CTEC 120

EXERCISES 1-12

1.Mark the following statements as true or false.

a. An identifier can be any sequence of digits and letters. (True)

b. In Java, there is no difference between a reserved word and a predefined identifier. (False)

C. A Java identifier can start with a digit.(False)

D. The operands of the modulus operator must be integers. (False)

E. If the value of `a` is `4` and the value of `b` is `3`, then after the statement `a = b;` the value of `b` is still3. (False)

F. In an output statement, the newline character may be a part of the string. (

G. The following is a legal Java program: `public class Java Program {public static void main(String[]args){}}(`

H. In a mixed expression, all operands are converted to floating-point numbers. (True)

I. Suppose `x = 5`. After the statement `y = x++;` executes, `y` is `5` and `x` is 6. (True)

j. Suppose `a = 5`. After the statement`++a;` executes, the value of `a` is still5because the value of the expression is not saved in another variable. (False)

2.Which of the following are valid Java identifiers?

A. `my First Program`

b. `MIX-UP`

c.`JavaProgram2`

d.`quiz7`

e. `Programming Lecture2`

f.`1footEquals12Inches`

g. `Mike's First Attempt`

h. `Update Gradei`.4th

j. `New_Student`

3.Which of the following is a reserved word in Java?

a.`int`

b.`INT`

c. `Char`

d. `CHAR`

4.What is the difference between a keyword and a user-defined identifier?

5.Are the identifiers first Name and First Name the same? No they are not the same because Identifiers are case sensitive.

6.Evaluate the following expressions:

a.25 / 3 = 3.57

b.20 - 12 / 4 * 2; = 1

c.32 % 7 = 4

d.3 - 5 % 7 = -2

e.18.0 / 4 = 4.5

f.28 - 5 / 2.0 = 25.5

g.17 + 5 % 2 – 3 = 19

h.15.0 + 3.0 * 2.0 / 5.0 = 7.2

7.Ifx = 5, y = 6, z = 4, and w = 3.5, evaluate each of the following expressions, if possible. If it is not possible, state the reason.

a. (x + z) % y = 1

b. (x + y) % w = not possible because they are mixed data type

c. (y + w) % x = not possible because they are mixed data type

d. (x + y) * w = 38.5

e. (x % y) % z = 1

f. (y % z) % x = 2

g. (x * z) % y = 2

h. ((x * y) * w) * z = 420

8. Given:intnum1, num2, newNum;doublex, y;Which of the following assignments are valid? If an assignment is not valid, state the reason. When not given, assume that each variable is declared.

a.num1 = 35; = valid

b. newNum = num1 – num2; = valid

c.num1 = 5; num2 = 2 + num1; num1 = num2 / 3;

d.num1 * num2 = newNum; =

e. x = 12 * num1 - 15.3; =

f.num1 * 2 = newNum + num2; =

g. x / y = x * y;

h. num2 = num1 % 2.0;

i. newNum = (int) (x) % 5;98
j. x = x + y - 5;

k. newNum = num1 + (int) (4.6 / 2);

9.Do a walk-through to find the value assigned to e. Assume that all variables are properly declared.

a = 3;

b = 4;

c = (a % b) * 6; = 18

d = c / b;= 4.5

e = (a + b + c + d)/ 4; = 7.37

10.Which of the following variable declarations are correct? If a variable declaration is not correct, give the reason(s) and provide the correct variable declaration. n = 12;//Line 1charletter = ;//Line 2intone = 5, two;//Line 3doublex, y, z;//Line 4

11.Which of the following are valid Java assignment statements? Assume that i, x, and percent are double variables.

a. i = i + 5;

b. x + 2 = x;

c. x = 2.5 * x;

d. percent = 10%

12.Write Java statements that accomplish the following.

a. Declare int variables x and y. = int x=y

b. Initialize an int variable x to 10 and a char variable ch to 'B'.

c. Update the value of an int variable x by adding 5to it.

d. Declare and initialize a double variable pay Rate to 12.50.

e. Copy the value of an int variable first Num into an int variable temp Num.

f. Swap the contents of the int variables x and y. (Declare additional variables, if necessary.)

g. Suppose x and y are double variables. Output the contents of x, y, and the expressionx+12/y– 18.

h. Declare a char variable grade and set the value of grade to 'A'.

i. Declare int variables to store four integers.

j. Copy the value of a double variable z to the nearest integer into an int variable x.