1. **What is used to define a JavaScript object?**  
   A) []  
   B) ()  
   C) {}  
   D) <>
2. **Which statement is true about JavaScript objects?**  
   A) They can store only one value.  
   B) They are used to store key-value pairs.  
   C) Objects have a fixed size.  
   D) They are immutable.
3. **How do you access a property name of object student?**  
   A) student->name  
   B) student.name  
   C) student(name)  
   D) student::name
4. **Which of the following allows adding a new property to an object?**  
   A) You cannot add new properties  
   B) object.addProperty()  
   C) object.propertyName = value  
   D) append(object)
5. **How can you modify an existing property in a JavaScript object?**  
   A) You can't modify  
   B) By reinitializing the object  
   C) Using object.property = newValue  
   D) Using object.change()

**JavaScript Arrays (Basics):**

1. **How are arrays defined in JavaScript?**  
   A) new Array()  
   B) {}  
   C) []  
   D) ()  
   **Answer:** C) []
2. **What is the index of the first element in a JavaScript array?**  
   A) 1  
   B) 0  
   C) -1  
   D) It depends on the array  
   **Answer:** B) 0
3. **Which method removes the last element of an array?**  
   A) shift()  
   B) pop()  
   C) splice()  
   D) delete  
   **Answer:** B) pop()
4. **Which method adds an element to the beginning of an array?**  
   A) push()  
   B) prepend()  
   C) unshift()  
   D) startAdd()  
   **Answer:** C) unshift()
5. **What does the join() method do?**  
   A) Sorts array elements  
   B) Converts array to string with separator  
   C) Merges two arrays  
   D) Deletes an element  
   **Answer:** B) Converts array to string with separator
6. **What does splice(2, 1) do?**  
   A) Adds an element  
   B) Removes 1 element from index 2  
   C) Merges arrays  
   D) Reverses array
7. **What does findIndex() return?**  
   A) The first value that passes the test  
   B) Index of first element passing test  
   C) Boolean  
   D) Last element
8. **What will array.indexOf("mon") return if element not found?**  
   A) 0  
   B) undefined  
   C) null  
   D) -1
9. **What is the use of map()?**  
   A) Loops and modifies array in-place  
   B) Creates new array with modified values  
   C) Filters the array  
   D) Finds index
10. **Which method can combine multiple arrays into one?**  
    A) merge()  
    B) combine()  
    C) concat()  
    D) mix()

**Sorting & Iteration:**

1. **What does the sort() method do?**  
   A) Sorts numerically only  
   B) Reverses the array  
   C) Sorts alphabetically  
   D) Only sorts numbers
2. **Which method reverses the elements of the array?**  
   A) flip()  
   B) reverse()  
   C) invert()  
   D) revert()
3. **Which method is used to process each element without returning a new array?**  
   A) forEach()  
   B) map()  
   C) filter()  
   D) reduce()
4. **Which of the following is NOT allowed with const object?**  
   A) Changing a property value  
   B) Adding new property  
   C) Reassigning the whole object  
   D) Modifying existing array values
5. **Which of the following can you do with a const array?**  
   A) Reassign the array  
   B) Change element values  
   C) Change its reference  
   D) Delete the array

**JavaScript Coding Questions (Objects & Arrays):**

1. **Create a JavaScript object book with properties: title, author, and year. Print the author.**
2. **Add a new property publisher to an existing object book. Print the updated object.**
3. **Write a JavaScript object employee and update its salary property.**
4. **Create an array colors with elements "Red", "Green", "Blue". Add "Yellow" to the end.**
5. **Remove the first element from the colors array and print the updated array.**
6. **Use splice() to remove 2 elements starting from index 1 in array fruits = ["Apple", "Banana", "Orange", "Mango"].**
7. **Create an array of numbers and sort them in ascending and descending order.**
8. **Use map() to double all elements in array [1, 2, 3, 4, 5] and store in a new array.**
9. **Use filter() to return all numbers greater than 50 from array [10, 60, 30, 80, 45].**
10. **Create a constant object student and modify one of its properties. Try reassigning the object (comment it and explain why it's not allowed).**

**Extra Problems On Array Methods**

### 1. Convert Temperatures

**Problem:** Given an array of temperatures in Celsius, convert each value to Fahrenheit using the formula: F = C \* 9/5 + 32.

### 2. Squared Numbers

**Problem:** Given an array of integers, return a new array containing the squares of all the numbers.

### 3. Extract First Names

**Problem:** Given an array of objects representing users with properties { firstName, lastName }, return an array of just the first names.

### 4. Add GST to Prices

**Problem:** Given an array of product prices, return a new array with 18% GST added to each price.

### 5. Prefix Strings

**Problem:** Given an array of strings, return a new array where each string is prefixed with "Hello ".

The filter() method creates a new array with all elements that pass the test implemented by the provided function.

### 1. Filter Even Numbers

**Problem:** Given an array of numbers, return a new array containing only even numbers.

### 2. Remove Empty Strings

**Problem:** Given an array of strings, remove all empty strings ("") from the array.

### 3. Filter Adults

**Problem:** Given an array of objects with properties { name, age }, return only those objects where age >= 18.

### 4. Valid Scores

**Problem:** Given an array of exam scores (out of 100), filter out scores less than 40 (failing marks).

### 5. Filter Prime Numbers

**Problem:** Given an array of integers, return only the prime numbers using a filtering method.

The sort() method sorts the elements of an array in place and returns the sorted array.

### 1. Sort Alphabetically

**Problem:** Given an array of strings (names), sort them in alphabetical order.

### 2. Sort Numbers Ascending

**Problem:** Given an array of numbers, sort them in ascending order.

### 3. Sort Numbers Descending

**Problem:** Given an array of numbers, sort them in descending order.

### 4. Sort Objects by Age

**Problem:** Given an array of objects { name, age }, sort the array by age in increasing order.

### 5. Sort by String Length

**Problem:** Given an array of strings, sort them by their length in descending order.

The forEach() method executes a provided function once for each array element.

### 1. Print Elements with Index

**Problem:** Given an array, print each element along with its index using forEach().

### 2. Total Price Calculation

**Problem:** Given an array of prices, calculate the total sum using forEach().

### 3. Display Object Details

**Problem:** Given an array of employee objects { name, designation }, print their details in the format: "Name: X, Designation: Y".

### 4. Count Positive Numbers

**Problem:** Count how many positive numbers are in a given array using forEach().

### 5. Double and Log

**Problem:** For an array of numbers, double each number and print it using forEach().

**Advance Problem On Combination Of All Array Methods**

**Problem:** Given an array of student objects { name, marks }, return a sorted array of names of students who scored more than 75, in descending order of marks.

*Hint:* Use filter(), then sort(), then map().