**Review Exercises ODDS**

**Fill in the Blank**

1. A computer \_\_\_\_\_\_\_\_\_\_\_\_ is a list of instructions to be executed by the computer to accomplish a certain task.

~~2. The general process of designing a suitable computer program to solve a given problem is known as the \_\_\_\_\_\_\_\_\_\_\_\_.~~

3. The three basic building blocks of a program are input, \_\_\_\_\_\_\_\_\_\_\_\_, and output.

~~4. The term \_\_\_\_\_\_\_\_\_\_\_\_ refers to the numbers, text, and other symbols that are manipulated by a program.~~

5. The first of the following statements Write "Enter your weight in pounds:" Input Weight provides a(n) \_\_\_\_\_\_\_\_\_\_\_\_ for the input.

~~6. The Input statement in the previous exercise (Review Exercise 5) assigns the number entered by the user to the variable \_\_\_\_\_\_\_\_\_\_\_\_.~~

7. The two basic types of numeric data are \_\_\_\_\_\_\_\_\_\_\_\_ data and \_\_\_\_\_\_\_\_\_\_\_\_ data.

~~8. In most programming languages, variables that represent numbers must be \_\_\_\_\_\_\_\_\_\_\_\_, or defined, prior to their use.~~

9. The data type that gives a variable only one of two possible values is the \_\_\_\_\_\_\_\_\_\_\_\_ data type.

~~10. A(n) \_\_\_\_\_\_\_\_\_\_\_\_ statement is displayed on the screen to explain to the user what to enter.~~

11. A floating point variable requires \_\_\_\_\_\_\_\_\_\_ (more/less) storage space in the computer’s memory than an integer variable.

~~12. Roughly speaking, a(n) \_\_\_\_\_\_\_\_\_\_\_\_ is any symbol that can be typed at the keyboard.~~

13. A character \_\_\_\_\_\_\_\_\_\_\_\_ is any sequence of characters.

**Multiple Choice**

~~14. Which of the following is the first step in the general problem-solving strategy?~~

~~a. Devise a plan to solve the problem~~

~~b. Make sure that you completely understand the problem~~

~~c. Make a list of possible solutions to the problem~~

~~d. Make a list of what is needed to review the results~~

15. After coding a computer program, you should do which of the following?

a. Analyze the problem that led to that program

b. Devise a plan for using the code to solve the given problem

c. Run the program to see if it works

d. Move on to the next problem

~~16. Which of the following is not an integer?~~

~~a. 4~~

~~b. 28754901~~

~~c. –17~~

~~d. 3.0~~

17. Which of the following is not a floating point number?

a. 236,895.34766

b. –236,895.34766

c. 0

d. 6 /18

~~18. Which of the following is not a rational number?~~

~~a. 23~~

~~b. 0.873~~

~~c. 1 /3~~

~~d. 22/5~~

**True or False**

19. T F In everyday life, a program is a plan of action to attain a certain end.

~~20. T F Problem solving is a cyclic process, often requiring you to return to a previous step before you find a satisfactory solution.~~

21. T F After devising and carrying out a plan of action to solve a problem, you should review your results to see if the plan has worked.

~~22. T F As you develop a computer program, you should code the program before designing it.~~

23. T F A variable may be considered the name for a certain storage location in the computer’s memory. ~~24. T F Since integers can only be positive numbers, it is always best to declare all numbers as floating point numbers.~~

25. T F A rational number is any number that can be represented as an integer divided by another integer.

~~26. T F A number stored as an integer takes up less space in the computer’s memory than a floating point number.~~

27. T F If the value of the variable MyAge is 3, then the statement Set MyAge = 4 assigns the value 7 to MyAge.

Short Answer

~~28. Suppose X = 3 and Y = 4. Give the value of each of the following expressions: a. X \* Y ˆ 2 / 12 b. ((X + Y) \* 2 – (Y – X) \* 4) ˆ 2~~

29. What are the two possible values (depending on the programming language that is being used) of the expression 7/2?

~~30. Suppose X = 3 and Y = 4. If all parentheses were omitted from the expression in Exercise 28b, what would be its value?~~

31. Suppose X = 14. Give the value of each of the following expressions: a. X % 5 b. X % 7

~~32. Suppose X = 12, Y = 6, and Z = 5. Give the value of each of the following expressions: a. X % Z + Y b. X % (Y + Z)~~

33. What is the difference between the following two variables? Number1 = 65 Number2 = 65.0

~~34. Given that the variable named Boy = "Joey" and the variable named Age = 6, create statements that will output the following message. Use a variable named Message to store the message. Congratulations, Joey! Today you are 6 years old.~~

35. If Name1 = "John" and Name2 = "Smith", what string results from each of the following operations? a. Name1 + Name2 b. Name2 + ", " + Name1

~~36. Write a pair of statements that prompts for and inputs the user’s age.~~

37. Write a pair of statements that prompts for and inputs an item’s price.

~~38. Write a series of statements that does the following:~~

~~● Inputs the user’s age (including a suitable prompt).~~

~~● Subtracts 5 from the number entered by the user.~~

~~● Displays the message "You don't look a day over" followed by the number computed in the previous step.~~

39. Write a series of statements that does the following:

Step 1 Inputs the price of an item, in dollars, from the user (including a suitable prompt).

Step 2 Divides the number entered in Step 1 by 1.62.

Step 3 Displays the message "That's only", followed by the number computed in Step 2, followed by the message "in British pounds."

~~40. Suppose that Number1 = 15 and Number2 = 12 are both of Integer type. Give the two possible values (depending on the programming language in use) of Number1/Number2.~~

41. If Name1 = "Marcy", Text1 = "is now", Text2 = " years old.", and Age = 24, what will be output after the following operation:

Name1 + Text1 + Age + Text2

~~42. If Character1 and Character2 are single characters, is Character1 + Character2 also a single character?~~

45. What number is displayed by this program?

~~46. Replace each of the first and third statements of this program by a statement that inputs a number from the user.~~

47. Write a statement that supplies a suitable input prompt for the Input statements in Exercise 46.

~~48. Suppose we want to precede the last statement in this program by a statement that displays the following message: The result of the computation is: Write such a statement.~~

49. What are the possible data types for Number1 and Number2 in this program?

~~50. Write statements that declare the variables used in this program.~~