WEB DESIGN
(CSF 3133)

Lab Report 6

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Date: 19/11/2025

Group: K4

Program: Computer Science (Software Engineering)

Activity 1

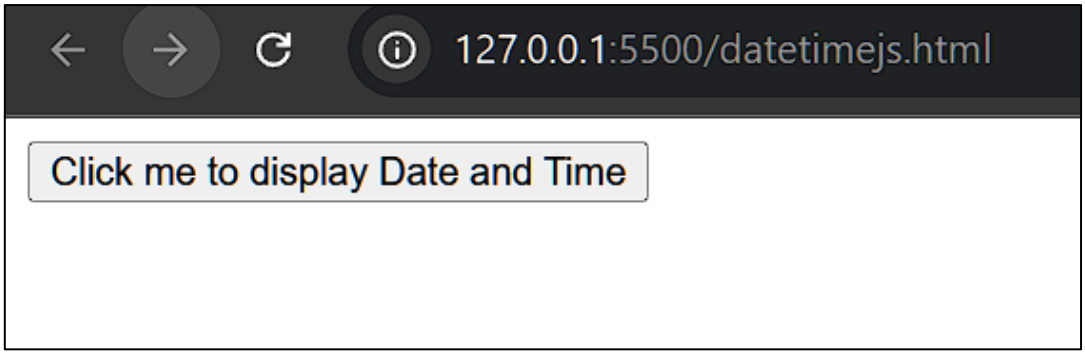
Activity 2

Before Clicking:

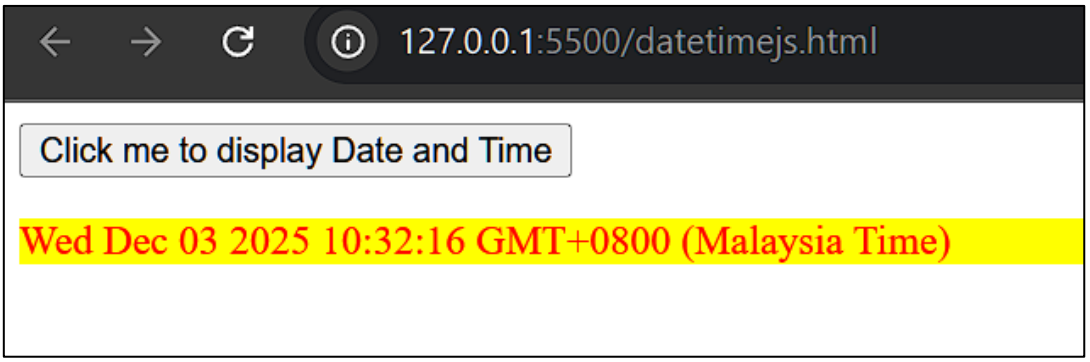
After Clicking:

Activity 3

Before Clicking:

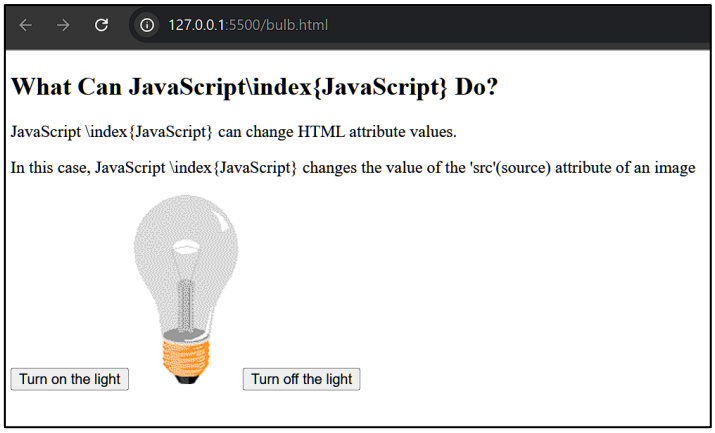


After Clicking:

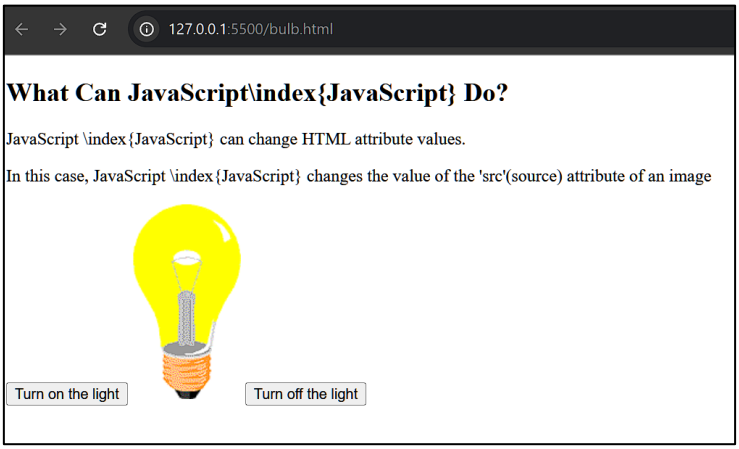


Activity 4

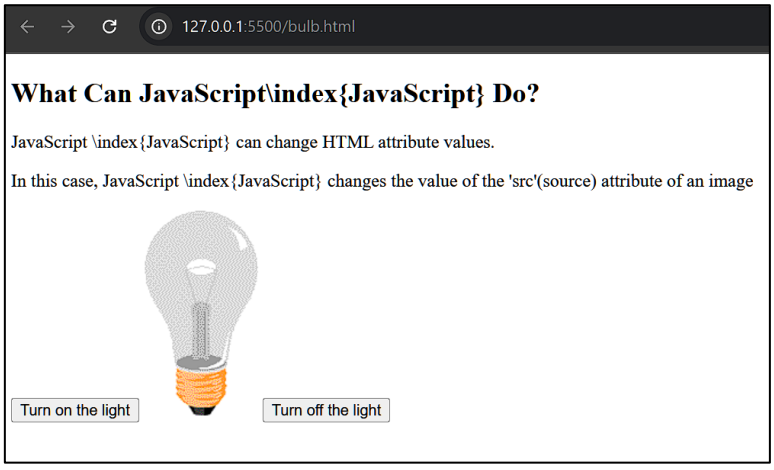
Default image:



After clicking ‘Turn on the light’ button:



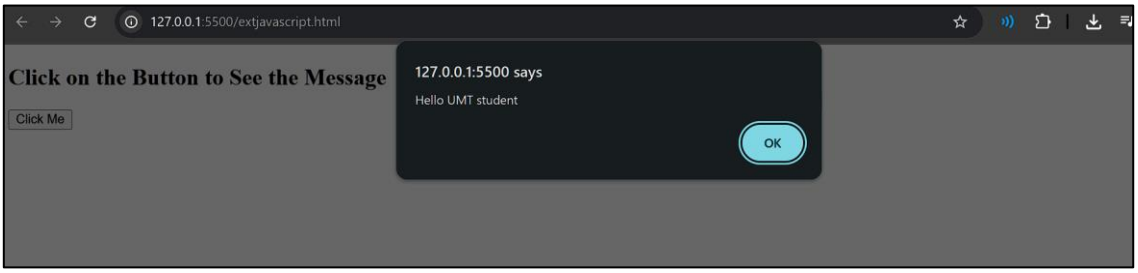
After clicking ‘Turn off the light’ button:



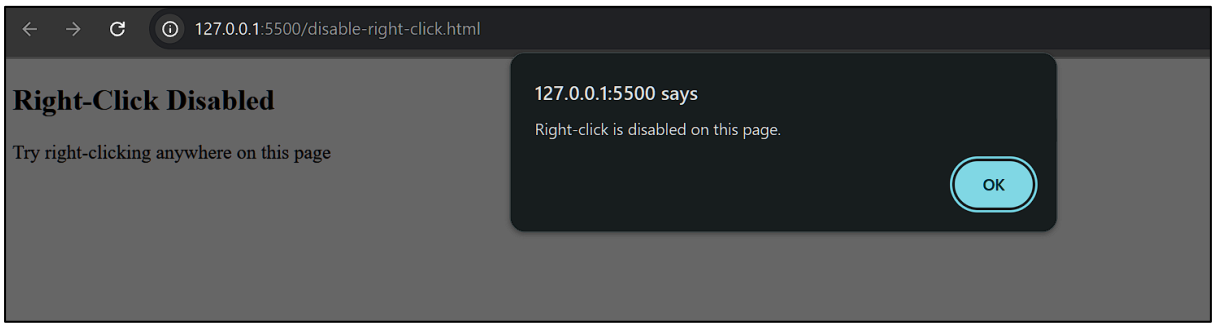
Activity 5

Before clicking:

After clicking:



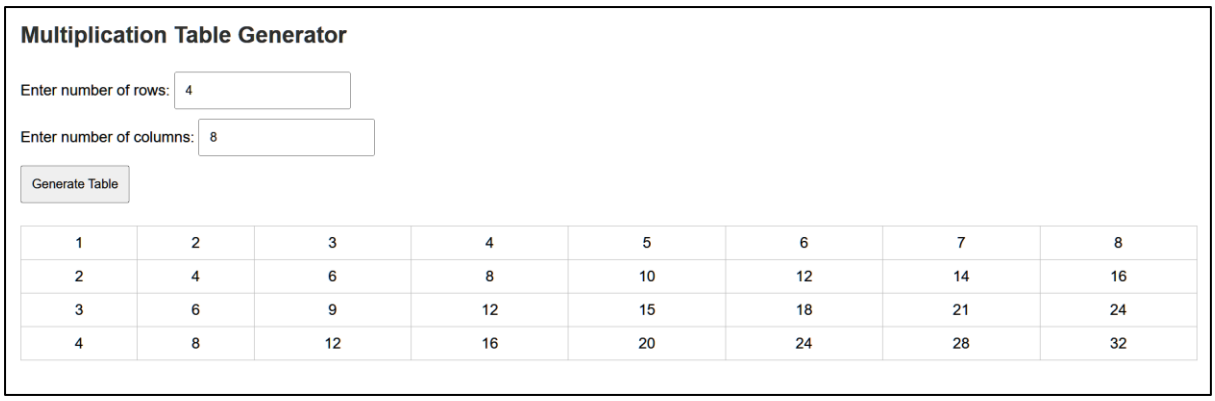
Activity 6



Activity 7

Before input:

After input:



Activity 8

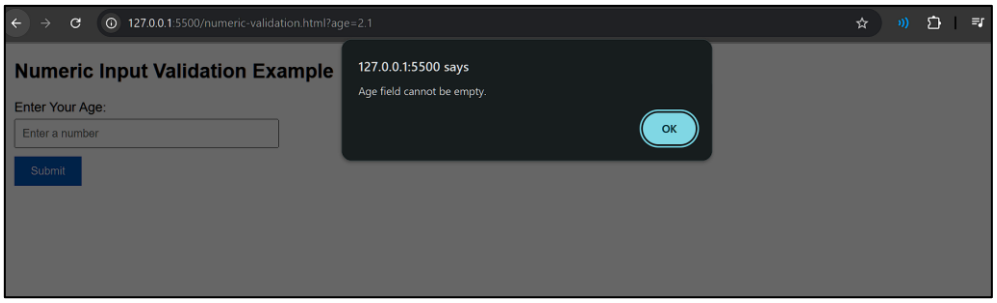
Task 1:

Case 1:

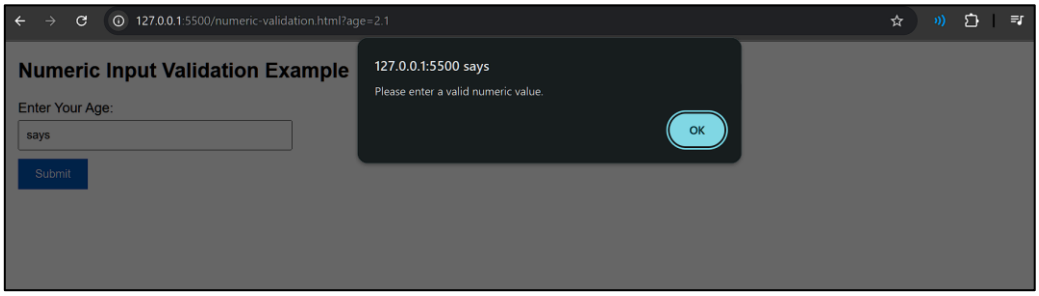
Case 2:

Task 2:

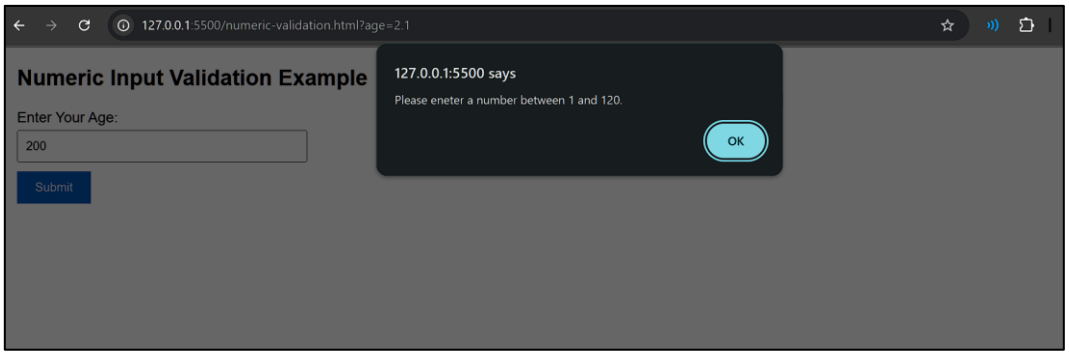
Case 1:



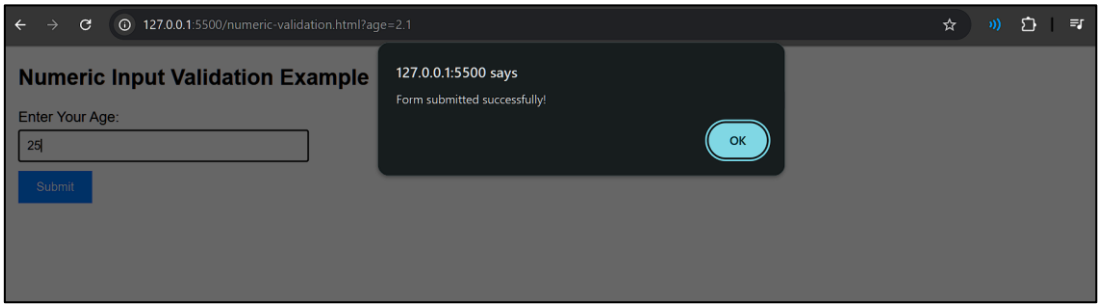
Case 2:



Case 3:



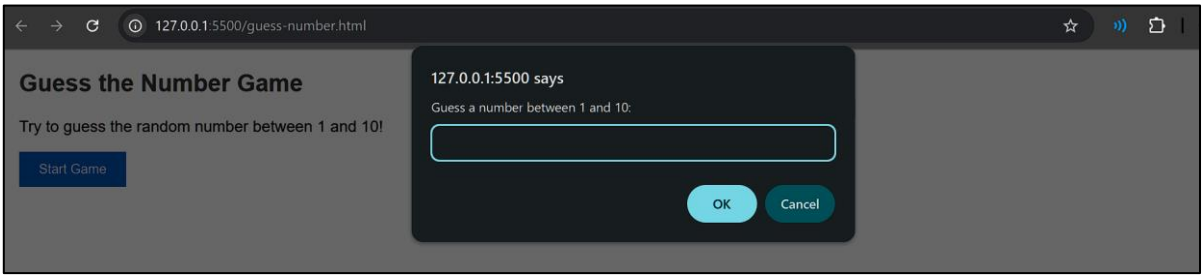
Case 4:



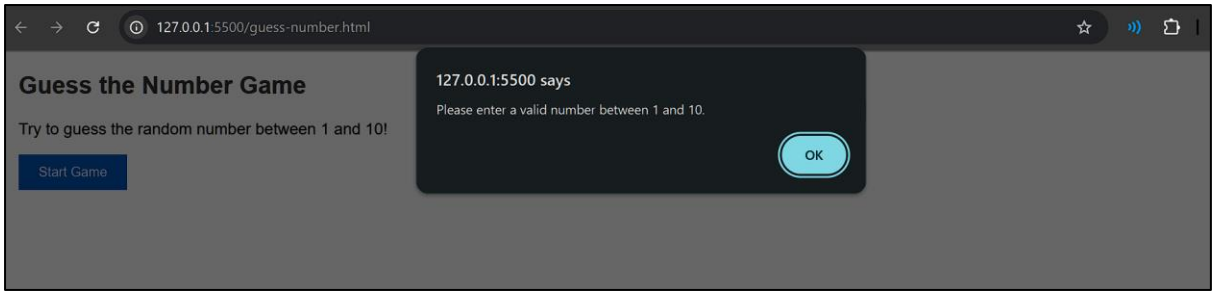
Activity 9

Main menu:

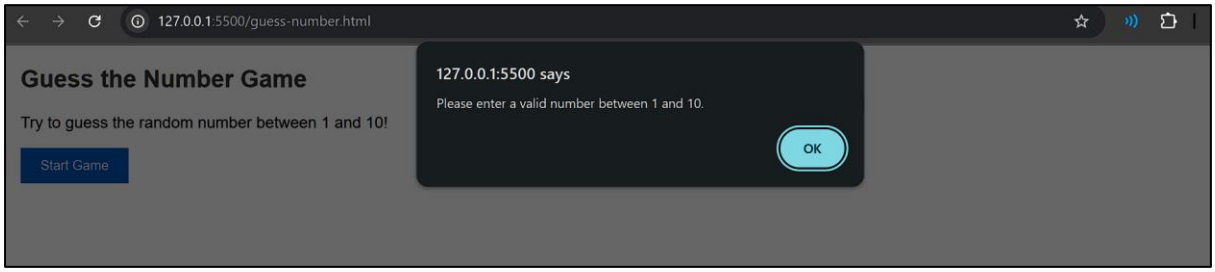
Input a random number:



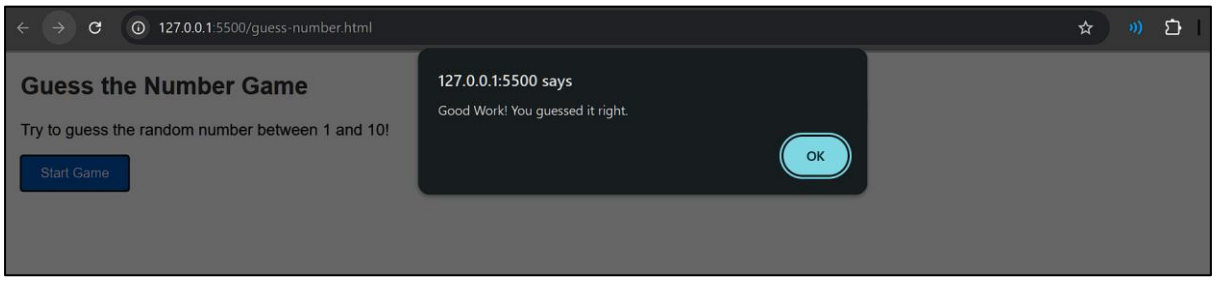
No input:



Invalid number:



Guess number correctly:



Lab Exercise

Index.html:

```html
<!DOCTYPE html>
<html lang="en">

<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <link rel="stylesheet" href="style.css">
    <script src="script.js"></script>
    <title>Pokemon Quiz</title>
</head>

<body onload="startQuiz()">
    <div class="container">
        <!--Header-->
        <div>
            <h1>Pokemon Quiz</h1>
        </div>

        <!--Questions-->
        <section>
            <div id="questions"></div>
        </section>
    </div>
</body>

</html>
```

Script JS:

```
class Question {

    //Constructor
    constructor(questionId, question, options, answer) {
        this.questionId = questionId;
        this.question = question;
        this.options = options;
        this.answer = answer;
        this.isCompleted = false;
        this.isCorrect = false;
    }

    checkAnswer(userAnswer) {
        this.isCorrect = (this.answer === userAnswer)
        this.isCompleted = true
        return this.isCorrect;
    }

    getCorrectAnswer() {
        return this.answer;
    }
}

//Set up
const question1 = new Question(1, "Who is the first Ash's Pokemon?", ["Pikachu", "Balbasaur", "Charmander", "Squirtle"], "Pikachu");
const question2 = new Question(2, "What is the definition of Pokemon?", ["Pocket Monster", "Digimon", "A book", "I don't know"], "Pocket Monster");
const question3 = new Question(3, "What is electric type weakness?", ['Water', 'Fighting', 'Steel', 'Ground'], "Ground");
const question4 = new Question(4, "Which Pokémon is the Fire-type starter in Gen 1?", ["Charmander", "Cyndaquil", "Torchic", "Fennekin"], "Charmander");
const question5 = new Question(5, "Which Pokémon evolves into Raichu?", ["Pichu", "Pikachu", "Eevee", "Minun"], "Pikachu");
const question6 = new Question(6, "Which type is super effective against Water?", ["Electric", "Grass", "Rock", "Fire"], "Electric");
const question7 = new Question(7, "Which Pokémon is the Legendary Bird of Ice?", ["Articuno", "Zapdos", "Moltres", "Lugia"], "Articuno");
const question8 = new Question(8, "Which Pokémon evolves using a Moon Stone?", ["Nidorina", "Nidorino", "Clefairy", "Eevee"], "Clefairy");
const question9 = new Question(9, "Which type is weak to Psychic attacks?", ["Fighting", "Ghost", "Dragon", "Steel"], "Fighting");
const question10 = new Question(10, "Which region is Pikachu originally from?", ["Kanto", "Johto", "Hoenn", "Sinnoh"], "Kanto");


const questions = [question1, question2, question3, question4, question5, question6, question7, question8, question9, question10];

let timer;
let timerLimit = 20;
let stopTimer = false;
let answered = false;


function startQuiz() {
    //Display next question
    nextQuestion();
}

function suffleQuestions(unansweredQuestions) {
    return unansweredQuestions[Math.floor(Math.random() * unansweredQuestions.length)];
}
```

```
function displayQuestion(chosenQuestion) {
    let htmlTag = `
        <form>
        <div id="timer" class="timer"><p>Time Left: 0</p></div>
        <label class="question"> ${chosenQuestion.question} </label>

        <div class="main-items">
            <div class="question-item">
                <input type="radio" name="question" id="question1" value="${chosenQuestion.options[0]}">
                <label for="question1">${chosenQuestion.options[0]}</label>
            </div>

            <div class="question-item">
                <input type="radio" name="question" id="question2" value="${chosenQuestion.options[1]}">
                <label for="question2">${chosenQuestion.options[1]}</label>
            </div>

            <div class="question-item">
                <input type="radio" name="question" id="question3" value="${chosenQuestion.options[2]}">
                <label for="question3">${chosenQuestion.options[2]}</label>
            </div>

            <div class="question-item">
                <input type="radio" name="question" id="question4" value="${chosenQuestion.options[3]}">
                <label for="question4">${chosenQuestion.options[3]}</label>
            </div>
        </div>

        <p id="feedback" class="feedback"></p>
        <button type="submit" id="submitAnswer" value="${chosenQuestion.questionId}" >Answer</button>
    </form>
    `;

    //Print it out
    document.getElementById("questions").innerHTML = htmlTag;
}

```

```
93  //Generate questions
94  function nextQuestion() {
95      answered = false;
96
97      //Filter out answered questions
98      let unansweredQuestions = questions.filter(q => !q.isCompleted);
99
100     //If there's no more question, show result
101     if (unansweredQuestions.length == 0) {
102
103         generateResult();
104     } else {
105         //Choose a random question
106         let chosenQuestion = suffleQuestions(unansweredQuestions);
107
108         //Display Html tag
109         displayQuestion(chosenQuestion);
110
111         //add radio listeners
112         addRadioListener()
113
114         //add submit btn listener
115         document.getElementById("submitAnswer").removeEventListener('click', nextQuestion);
116         document.getElementById("submitAnswer").addEventListener('click', onSubmitBtnClikced);
117     }
118
119     //Start the timer
120     stopTimer = false
121     startTimer()
122 }
123
124 //Generate result
125 function generateResult() {
126     const totalMarks = questions.length;
127     let score = 0;
128     questions.forEach(function (element, index) {
129         if (element.isCorrect) {
130             score += 1;
131         }
132     })
133
134     let htmlTag = `
135     <div class='result'>
136         <h1> Your score: </h1>
137         <div class="score"><h2>${score}/${totalMarks}</h2></div>
138     </div>
139     `
140
141     document.getElementById("questions").innerHTML = htmlTag;
142
143 }
```

```
145  //Timer
146  function startTimer() {
147      let timeLeft = timerLimit;
148
149      if (timer) clearInterval(timer);
150      document.getElementById("timer").textContent = `Time Left: ${timeLeft}`;
151
152      timer = setInterval(() => {
153          timeLeft--;
154
155          if (timeLeft / timerLimit <= .4) {
156              document.getElementById("timer").style.color = "hsla(0, 68%, 49%, 1.00)";
157          }
158
159          console.log(timeLeft);
160          document.getElementById("timer").textContent = `Time Left: ${timeLeft}`;
161          if (timeLeft <= 0) {
162              document.getElementById("timer").textContent = `Times Up!`;
163              clearInterval(timer);
164
165              disableRadioButtons();
166
167              //Get question id
168              const questionId = document.getElementById("submitAnswer").value
169
170              //Find the correct question id
171              let question = questions.find(q => q.questionId == questionId);
172
173              //check if question is valid
174              if (!question) {
175                  alert("Unable to fetch question");
176                  return;
177              }
178
179              question.isCompleted = true
180              //Highlight the correct answer
181              const correctAnswer = question.getCorrectAnswer();
182              document.querySelectorAll('.question-item input[type="radio"]').forEach(function (element, index) {
183                  if (element.value === correctAnswer) {
184                      console.log(element);
185                      element.parentElement.style.backgroundColor = "hsla(123, 60%, 64%, 1.00)";
186                  }
187              });
188
189              //Feedback
190              const feedbackText = document.getElementById('feedback')
191              feedbackText.textContent = "Incorrect";
192              feedbackText.style.color = "hsla(0, 68%, 49%, 1.00)";
193              feedbackText.style.display = 'block';
194
```

```
194
195             //Update button
196             document.getElementById("submitAnswer").style.margin = ".5em 0em";
197             document.getElementById("submitAnswer").style.backgroundColor = "hsla(200, 100%, 50%, 1.00)";
198             document.getElementById("submitAnswer").style.color = "hsla(0, 0%, 100%, 1.00)";
199             document.getElementById("submitAnswer").textContent = "Next Question";
200
201             document.getElementById("submitAnswer").removeEventListener('click', onSubmitBtnClikced);
202             document.getElementById("submitAnswer").addEventListener('click', nextQuestion);
203
204         } else if (stopTimer === true) {
205             clearInterval(timer);
206             stopTimer = false;
207             console.log("Break");
208         }
209     }, 1000);
210 }
211
212
213 //Change color when select a radio
214 function addRadioListener() {
215     const items = document.querySelectorAll('.question-item');
216
217     items.forEach(item => {
218         item.addEventListener('click', () => {
219             if (answered === true) return;
220
221             const radio = item.querySelector('input[type="radio"]');
222             radio.checked = true;
223             items.forEach(i => i.style.backgroundColor = 'rgb(232, 234, 233)');
224             item.style.backgroundColor = "hsla(200, 100%, 50%, 1.00)";
225         });
226     });
227 }
228
229 //Disable radio buttons
230 function disableRadioButtons() {
231     const radios = document.querySelectorAll('.question-item input[type="radio"]');
232     radios.forEach(radio => {
233         radio.disabled = true
234     });
235 }
236
```

```
238  //submit btn listener
239  function onSubmitBtnClikced(event) {
240      event.preventDefault();
241
242      disableRadioButtons();
243
244      //Get selected radio
245      const selectedRadio = document.querySelector('input[name="question"]:checked');
246
247      //Check if empty
248      if (!selectedRadio) {
249          alert("Please select an answer");
250          return;
251      }
252
253      //Get question id
254      const questionId = this.value
255
256      //Find the correct question id
257      let question = questions.find(q => q.questionId == questionId);
258
259      //check if question is valid
260      if (!question) {
261          alert("Unable to fetch question");
262          return;
263      }
264      stopTimer = true;
265      answered = true;
266
```

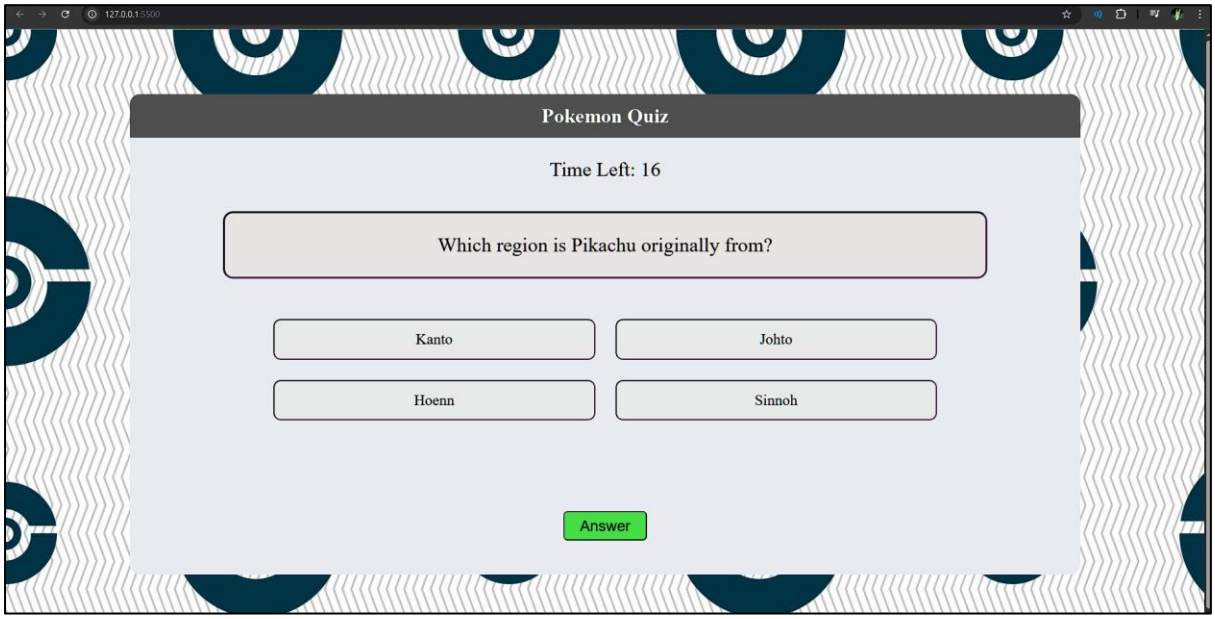
```
267      //Check if question is correct
268      const feedbackText = document.getElementById('feedback')
269
270      if (question.checkAnswer(selectedRadio.value)) {
271          question.isCorrect = true
272
273          //Show feedback
274          feedbackText.textContent = "Correct";
275          feedbackText.style.color = "hsla(123, 100%, 36%, 1.00)";
276          feedbackText.style.display = 'block';
277          selectedRadio.parentElement.style.backgroundColor = "hsla(123, 60%, 64%, 1.00)";
278      } else {
279          feedbackText.textContent = "Incorrect";
280          feedbackText.style.color = "hsla(0, 68%, 49%, 1.00)";
281          feedbackText.style.display = 'block';
282          selectedRadio.parentElement.style.backgroundColor = "hsla(0, 71%, 61%, 1.00)";
283          selectedRadio.parentElement.style.color = 'white';
284
285          //Highlight the correct answer
286          const correctAnswer = question.getCorrectAnswer();
287          document.querySelectorAll('.question-item input[type="radio"]').forEach(function (element, index) {
288              if (element.value === correctAnswer) {
289                  console.log(element);
290                  element.parentElement.style.backgroundColor = "hsla(123, 60%, 64%, 1.00)";
291              }
292          });
293      }
294      question.isCompleted = true
295      this.style.margin = ".5em 0em";
296      this.style.backgroundColor = "hsla(200, 100%, 50%, 1.00)";
297      this.style.color = "hsla(0, 0%, 100%, 1.00)";
298      this.textContent = "Next Question";
299      this.removeEventListener('click', onSubmitBtnClikced);
300
301      this.addEventListener('click', nextQuestion);
302  }
303
```

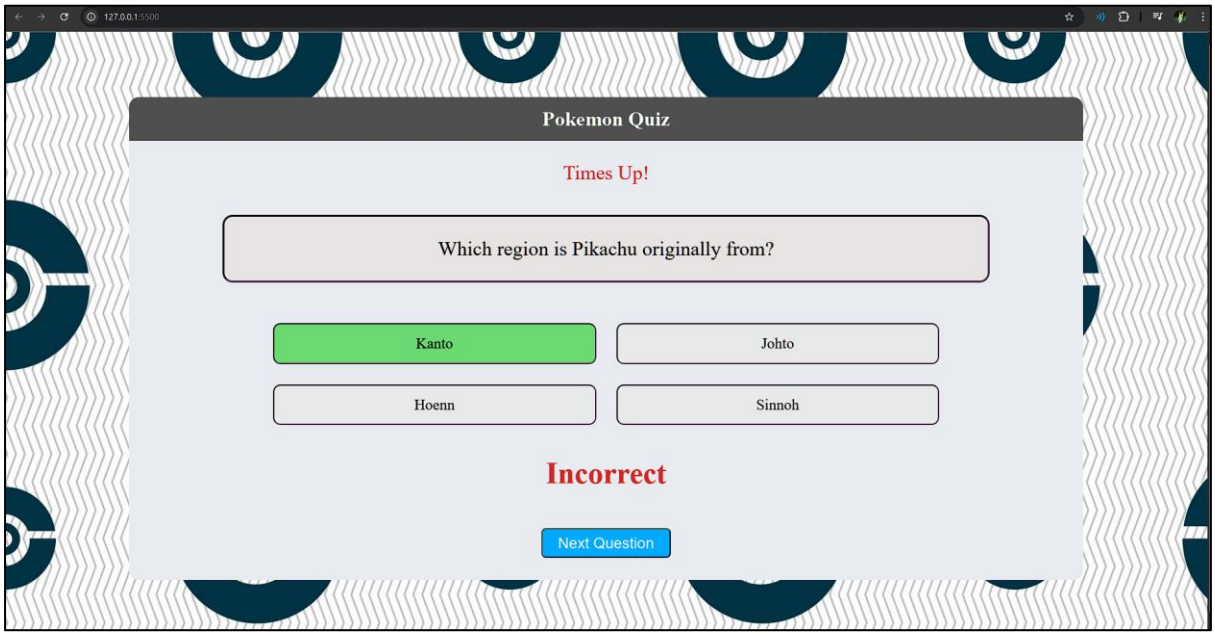
Style CSS:

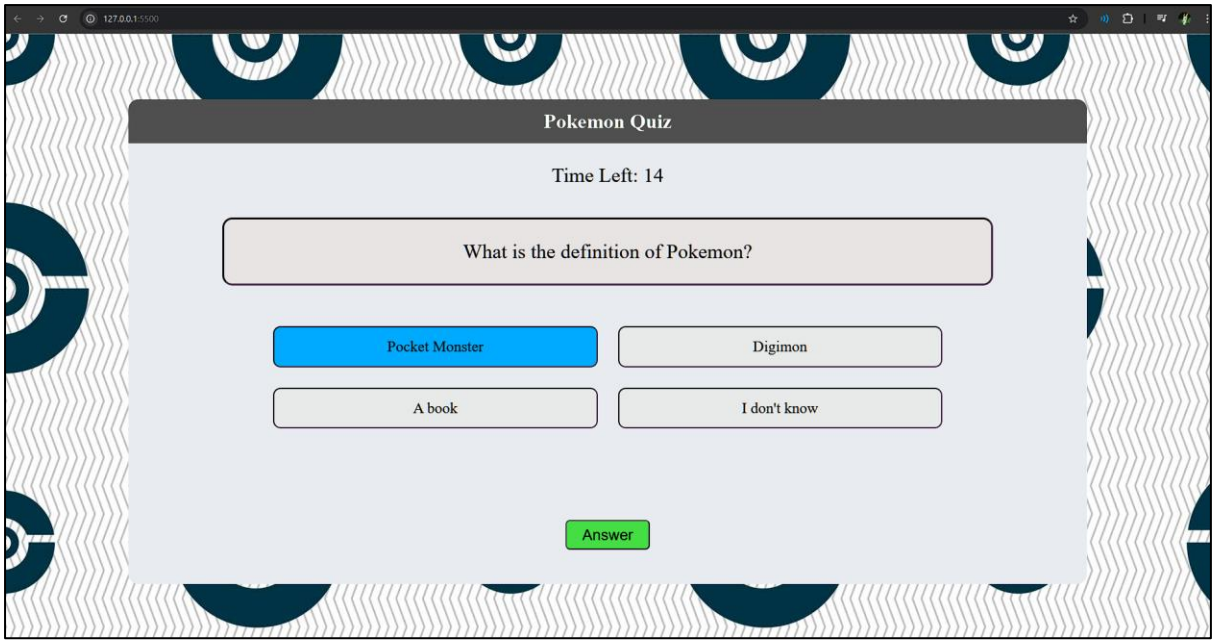
```css
body {
    background-color: hsl(0, 2%, 77%);
    background-image: url(Images/background.jpg);
    display: flex;
    align-items: center;
    justify-content: center;
    height: 100vh;
}

.container {
    background-color: rgb(232, 236, 240);
    width: 80%;
    height: 80%;
    border-radius: 1em;
    overflow: hidden;
}

.container h1 {
    color: white;
    background-color: hsl(0, 0%, 31%);
    padding: .5em 0;
    margin: 0;
    text-align: center;
}

form {
    display: flex;
    flex-direction: column;
    align-items: center;
}

form .question {
    font-size: 2em;
    background-color: rgb(231, 228, 228);
    text-align: center;
    color: rgb(0, 0, 0);
    padding: 1em 0;
    border: 0.1em inset hsl(300, 14%, 23%);
    border-radius: 0.5em;
    width: 80%;
    margin-bottom: 2em;
    margin-top: .5em;
}

form .timer {
    font-size: 2em;
    margin: 1em;
}

form .main-items {
    display: flex;
    flex-wrap: wrap;
    justify-content: center;
    gap: 2em;
    width: 80%;
}

```

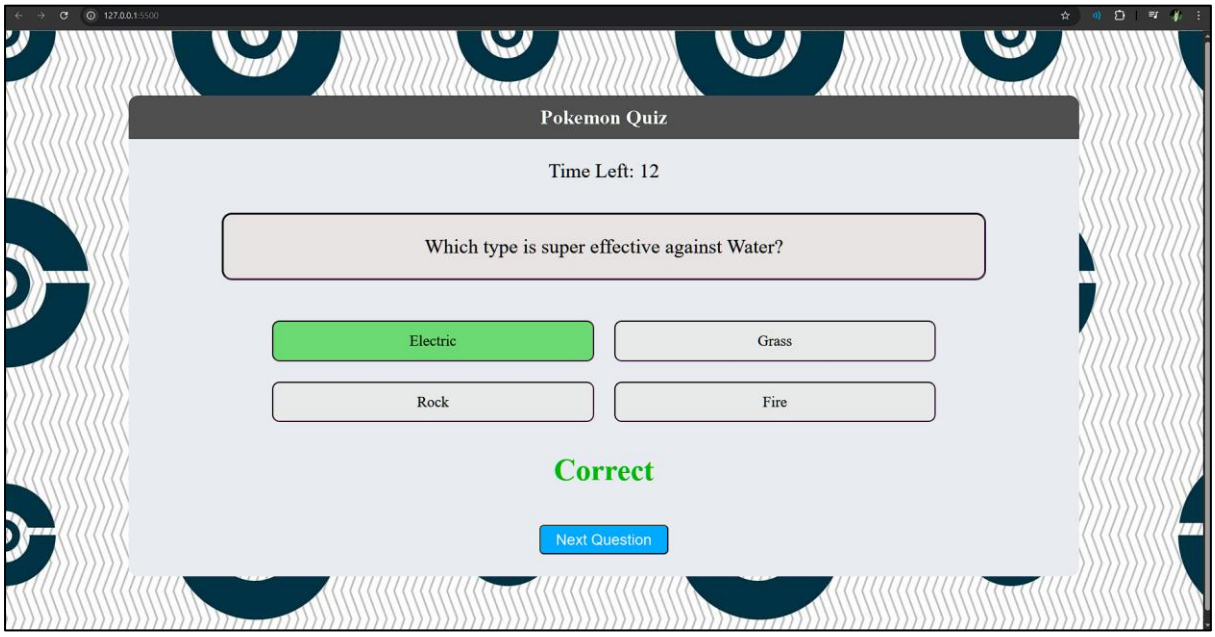
```
form .main-items .question-item {
    width: 40%;
    background-color: rgb(232, 234, 233);
    border: 0.1em inset hsl(300, 14%, 23%);
    border-radius: 0.5em;
    text-align: center;
    font-size: 1.5em;
    padding: 0.7em .5em;
    cursor: pointer;
}

form .main-items .question-item input[type="radio"] {
    display: none;
}

form button {
    margin-top: 6em;
    font-size: 1.5em;
    padding: .3em 1em;
    border-radius: .3em;
    background-color: hsl(120, 70%, 57%);
}

.result {
    display: flex;
    align-items: center;
    flex-direction: column;
}

.result h1 {
    width: 100%;
    background-color: rgb(165, 112, 214);
}

.result h2 {
    font-size: 9em;
}

.result div{
    display: flex;
    align-items: center;
    justify-content: center;
    height: 100%;
}


.feedback {
    font-size: 3em;
    font-weight: bold;
    margin-top: 1em;
    text-align: center;
    display: none;
}
```

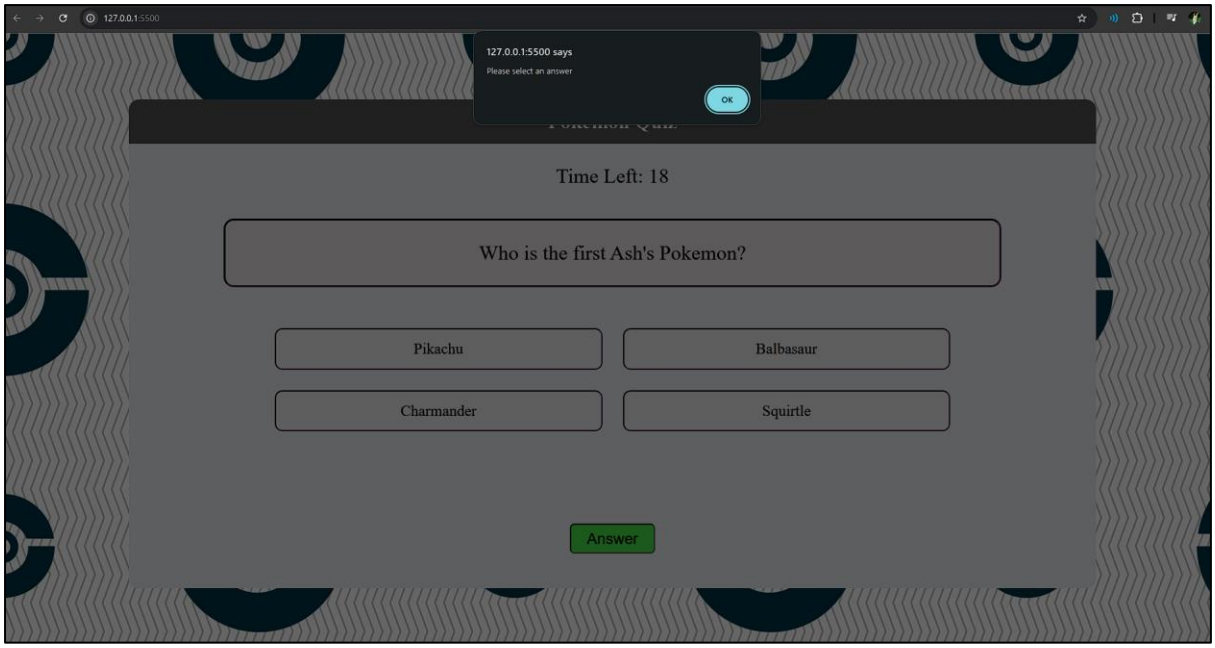
Output:

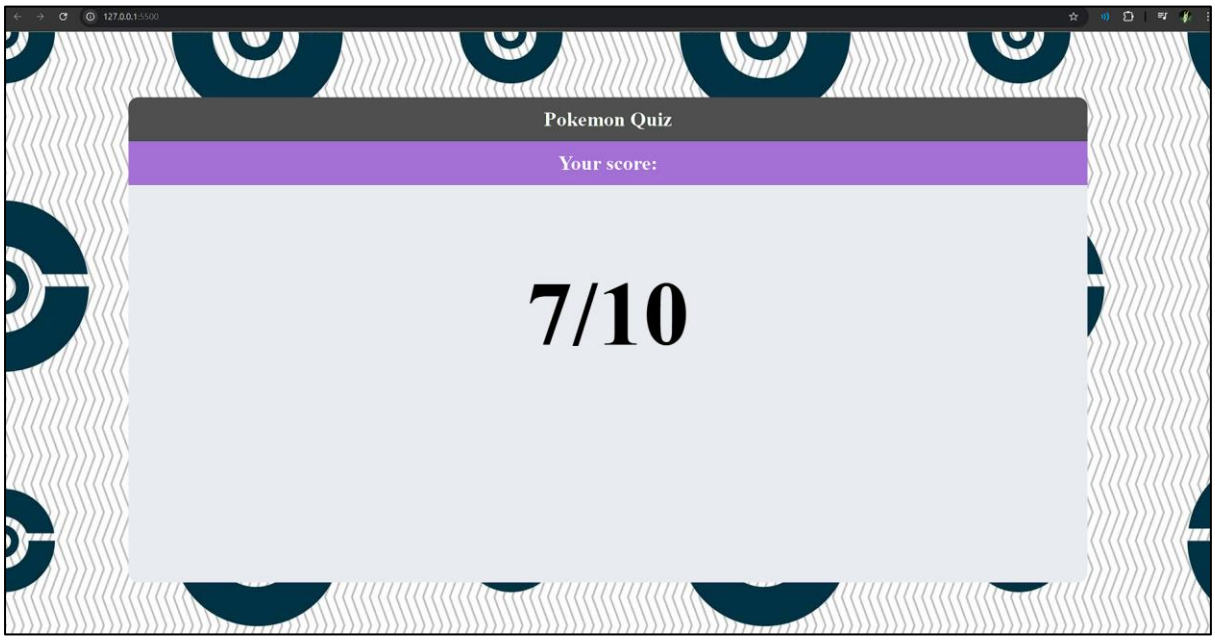

Pokemon Quiz
Time Left: 16
Which region is Pikachu originally from?
Kanto
Johto
Hoenn
Sinnoh
Answer


Pokemon Quiz
Times Up!
Which region is Pikachu originally from?
Kanto
Johto
Hoenn
Sinnoh
Incorrect
Next Question


127.0.0.1:5500
Pokemon Quiz
Time Left: 14
What is the definition of Pokemon?
Pocket Monster
Digimon
A book
I don't know
Answer


127.0.0.1:5500
Pokemon Quiz
Time Left: 12
Which type is super effective against Water?
Electric
Grass
Rock
Fire
Correct
Next Question


127.0.0.1:5500
127.0.0.1:5500 says
Please select an answer
OK
Time Left: 18
Who is the first Ash's Pokemon?
Pikachu
Balbasaur
Charmander
Squirtle
Answer


127.0.0.1:5500
Pokemon Quiz
Your score:
7/10