h. \( a - (b - c) - d \)
i. \( (a - (b - c)) - d \)
j. \( a - (b - c) - d \)
k. \( a \% (b \% c) * d * e \)
l. \( a + (b - c) * d - e \)
m. \( (a + b) * c + d * e \)
n. \( (a + b) * (c / d) \% e \)

EX 2.13 Explain the role played by the Web in the translation and execution of some Java programs.

EX 2.14 Compare and contrast a traditional coordinate system and the coordinate system used by Java graphical components.

EX 2.15 How many bits are needed to store a color picture that is 400 pixels wide and 250 pixels high? Assume color is represented using the RGB technique described in this chapter and that no special compression is done.

EX 2.16 Assuming you have a Graphics object called page, write a statement that will draw a line from point \((20, 30)\) to point \((50, 60)\).

EX 2.17 Assuming you have a Graphics object called shape, write a statement that will draw a square with a height of 100, such that its upper-left corner is at point \((35, 50)\).

EX 2.18 Assuming you have a Graphics object called page, write a statement that will draw a circle centered on point \((50, 50)\) with a radius of 20 pixels.

EX 2.19 The following lines of code draw the eyes of the snowman in the Snowman applet. The eyes seem centered on the face when drawn, but the first parameters of each call are not equally offset from the midpoint. Explain.

```java
page.fillOval(MID-10, TOP+10, 5, 5);
page.fillOval(MID+5, TOP+10, 5, 5);
```

**Programming Projects**

PP 2.1 Create a revised version of the Lincoln program from Chapter 1 to print the quotation inside a box made up of character ^.

PP 2.2 Write a program that reads four integers and prints the sum of their squares.

PP 2.3 Write a program that reads three floating point numbers and prints the cube of their average.
PP 2.4 Write a program that prompts for and reads a course name, its credits and reference book. Then print the following paragraph, inserting the appropriate data:

This semester, a new course on course_name has been added to the curriculum. It consists of credits credits and the reference book for this course is reference_book.

PP 2.5 Create a version of the UnitConverter application to convert from inches to foot. Read the inches value from the user.

PP 2.6 Write a program that converts grams to pounds. (One pound equals 453.592 grams.) Read the grams value from the user as a floating point value.

PP 2.7 Write a program that prompts for and reads integer values for typing speed and number of characters in the document, then prints the time required to type them as a floating point result.

PP 2.8 Write a program that reads values representing the weight in kilograms, grams, and milligrams and then prints the equivalent weight in milligrams. (For example, 1 kilogram, 50 grams, and 42 milligrams is equivalent to 10,50,042 milligrams.)

PP 2.9 Create a version of the previous project that reverses the computation. That is, read a value representing the weight in milligrams, then print the equivalent weight as a combination of kilograms, grams, and milligrams. (For example, 90,70,056 milligrams is equivalent to 9 kilograms, 70 grams, and 56 milligrams.)

PP 2.10 Write a program that determines the value of the coins in a jar and prints the total in dollars and cents. Read integer values that represent the number of quarters, dimes, nickels, and pennies.

PP 2.11 Write a program that prompts for and reads a double value representing a monetary amount. Then determine the fewest number of each bill and coin needed to represent that amount, starting with the highest (assume that a ten-dollar bill is the maximum size needed). For example, if the value entered is 47.63 (forty-seven dollars and sixty-three cents), then the program should print the equivalent amount as:

4 ten dollar bills
1 five dollar bills
2 one dollar bills
2 quarters
1 dimes