
1. Quiz Data

```
````javascript
const question = [
 {
 question: 'What is the capital of France?',
 answers: [
 {text: 'New York', correct: false},
 {text: 'London', correct: false},
 {text: 'Paris', correct: true},
 {text: 'Dublin', correct: false}
]
 },
 {
 question: 'Who is CEO of Tesla?',
 answers: [
 {text: 'Jeff Bezos', correct: false},
 {text: 'Elon Musk', correct: true},
 {text: 'Bill Gates', correct: false},
 {text: 'Tony Stark', correct: false}
]
 },
 {
 question: 'The iPhone was created by which company?',
 answers: [
 {text: 'Apple', correct: true},
 {text: 'Intel', correct: false},
 {text: 'Amazon', correct: false},
 {text: 'Microsoft', correct: false}
]
 },
 {
 question: 'How many Harry Potter books are there?',
 answers: [
 {text: '1', correct: false},
 {text: '4', correct: false},
 {text: '6', correct: false},
 {text: '7', correct: true}
]
 }
]
````
```

- `question`: An array of objects, where each object represents a quiz question.
- Each question has:
 - `question`: The question text.
 - `answers`: An array of answer objects, each containing:
 - `text`: The answer text.
 - `correct`: A boolean indicating whether the answer is correct (`true` or `false`).

2. DOM Element Selection

```
````javascript
const ques = document.getElementById("question");
const ans = document.getElementById("answer-btn");
const next = document.getElementById("next-btn");
````
```

- `ques``: Selects the element where the question text will be displayed.
- `ans``: Selects the container where the answer buttons will be displayed.
- `next``: Selects the "Next" button to move to the next question.

3. Variables

```
````javascript
let currentQuestionIndex = 0;
let score = 0;
````
```

- `currentQuestionIndex``: Tracks the index of the current question being displayed.
- `score``: Tracks the number of correct answers.

4. Starting the Quiz

```
````javascript
function startQuiz() {
 currentQuestionIndex = 0;
 score = 0;
 next.innerHTML = "Next";
 showQuestion();
}
````
```

- Resets the quiz state:
 - Sets `currentQuestionIndex`` to `0`` (first question).
 - Resets `score`` to `0``.
 - Updates the "Next" button text to "Next".
 - Calls `showQuestion()`` to display the first question.

5. Resetting the State

```
````javascript
function resetState(){
 next.style.display = "none";
 while(ans.firstChild){
 ans.removeChild(ans.firstChild);
 }
}
````
```

- Hides the "Next" button (`next.style.display = "none"`).
- Removes all answer buttons from the `ans`` container to prepare for the next question.

6. Displaying the Question

```
````javascript
function showQuestion() {
 resetState();
 let currentQuestion = question[currentQuestionIndex];
 let questionNo = currentQuestionIndex + 1;
 ques.innerHTML = questionNo + ". " + currentQuestion.question;

 currentQuestion.answers.forEach(answer =>{
 const button = document.createElement("button");
 button.innerHTML = answer.text;
 button.classList.add("btn");
 ans.appendChild(button);
 });
}
```

```

 if(answer.correct){
 button.dataset.correct = answer.correct;
 }
 button.addEventListener("click", selectAnswer);
 });
}
...

```

1. Calls `resetState()` to clear the previous question and answers.
2. Retrieves the current question using `currentQuestionIndex`.
3. Displays the question number and text in the `ques` element.
4. Creates a button for each answer:
  - Sets the button text to the answer text.
  - Adds a CSS class (btn) to the button.
  - If the answer is correct, adds a `data-correct` attribute to the button.
  - Adds a click event listener to the button to handle answer selection.
5. Appends the buttons to the `ans` container.

---

### ### \*\*7. Handling Answer Selection\*\*

```

```javascript
function selectAnswer(e){
    const selectedBtn = e.target;
    const isCorrect = selectedBtn.dataset.correct === "true";
    if(isCorrect){
        selectedBtn.classList.add("correct");
        score++;
    }
    else{
        selectedBtn.classList.add("incorrect");
    }
    Array.from(ans.children).forEach(button => {
        if(button.dataset.correct === "true"){
            button.classList.add("correct");
        }
        button.disabled = true;
    });
    next.style.display = "block";
}
...

```

1. Retrieves the clicked button (e.target).
2. Checks if the selected answer is correct by comparing `data-correct` to `"true".
3. Updates the button's appearance:
 - Adds the `correct` class if the answer is correct.
 - Adds the `incorrect` class if the answer is wrong.
4. Increments the `score` if the answer is correct.
5. Disables all answer buttons to prevent further selection.
6. Displays the "Next" button.

8. Handling the "Next" Button

```

```javascript
next.addEventListener("click", () => {
 currentQuestionIndex++;
 if(currentQuestionIndex < question.length){
 showQuestion();
 }
 else{
 resetState();
 }
}

```

```

 ques.innerHTML = "Your Score is " + score + " out of " + question.length;
 next.innerHTML = "Restart";
 next.style.display = "block";
 next.addEventListener("click", () => {
 if (currentQuestionIndex < question.length) {
 showQuestion();
 } else {
 startQuiz(); // Restart the quiz when the game ends
 }
 });
}
});
```

```

1. Increments `currentQuestionIndex` to move to the next question.
2. If there are more questions:
 - Calls `showQuestion()` to display the next question.
3. If all questions have been answered:
 - Displays the final score.
 - Updates the "Next" button text to "Restart".
 - Adds a new event listener to restart the quiz when the button is clicked.

```

### **9. Starting the Quiz**
```javascript
startQuiz();
```

```

- Calls `startQuiz()` to initialize the quiz when the page loads.

How It Works

1. The quiz starts by displaying the first question and its answer choices.
2. The user selects an answer:
 - If correct, the button turns green, and the score increases.
 - If incorrect, the button turns red, and the correct answer is highlighted.
3. The user clicks "Next" to proceed to the next question.
4. After the last question, the final score is displayed, and the user can restart the quiz.

Example Usage

Question 1:

- Question: "What is the capital of France?"
- User selects "Paris" (correct answer):
 - The "Paris" button turns green.
 - The score increases by 1.

Question 2:

- Question: "Who is CEO of Tesla?"
- User selects "Jeff Bezos" (incorrect answer):
 - The "Jeff Bezos" button turns red.
 - The "Elon Musk" button turns green (correct answer).

Final Score:

- After all questions are answered, the final score is displayed (e.g., "Your Score is 3 out of 4").
- The user can click "Restart" to start the quiz again.

****Improvements****

1. ****Timer****: Add a timer for each question.
2. ****Styling****: Improve the UI with CSS (e.g., animations, better button styles).
3. ****Progress Bar****: Show a progress bar indicating how many questions are left.
4. ****High Scores****: Save and display high scores using local storage.
5. ****Randomization****: Randomize the order of questions and answers.