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TRUE/FALSE

1. The structure of the camelCase naming convention is to write the first word of the variable name in lowercase letters and then to capitalize the first character of the second and subsequent words.

   ANS: T

2. The following two expressions will always yield identical results:

   ```
   (a + b)  /  c
   a + b / c
   ```

   ANS: F

3. An uninitialized variable is a variable that has been declared and automatically initialized to zero.

   ANS: F

4. A sequence of characters that is used as data is called a string.

   ANS: T

5. In a flowchart the symbol that represents an assignment statement is an oval.

   ANS: F

6. Pseudocode is often used to plan out a program because the programmer does not have to worry about syntax rules.

   ANS: T

7. A variable is a storage location in memory that is represented by a name and can hold different values during the execution of the program.

   ANS: T

8. In a mathematical expression, addition and subtraction will be evaluated before multiplication.

   ANS: F

9. Variable names cannot include spaces.

   ANS: T

10. The variable name `myBookTitle` is written in camelCase convention.

    ANS: T

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11. Flowcharts and pseudocode documents are the same thing.

ANS: F

MULTIPLE CHOICE

1. Which of the following error types produces incorrect results but does not prevent the program from running?

a. syntax b. logic c. human d. grammar

ANS: B

2. The program development cycle is made up of _____ steps that are repeated until no errors can be found in the program.

a. five b. four c. three d. two

ANS: A

3. _____ is the informal language used by programmers to create models of programs.

a. Flowcharting
b. Pseudocode
c. Algorithm
d. Source code

ANS: B

4. A(n) _____ is a diagram that graphically depicts the steps that take place in a program.

a. flowchart
b. algorithm
c. pseudocode document
d. code list

ANS: A

5. The _____ structure consists of a set of statements that execute in the order in which they appear.

a. control b. decision c. repetition d. sequence

ANS: D

6. A(n) _____ symbol is used for an assignment statement in a flowchart.

a. parallelogram
b. oval
c. processing
d. triangle

ANS: C

7. The _____ operator is used to raise 5 to the second power.

a. `MOD` b. `*` c. `^` d. `/`

ANS: C

8. What is the value of the following expression?

```
12 - 4 * 3 / 2 + 9
```

a. `21` b. `15` c. `-6` d. `2.18`

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ANS: B

9. What is the value of the following expression?

```
(12 - 4) * 3 / 2 + 9
```

a. `21` b. `15` c. `-6` d. `2.18`

ANS: A

10. Which of the following is ***not*** a variable data type?

a. `Integer`
b. `Real`
c. `Numeral`
d. `String`

ANS: C

11. A(n) _____ is a name that represents a value which cannot be changed during the program's execution.

a. uninitialized variable
b. named constant
c. input variable
d. named variable

ANS: B

12. The process of stepping through each of a program's statements, one by one, to see what each statement does is known as _____.

a. debugging
b. executing
c. hand tracing
d. bug checking

ANS: C

13. The following is an example of a(n) _____ statement.

```
Set rate = 6.25
```

a. declaration
b. input
c. output
d. assignment

ANS: D

14. Which of the following is ***not*** an actual programming language?

a. C++ b. Python c. Pseudocode d. Java

ANS: C

15. What is the first step of the program development cycle?

a. write the code
b. design the program
c. test executable code
d. correct syntax errors

ANS: B

16. What term is used for a string that appears in the actual code of a program?

a. string literal
b. virtual string
c. str
d. any of these

ANS: A

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17. What symbol is used to mark the beginning and end of a string?

a. a slash (/)
b. an asterisk (*)
c. a quote mark (")
d. a semicolon (;)

ANS: C

18. A variable declaration typically specifies the variable's _____ and _____.

a. name, value
b. data type, value
c. number, name
d. name, data type

ANS: D

19. Which of the following would cause an error in a program?

a. attempting to store a floating-point value in a variable with `Integer` data type
b. attempting to store a floating-point value in a variable with `String` data type
c. attempting to store an integer in a variable with `String` data type
d. All of these would cause errors.

ANS: D

20. What is the value of the variable `result` in the following expression?

```
Set result = 6 + 8 * 4 / 2
```

a. `22`
b. `7`
c. `28`
d. `10`

ANS: A

21. What is the value of the variable `result` in the following expression?

```
Set result = (6 + 8) * 4 / 2
```

a. `22`
b. `7`
c. `28`
d. `10`

ANS: C

22. What is the value of the variable `result` in the following expression?

```
Set result = (6 + 8) / 4 * 2
```

a. `22`
b. `7`
c. `28`
d. `10`

ANS: B

23. What is the error in the following pseudocode?

```
Display "What is your name?"
Input userName
Declare String userName
```

a. `userName` is an invalid variable name.
b. The `Input` statement should be the first statement.
c. `userName` has been used before it is declared.
d. There is no error.

ANS: C

24. What is the error in the following pseudocode?

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```
Declare String user
Display "How many widgets do you want to buy?"
Input user
```

a. `user` is an invalid variable name for this code.
b. The `Input` statement should be the first statement.
c. `user` has been used before it is declared.
d. The input is a number, not a string.

ANS: D

25. What is the error in the following pseudocode?

```
Declare Integer widgets
Declare Real cost
Set widgets = 3.5
Set cost = widgets * 5
```

a. `widgets` is an invalid variable name for this code.
b. You cannot mix a `Real` variable and an `Integer` variable in a program.
c. `widgets` has been declared as an `Integer` and cannot hold a floating-point value.
d. There is no error.

ANS: C

COMPLETION

1. To _____ means to correct code that causes errors.

   ANS: debug

2. A set of well-defined logical steps that must be taken to perform a task is known as a(n) _____.

   ANS: algorithm

3. A(n) _____ symbol is used to represent input and output steps in a flowchart for a program.

   ANS: parallelogram

4. The _____ operator performs division and returns the remainder.

   ANS: modulus

5. A variable _____ statement specifies a variable's name and data type.

   ANS: declaration

6. _____ documentation includes comments the programmer places in the code to explain how different parts of the program work.

   ANS: Internal

7. _____ comments take up several lines and are used for lengthy explanations of parts of a program.

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ANS: Block

8. A(n) _____ statement can be used to initialize multiple variables.

   ANS: declaration

9. In a mathematical expression such as 57 * 6, the values 57 and 6 are called _____.

   ANS: operands

10. When a mathematical calculation is performs, the result of the calculation is normally stored in a _____.

    ANS: variable

11. A program's _____ will typically display the result of the process or processes that it has performed.

    ANS: output

12. To determine a program's _____ requirements, you must determine the pieces of data required for the program to complete its task.

    ANS: input

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