

## Chapter 2: Introduction to Java Applications

1. Write a Java program that outputs "Welcome to Java" at the command line.
2. Write a Java program to add two integers that are input by the user.
3. Describe the following types:
  - a) int
  - b) double
  - c) float
  - d) String
4. Write a Java statement to declare the variables x, y, and z to be integers.
5. If **w** and **j** are declared as **double w=6.7** and **int j=5**, what are the values of **w** and **j** after executing the following?
  - a) `j = w;`
  - b) `w = j;`
  - c) `j = (int) w;`
6. What is the value of each of the following expressions?
  - a)  $21 / 4$
  - b)  $21 \% 4$
  - c)  $21.0 / 4.0$  or  $21/4.0$  or  $21.0/4$
  - d)  $21 - 4 - 1$
  - e)  $64 - 32 + 32 / 8 * 2$
7. When do you declare a variable to be *int* versus *double*?

## Chapter 3: Introduction to Classes and Objects

1. For the Rectangle and RectangleTest (the client) classes, answer the following:
  - a) Write the constructor that initializes length and width to 0.
  - b) Write the method that allows the client to change the length.
  - c) Write the method that allows the client to get the value of length.
  - d) Write the statement in the client that creates a Rectangle object with the initial values from the constructor.
  - e) Write the statement in the client that outputs the length using the "get" method.
  - f) Write the method in the Rectangle class to compute and output the area of a Rectangle object.
  - g) Write the statement in the client to compute and output the area of the Rectangle object called r.

## Chapter 4: Control Statements Part I

1. Circle what is output below.
  - a) 

```
m = 5;
if (m > 0)
    System.out.println("greater than zero");
System.out.println("not greater than zero");
```
  - b) 

```
m = 5;
if (m > 0)
    System.out.println("greater than zero");
else
    System.out.println("not greater than zero");
```
  - c) 

```
grade=95;
if (grade >= 60)
    System.out.println("Passed.");
else
    System.out.println("Failed.");
System.out.println("You must take this course over again.");
```
  - d) 

```
grade=95;
if (grade >= 60)
    System.out.println("Passed.");
else
    {
        System.out.println("Failed.");
        System.out.println("You must take this course over again.");
    }
```

```

e) average=80;
   if (average < 70)
   if (average < 60)
   System.out.println( "failing");
   else
   System.out.println("passing but marginal" );
   else
   System.out.println("C or better");
   System.out.println("end");
f) average=80;
   if (average < 70)
   if (average < 60)
   System.out.println( "failing");
   else
   System.out.println("passing but marginal" );
   System.out.println("end");
g) average=65;
   if (average < 70)
   if (average < 60)
   System.out.println( "failing" );
   else
   System.out.println("passing but marginal" );
   System.out.println("end");
h) average=50;
   if (average < 70)
   if (average < 60)
   System.out.println( "failing" );
   else
   System.out.println("passing but marginal" );
   System.out.println("end");
i) average=80;
   if (average < 70)
   {if (average < 60)
   System.out.println( "failing" );
   }
   else
   System.out.println("passing but marginal" );
   System.out.println("end");
j) average=75;
   if (average>=80)
       if (average <90)
           System.out.println("B");
   else
       System.out.println("A");
   System.out.println("end");
k) average=75;
   if (average>=80) {
       if (average <90)
           System.out.println("B"); }
   else
       System.out.println("A");
   System.out.println("end");
l) score = 75;
   if (score >= 90)
       grade = "A";
   else if (score >= 80)
       grade = "B";
   else if (score >= 70)
       grade = "C";
   else if (score >= 60)
       grade = "D";
   else
       grade = "F";
   System.out.println("Grade is "+grade);

```