

**Problem1) from the Deitel & Deitel (ch2, 2.10)**

Assuming that  $x = 2$  and  $y = 3$ , what does each of the following statements display?

- a) `System.out.printf( "x = %d\n", x );`
- b) `System.out.printf( "Value of %d + %d is %d\n", x, x, ( x + x ) );`
- c) `System.out.printf( "x =" );`
- d) `System.out.printf( "%d = %d\n", ( x + y ), ( y + x ) );`

**Problem2) from the Deitel & Deitel (ch2, 2.11)**

Which of the following Java statements contain variables whose values are modified?

- a) `p = i + j + k + 7;`
- b) `System.out.println( "variables whose values are modified" );`
- c) `System.out.println( "a = 5" );`
- d) `value = input.nextInt();`

**Problem3) from the Deitel & Deitel (ch2, 2.12)**

Given that  $y = ax^3 + 7$ , which of the following are correct Java statements for this equation?

- a) `y = a * x * x * x + 7;`
- b) `y = a * x * x * ( x + 7 );`
- c) `y = ( a * x ) * x * ( x + 7 );`
- d) `y = ( a * x ) * x * x + 7;`
- e) `y = a * ( x * x * x ) + 7;`
- f) `y = a * x * ( x * x + 7 );`

**Problem4) from the Deitel & Deitel (ch2, 2.13)**

State the order of evaluation of the operators in each of the following Java statements, and show the value of  $x$  after each statement is performed:

- a) `x = 7 + 3 * 6 / 2 - 1;`
- b) `x = 2 % 2 + 2 * 2 - 2 / 2;`
- c) `x = ( 3 * 9 * ( 3 + ( 9 * 3 / ( 3 ) ) ) );`

**Problem5) from the Deitel & Deitel (ch2, 2.14)**

Write an application that displays the numbers 1 to 4 on the same line, with each pair of adjacent numbers separated by one space. Use the following techniques:

- a) Use one `System.out.println` statement.
- b) Use four `System.out.print` statements.
- c) Use one `System.out.printf` statement.

**Problem6) from the Deitel & Deitel (ch2, 2.19)**

What does the following code print?

```
System.out.println( "*" \n** \n*** \n**** \n*****" );
```

**Problem7) from the Deitel & Deitel (ch2, 2.23)**

What does the following code print?

```
System.out.printf( "%s \n%s \n%s \n", "*", "****", "*****" );
```

**Problem8) from the Deitel & Deitel (ch2, 2.13)**

Write an application that inputs one number consisting of five digits from the user, separates the number into its individual digits and prints the digits separated from one another by three spaces each. For example, if the user types in the number 42339, the program should print:



```
4 2 3 3 9
```

Assume that the user enters the correct number of digits.

What happens when you execute the program and type a number with more than five digits?

What happens when you execute the program and type a number with fewer than five digits?

*Hint: Use the same technique you used in lab3 and the extra materials from week3. You'll need to use both division and Modulo operations.*