



## **Web-based Interface Design** **(CSF3133)**

### **LAB MODULE 6**

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**Programme: Computer Science (Software Engineering)**

### **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 11:42:59 GMT+0800 (Malaysia Time)

[Click me to display Date and Time](#)

Wed Dec 03 2025 11:48:15 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

### Click the Button to See the Message

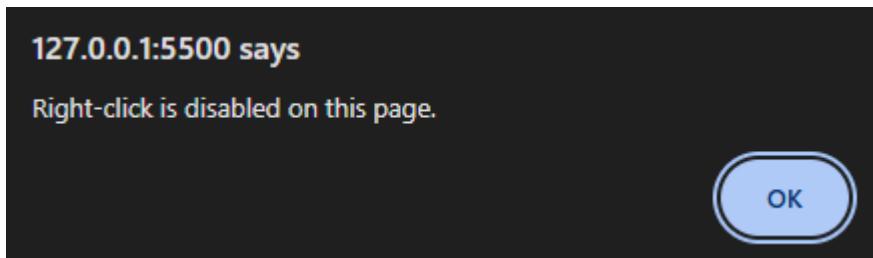
**Click Me**



## Activity 6.8

### Right-Click Disabled

Try right-clicking anywhere on this page.



## Activity 6.9

### Multiplication Table Generator

Enter number of rows:

Enter number of columns:

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

### Form Validation Example

First Name:

Submit

127.0.0.1:5500 says

First Name must be filled out.

OK

### Form Validation Example

First Name:

Submit

Adly

X

## Activity 6.10.2

### Numeric Input Validation Example

Enter Your Age:

Submit

127.0.0.1:5500 says

Age field cannot be empty.

OK

### Numeric Input Validation Example

Enter Your Age:

Submit

127.0.0.1:5500 says

Please enter a valid numeric value.

OK

## Numeric Input Validation Example

Enter Your Age:

Submit

127.0.0.1:5500 says

Please enter a number between 1 and 120.

OK

## Numeric Input Validation Example

Enter Your Age:

Submit

127.0.0.1:5500 says

Form submitted successfully!

OK

## Activity 6.11

### Guess the Number Game

Try to guess the random number between 1 and 10!

**Start Game**

127.0.0.1:5500 says

Guess a number between 1 and 10:

**OK**

**Cancel**

127.0.0.1:5500 says

Guess a number between 1 and 10:

11

**OK**

**Cancel**

127.0.0.1:5500 says

Please enter a valid number between 1 and 10.

**OK**

**127.0.0.1:5500 says**

Guess a number between 1 and 10:

5

OK

Cancel

**127.0.0.1:5500 says**

Not matched. The correct number was 9.

OK

**127.0.0.1:5500 says**

Good Work! You guessed it right.

OK

## Lab Exercise

### Index.html

```
↳ index.html > ⏺ html
1   <!DOCTYPE html>
2   <html lang="en">
3   <head>
4       <meta charset="UTF-8">
5       <meta name="viewport" content="width=device-width, initial-scale=1.0">
6       <title>Math Quiz</title>
7       <link rel="stylesheet" href="style.css">
8   </head>
9   <body>
10      <div class="container">
11          <h1>Math Quiz</h1>
12
13          <div class="info">
14              <p>Question: <span id="current">1</span>/5</p>
15              <p>Time: <span id="timer">30</span>s</p>
16              <p>Score: <span id="score">0</span></p>
17          </div>
18
19          <div class="question" id="question">
20              </div>
21
22          <div class="options" id="options">
23              </div>
24
25          <div class="feedback" id="feedback">
26              </div>
27
28          <button id="next" class="btn">Start Quiz</button>
29      </div>
30
31      <script src="script.js"></script>
32  </body>
33 </html>
```

## style.css

```
# style.css > ...
1  body {
2      font-family: Arial, sans-serif;
3      background: #f0f0f0;
4      display: flex;
5      justify-content: center;
6      align-items: center;
7      height: 100vh;
8      margin: 0;
9  }
10
11 .container {
12     background: white;
13     padding: 30px;
14     border-radius: 10px;
15     box-shadow: 0 0 10px rgba(0,0,0,0.1);
16     width: 400px;
17     text-align: center;
18  }
19
20 h1 {
21     color: #333;
22     margin-bottom: 20px;
23  }
24
25 .info {
26     display: flex;
27     justify-content: space-between;
28     margin-bottom: 20px;
29     font-weight: bold;
30  }
31
32 .question {
33     font-size: 20px;
34     margin-bottom: 20px;
35     padding: 15px;
36     background: #f8f9fa;
37     border-radius: 5px;
38  }
39
40 .options {
41     display: flex;
42     flex-direction: column;
43     gap: 10px;
44     margin-bottom: 20px;
45  }
46
```

```
47  .option {
48      padding: 12px;
49      border: 2px solid #ddd;
50      border-radius: 5px;
51      cursor: pointer;
52      background: white;
53  }
54
55  .option:hover {
56      background: #f0f0f0;
57  }
58
59  .option.selected {
60      border-color: #007bff;
61      background: #e7f3ff;
62  }
63
64  .feedback {
65      padding: 10px;
66      margin-bottom: 20px;
67      min-height: 30px;
68      font-weight: bold;
69  }
70
71  .btn {
72      background: #007bff;
73      color: white;
74      padding: 12px 30px;
75      border: none;
76      border-radius: 5px;
77      cursor: pointer;
78      font-size: 16px;
79      width: 100%;
80  }
81
82  .btn:hover {
83      background: #0056b3;
84  }
85
```

## script.js

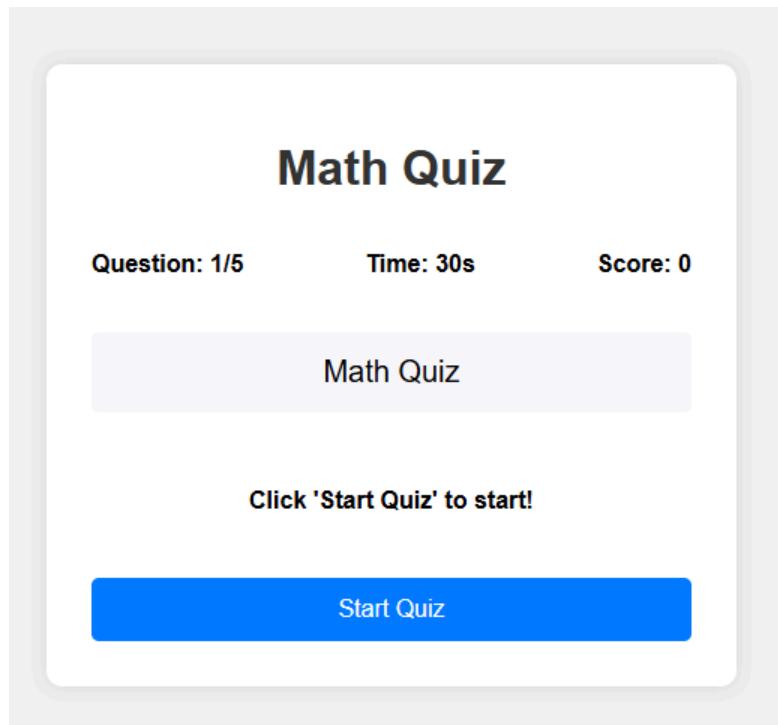
```
js script.js > ...
1  const questions = [
2      {question: "What is 9 + 10?", options: ["21", "19", "20", "None"], correct: 1},
3      {question: "What is 5 * 2?", options: ["7", "10", "20", "5"], correct: 1},
4      {question: "What is 19 - 4?", options: ["15", "23", "10", "16"], correct: 0},
5      {question: "What is 20 / 4?", options: ["4", "16", "5", "2"], correct: 2},
6      {question: "What is 5 + 10 / 2?", options: ["15", "7.5", "7", "10"], correct: 3}
7  ];
8
9  let currentQuestionIndex = 0;
10 let score = 0;
11 let selectedAnswerIndex = null;
12 let timeLeft = 30;
13 let timerId = null;
14
15 const questionElement = document.getElementById('question');
16 const optionsElement = document.getElementById('options');
17 const currentQuestionElement = document.getElementById('current');
18 const timerElement = document.getElementById('timer');
19 const scoreElement = document.getElementById('score');
20 const feedbackElement = document.getElementById('feedback');
21 const nextButton = document.getElementById('next');
22
23 window.onload = function() {
24     questionElement.textContent = "Math Quiz";
25     feedbackElement.textContent = "Click 'Start Quiz' to start!";
26     nextButton.textContent = "Start Quiz";
27 };
28
29 function shuffleQuestions() {
30     for (let i = questions.length - 1; i > 0; i--) {
31         const j = Math.floor(Math.random() * (i + 1));
32         [questions[i], questions[j]] = [questions[j], questions[i]];
33     }
34 }
35
36 function showQuestion() {
37     if (currentQuestionIndex >= questions.length) {
38         endQuiz();
39         return;
40     }
41
42     timeLeft = 30;
43     timerElement.textContent = timeLeft;
44
45     if (timerId) {
46         clearInterval(timerId);
47     }
48
49     const currentQuestion = questions[currentQuestionIndex];
```

```
51     questionElement.textContent = currentQuestion.question;
52
53     optionsElement.innerHTML = '';
54
55     currentQuestion.options.forEach(function(option, index) {
56         const optionDiv = document.createElement('div');
57         optionDiv.className = 'option';
58         optionDiv.textContent = option;
59
60         optionDiv.onclick = function() {
61             document.querySelectorAll('.option').forEach(function(opt) {
62                 opt.classList.remove('selected');
63             });
64
65             optionDiv.classList.add('selected');
66             selectedAnswerIndex = index;
67             nextButton.disabled = false;
68
69             clearInterval(timerId);
70         };
71
72         optionsElement.appendChild(optionDiv);
73     });
74
75     currentQuestionElement.textContent = currentQuestionIndex + 1;
76
77     feedbackElement.textContent = 'Select an answer';
78     feedbackElement.style.color = 'black';
79     nextButton.disabled = true;
80     nextButton.textContent = 'Next Question';
81     selectedAnswerIndex = null;
82
83     startTimer();
84 }
85
86 function startTimer() {
87     timerId = setInterval(function() {
88         timeLeft--;
89         timerElement.textContent = timeLeft;
90
91         if (timeLeft <= 0) {
92             clearInterval(timerId);
93             feedbackElement.textContent = "Time's up!";
94             feedbackElement.style.color = 'red';
95             nextButton.disabled = false;
96         }
97     }, 1000);
98 }
99 }
```

```
100  function checkAnswerAndContinue() {
101    const currentQuestion = questions[currentQuestionIndex];
102
103    if (selectedAnswerIndex === currentQuestion.correct) {
104      score++;
105      scoreElement.textContent = score;
106      feedbackElement.textContent = 'Correct!';
107      feedbackElement.style.color = 'green';
108    } else {
109      feedbackElement.textContent = `Wrong! Correct: ${currentQuestion.options[currentQuestion.correct]}`;
110      feedbackElement.style.color = 'red';
111    }
112
113    setTimeout(function() {
114      currentQuestionIndex++;
115      showQuestion();
116    }, 1000);
117  }
118
119  function endQuiz() {
120    clearInterval(timerId);
121    questionElement.textContent = `Quiz Complete!`;
122    optionsElement.innerHTML = `<div style="padding: 20px; font-size: 18px;">Your score: ${score}/${questions.length}</div>`;
123    feedbackElement.textContent = 'Refresh page to play again';
124    nextButton.style.display = 'none';
125  }
126
127  nextButton.onclick = function() {
128    if (nextButton.textContent === 'Start Quiz') {
129      shuffleQuestions();
130      showQuestion();
131    } else {
132      checkAnswerAndContinue();
133    }
134  };

```

**Output:**



The image shows the state of the "Math Quiz" app after the user has started the quiz. At the top, it displays "Question: 1/5", "Time: 22s", and "Score: 0". Below this, a light gray rectangular input field contains the text "What is 20 / 4?". Below the input field are four horizontal answer buttons, each containing a number: "4", "16", "5", and "2". At the bottom of the screen, the text "Select an answer" is displayed above a large blue rectangular button containing the white text "Next Question". The entire interface is enclosed in a rounded rectangular frame.

## Math Quiz

Question: 5/5

Time: 27s

Score: 3

What is  $20 / 4$ ?

4

16

5

2

Correct!

Next Question

## Math Quiz

Question: 1/5

Time: 12s

Score: 0

What is  $20 / 4$ ?

4

16

5

2

Wrong! Correct: 5

Next Question

## Math Quiz

Question: 3/5

Time: 0s

Score: 1

What is  $9 + 10$ ?

21

19

20

None

Time's up!

[Next Question](#)

## Math Quiz

Question: 5/5

Time: 27s

Score: 3

Quiz Complete!

Your score: 3/5

[Refresh page to play again](#)