

**Chapter 2: Applications and Data**

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**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
- b. string
- c. constant
- 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
- b. columnar
- c. formatted
- 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
- b. tasks
- c. decisions
- 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
- b. decision
- c. selection
- d. sequence

ANS: D                      PTS: 1                      REF: 51

25. In the \_\_\_\_ structure, instructions repeat based on a decision.

- a. sequence
- b. selection
- c. loop
- 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