CSF3133 Web-Based Interface Design

Lab Module 6

Nama: Kishor A/L Mohan

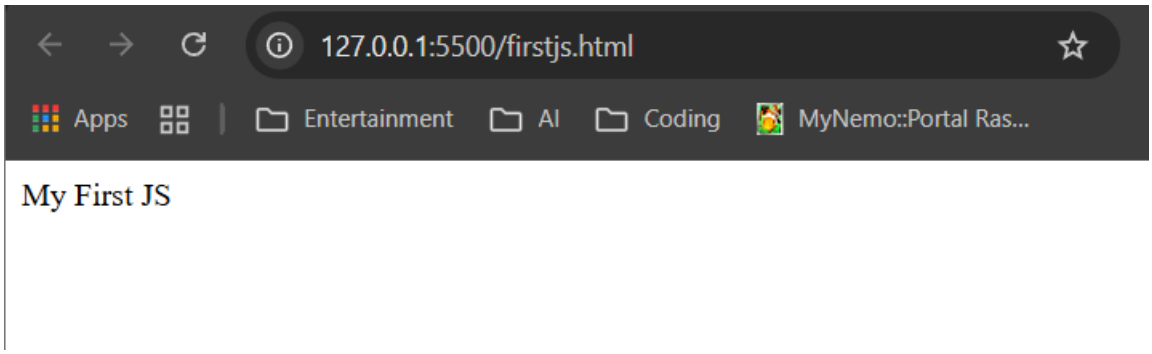
No Matrik: S75142

Kumpulan: K4

Nama Pensyarah: Assoc. Prof. Ts. Dr. Wan Nural Jawahir

Tarikh: 3/12/2025

Activity 6.3



My First JS **My First** *Java Script*

Activity 6.4

What Can JavaScript Do?

JavaScript can change HTML content.

Click Me!

What Can JavaScript Do?

Hello JavaScript!

Click Me!

Activity 6.5

Click me to display Date and Time.

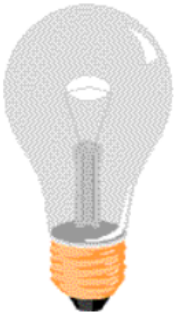
Wed Dec 03 2025 11:59:38 GMT+0800 (Malaysia Time)

Activity 6.6

What Can JavaScript \index{JavaScript} Do?

JavaScript \index{JavaScript} can change HTML attribute values.

In this case, JavaScript \index{JavaScript} changes the value of the src (source) attribute of an image.



Turn on the light Turn off the light

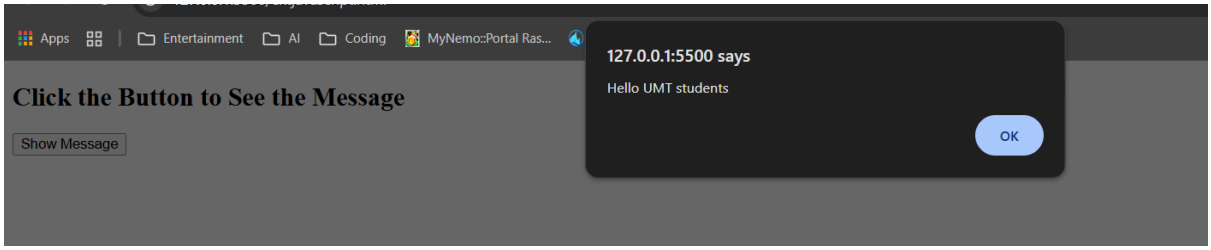
What Can JavaScript \index{JavaScript} Do?

JavaScript \index{JavaScript} can change HTML attribute values.

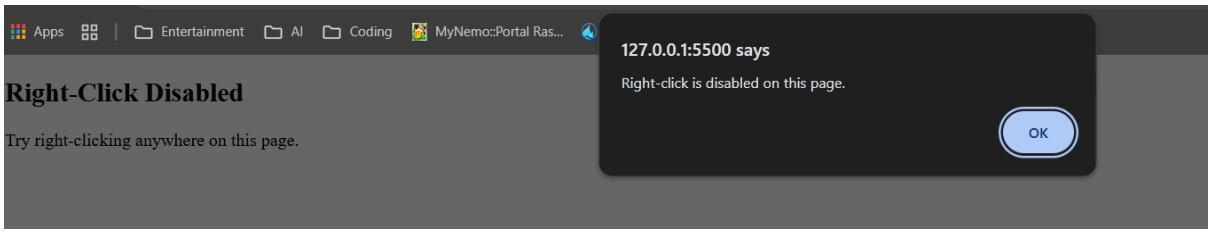
In this case, JavaScript \index{JavaScript} changes the value of the src (source) attribute of an image.

Turn on the light Turn off the light

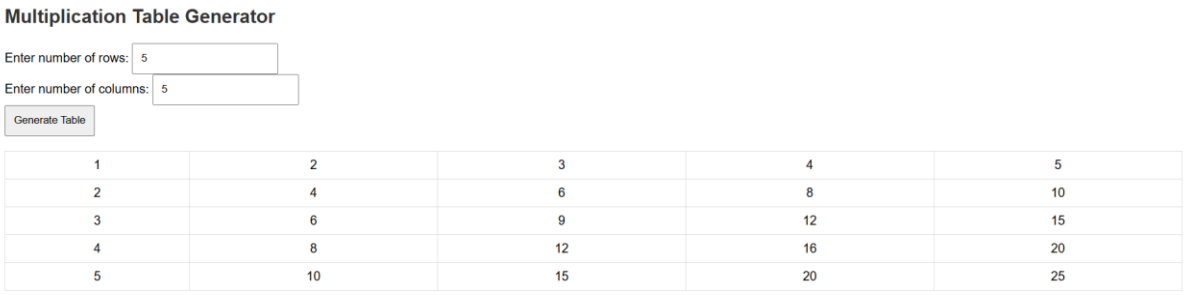
Activity 6.7



Activity 6.8



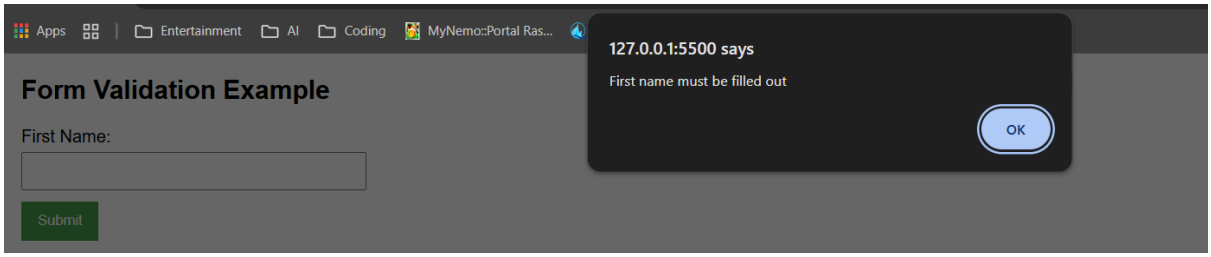
Activity 6.9



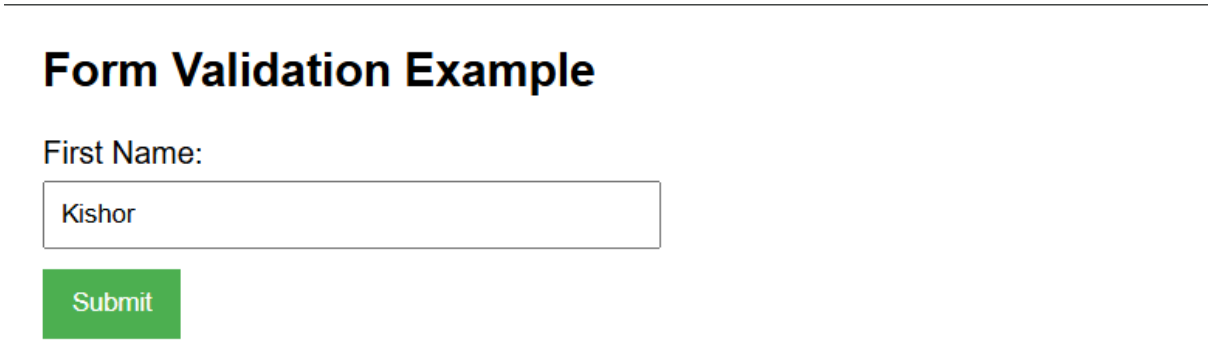
1	2	3	4	5
2	4	6	8	10
3	6	9	12	15
4	8	12	16	20
5	10	15	20	25

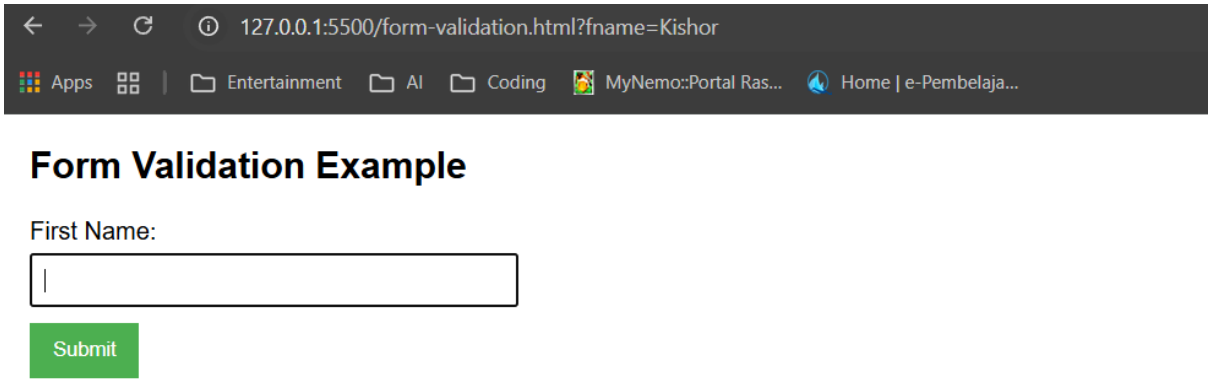
Activity 6.10.1

Case 1:



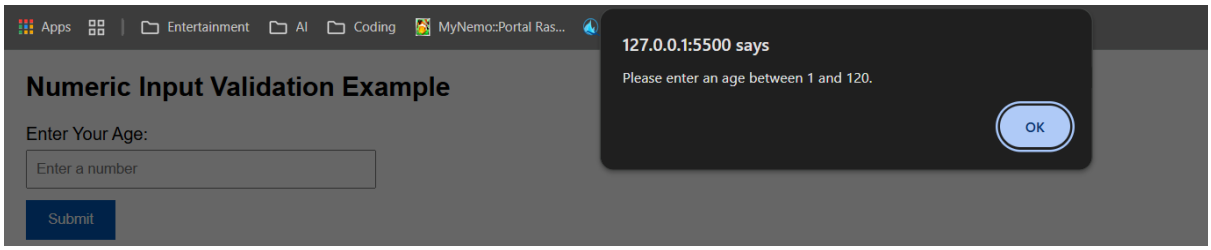
Case 2:



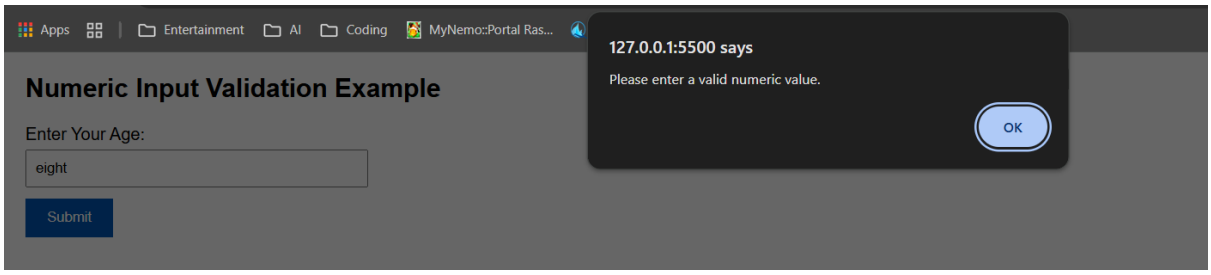


Activity 6.10.2

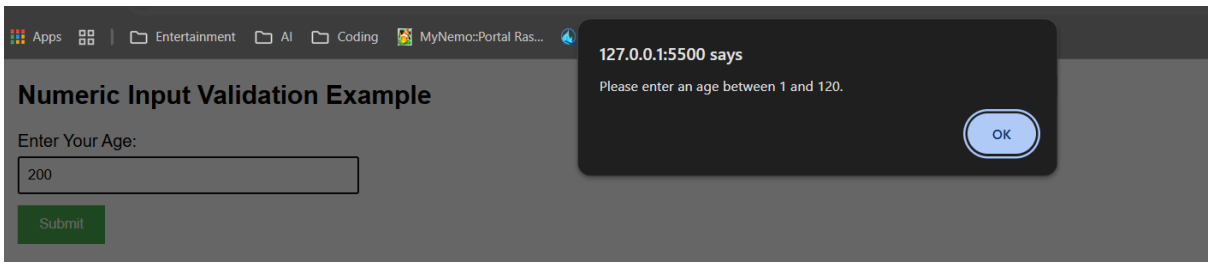
Case 1:



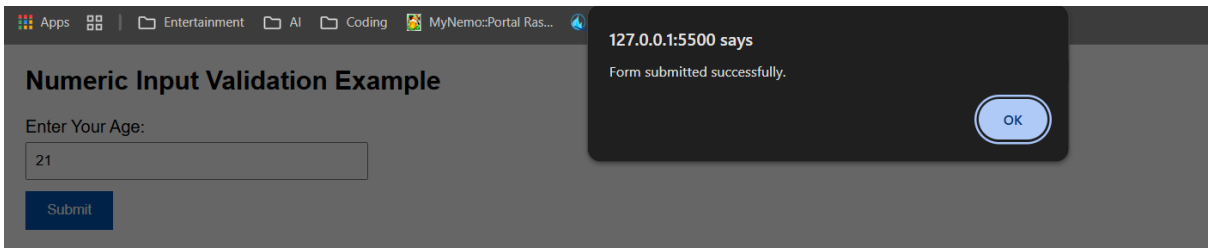
Case 2:



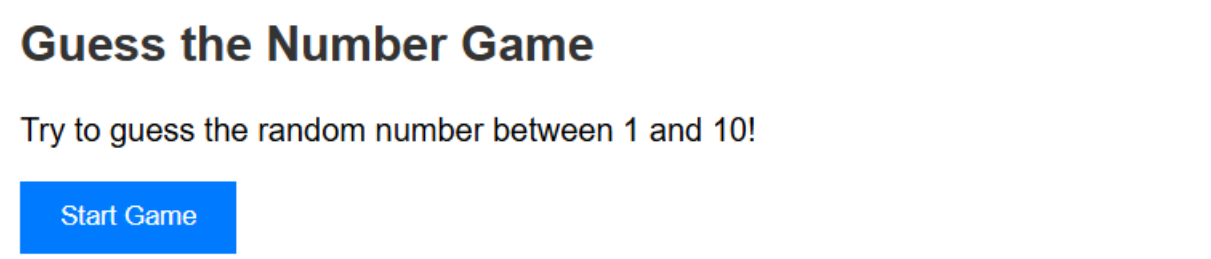
Case 3:

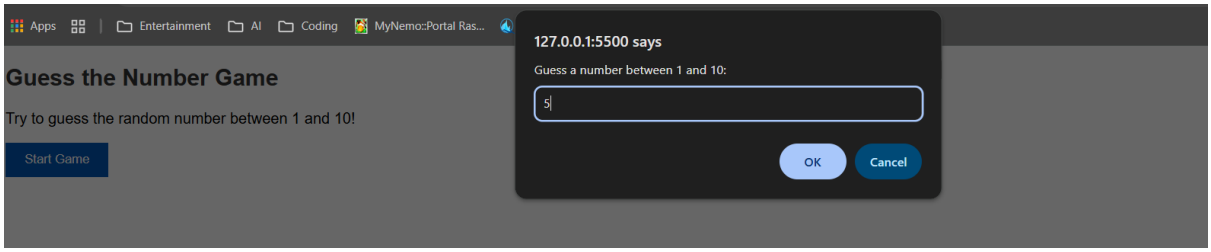


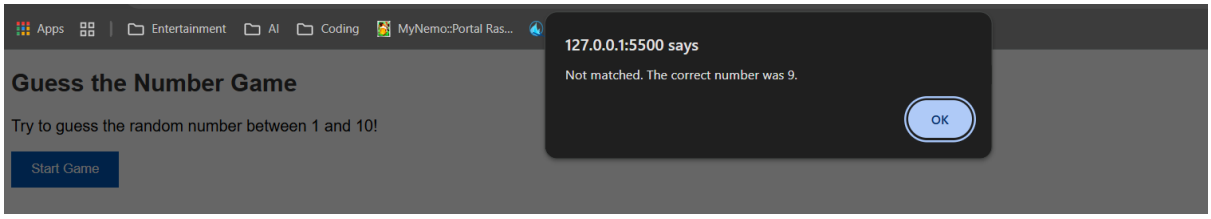
Case 4:



Activity 6.11







Lab Exercise 6

HTML:

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Quiz Application</title>
    <link rel="stylesheet" href="style.css">
</head>
<body>
    <header>
        <h1>Welcome to the Quiz Application</h1>
        <p>Test your knowledge with these questions!</p>
    </header>

    <main>
        <div id="timer-container">
            <span>Time Left: </span>
            <span id="timer">20</span>
            <span> seconds</span>
        </div>

        <section id="quiz-section">
            <h2 id="question-text">Question will appear here</h2>
            <div id="answer-options">
                <!-- Answer options will be dynamically generated here -->
            </div>
        </section>

        <section id="feedback-section">
            <p id="feedback-message"></p>
        </section>

        <div id="controls">
            <button id="submit-answer">Submit Answer</button>
            <button id="next-question" style="display: none;">Next Question</button>
        </div>
    </main>

    <footer>
        <p id="final-score" style="display: none;">Your final score: 0</p>
    </footer>

    <script src="script.js"></script>
</body>
</html>
```

CSS:

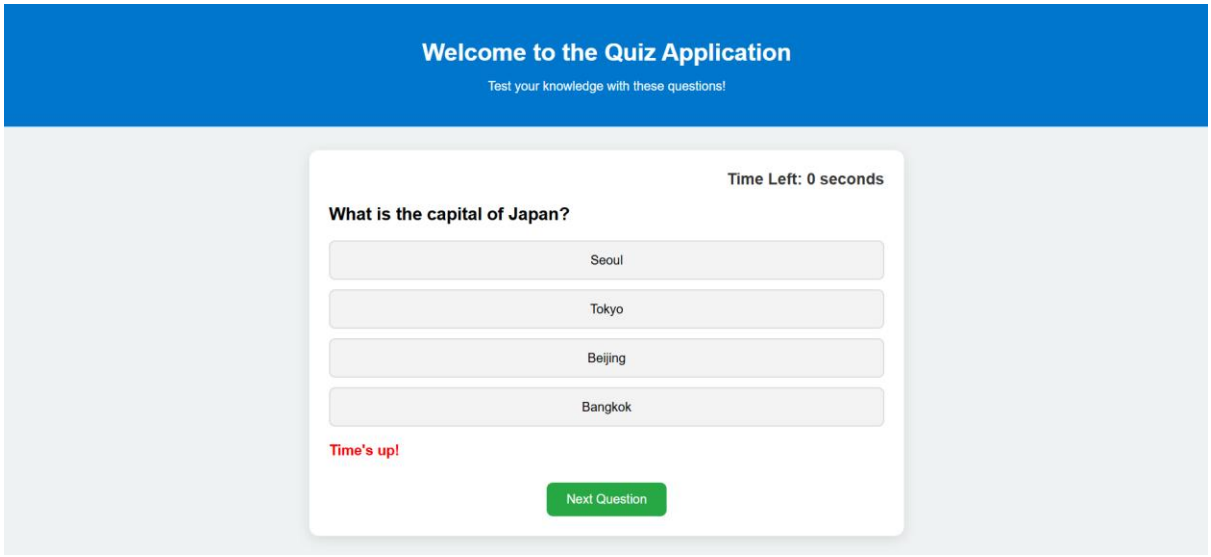
```css
body {
    font-family: Arial, sans-serif;
    background: #eef2f3;
    margin: 0;
    padding: 0;
}

header {
    background: #0077cc;
    color: white;
    padding: 25px;
    text-align: center;
}

header h1 {
    font-size: 30px;
    margin-bottom: 5px;
}

main {
    width: 90%;
    max-width: 700px;
    margin: 30px auto;
    padding: 25px;
    background: white;
    border-radius: 12px;
    box-shadow: 0 4px 15px rgba(0, 0, 0, 0.1);
}

#timer-container {
    font-size: 20px;
    font-weight: bold;
    margin-bottom: 20px;
    text-align: right;
    color: #333;
}

#quiz-section {
    margin-bottom: 20px;
}

#quiz-section h2 {
    font-size: 22px;
    margin-bottom: 20px;
}

#answer-options {
    display: flex;
    flex-direction: column;
    gap: 12px;
}

.answer-btn {
    background: #f3f3f3;
    padding: 14px;
    border: 2px solid #ddd;
    border-radius: 8px;
    cursor: pointer;
    font-size: 16px;
    transition: 0.2s ease;
}

.answer-btn:hover {
    background: #dceafc;
}

#feedback-section {
    margin: 20px 0;
    font-size: 18px;
    font-weight: bold;
    min-height: 30px;
}

#controls {
    display: flex;
    justify-content: center;
    gap: 15px;
}

#controls button {
    padding: 12px 25px;
    background: #28a745;
    border: none;
    color: white;
    font-size: 16px;
    border-radius: 8px;
    cursor: pointer;
    transition: 0.2s;
}

#controls button:hover {
    background: #208838;
}

#next-question {
    background: #17a2b8;
}

#next-question:hover {
    background: #138496;
}

footer {
    margin-top: 25px;
    padding: 15px;
    text-align: center;
    background: #222;
    color: white;
}

#final-score {
    font-size: 22px;
    font-weight: bold;
}
```

JavaScript:

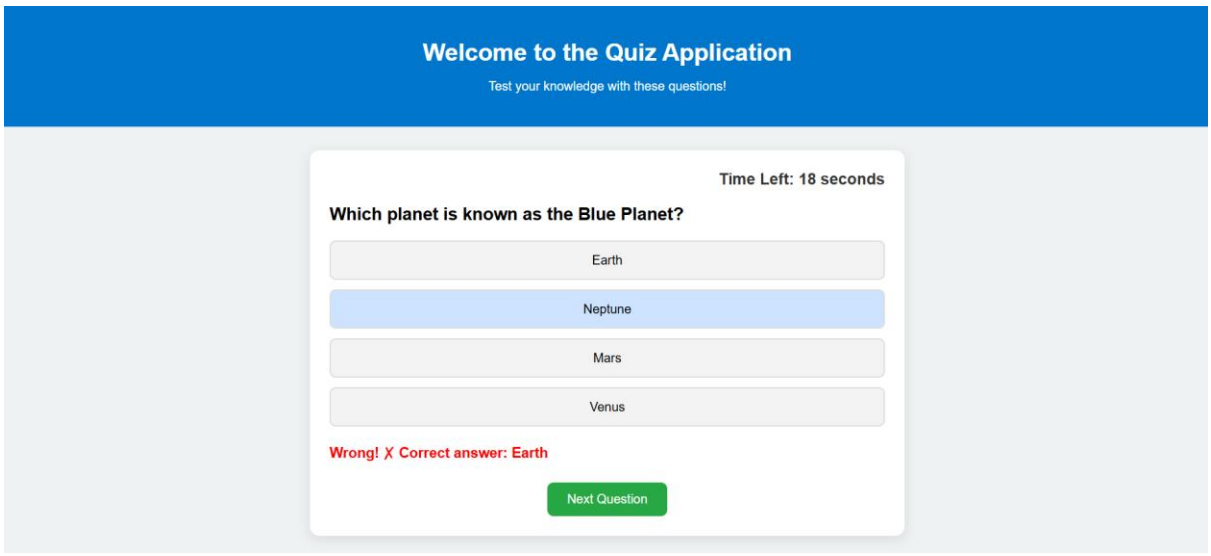
```javascript
let questions = [
  {
    question: "What is the capital of Japan?",
    options: ["Seoul", "Tokyo", "Beijing", "Bangkok"],
    answer: "Tokyo",
  },
  {
    question: "Which gas do plants absorb?",
    options: ["Oxygen", "Carbon Dioxide", "Nitrogen", "Helium"],
    answer: "Carbon Dioxide",
  },
  {
    question: "What is 10 + 5?",
    options: ["12", "13", "14", "15"],
    answer: "15",
  },
  {
    question: "Which planet is known as the Blue Planet?",
    options: ["Earth", "Neptune", "Mars", "Venus"],
    answer: "Earth",
  },
];

let currentIndex = 0;
let score = 0;
let timer;
let timeLeft = 20;
let selectedAnswer = null;

const questionText = document.getElementById("question-text");
const answerOptions = document.getElementById("answer-options");
const feedback = document.getElementById("feedback-message");
const timerDisplay = document.getElementById("timer");
const submitBtn = document.getElementById("submit-answer");
const nextBtn = document.getElementById("next-question");
const finalScore = document.getElementById("final-score");

function shuffleQuestions() {
  for (let i = questions.length - 1; i > 0; i--) {
    const j = Math.floor(Math.random() * (i + 1));
    [questions[i], questions[j]] = [questions[j], questions[i]];
  }
}

function startTimer() {
  timeLeft = 20;
  timerDisplay.textContent = timeLeft;

  timer = setInterval(() => {
    timeLeft--;
    timerDisplay.textContent = timeLeft;

    if (timeLeft <= 0) {
      clearInterval(timer);
      feedback.textContent = "Time's up!";
      feedback.style.color = "red";
      submitBtn.style.display = "none";
      nextBtn.style.display = "inline-block";
    }
  }, 1000);
}

function displayQuestion() {
  selectedAnswer = null;
  feedback.textContent = "";
  submitBtn.style.display = "inline-block";
  nextBtn.style.display = "none";

  clearInterval(timer);
  startTimer();

  let q = questions[currentIndex];
  questionText.textContent = q.question;

  answerOptions.innerHTML = "";
  q.options.forEach((option) => {
    const btn = document.createElement("button");
    btn.textContent = option;
    btn.classList.add("answer-btn");

    btn.onclick = () => selectAnswer(btn, option);

    answerOptions.appendChild(btn);
  });
}

function selectAnswer(button, answer) {
  selectedAnswer = answer;

  document.querySelectorAll(".answer-btn").forEach((btn) => {
    btn.style.background = "#f3f3f3";
  });

  button.style.background = "#cde3ff";
}

function checkAnswer() {
  if (!selectedAnswer) {
    alert("Please select an answer!");
    return;
  }

  clearInterval(timer);

  let correctAnswer = questions[currentIndex].answer;

  if (selectedAnswer === correctAnswer) {
    feedback.textContent = "Correct! ✓";
    feedback.style.color = "green";
    score++;
  } else {
    feedback.textContent = "Wrong! ✗ Correct answer: " + correctAnswer;
    feedback.style.color = "red";
  }

  submitBtn.style.display = "none";
  nextBtn.style.display = "inline-block";
}

function nextQuestion() {
  currentIndex++;

  if (currentIndex >= questions.length) {
    endQuiz();
  } else {
    displayQuestion();
  }
}

function endQuiz() {
  document.querySelector("main").style.display = "none";
  finalScore.style.display = "block";
  finalScore.textContent = `Your final score: ${score}/${questions.length}`;
}

function startQuiz() {
  shuffleQuestions();
  currentIndex = 0;
  score = 0;

  document.querySelector("main").style.display = "block";
  finalScore.style.display = "none";

  displayQuestion();
}

submitBtn.onclick = checkAnswer;
nextBtn.onclick = nextQuestion;

startQuiz();
```

Output:

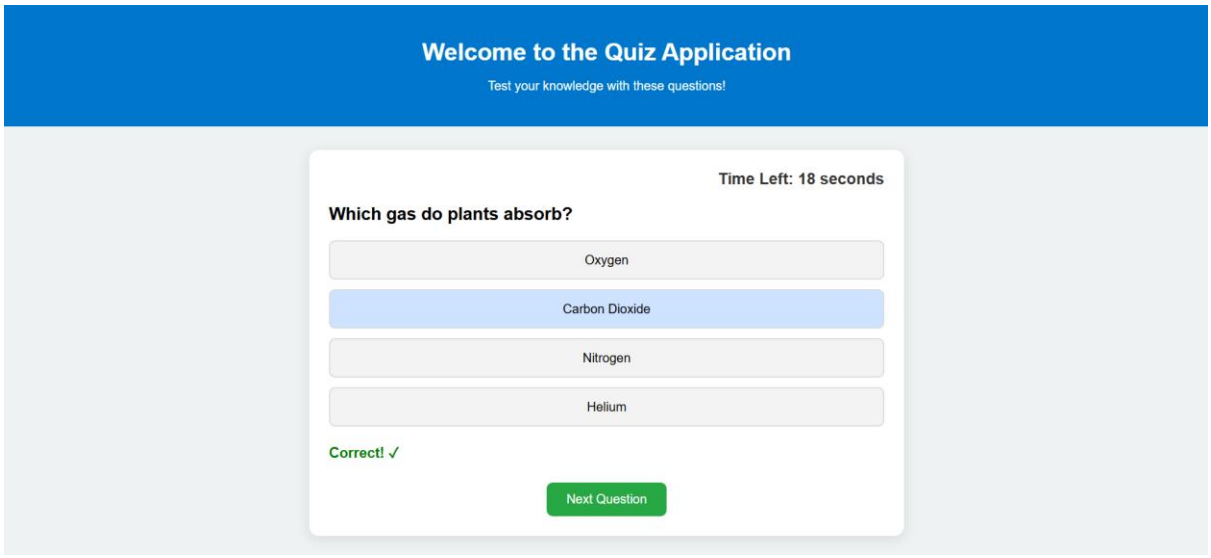
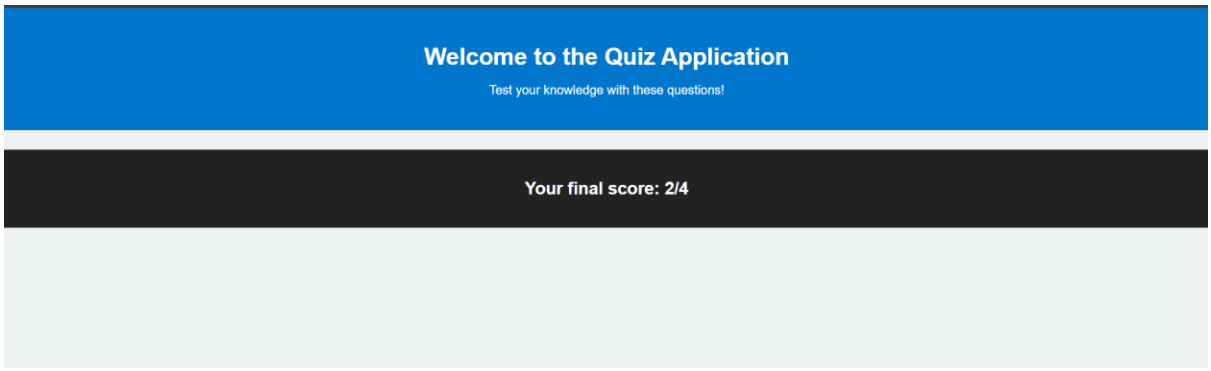
Case 1 (Times up):



Case 2 (Wrong answer):



Case 3 (Correct Answer):



Case 4 (Summary):