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#14

1. Application. Write declarations, statements or comments that accomplish each of the following tasks:
   1. State that a program will calculate the product of three integers.

/\*

\*This program calculate the product of three integer inputs

\*/

Public class ProductOfThreeIntegers {}

* 1. Create a Scanner called input that reads values from the standard input.

import java.util.Scanner;

Scanner input = new Scanner(System.in); //This allows the users to input integer

* 1. Declare the variables x, y, z and result to be of type int.

int x;

int y;

int z;

int result;

* 1. Prompt the user to enter the first integer.

System.out.println(“Please enter the first integer: ”);

* 1. Read the first integer from the user and store it in the variable x.

//Reads first user input and store in x

x = input.nextInt();

* 1. Prompt the user to enter the second integer.

System.out.println(“Please enter the second integer: ”);

* 1. Read the second integer from the user and store it in the variable y.

//Reads the second user input and store in y

y = input.nextInt();

* 1. Prompt the user to enter the third integer.

System.out.println(“Please enter the third integer: ”);

* 1. Read the third integer from the user and store it in the variable z.

//Reads the third user input and store in z

z = input.nextInt();

* 1. Compute the product of the three integers contained in variables x, y and z, and assign the result to the variable result.

//This computes for the product of three integer

result = x \* y \* z;

* 1. Display the message "Product is" followed by the value of the variable result

System.out.println(“Product is ” +result);

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

a. System.out.printf( "x = %d\n", x );

//Output: x=2

b. System.out.printf( "Value of %d + %d is %d\n", x, x, ( x + x ) );

//Output: Value of 2 + 2 is 4

c. System.out.printf( "x =" );

//Output: x=

d. System.out.printf( "%d = %d\n", ( x + y ), ( y + x ) );

//Output: 5 = 5

**3. Multiple Choice**. 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();

**Answer: a**

**4. Multiple Choice**. Given that y = ax3 + 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 );

**Answer: a, d, e**

**5. Application.** 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;

x = 7 + 18 / 2 -1

x = 7 + 9 – 1

x = 16 -1

x = 15

b. x = 2 % 2 + 2 \* 2 - 2 / 2;

x = 0 + 2 \* 2 – 2 / 2

x = 0 + 4 – 2/ 2

x = 0 + 4 – 1

x = 4 - 1

x = 3

c. x= (3 \* 9 \* ( 3 + ( 9 \* 3 / ( 3 ) ) )

x = 27 \* (3 + (9 \* 3/(3)))

x = 27 \* (3 + (27/ (3)))

x = 27 \* (3 + (9))

x = 27 \* (12)

x = 324