

**Name:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## **Code Concepts: Creative Coding Construction and 10th Grade Logic**

Logic gates, iteration, and data types provide the structural framework for digital problem-solving in this comprehensive logic evaluation.

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**1. In a web application tracking a user's location, which data type is most appropriate for storing a precise GPS coordinate like 34.0522?**

- A. Integer
- B. Float
- C. Boolean
- D. String

**2. A 'while' loop is guaranteed to execute the code block at least once, even if the initial condition is false.**

- A. True
- B. False

**3. When a programmer creates a block of code to handle a specific task like 'calculateTax' so it can be used multiple times, they are using a \_\_\_\_\_.**

- A. Constant
- B. Function
- C. Operator
- D. Branch

**4. Which programming construct would a developer use to display a 'Low Battery' warning only when the power level drops below 15%?**

- A. A for loop
- B. A list
- C. A condition (if-statement)
- D. A variable assignment

**5. If a variable named 'is\_logged\_in' can only be either True or False, what specific data type is it using?**

- A. Character
- B. Integer
- C. Floating point
- D. Boolean

**6. To process every single item in a grocery list array of 50 items without writing the code 50 times, a programmer should use a \_\_\_\_\_.**

- A. Loop
- B. Boolean

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- C. Comment
- D. Null value

**7. A variable's value can be changed throughout the execution of a program.**

- A. True
- B. False

**8. What is the primary benefit of using 'parameters' (inputs) within a function?**

- A. They make the program run faster
- B. They allow the function to be flexible and process different data
- C. They prevent the computer from overheating
- D. They turn a function into a loop

**9. In the statement 'if temperature > 90', the symbol '>' is known as a \_\_\_\_\_ operator.**

- A. Arithmetic
- B. Assignment
- C. Comparison
- D. String

**10. An 'else' statement can exist by itself without an 'if' statement preceding it.**

- A. True
- B. False