

DETAILED LAB ASSIGNMENT 4

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Subject:	JavaScript Lab
Assignment:	Quiz Game Using JavaScript Console

1. Problem Statement

Create a fully functional JavaScript quiz game that runs entirely inside the browser console. The game will consist of multiple questions stored in an array. The user will input answers through `prompt()`, receive feedback through `alert()`, and at the end, the total score will be shown.

2. Objective

The main objective of this assignment is to understand JavaScript fundamentals such as arrays, loops, conditionals, functions, input handling, and output operations.

3. Theory & Concepts Used

1. **Arrays:** Used to store multiple questions and answers.
2. **Functions:** Used to structure code and improve reusability.
3. **Loops:** For iterating through quiz questions.
4. **Conditionals:** To check right or wrong answers.
5. **`prompt()`:** Takes input from user.
6. **`alert()`:** Gives immediate feedback.
7. **String Methods:** `toLowerCase()` and `trim()` for accurate comparison.

4. Step-by-Step Explanation

Step 1: Create an array containing objects. Each object stores 'question' and 'answer'.

Step 2: Create a function `runQuiz()` that contains entire quiz logic.

Step 3: Start score = 0.

Step 4: Use for loop to ask every question using prompt().

Step 5: Normalize user input to avoid errors.

Step 6: Compare user input with correct answer.

Step 7: Display correct/incorrect message.

Step 8: Show final score after loop ends.

5. Final JavaScript Code

```
// JavaScript Quiz Game - Detailed Assignment
// Created by Ayush Kumar

const quizQuestions = [
    { question: "What is JavaScript used for?", answer: "scripting" },
    { question: "What is the full form of DOM?", answer: "document object model" },
    { question: "Which function prints output to console?", answer: "console.log" },
    { question: "Which keyword declares a variable?", answer: "var" },
    { question: "JavaScript is _____ language?", answer: "interpreted" }
];

function runQuiz() {
    let score = 0;

    for (let i = 0; i < quizQuestions.length; i++) {
        let userAnswer = prompt(quizQuestions[i].question);

        if (!userAnswer) userAnswer = "";

        userAnswer = userAnswer.toLowerCase().trim();

        if (userAnswer === quizQuestions[i].answer) {
            alert("Correct Answer!");
            score++;
        } else {
            alert("Wrong Answer! Correct is: " + quizQuestions[i].answer);
        }
    }

    alert("Quiz Completed! Your Score: " + score + "/" + quizQuestions.length);
}

runQuiz();
```

6. Expected Output Screenshot (Description)

When the user runs the quiz in the browser console:

1. Prompt windows appear showing questions.
2. User types answers.
3. Alerts show correct/incorrect feedback.
4. Final alert displays total score.

7. Conclusion

This assignment successfully demonstrates JavaScript fundamentals including arrays, loops, conditionals, functions, and user interaction using `prompt()` and `alert()`. The program works smoothly in the browser console and fulfills all requirements.

