Chapter 2

Self-Review Exercises

2.1 File in the blanks in each of the following statements:

1. A (n)  **{**  begins the body of every method, and a(n)  **}**  ends the body of every method.
2. You can use the **If** statements to make decisions.
3. **//** begins an end-of-line comment.
4. **Space, tabs,** and **newlines**, are called white space.
5. **Keywords** are reserved for use by Java.
6. Java applications begin execution at method **Main**.
7. Methods, **System.out.print, System.out.println,** and **System.out.printf** display information in a command window.

**2.2 State whether each of the follow is true or false. If false, explain why.**

1. Comments cause the computer to print the text after the // on the screen when the program executes.

**Answer false:** Commands do not cause the computer to print text. The // is used for single-line comments, which are ignored by the compiler.

1. All variables must be given a type when they’re declared.

**Answer true:** In Java, all the variables must be declared with a type before use

1. Java considers the variables numbers and NuMbEr to be identical.

**Answer false:** Java is a case-sensitive, so numbers and NuMbEer are considered as different variables.

1. The remainder operator (%) can be used only with integer operands.

**Answer false:** The remainder operator % can be used with both integers and floating-point numbers.

1. The arithmetic operators \*, /, %, + and – all have the same level of precedence.

**Answer false:** Multiplication (\*), division (/), and remainder (%) have a higher precedence than addition (+) and subtraction (-).

**2.3 Write statements to accomplish each of the following tasks:**

1. Declare variables c, thisIsAVariable, q76354 and numbers to be of type int.
2. Prompt the user an integer.
3. Input an integer and assign the result to int variable value. Assume Scanner variable input can be used to read a value from the keyboard.
4. Print “This is a Java program” on one line in the command window. Use method System.out.println.
5. Print “This is a Java program” on two lines in the command window. The first line should end with Java. Use method System.out.printf and two %s format specifies.
6. If the variable number is not equal to 7, display “The variable number is not equal to 7”

**2.4 Identity and correct the errors in each of the following statement:**

1. If (c <7); System.out.println(“c is less than 7”);
2. If (c => 7) System.out.println(“c is equal to or greater that 7”);

**2.5 Write declarations, statements or comments that accomplish each of the following tasks:**

1. State that a program will calculate the product of three integers.
2. Create a Scanner called input that reads values from the standard input.
3. Declare the variables x,y,z and result to be type int.
4. Prompt the user to enter the first integers.
5. Read the first integer from eth user and store it in the variable x.
6. Prompt the user to enter the second integer.
7. Read the second integer from the user and store it in the variable y.
8. Prompt the user to enter the third integer.
9. Read the third integer from the user and store it in the variable z.
10. Compute the product of the three integers contained in variables x,y, and z, and assign the result to the variable result.
11. Use System.out.printf to display the message “Product is” followed by the value of the variable result.

**2.6 Using the statements you wrote in Exercise 2.5, write a complete program that calculates and prints the product of three integers,:**

**Exercises**

**2.7 Fill in the blanks in each of the following statements:**

1. \_\_\_\_\_\_ are used to documents a program and improve its readability.
2. A decision can be made in Java program with a(n)\_\_\_\_\_\_\_.
3. Calculations are normally performed by \_\_\_\_\_\_ statements.
4. The arithmetic operators with the same precedence as multiplication are \_\_\_\_\_ and \_\_\_\_\_.
5. When parentheses in an arithmetic expression are nested, the \_\_\_\_\_\_ set of parentheses is evaluated first.
6. A location in the computer’s memory that may contain different values at various times throughout the execution of a program is called a(n)\_\_\_\_\_.

**2.8 Write Java statements that accomplish each of the following task:**

Display the message “Enter an integer: “, leaving the cursor on the same line.

1. Assign the product of variables b and c to variable a.
2. Use a comment to state that a program performs a sample payroll calculation.

**2.9 State whether each of the following is true or false. If false, explain why:**

1. Java operators are evaluated from left to right.
2. The following are all valid variable names: ­\_under\_bar\_m928134, t5,j7,her\_sales$, his\_$account\_total, a,b$, c, z and z2.
3. A valid Java arithmetic expression with no parentheses is evaluated from left to right.
4. The following are all invalid variable names: 3g, 87, 67h2, h22 and 2h.

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

1. System.out.printf(“x =%d%n”,x);
2. System.out.printf(“Value of %d+ %d%n”,x,x,(x+x);
3. System.out.printf (“x =”);d)System.out.print(“%d=%d%n”,(x+y),(y+x;));

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

1. P=i+j+k+ 7;
2. System.out.println(“Variables whose values are modified”);
3. System.out.println