Self-Assessment Quiz – Loops

1. **What is the syntax for a while loop in JavaScript?**
   - while (condition) { }
   - **while condition { }**
   - { while (condition) }
   - { while condition }

   Explanation: The correct syntax for a while loop in JavaScript is 'while (condition) { }'. It requires parentheses around the condition and curly braces to define the block of code that will be executed as long as the condition is true.

2. **What is the syntax for a do while loop in JavaScript?**
   - do while (condition) { }
   - do { } while condition
   - **do { } while (condition)**
   - { do while (condition) }

   Explanation: The correct syntax for a do while loop in JavaScript is 'do { } while (condition)'. It starts with the 'do' keyword, followed by curly braces to define the block of code. The condition is checked at the end of the loop and if it is true, the loop will continue.

3. **Which of the following is an advantage of a do while loop over a while loop?**
   - A do while loop can have multiple conditions
   - **A do while loop always executes at least once**
   - A do while loop is faster than a while loop
   - A do while loop cannot be used in JavaScript

   Explanation: The advantage of a do while loop over a while loop is that a do while loop always executes at least once. This is because the condition is checked at the end of the loop, so the code block is executed first and then the condition is evaluated.

4. **What is the syntax for a FOR loop in JavaScript?**
   - **for (var i = 0; i < 5; i++)**
   - for (i = 0; i < 5; i++)

   Explanation: The correct syntax for a FOR loop in JavaScript is 'for (var i = 0; i < 5; i++)'. The 'var ' keyword is used to declare the loop variable, and the condition 'i < 5' determines when the loop should stop. You can also use 'let' instead of 'var' but remember the scope of using let and var.

5. **Which of the following is true about the FOR IN loop in JavaScript?**

- It iterates over the values of an array.
- **It iterates over the properties of an object.**
- It is similar to the FOR loop.
- It can only be used with numbers.

Explanation: The FOR IN loop in JavaScript iterates over the properties of an object. It is commonly used to iterate over the keys or properties of an object.

6. **How do you declare a FOR OF loop in JavaScript?**
   - **for (var i of arr)**
   - for (i = 0; i < arr.length; i++)
   - for (let i in arr)
   - for (i = 0; i < arr.length; i--)

   Explanation: To declare a FOR OF loop in JavaScript, you use the syntax 'for (let i of arr)' or 'for (var i of arr)'. The 'of' keyword is used to iterate over the values of an iterable object, such as an array.

7. **What is the purpose of the FOR loop in JavaScript?**
   - **To repeat a block of code a specific number of times.**
   - To iterate over the properties of an object.
   - To check if a condition is true or false.
   - To perform a specific action based on a condition.

   Explanation: The purpose of the FOR loop in JavaScript is to repeat a block of code a specific number of times. It is commonly used when you know how many times you want the loop to run.

8. **What is the output of the following code?**
   ```javascript
   var numbers = [1, 2, 3, 4];
   for (var x of numbers)
   {console.log(x);}
   ```
   - **1234**
   - 1
   - 4
   - Undefined

   Explanation: The code will output each number in the 'numbers' array, one by one. In this case, the output will be: 1 2 3 4

9. **Which of the following are valid types of loop in JavaScript? (Select all that apply)**
   - **FOR loop**
   - **FOR IN loop**
   - **FOR OF loop**

- **WHILE loop**

  Explanation: The FOR IN loop is a valid type of loop in JavaScript.

10. **What is the difference between the FOR IN loop and the FOR OF loop in JavaScript? (Select all that apply)**
    - The FOR IN loop iterates over the values of an array and FOR OF loop iterates over the values of an object.
    - **The FOR IN loop iterates over the values of an object and FOR OF loop iterates over the values of an array.**
    - Both are same

11. **Which of the following is the correct use of a break statement inside a loop?**
    - **break;**
    - break loop;
    - break();
    - break condition;

      Explanation: The correct use of a break statement inside a loop is simply 'break;'. It is used to terminate the execution of a loop and continue with the next statement after the loop.

12. **Which of the following are valid loop control statements in JavaScript? (Select all that apply)**
    - **break**
    - **continue**
    - return
    - exit

      Explanation: 'return' is not a loop control statement in JavaScript. It is used to exit a function and return a value.