

WORK with the partner AS ASSIGNED TODAY . USE ONE COMPUTER. Swap from Coder to Navigator in each problem.

Learning Objectives

After completion of this lab, you should be able to

1. Understand evaluation of algebraic expressions
2. Understand the Math.pow method
3. Understand reading text from the console
3. Typecasting
5. Compound operators

Create project Lab5

Problem 1

Inside the main of Lab5, write code that asks the user to enter 2 numbers and prints back the 2 numbers read.

Problem 2

Create a class called **Swap**. In its main(), it does the following:

1. The program prompts the user to enter 2 real (double) numbers, reads the numbers and then prints the numbers.
2. Uses the Math class and the **pow** method and displays the result of the first number to the power of the second number entered.
3. Uses the Math class and the **pow** method and displays the result of the second number to the power of the second number entered.

Problem 3

Create a class **WhatsYourName**. In its main() it does the following:

1. Uses the type **String** and reads the first and last name of the user.
2. Displays the name of the user.

Use the code below, inside your main:

```
17     public static void main(String[] args)
18     {
19
20         Scanner scan = new Scanner( System.in);
21         String lastName; // this variable is set to null
22         String firstName = ""; //this variable is initialized to empty string
23
24         System.out.print( "What is your first name? ");
25         firstName = scan.next();
26
27         System.out.print( "What is your last name? ");
28         lastName = scan.next();
29
30         System.out.println( firstName + " " + lastName + " is a beautiful name!");
31
32     }
```

Problem 4

Create a class **WhatsYourSSN**. In its main() it does the following:

1. Uses the type **String** and reads the SSN of the user.
2. Displays the SSN of the user.

Problem 5

Create a class **Operators** and fill in the following and add the code in steps 1 through 6 as described in the comments.

The final output should be:

```
Output - Lab5 (run) x
run:
1.5
2.5
2.0
x=10 y=20 d=5.0 z1= 1.5 z2=2.5 z3=2.0
BUILD SUCCESSFUL (total time: 0 seconds)
```

```
1 package lab5;
2 public class Operators
3 {
4     public static void main(String[] args)
5     {
6         int x = 8; int y = 15; double d = 2;
7
8         //1. Increment x by 2
9         //add code here
10
11        //2. Increment y by 5 using the += operator
12        //add code here
13
14        //3. Increment d by 1 using the ++ operator
15        //add code here
16
17        //4. Modify the expression below to print z1 = 1.5 and not 0.0
18        double z1 = ( x / y ) * d++;
19        System.out.println ( z1 );
20
21        //5. Modify the expression below to print z2 = 2.5 and not 0.0
22        double z2 = ( x / y ) * d;
23        System.out.println ( z2 );
24
25        // 6. Declare a variable z3 of type double and modify the
26        //right hand side of the expression you built in step 5 for the
27        //expression to evaluate to 2.0.
28        //Assign the evaluation to variable z3
29        double z3 = 0;
30        //add code here
31        System.out.println ( z3 );
32
33        System.out.println ( "x=" + x + " y=" + y + " d=" + d +
34                             " z1=" + z1 + " z2=" + z2 + " z3=" + z3 );
35    }
36 }
```