEMS 13   DEBUG CONSOLE   **TERMINAL**   PORTS   SQL CONSOLE

> ∨ TERMINAL

```
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\4> javac i4.java
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\4> java i4
  The sum of 10 and 20 is 30.
○ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\4>
```

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)`).

```
4 >  J  j.java >  j
 1    public class j {
         Run | Debug
 2        public static void main(String args[]){
 3
 4            Integer j1=Integer.min(a:10,b:20);
 5            Integer j2=Integer.max(a:10,b:20);
 6            System.out.println("The minimum value is  " +j1+"." );
 7            System.out.println("The maximum value is  " +j2+".");
 8        }
```
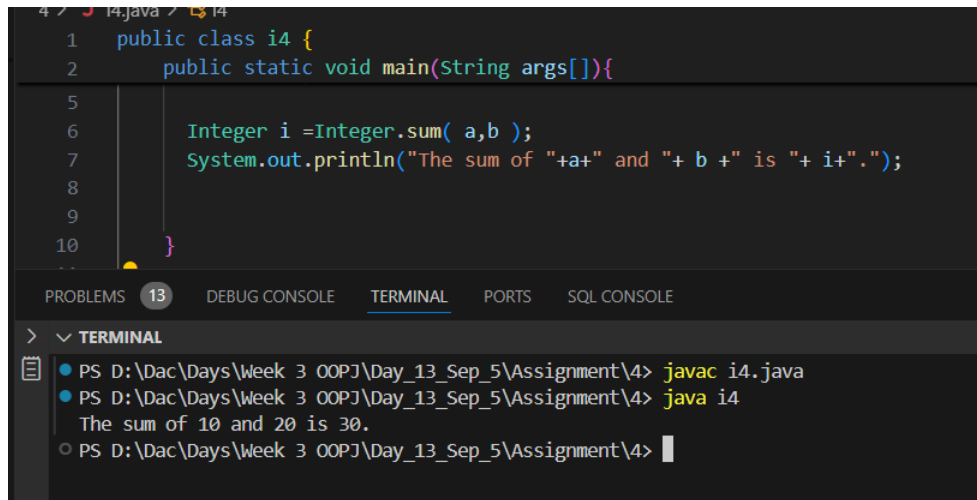
PROBLEMS 14   DEBUG CONSOLE   **TERMINAL**   PORTS   SQL CONSOLE

> ∨ TERMINAL

```
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\4> java j
  The minimum value is  10.
  The maximum value is  20.
○ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\4>
```

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)`).

ASSIGNMENT 2

```
4 > J k.java > k
1    public class k {
          Run | Debug
2         public static void main(String args[]){
3             int kk = 10;
4             System.out.println(Integer.toBinaryString(kk));
5             System.out.println(Integer.toOctalString(kk));
6             System.out.println(Integer.toHexString(kk));
7         }
8    }
```
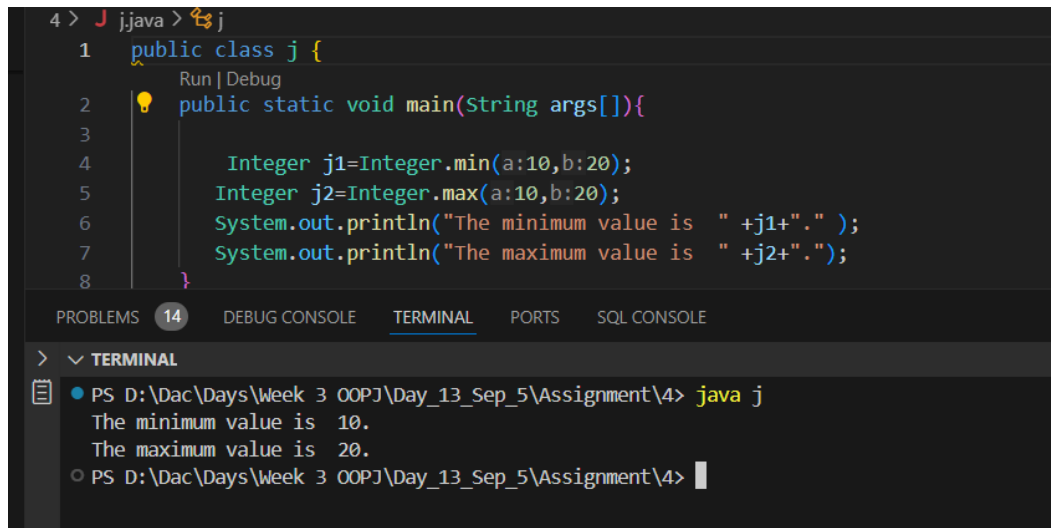
PROBLEMS 15   DEBUG CONSOLE   TERMINAL   PORTS   SQL CONSOLE

> ∨ TERMINAL

```
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\4> javac k.java
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\4> java k
  1010
  12
  a
○ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\4> |
```

l. 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`).

```
1    public class b {
          Run | Debug
2         public static void main(String args[]){
3             long b = Long.BYTES;
4             System.out.println("The number of bytes in a long is "+ b+".");
5         }
6
7    }
```
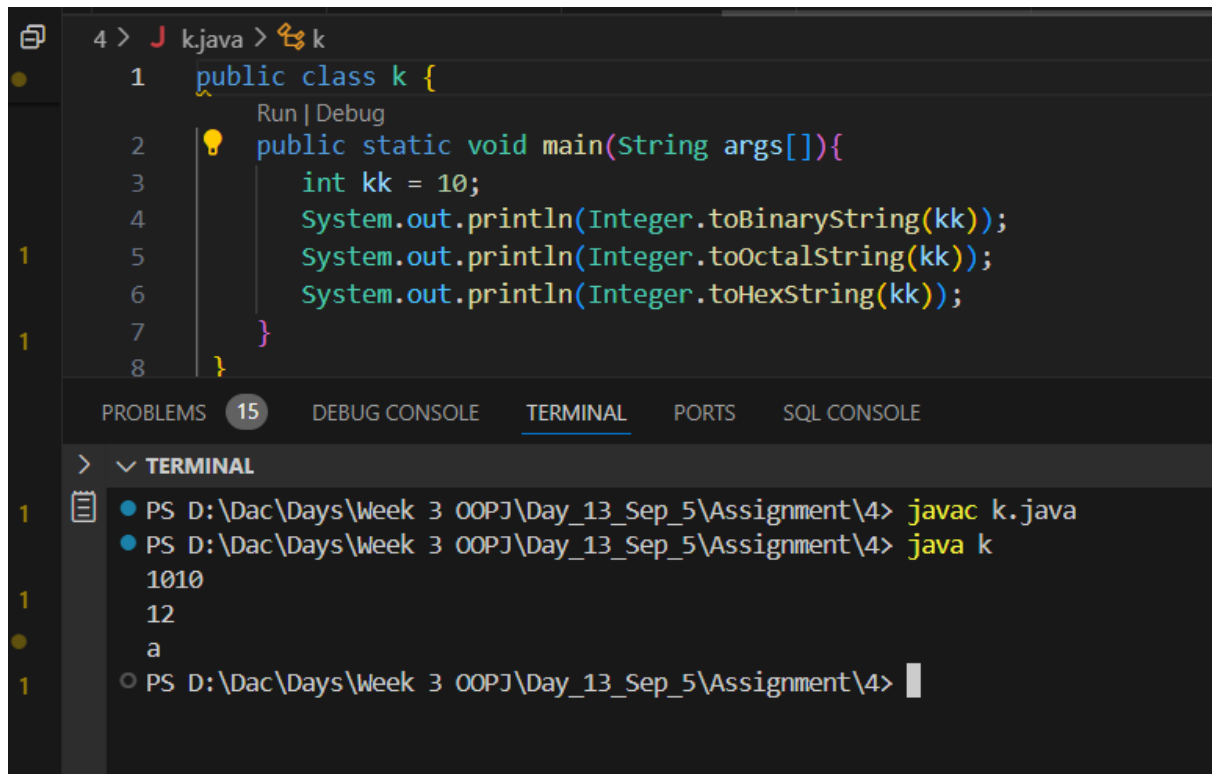
PROBLEMS 5   DEBUG CONSOLE   TERMINAL   PORTS   SQL CONSOLE

> ∨ TERMINAL

```
  PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\5> javac b.java
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\5> java b
  The number of bytes in a long is 8.
○ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\5> |
```

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`).
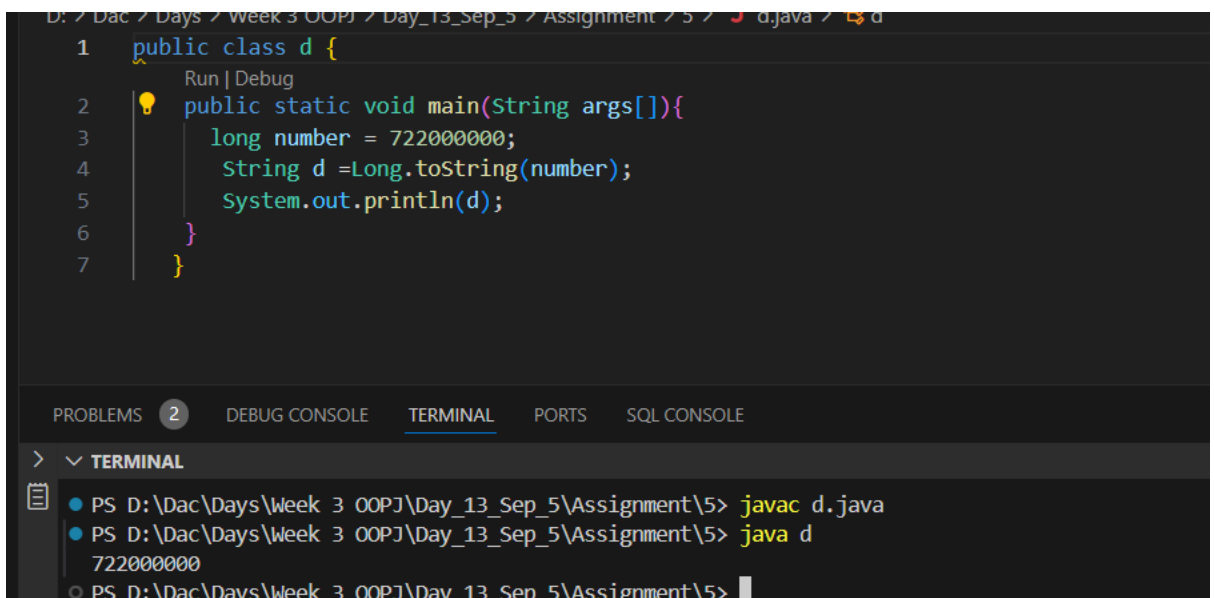
```
1    public class c {
         Run | Debug
2        public static void main(String args[]){
3            long c =Long.MIN_VALUE;
4            long d = Long.MAX_VALUE;
5            System.out.println("Minimum value of long is "+ c +".");
6            System.out.println("Maximum value of long is "+ d +".");
7        }
8    }
```

```
PROBLEMS  1    DEBUG CONSOLE    TERMINAL    PORTS    SQL CONSOLE

 ∨ TERMINAL

  PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\5> java c
  Minimum value of long is -9223372036854775808.
  Maximum value of long is 9223372036854775807.
```

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)`).

```
1    public class d {
         Run | Debug
2        public static void main(String args[]){
3            long number = 722000000;
4            String d =Long.toString(number);
5            System.out.println(d);
6        }
7    }
```

```
PROBLEMS  2    DEBUG CONSOLE    TERMINAL    PORTS    SQL CONSOLE

 ∨ TERMINAL

  ● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\5> javac d.java
  ● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\5> java d
    722000000
  ○ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\5>
```
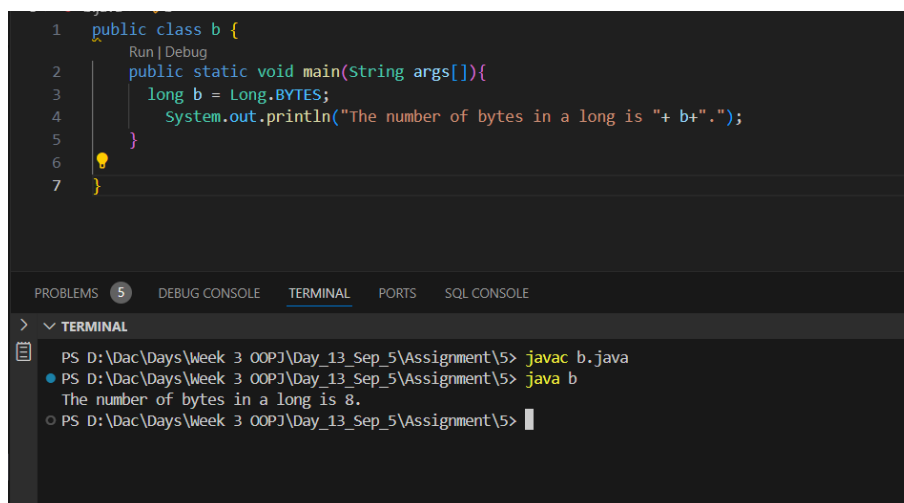
e. Declare a method-local variable `strNumber` of type `String` with some value and convert it to a `long` value using the `parseLong` method. (Hint: Use `Long.parseLong(String)`).

```
1    public class e {
          Run | Debug
2        public static void main(String args[]){
3            String strNumber= "1000";
4            Long e =Long.parseLong(strNumber);
5            System.out.println(e);
6
7        }
8    }
```
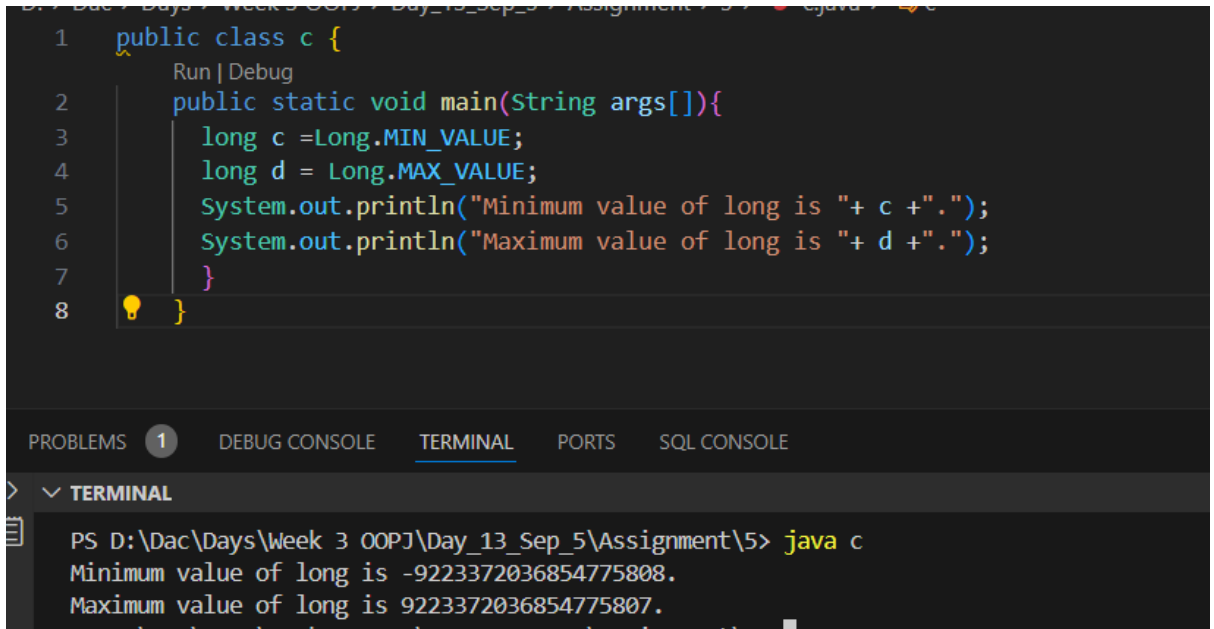
PROBLEMS 3   DEBUG CONSOLE   TERMINAL   PORTS   SQL CONSOLE

> ∨ TERMINAL

```
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\5> javac e.java
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\5> java e
  1000
○ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\5>
```

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`).

```
1    public class f {
          Run | Debug
2        public static void main(String args[]){
3            String strNumber = "A12Cd3";
4            Long f =Long.parseLong(strNumber);
5            System.out.println(f);
6        }
7    }
```

PROBLEMS 4   DEBUG CONSOLE   TERMINAL   PORTS   SQL CONSOLE

∨ TERMINAL

```
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\5> javac f.java
⊛ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\5> java f
  Exception in thread "main" java.lang.NumberFormatException: For input string: "A12Cd3"
          at java.base/java.lang.NumberFormatException.forInputString(NumberFormatException.java:67)
          at java.base/java.lang.Long.parseLong(Long.java:708)
          at java.base/java.lang.Long.parseLong(Long.java:831)
          at f.main(f.java:4)
○ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\5>
```

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)`).

ASSIGNMENT 2

```
1    public class g {
         Run | Debug
2    🔆   public static void main(String args[]){
3            long number=605848048408L;
4            Long g = Long.valueOf(number);
5            System.out.println(g);
6        }
7    }
```

PROBLEMS 5   DEBUG CONSOLE   TERMINAL   PORTS   SQL CONSOLE

> ∨ TERMINAL

● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\5> javac g.java
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\5> java g
  605848048408
○ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\5> ▌

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)`).

D: > Dac > Days > Week 3 OOPJ > Day_13_Sep_5 > Assignment > 5 > J h.java > ⛬ h

```
1    public class h {
         Run | Debug
2    🔆   public static void main(String args[]){
3            String strNumber = "689468452568"; //L cannot be included.
4            Long h = Long.valueOf(strNumber);
5            System.out.println(h);
6
7        }
8    }
```

PROBLEMS 6   DEBUG CONSOLE   TERMINAL   PORTS   SQL CONSOLE

> ∨ TERMINAL

● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\5> javac h.java
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\5> java h
  689468452568
○ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\5> ▌

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)`).

```
D: > Dac > Days > Week 3 OOPJ > Day_13_Sep_5 > Assignment > 5 > J i.java >
1   public class i {
        Run | Debug
2       public static void main(String args[]){
3           Long i1 = 1123L;
4           Long i2 = 9845L;
5           Long res = Long.sum(i1,i2);
6           System.out.println("The sum of " +i1+ " and " +i2+ " is "+res+".");
7
8
9       }
10  }
```

```
PROBLEMS  7    DEBUG CONSOLE   TERMINAL   PORTS   SQL CONSOLE

> ∨ TERMINAL

● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\5> javac i.java
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\5> java i
  The sum of 1123 and 9845 is 10968.
○ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\5> ▌
```

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)`).

```
D: > Dac > Days > Week 3 OOPJ > Day_13_Sep_5 > Assignment > 5 > J j.java > j
1   public class j {
        Run | Debug
2       public static void main(String args[]){
3           long j1 = 1122L;
4           long j2 = 5566L;
5           System.out.println((Long.min(j1,j2)+" "+Long.max(j1,j2)));
6
7       }
8   }
```

```
PROBLEMS  8    DEBUG CONSOLE   TERMINAL   PORTS   SQL CONSOLE

> ∨ TERMINAL

● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\5> javac j.java
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\5> java j
  1122 5566
○ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\5> ▌
```

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)`).

ASSIGNMENT 2

```
D: > Dac > Days > Week 3 OOPJ > Day_13_Sep_5 > Assignment > 5 > J k.java > ✂ k
  1    public class k {
           Run | Debug
  2     💡 public static void main(String args[]){
  3           Long k = 7L;
  4           System.out.println(Long.toBinaryString(k));
  5           System.out.println(Long.toOctalString(k));
  6           System.out.println(Long.toHexString(k));
  7       }
  8    }
```

```
PROBLEMS  9      DEBUG CONSOLE    TERMINAL    PORTS    SQL CONSOLE

> ∨ TERMINAL
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\5> java k
  111
  7
  7
○ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\5> ▌
```

l. 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`).

ASSIGNMENT 2

```
D: > Dac > Days > Week 3 OOPJ > Day_13_Sep_5 > Assignment > 6 > J b.java > b
  1    public class b {
            Run | Debug
  2         public static void main(String args[]){
  3             System.out.println(Float.BYTES);
  4
  5         }
  6    }
```
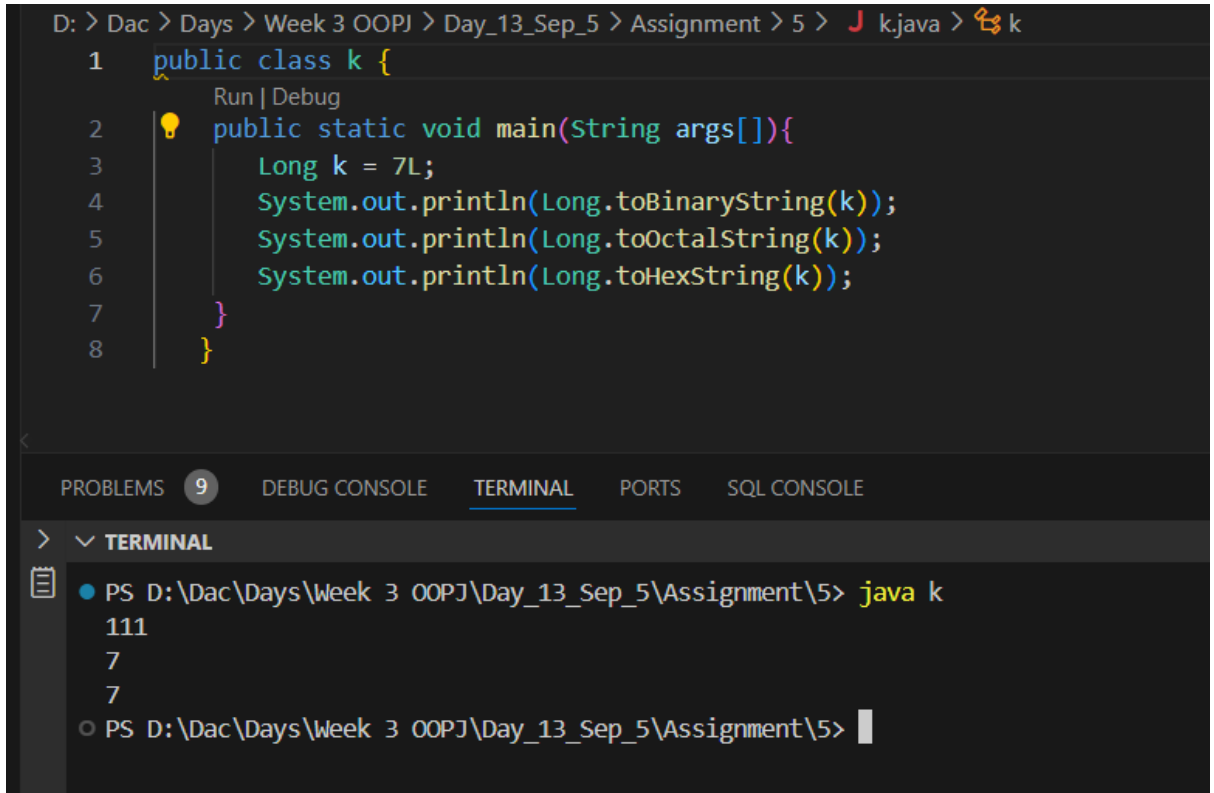
PROBLEMS 11   DEBUG CONSOLE   TERMINAL   PORTS   SQL CONSOLE

∨ TERMINAL

```
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\6> javac b.java
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\6> java b
  4
○ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\6>
```

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`).

```
  1    public class ccl {
            Run | Debug
  2         public static void main(String args[]){
  3             System.out.println(Float.MIN_VALUE+"   "+Float.MAX_VALUE);
  4
  5         }
  6
  7    }
```

PROBLEMS 11   DEBUG CONSOLE   TERMINAL   PORTS   SQL CONSOLE

∨ TERMINAL

```
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\6> javac c.java
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\6> java c
  1.4E-45   3.4028235E38
○ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\6>
```

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)`).

ASSIGNMENT 2

```
1   public class d {
        Run | Debug
2       public static void main(String args[]){
3           float number = 45.50f;
4           String d =Float.toString(number);
5           System.out.println(d);
6
7
8       }
9   }
```

PROBLEMS 11   DEBUG CONSOLE   TERMINAL   PORTS   SQL CONSOLE

> ∨ TERMINAL

```
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\6> javac d.java
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\6> java d
  45.5
○ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\6>
```

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)`).

```
1   public class e {
        Run | Debug
2       public static void main(String args[]){
3           String strNumber = "45.50";
4           Float e = Float.parseFloat(strNumber);
5           System.out.println(e);
6
7       }
8   }
```

PROBLEMS 11   DEBUG CONSOLE   TERMINAL   PORTS   SQL CONSOLE

> ∨ TERMINAL

```
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\6> javac e.java
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\6> java e
  45.5
○ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\6>
```

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`).

```
1    public class f {
2        public static void main(String args[]){
3            String strNumber = "Ab12Cd3";
4            float f = Float.parseFloat(strNumber);
5            System.out.println(f);
6
7        }
8    }
```

PROBLEMS 11   DEBUG CONSOLE   TERMINAL   PORTS   SQL CONSOLE

∨ TERMINAL

```
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\6> javac f.java
⊗ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\6> java f
  Exception in thread "main" java.lang.NumberFormatException: For input string: "Ab12Cd3"
          at java.base/jdk.internal.math.FloatingDecimal.readJavaFormatString(FloatingDecimal.java:2054)
          at java.base/jdk.internal.math.FloatingDecimal.parseFloat(FloatingDecimal.java:122)
          at java.base/java.lang.Float.parseFloat(Float.java:556)
          at f.main(f.java:4)
○ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\6> █
```

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)`).

```
1    public class g {
         Run | Debug
2        public static void main(String args[]){
3            float number = 45.7f;
4            Float g = Float.valueOf(number);
5            System.out.println(g);
6
7     💡  }
8        }
```

PROBLEMS 11   DEBUG CONSOLE   TERMINAL   PORTS   SQL CONSOLE

∨ TERMINAL

```
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\6> javac g.java
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\6> java g
  45.7
○ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\6> █
```

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)`).

ASSIGNMENT 2

```
1    public class h {
        Run | Debug
2        public static void main(String args[]){
3            String strNumber = "50.25f";
4            Float h = Float.valueOf(strNumber);
5            System.out.println(h);
6
7
8        }
9
10   }
```

PROBLEMS 11   DEBUG CONSOLE   TERMINAL   PORTS   SQL CONSOLE

ⅤTERMINAL

```
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\6> javac h.java
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\6> java h
  50.25
○ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\6>
```

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)`).

```
1    public class i {
        Run | Debug
2    public static void main(String args[]){
3    float i1=112.3f;
4    float i2=984.5f;
5    System.out.println(Float.sum(i1,i2));
6
7
8    }
9    }
```

OBLEMS 11   DEBUG CONSOLE   TERMINAL   PORTS   SQL CONSOLE

ⅤTERMINAL

```
PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\6> javac i.java
●PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\6> java i
  1096.8
◐PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\6>
```

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)`).

ASSIGNMENT 2

```java
1  public class j {
   Run | Debug
2  public static void main(String args[]){
3      float j1=112.2f;
4      float j2=556.6f;
5      System.out.println(Float.min(j1,j2)+"  "+Float.max(j1,j2));
6
7  }
8  }
```

PROBLEMS 11   DEBUG CONSOLE   TERMINAL   PORTS   SQL CONSOLE

∨ TERMINAL

```
⊗ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\6> javac j.jva
  error: Class names, 'j.jva', are only accepted if annotation processing is explicitly requested
  1 error
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\6> javac j.java
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\6> java j
  112.2  556.6
○ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\6> █
```

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

```java
1    public class k {
     Run | Debug
2    public static void main(String args[]){
3      float k = -0.25f;
4      System.out.println(Math.sqrt(k));
5        // op - NaN
6
7
8    }
9    }
```
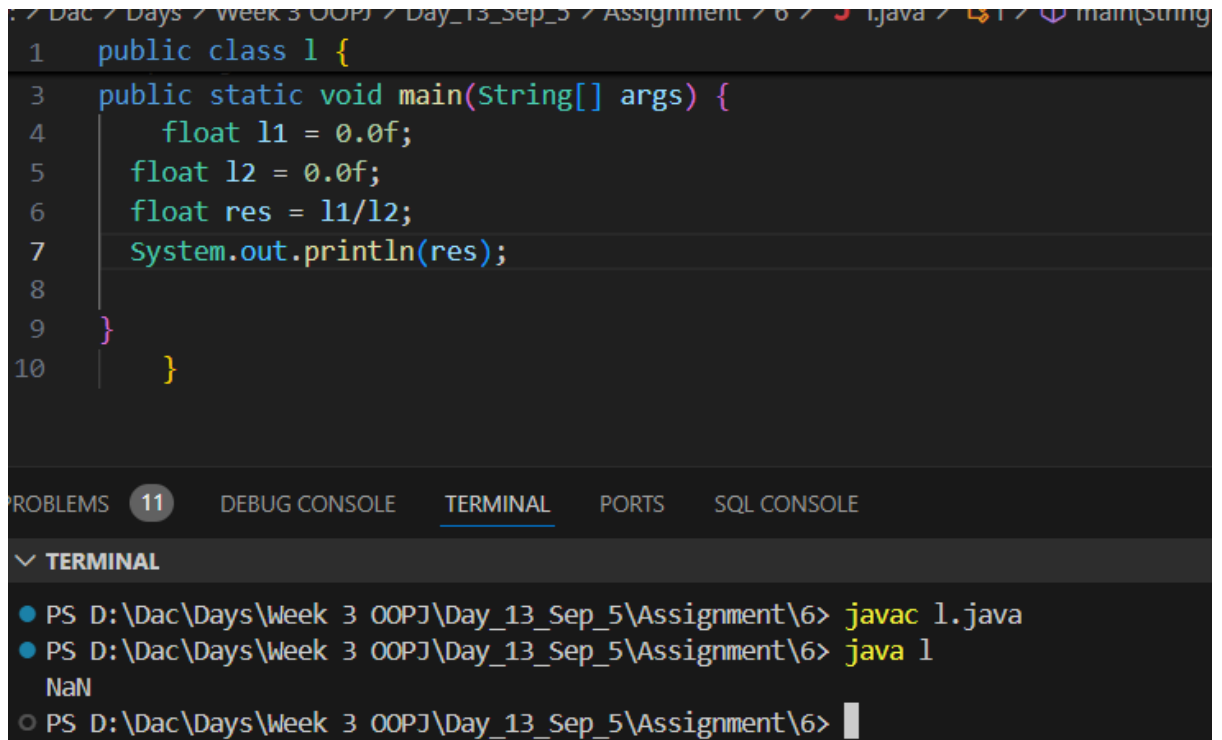
ROBLEMS 11   DEBUG CONSOLE   TERMINAL   PORTS   SQL CONSOLE

∨ TERMINAL

```
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\6> javac k.java
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\6> java k
  NaN
○ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\6> █
```

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

```
: / Dac / Days / Week 3 OOPJ / Day_13_Sep_5 / Assignment / 6 / J l.java / [] 1 / (I) main(String
1    public class l {
3    public static void main(String[] args) {
4        float l1 = 0.0f;
5      float l2 = 0.0f;
6      float res = l1/l2;
7      System.out.println(res);
8
9    }
10      }
```

```
PROBLEMS  11    DEBUG CONSOLE    TERMINAL    PORTS    SQL CONSOLE

∨ TERMINAL

● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\6> javac l.java
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\6> java l
  NaN
○ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\6> |
```

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`).

```
1
2    public class b {
       Run | Debug
3        public static void main(String[] args) {
4            System.out.println(Double.BYTES);
5        }
6    }
```
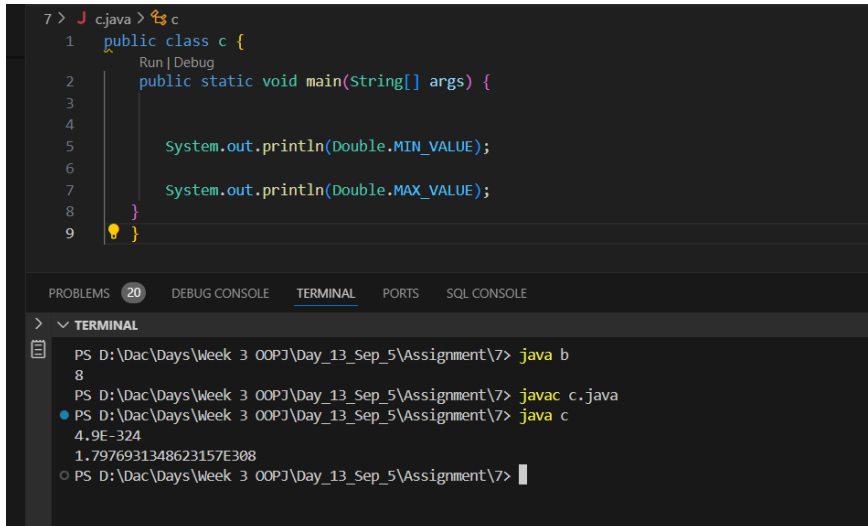
```
PROBLEMS  19    DEBUG CONSOLE    TERMINAL    PORTS    SQL CONSOLE

> ∨ TERMINAL

  ● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\7> java b
    8
  ○ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\7> |
```

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`).

ASSIGNMENT 2

```
 1    public class c {
         Run | Debug
 2        public static void main(String[] args) {
 3
 4
 5            System.out.println(Double.MIN_VALUE);
 6
 7            System.out.println(Double.MAX_VALUE);
 8        }
 9    }
```

PROBLEMS 20   DEBUG CONSOLE   **TERMINAL**   PORTS   SQL CONSOLE

> ∨ TERMINAL

```
PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\7> java b
8
PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\7> javac c.java
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\7> java c
4.9E-324
1.7976931348623157E308
○ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\7>
```

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)`).

```
 1    public class d {
         Run | Debug
 2        public static void main(String[] args) {
 3            double number = 54.546851869469841D;
 4            String d = Double.toString(number);
 5            System.out.println(d);
 6        }
 7    }
```

PROBLEMS 21   DEBUG CONSOLE   **TERMINAL**   PORTS   SQL CONSOLE

> ∨ TERMINAL

```
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\7> javac d.java
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\7> java d
54.54685186946984
○ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\7>
```

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)`).

```
1    public class e {
         Run | Debug
2        public static void main(String[] args) {
3            String strNumber="50.05";
4            double e = Double.parseDouble(strNumber);
5            System.out.println(e);
6        }
7    }
```

PROBLEMS (22)   DEBUG CONSOLE   TERMINAL   PORTS   SQL CONSOLE

> ⌄ TERMINAL

● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\7> javac e.java
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\7> java e
  50.05
○ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\7> █

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`).

```
1    public class f {
         Run | Debug
2        public static void main(String args[]){
3            String strNumber = "Ab12Cd3";
4            Double f = Double.parseDouble(strNumber);
5            System.out.println(f);
6
7        }
8    }
```

PROBLEMS (23)   DEBUG CONSOLE   TERMINAL   PORTS   SQL CONSOLE

⌄ TERMINAL

⊗ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\7> java f
  Exception in thread "main" java.lang.NumberFormatException: For input string: "Ab12Cd3"
          at java.base/jdk.internal.math.FloatingDecimal.readJavaFormatString(FloatingDecimal.java:2054)
          at java.base/jdk.internal.math.FloatingDecimal.parseDouble(FloatingDecimal.java:110)
          at java.base/java.lang.Double.parseDouble(Double.java:792)
          at f.main(f.java:4)
○ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\7> █

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)`).

ASSIGNMENT 2

```
1    public class g {
         Run | Debug
2    💡  public static void main(String args[]){
3           double number = 50.05D;
4           Double g = Double.valueOf(number);
5           System.out.println(g);
6
7       }
8    }
```

PROBLEMS 24   DEBUG CONSOLE   TERMINAL   PORTS   SQL CONSOLE

> ∨ TERMINAL

```
PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\7> javac g.java
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\7> java g
50.05
○ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\7> ▌
```

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)`).

```
        h.java
1    public class h {
2    💡  public static void main(String args[]){
3           String strNumber = "50.55555D";
4           Double h = Double.valueOf(strNumber);
5           System.out.println(h);
6
7
8       }
9    }
```
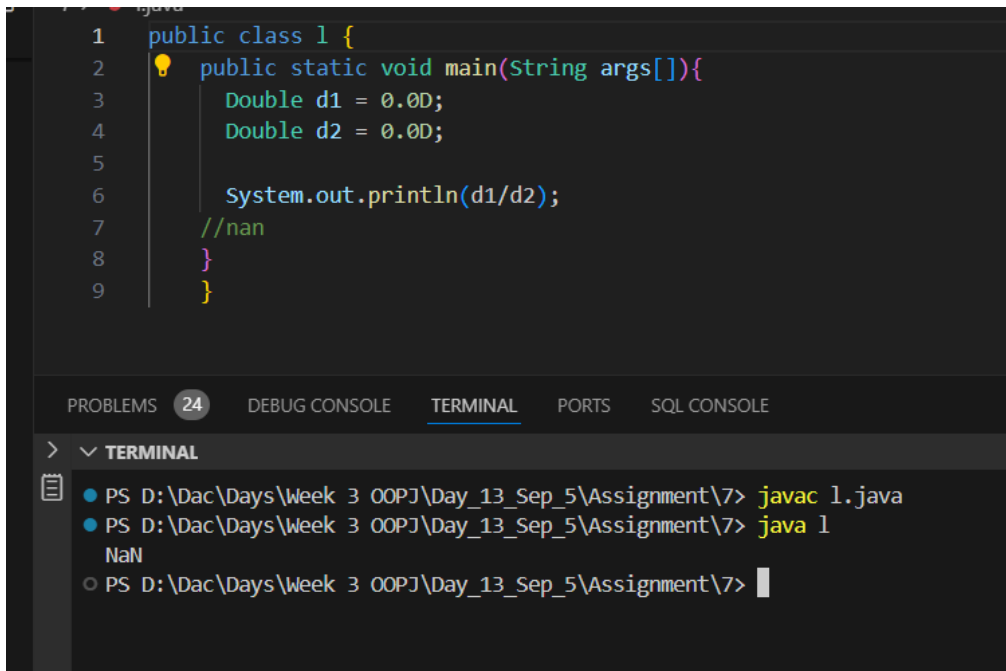
PROBLEMS 24   DEBUG CONSOLE   TERMINAL   PORTS   SQL CONSOLE

> ∨ TERMINAL

```
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\7> javac h.java
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\7> java h
50.55555
○ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\7> ▌
```

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)`).

ASSIGNMENT 2

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)`).

```
1    public class j {
         Run | Debug
2        public static void main(String args[]){
3          Double j1 = 112.2D;
4          Double j2 = 556.6D;
5          System.out.println(Double.min(j1,j2)+"    "+Double.max(j1,j2) );
6
7        }
8    }
```

PROBLEMS 25   DEBUG CONSOLE   TERMINAL   PORTS   SQL CONSOLE

> ∨ TERMINAL

● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\7> javac j.java
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\7> java j
  112.2   556.6
○ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\7> ▌

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

```
1    public class k {
         Run | Debug
2        public static void main(String args[]){
3          Double k = -25.0;
4          System.out.println(Math.sqrt(k));
5        }
6    }
7
```

PROBLEMS 26   DEBUG CONSOLE   TERMINAL   PORTS   SQL CONSOLE

∨ TERMINAL

● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\7> java k
  NaN
○ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\7> ▌

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

```
1    public class l {
2        public static void main(String args[]){
3            Double d1 = 0.0D;
4            Double d2 = 0.0D;
5
6            System.out.println(d1/d2);
7        //nan
8        }
9    }
```

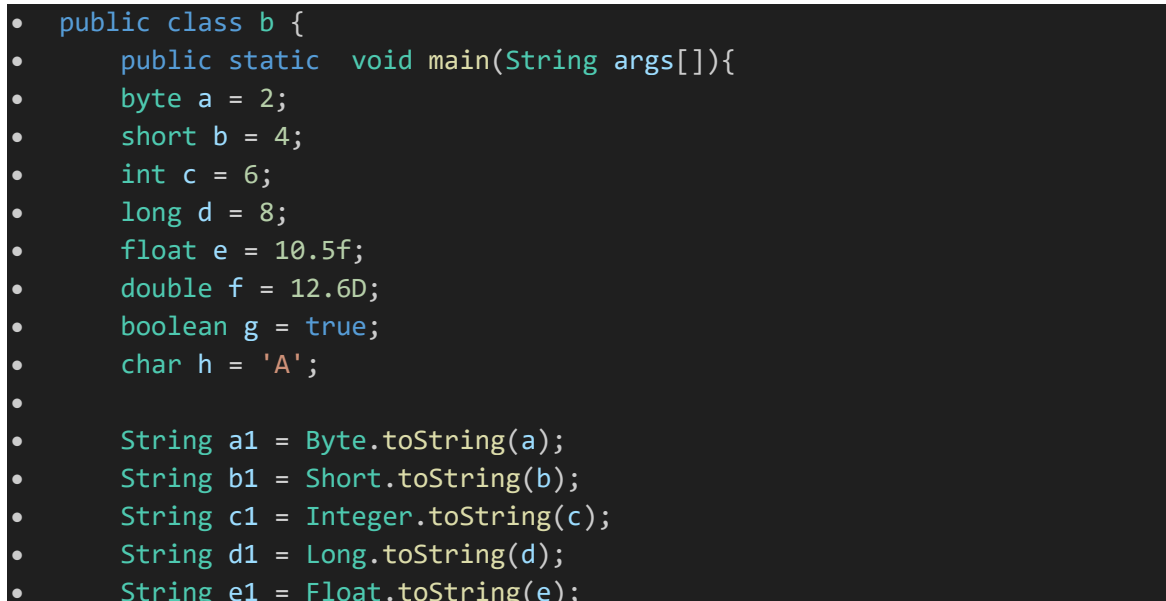PROBLEMS 24   DEBUG CONSOLE   TERMINAL   PORTS   SQL CONSOLE

> ∨ TERMINAL

● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\7> javac l.java
● PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\7> java l
  NaN
○ PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\7> █

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()`).
- Then, use the `valueOf` method of the `String` class. (e.g., `String.valueOf()`).
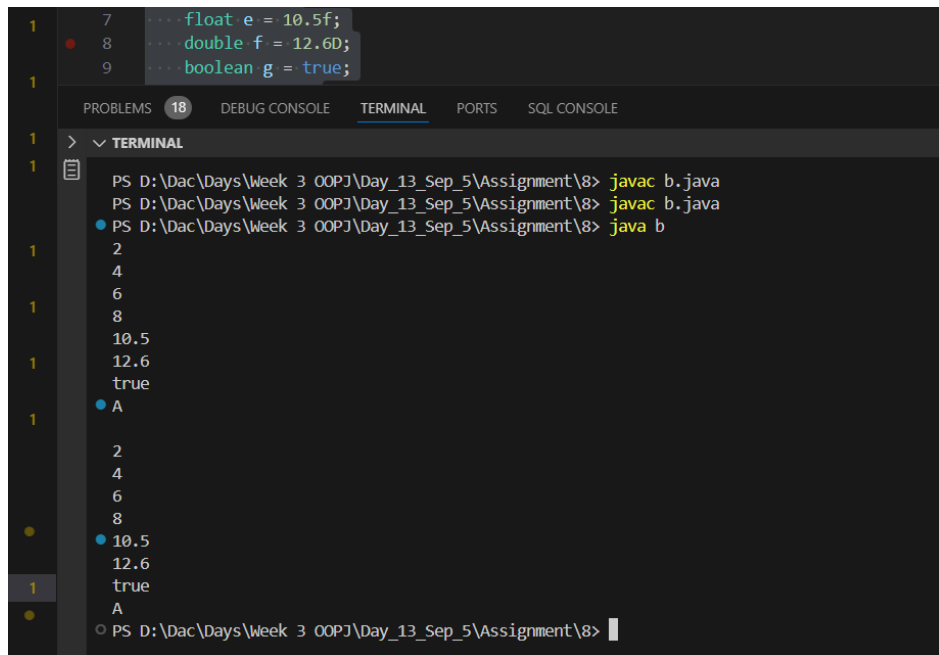
```
public class b {
    public static  void main(String args[]){
    byte a = 2;
    short b = 4;
    int c = 6;
    long d = 8;
    float e = 10.5f;
    double f = 12.6D;
    boolean g = true;
    char h = 'A';

    String a1 = Byte.toString(a);
    String b1 = Short.toString(b);
    String c1 = Integer.toString(c);
    String d1 = Long.toString(d);
    String e1 = Float.toString(e);
```

ASSIGNMENT 2

```java
        String f1 = Double.toString(f);
        String g1 = Boolean.toString(g);
        String h1 = Character.toString(h);

    System.out.println(a1);
    System.out.println(b1);
    System.out.println(c1);
    System.out.println(d1);
    System.out.println(e1);
    System.out.println(f1);
    System.out.println(g1);
    System.out.println(h1);
    System.out.println();


    String s1 =String.valueOf(a);
    String s2 =String.valueOf(b);
    String s3 =String.valueOf(c);
    String s4 =String.valueOf(d);
    String s5 =String.valueOf(e);
    String s6 =String.valueOf(f);
    String s7 =String.valueOf(g);
    String s8 =String.valueOf(h);

    System.out.println(s1);
    System.out.println(s2);
    System.out.println(s3);
    System.out.println(s4);
    System.out.println(s5);
    System.out.println(s6);
    System.out.println(s7);
    System.out.println(s8);

        }

    }
```

ASSIGNMENT 2

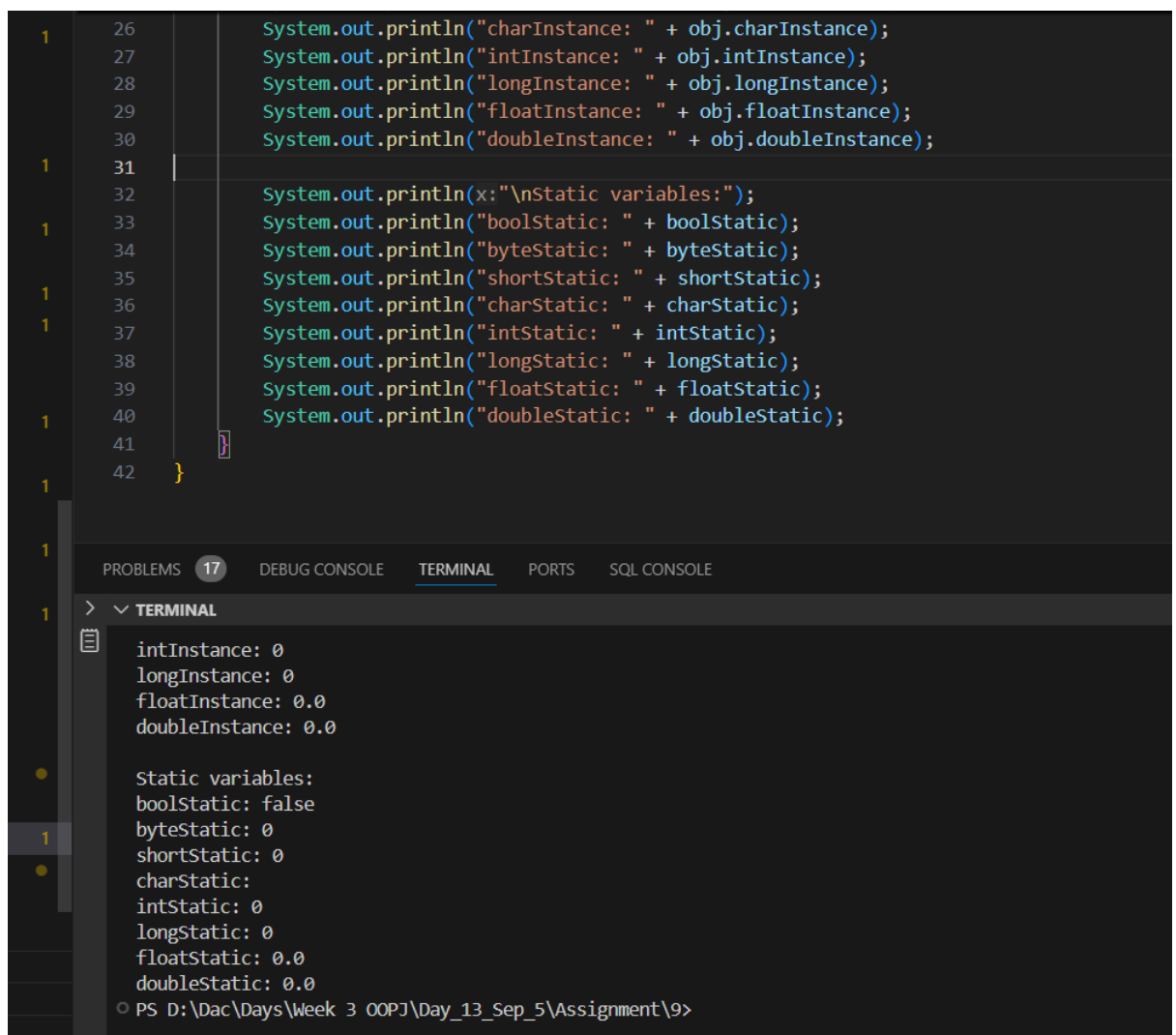## 9. Default Values of Primitive Types

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).

```java
public class b {
    boolean boolInstance;
    byte byteInstance;
    short shortInstance;
    char charInstance;
    int intInstance;
    long longInstance;
    float floatInstance;
    double doubleInstance;

    static boolean boolStatic;
    static byte byteStatic;
    static short shortStatic;
    static char charStatic;
    static int intStatic;
    static long longStatic;
    static float floatStatic;
    static double doubleStatic;

    public static void main(String args[]) {
        b obj = new b();
        System.out.println("Instance variables:");
        System.out.println("boolInstance: " + obj.boolInstance);
        System.out.println("byteInstance: " + obj.byteInstance);
```

```
        System.out.println("shortInstance: " + obj.shortInstance);
        System.out.println("charInstance: " + obj.charInstance);
        System.out.println("intInstance: " + obj.intInstance);
        System.out.println("longInstance: " + obj.longInstance);
        System.out.println("floatInstance: " + obj.floatInstance);
        System.out.println("doubleInstance: " + obj.doubleInstance);

        System.out.println("\nStatic variables:");
        System.out.println("boolStatic: " + boolStatic);
        System.out.println("byteStatic: " + byteStatic);
        System.out.println("shortStatic: " + shortStatic);
        System.out.println("charStatic: " + charStatic);
        System.out.println("intStatic: " + intStatic);
        System.out.println("longStatic: " + longStatic);
        System.out.println("floatStatic: " + floatStatic);
        System.out.println("doubleStatic: " + doubleStatic);
    }
}
```

```
26          System.out.println("charInstance: " + obj.charInstance);
27          System.out.println("intInstance: " + obj.intInstance);
28          System.out.println("longInstance: " + obj.longInstance);
29          System.out.println("floatInstance: " + obj.floatInstance);
30          System.out.println("doubleInstance: " + obj.doubleInstance);
31
32          System.out.println(x:"\nStatic variables:");
33          System.out.println("boolStatic: " + boolStatic);
34          System.out.println("byteStatic: " + byteStatic);
35          System.out.println("shortStatic: " + shortStatic);
36          System.out.println("charStatic: " + charStatic);
37          System.out.println("intStatic: " + intStatic);
38          System.out.println("longStatic: " + longStatic);
39          System.out.println("floatStatic: " + floatStatic);
40          System.out.println("doubleStatic: " + doubleStatic);
41      }
42  }
```

```
PROBLEMS  17    DEBUG CONSOLE    TERMINAL    PORTS    SQL CONSOLE

> ∨ TERMINAL

    intInstance: 0
    longInstance: 0
    floatInstance: 0.0
    doubleInstance: 0.0

    Static variables:
    boolStatic: false
    byteStatic: 0
    shortStatic: 0
    charStatic:
    intStatic: 0
    longStatic: 0
    floatStatic: 0.0
    doubleStatic: 0.0
  o PS D:\Dac\Days\Week 3 OOPJ\Day_13_Sep_5\Assignment\9>
```

10. Arithmetic Operations with Command Line Input

ASSIGNMENT 2

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).