

Quiz 6

True/False

Indicate whether the statement is true or false.

_____ 1. A set of statements that perform a task over and over again based on a condition is called a loop structure.

_____ 2. The `do-while` and `while` statements both check the condition at the start of a loop.

_____ 3. The following statements would create an infinite loop.

```
int x = -2;
while (x < 0) {
    x = x + 1;
}
```

_____ 4. A sentinel is another name for a flag.

_____ 5. The `for` statement executes a set of statements a fixed number of times.

_____ 6. Statements where execution will be suspended in order to debug an application are called suspension points.

_____ 7. String variables are primitive data types.

_____ 8. A string is said to be immutable because it can be changed.

_____ 9. The first character of a string is at index position 1.

_____ 10. An original string can be changed by methods of the `String` class.

Multiple Choice

Identify the choice that best completes the statement or answers the question.

_____ 11. Given the following code segment:

```
int x = 0;
while (x < 7) {
    System.out.println("Hello, world!");
    x += 1;
}
```

How many times will `Hello world!` be displayed?

- | | |
|------|------|
| a. 0 | c. 7 |
| b. 6 | d. 8 |

_____ 12. Given the following code segment:

```
int a = 0, b = 0;
while (a < 10) {
    b += a;
}
System.out.println(b);
```

Which output will be displayed?

- a. 0
- b. 10
- c. 18
- d. An infinite loop will occur.

_____ 13. Given the following code segment:

```
int x = 0;
while (x < 10) {
    x = x + 2;
}
```

How many times will the body of the loop execute?

- a. 0
- b. 2
- c. 5
- d. 10

_____ 14. Which type of variable is incremented by a constant value?

- a. accumulator
- b. counter
- c. Boolean value
- d. sentinel

_____ 15. Given the following code segment:

```
for (int i = 1; i <= 5; i++) {
    System.out.print(i);
}
```

Which will be displayed when the code segment is run?

- a. 1
- b. 1234
- c. 12345
- d. 123451234512345...

_____ 16. Given the following code segments:

```
I.  int a = 0;
    int b = 10;
    while (b > 0) {
        a++;
        b--;
    }
    System.out.print(a);

II. b = 10;
    for (int a = 0; b > 0; b--) {
        a++;
    }
    System.out.print(a);
```

Which statement is true?

- a. The output of I and II will be the same.
 - b. The output of I will be 10 and the output of II will be 12345678910.
 - c. Segment II will generate a syntax error.
 - d. Segment II will generate an infinite loop.
- _____ 17. Which String class method returns true if the string length is 0?
- a. length()
 - b. isEmpty()
 - c. trim()
 - d. substring()
- _____ 18. Given the following code segment:

```
String lastName = "Watson";
int nameLength;
nameLength = lastName.length();
```

What is the value of `nameLength` after the statements execute?

- a. 5
 - b. 6
 - c. 8
 - d. Watson
- _____ 19. Which statement properly implements an equality comparison of two String objects?

```
I.  string1 == string2;
II. string1.equals(string2);
III. string1.compareTo(string2);
```

- a. I only
- b. I and II only
- c. II and III only
- d. I, II, and III

_____ 20. Given the following code segment:

```
System.out.println(newName);
String greeting = "HELLO";
String greeting2 = "Hello";
int value;
value = greeting.compareToIgnoreCase(greeting2);
```

Which is stored in `value` after the statements execute?

- a. the value 0
- b. a positive number
- c. a negative number
- d. the value False

Name: _____

ID: A

Completion

Complete each statement.

21. The condition of the `while` loop is a(n) _____ expression.
22. Each execution of a loop is called a(n) _____.
23. The process of getting an application to work correctly is called _____.
24. The position of a character in a string is called its _____.

Short Answer

25. Write statements that use a `do-while` loop structure to illustrate an infinite loop.

Quiz 6

Answer Section

TRUE/FALSE

- | | | |
|------------|--------|--------------------------------|
| 1. ANS: T | PTS: 1 | TOP: The while Statement |
| 2. ANS: F | PTS: 1 | TOP: The do-while Statement |
| 3. ANS: F | PTS: 1 | TOP: Infinite Loops |
| 4. ANS: T | PTS: 1 | TOP: Counters and Accumulators |
| 5. ANS: T | PTS: 1 | TOP: The for Statement |
| 6. ANS: F | PTS: 1 | TOP: Debugging Techniques |
| 7. ANS: F | PTS: 1 | TOP: The String Class |
| 8. ANS: F | PTS: 1 | TOP: The String Class |
| 9. ANS: F | PTS: 1 | TOP: The String Class |
| 10. ANS: F | PTS: 1 | TOP: The String Class |

MULTIPLE CHOICE

- | | | |
|------------|--------|--------------------------------|
| 11. ANS: C | PTS: 1 | TOP: The while Statement |
| 12. ANS: D | PTS: 1 | TOP: The while Statement |
| 13. ANS: C | PTS: 1 | TOP: The do-while Statement |
| 14. ANS: B | PTS: 1 | TOP: Counters and Accumulators |
| 15. ANS: C | PTS: 1 | TOP: The for Statement |
| 16. ANS: C | PTS: 1 | TOP: The for Statement |
| 17. ANS: B | PTS: 1 | TOP: The String Class |
| 18. ANS: B | PTS: 1 | TOP: The String Class |
| 19. ANS: C | PTS: 1 | TOP: Comparing Strings |
| 20. ANS: A | PTS: 1 | TOP: Comparing Strings |

COMPLETION

- | | | |
|--------------------|--------|---------------------------|
| 21. ANS: Boolean | | |
| | PTS: 1 | TOP: The while Statement |
| 22. ANS: iteration | | |
| | PTS: 1 | TOP: The while Statement |
| 23. ANS: debugging | | |
| | PTS: 1 | TOP: Debugging Techniques |
| 24. ANS: index | | |
| | PTS: 1 | TOP: The String Class |

SHORT ANSWER

25. ANS:

Answers will vary. A possible answer is:

```
number = 10;  
do {  
    number += 1;  
} while (number > 0);
```

PTS: 1 TOP: Infinite Loops
NOT: Cannot be included on an online test.