Chapter 2: Applications and Data

TRUE/FALSE

1. Computers deal with two basic types of data - text and string.

    ANS: F   PTS: 1   REF: 36

2. A literal numeric constant does not change.

    ANS: T   PTS: 1   REF: 36

3. An item's data type defines what operations can be performed on the item.

    ANS: T   PTS: 1   REF: 37

4. A named constant can be assigned a value multiple times.

    ANS: F   PTS: 1   REF: 39

5. The assignment operator is said to have right-to-left associativity.

    ANS: T   PTS: 1   REF: 41

6. A noun would be a good choice for a variable or constant identifier.

    ANS: T   PTS: 1   REF: 45

7. An adjective would be a good choice of identifier for a variable that holds status.

    ANS: F   PTS: 1   REF: 46

8. In echoing input, the program tells the user the desired form of the input data.

    ANS: F   PTS: 1   REF: 50

9. Three types of program structures are sequence, selection, and loop.

    ANS: T   PTS: 1   REF: 51

10. A loop structure does not contain a decision point.

    ANS: F   PTS: 1   REF: 51

MULTIPLE CHOICE

1. A(n) _____ is a named set of statements that perform some task or group of tasks within an application.
    a. method   c. object
    b. class   d. flowchart

    ANS: A   PTS: 1   REF: 32

2. There will always be only one class _____ for each class.
   a. statement
   b. method
   c. header
   d. footer

   ANS: C   PTS: 1   REF: 33

3. A(n) _____ is the name of a programming object - for example, a class, method, or variable.
   a. convention
   b. identifier
   c. keyword
   d. class header

   ANS: B   PTS: 1   REF: 33

4. In an interactive program, a _____ enters data.
   a. disk
   b. database
   c. user
   d. graphical user interface

   ANS: C   PTS: 1   REF: 35

5. _____ constants do not have identifiers like variables do.
   a. Alphabetic
   b. Named
   c. Unnamed
   d. Uncertain

   ANS: C   PTS: 1   REF: 36

6. String values are also called _____ values.
   a. unnamed
   b. digit
   c. alphabetic
   d. alphanumeric

   ANS: D   PTS: 1   REF: 36

7. Which of the following is correct if the data type of `inventoryItem` is `string`?
   a. `inventoryItem = 3`
   b. `inventoryItem = "printer"`
   c. `inventoryItem = -9`
   d. `inventoryItem = (printer)`

   ANS: B   PTS: 1   REF: 39

8. Which of the following is correct if the data type for `weight` is `num`?
   a. `weight = 2.75`
   b. `weight = "2.75"`
   c. `weight = (2.75)`
   d. `weight = "heavy"`

   ANS: A   PTS: 1   REF: 39

9. You can use named constants to make your programs easier to understand by eliminating _____.
   a. constants
   b. variables
   c. strings
   d. magic numbers

   ANS: D   PTS: 1   REF: 40

10. The convention used in this book for named constants is _____ characters _____ underscores to separate words.
    a. uppercase, with
    b. uppercase, without
    c. lowercase, with
    d. lowercase, without

    ANS: A   PTS: 1   REF: 40

11. A(n) _____ statement stores the value of the right-hand side of the expression in the memory location of the left-hand side.

a. construct
b. arithmetic

c. equals
d. assignment

ANS: D   PTS: 1   REF: 41

12. The ___ dictate the order in which operations in the same statement are carried out.
a. sequence structures
b. named constants

c. decision points
d. order of operations

ANS: D   PTS: 1   REF: 42

13. In the following statement, which arithmetic operation is performed first?
```
answer = a + b + c * d / e - f
```
a. e-f
b. a+b

c. c*d
d. d/e

ANS: C   PTS: 1   REF: 43

14. In the following statement, which operation is done third?
```
answer = a + b + c * d / e - f
```
a. a+b
b. b+c

c. e-f
d. d/e

ANS: A   PTS: 1   REF: 43

15. What is an equivalent way to write the following statement?
```
answer = a + b + c * d / e - f
```
a. answer = a+b+(c*d)/(e-f)
b. answer = a+b+(c*d)/e-f

c. answer = a+b+(c*d/e-f)
d. answer = a+b+c*(d/e)-f

ANS: B   PTS: 1   REF: 43

16. What operator has the lowest precedence?
a. +
b. /

c. *
d. =

ANS: D   PTS: 1   REF: 44

17. According to the rules of precedence, _____ has higher precedence than addition.
a. multiplication
b. subtraction

c. the equals sign
d. assignment

ANS: A   PTS: 1   REF: 44

18. What is one drawback to including program comments?
a. They take up too much memory.
b. They must be kept current.

c. You cannot use abbreviations.
d. They make a program difficult to read.

ANS: B   PTS: 1   REF: 45

19. Programmers refer to programs that contain meaningful names as ____.
a. external documentation
b. self-documenting

c. internally consistent
d. applications

ANS: B   PTS: 1   REF: 45

20. A ____ dictionary is a list of every variable name used in a program.

a. naming   c. constant
b. string   d. data

ANS: D   PTS: 1   REF: 46

21. Most modern programming languages are _____, meaning that you can arrange your lines of code as you see fit.
a. structured   c. formatted
b. columnar   d. free-form

ANS: D   PTS: 1   REF: 47

22. What is an advantage of using the practice of echoing input?
a. The program is shorter.
b. Memory usage is lower.
c. There is less chance of syntax errors.
d. The user is more likely to catch input errors.

ANS: D   PTS: 1   REF: 50

23. Sequences never include _____.
a. terminations   c. decisions
b. tasks   d. steps

ANS: C   PTS: 1   REF: 51

24. With a _____ structure, you perform an action or event, and then you perform the next action in order.
a. loop   c. selection
b. decision   d. sequence

ANS: D   PTS: 1   REF: 51

25. In the _____ structure, instructions repeat based on a decision.
a. sequence   c. loop
b. selection   d. flowchart

ANS: C   PTS: 1   REF: 52

COMPLETION

1. If an application contains only one method that executes, that method is called the _____ method.

ANS: main

PTS: 1   REF: 32

2. _____ programs can accept data without human intervention.

ANS:
Batch
batch

PTS: 1   REF: 35-36

3. A _____ constant is enclosed within quotation marks.

ANS: string

PTS: 1   REF: 36

4. _____ are named memory locations with contents that can change.

ANS:
Variables
variables

PTS: 1   REF: 36

5. A variable _____ is a statement that provides a data type and identifier for a variable.

ANS: declaration

PTS: 1   REF: 37

6. Until a variable is initialized, it holds an unknown value referred to as _____.

ANS: garbage

PTS: 1   REF: 38

7. An operand that can be used to the right of an operator is a(n) _____.

ANS: rvalue

PTS: 1   REF: 41

8. The equal sign is the _____ operator.

ANS: assignment

PTS: 1   REF: 41

9. Arithmetic operators have _____ associativity.

ANS:
left-to-right
left to right

PTS: 1   REF: 43

10. The _____ operator has the lowest precedence.

ANS: assignment

PTS: 1   REF: 44

11. Program comments are a type of _____ documentation.

ANS: internal

PTS: 1   REF: 44-45

12. A(n) _____ variable is not used for input or output.

ANS: temporary

PTS: 1   REF: 47

13. A(n) _____ is a message that asks the user for a response.

ANS: prompt

PTS: 1   REF: 48

14. A(n) _____ is a basic unit of programming logic.

ANS: structure

PTS: 1   REF: 51

15. In a(n) _____ structure, one of two branches of logic is followed based on a decision.

ANS: selection

PTS: 1   REF: 52