PRACTICE REPORT

Subject: Web application

Lab 2: Javascript

Instructor: Trần Vĩnh Khiêm

Report date: 22/11/2023

1. GENERAL INFORMATION:

Class: MSIS207.O12.CTTT.1

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DETAILED REPORT

Link Github contain code:

https://github.com/KRocker3512/Web-app-practice-class

Note : If you can't access link above, please contact to me via email :20521472@gm.uit.edu.vn .

Exercise 1:

Question 1:

Code

```
console.log("Question 1:")
const currentDate = new Date();
const dayNumber = currentDate.getDay();
const days = ["Sunday", "Monday", "Tuesday", "Wednesday", "Thursday", "Friday",
"Saturday"];
const currentDay = days[dayNumber];
let hours = currentDate.getHours();
const minutes = currentDate.getMinutes();
const seconds = currentDate.getSeconds();
const ampm = hours >= 12 ? 'PM' : 'AM';
hours = hours % 12;
hours = hours ? hours : 12;
console.log(`Today is: ${currentDay}.`);
console.log(`Current time is: ${hours} ${ampm} : ${minutes} : ${seconds}`);
```

Demo

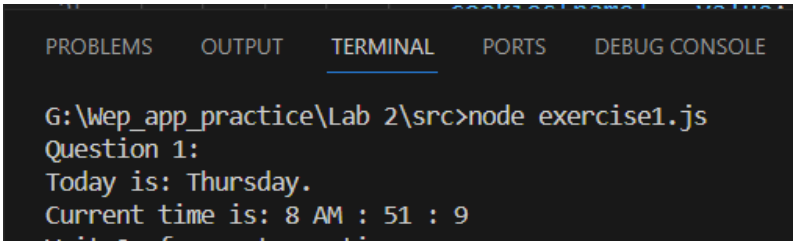


Image 1. Demo of exercise 1.1.

Question 2:

Code

```
console.log("")
        console.log("Question 3:")
        function parseCookieHeader(cookieHeader) {
                const cookies = {};
                const cookieArray = cookieHeader.split(';');
                cookieArray.forEach(cookie => {
                    const [name, value] = cookie.trim().split('=');
                    cookies[name] = value;
```

```
                });

                return cookies;
            }
        const cookieHeader =
"cookie1=_hjSessionUser_731679=eyJpZCI6IjZiYzg4NTgzLTA2ODctNWNiMi1hZmM0LTg2YTI1OD
UwYmNhMCIsImNyZWF0ZWQiOjE3MDAwOTg0NjA3NDUsImV4aXN0aW5nIjpmYWxzZX0=;__iid=;fpt_uui
d=%22cb599e47-590e-4896-b291-
40c5cb30b2bf%22;_hjAbsoluteSessionInProgress=0;dtdz=d596bd12-d650-4d78-89d5-
912e8a1fe8c2;__su=0;__IP=1952847243;__RC=5;ozi=2000.SSZzejyD7iu_cVEzsr0LpYAPvhoKK
a7GR9V-_iX0Iyv-rUpesm1HYJFLvAIU2bQCEj_hgD89M85-
sUket0TOZ3So.1;undefined=undefined;_fbp=fb.2.1700098459134.811479027;__zi=3000.SS
ZzejyD7iu_cVEzsr0LpYAPvhoKKa7GR9V-_yX0Iyz-
rUpfsmTGY3FIxQMI0bkADD6YfvO37umqqQofbWuUXm.1;__R=3;cf_clearance=lpmku.w0o66zPtjTx
mCqwpt1.8XxPF4FjR_nUdZPU5M-1700098453-0-1-ed57e9f4.6ae96b03.ba56b614-
0.2.1700098453;__uif=__uid%3A1758247890457935724%7C__ui%3A-
1%7C__create%3A1658247890;__tb=0;vMobile=1;__admUTMtime=1700098459;__iid=;__rtbh.
lid=%7B%22eventType%22%3A%22lid%22%2C%22id%22%3A%22yrKoO7UZXt3kMbFEWrwB%22%7D;__s
u=0;_ga=GA1.3.129436683.1700098450;_ga_ZR815NQ85K=GS1.1.1700098449.1.1.1700098546
.60.0.0;_gcl_au=1.1.1072636705.1700098450;_gid=GA1.3.82745712.1700098451;_hjFirst
Seen=1;_hjIncludedInSessionSample_731679=0;_hjSession_731679=eyJpZCI6IjdmMzA2NTM3
LThmZGYtNGI5YS05MDY3LTM0MWY3NGNiNDhlYSIsImNyZWF0ZWQiOjE3MDAwOTg0NjA3NDcsImluU2Ftc
GxlIjpmYWxzZSwic2Vzc2lvbml6ZXJCZXRhRW5hYmxlZCI6dHJ1ZX0=;_tt_enable_cookie=1;_ttp=
HAsTsJC_cH5BZVAgAGPej_2M8LB;ajs_group_id=null;log_6dd5cf4a-73f7-4a79-b6d6-
b686d28583fc=cd73e63d-7b5c-44ce-a0c9-0f8821af6284";
        const parsedCookies = parseCookieHeader(cookieHeader);

        console.log("Parsed Cookies:", parsedCookies);
```

Demo

```
Question 3:
Parsed Cookies: {
  cookie1: '_hjSessionUser_731679',
  __iid: '',
  fpt_uuid: '%22cb599e47-590e-4896-b291-40c5cb30b2bf%22',
  _hjAbsoluteSessionInProgress: '0',
  dtdz: 'd596bd12-d650-4d78-89d5-912e8a1fe8c2',
  __su: '0',
  __IP: '1952847243',
  __RC: '5',
  ozi: '2000.SSZzejyD7iu_cVEzsr0LpYAPvhoKKa7GR9V-_iX0Iyv-rUpesm1HYJFLvAIU2bQCEj_hgD89M85-sUket0TOZ3So.1',
  undefined: 'undefined',
  _fbp: 'fb.2.1700098459134.811479027',
  __zi: '3000.SSZzejyD7iu_cVEzsr0LpYAPvhoKKa7GR9V-_yX0Iyz-rUpfsmTGY3FIxQMI0bkADD6YfvO37umqqQofbWuUXm.1',
  __R: '3',
  cf_clearance: 'lpmku.w0o66zPtjTxmCqwpt1.8XxPF4FjR_nUdZPU5M-1700098453-0-1-ed57e9f4.6ae96b03.ba56b614-0.2.1700098453',
  __uif: '__uid%3A1758247890457935724%7C__ui%3A-1%7C__create%3A1658247890',
  __tb: '0',
  vMobile: '1',
  __admUTMtime: '1700098459',
  '__rtbh.lid': '%7B%22eventType%22%3A%22lid%22%2C%22id%22%3A%22yrKoO7UZXt3kMbFEWrwB%22%7D',
  _ga: 'GA1.3.129436683.1700098450',
  _ga_ZR815NQ85K: 'GS1.1.1700098449.1.1.1700098546.60.0.0',
  _gcl_au: '1.1.1072636705.1700098450',
  _gid: 'GA1.3.82745712.1700098451',
  _hjFirstSeen: '1',
  _hjIncludedInSessionSample_731679: '0',
  _hjSession_731679: 'eyJpZCI6IjdmMzA2NTM3LThmZGYtNGI5YS05MDY3LTM0MWY3NGNiNDhlYSIsImNyZWF0ZWQiOjE3MDAwOTg0NjA3NDcsImluU2FtcGxlIjpmYWxzZSwic2Vzc2lvbml6ZXJCZXRhRW5hYmxlZCI6dHJ1ZX0',
  _tt_enable_cookie: '1',
  _ttp: 'HAsTsJC_cH5BZVAgAGPej_2M8LB',
  ajs_group_id: 'null',
  'log_6dd5cf4a-73f7-4a79-b6d6-b686d28583fc': 'cd73e63d-7b5c-44ce-a0c9-0f8821af6284'
}
```

Image 2. Demo of exercise 1.2.

Exercise 2:

Code

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>Exercise 2</title>
    <style>
        .highlight {
            font-weight: bold;
            color: red; /* You can customize the color */
        }
    </style>
</head>

<body>

<h1>Exercise 1</h1>

<h2>Question 1,2</h2>
<form id="myForm">
    <input type="submit" value="Submit" id="submitButton">
</form>

<h2>Quesrion 3</h2>
<form id="ageForm">
    <label for="birthYear">Enter Birth Year:</label>
    <input type="text" id="birthYear" name="birthYear">
    <button type="button" onclick="calculateAge()">Calculate Age</button>
</form>

<h2>Quesrion 4</h2>
<p><strong>We</strong> have just started <strong>this</strong> section for the
users (<strong>beginner</strong> to intermediate) who <strong>want</strong> to
work with <strong>various</strong> JavaScript <strong>problems</strong> and write
scripts online to <strong>test</strong> their JavaScript
<strong>skill</strong>.</p>
<p>[<a href="#" onMouseOver="highlight()" onMouseOut="return_normal()">Hover
me</a>]</p>

<script>
    /*Question 1*/
    document.getElementById('myForm').addEventListener('submit', function (event)
{
        event.preventDefault();
```

```
        document.getElementById('submitButton').value = 'Submitted!';

        /*Question 2*/
        const submitButtonValue = document.getElementById('submitButton').value;
        console.log('Submit Button Value:', submitButtonValue);
    });

    /*Question 3*/
    function calculateAge() {
        const birthYear = document.getElementById('birthYear').value;
        const currentYear = new Date().getFullYear();
        const age = currentYear - parseInt(birthYear);

        alert('Your age is: ' + age);
    }

    /*Question 4*/

    var bold_Items;
    window.onload = getBold_items();

    function getBold_items()
    {
        bold_Items = document.getElementsByTagName('strong');
    }

    function highlight()
    {
        for (var i=0; i<bold_Items.length; i++)
    {
        bold_Items[i].style.color = "red";
    }
    }

    function return_normal()
    {
        for (var i=0; i<bold_Items.length; i++)
        {
            bold_Items[i].style.color = "black";
        }
    }
</script>

</body>
</html>
```

Demo

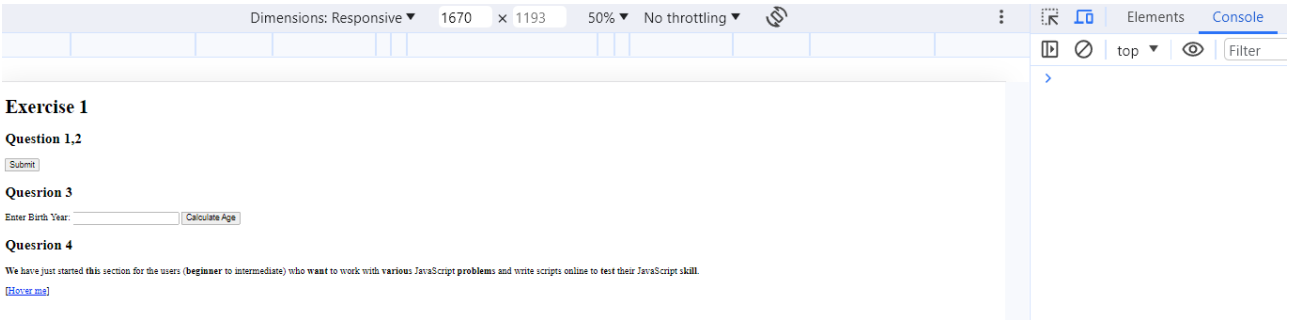


Image 3. Demo of exercise 2.1 and 2.2 before click button.

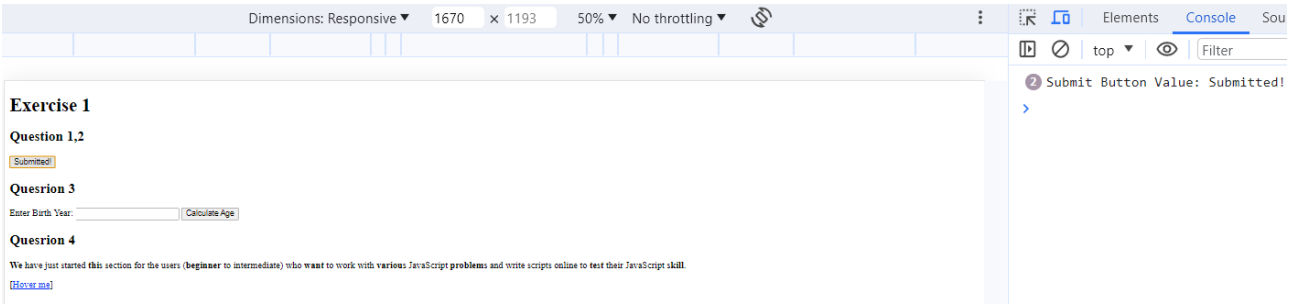


Image 4. Demo of exercise 2.1 and 2.2 after click button.

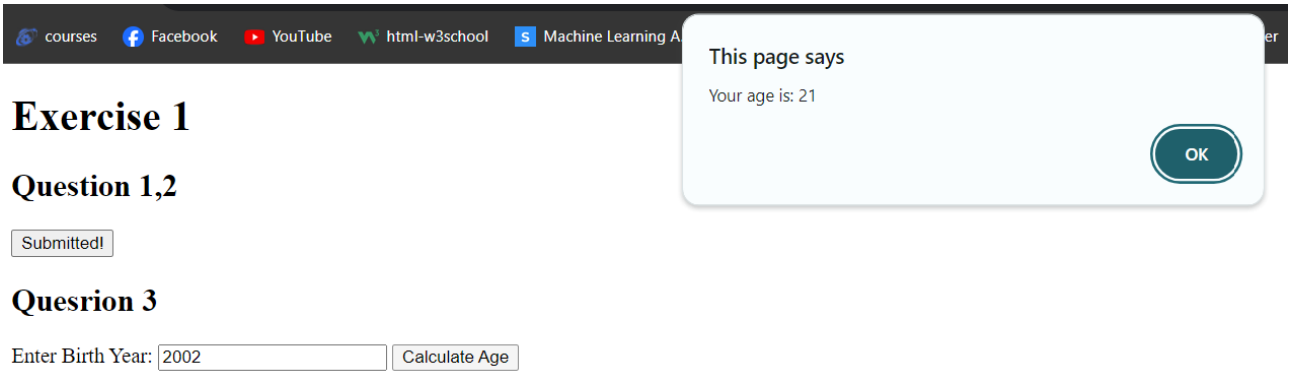


Image 5. Demo of exercise 2.3 after input and click button.

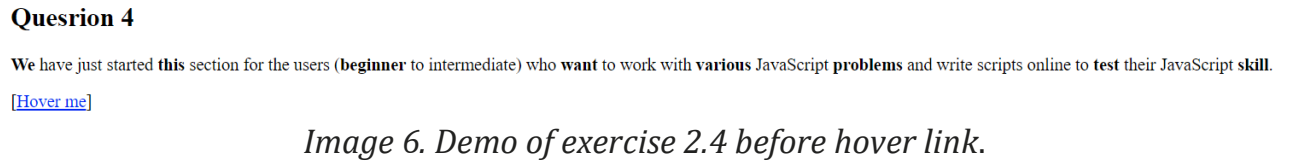


Image 6. Demo of exercise 2.4 before hover link.

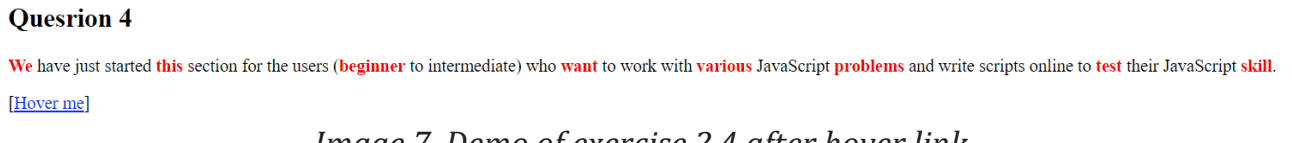
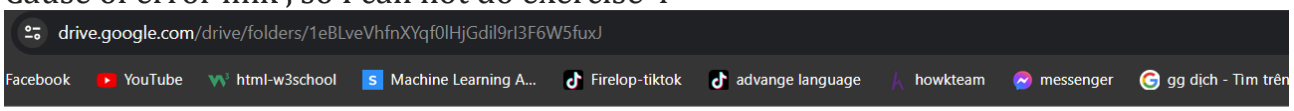


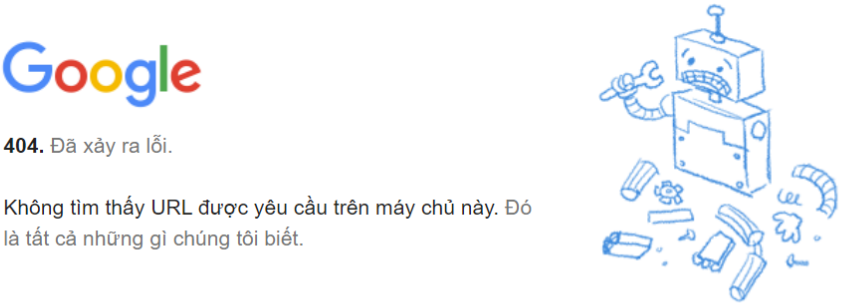
Image 7. Demo of exercise 2.4 after hover link.

Exercise 3:

Exercise 4:

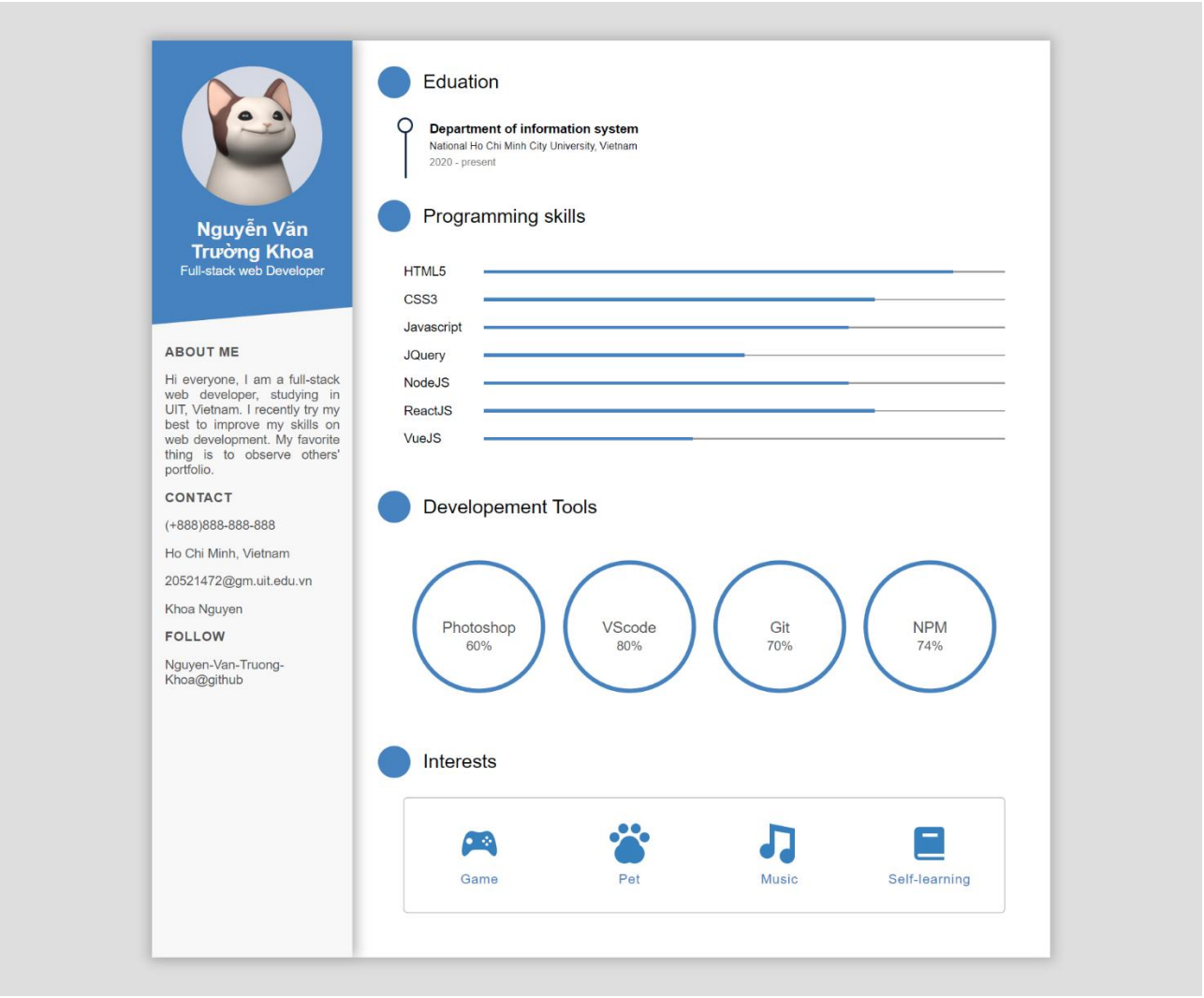
Cause of error link , so I can not do exercise 4



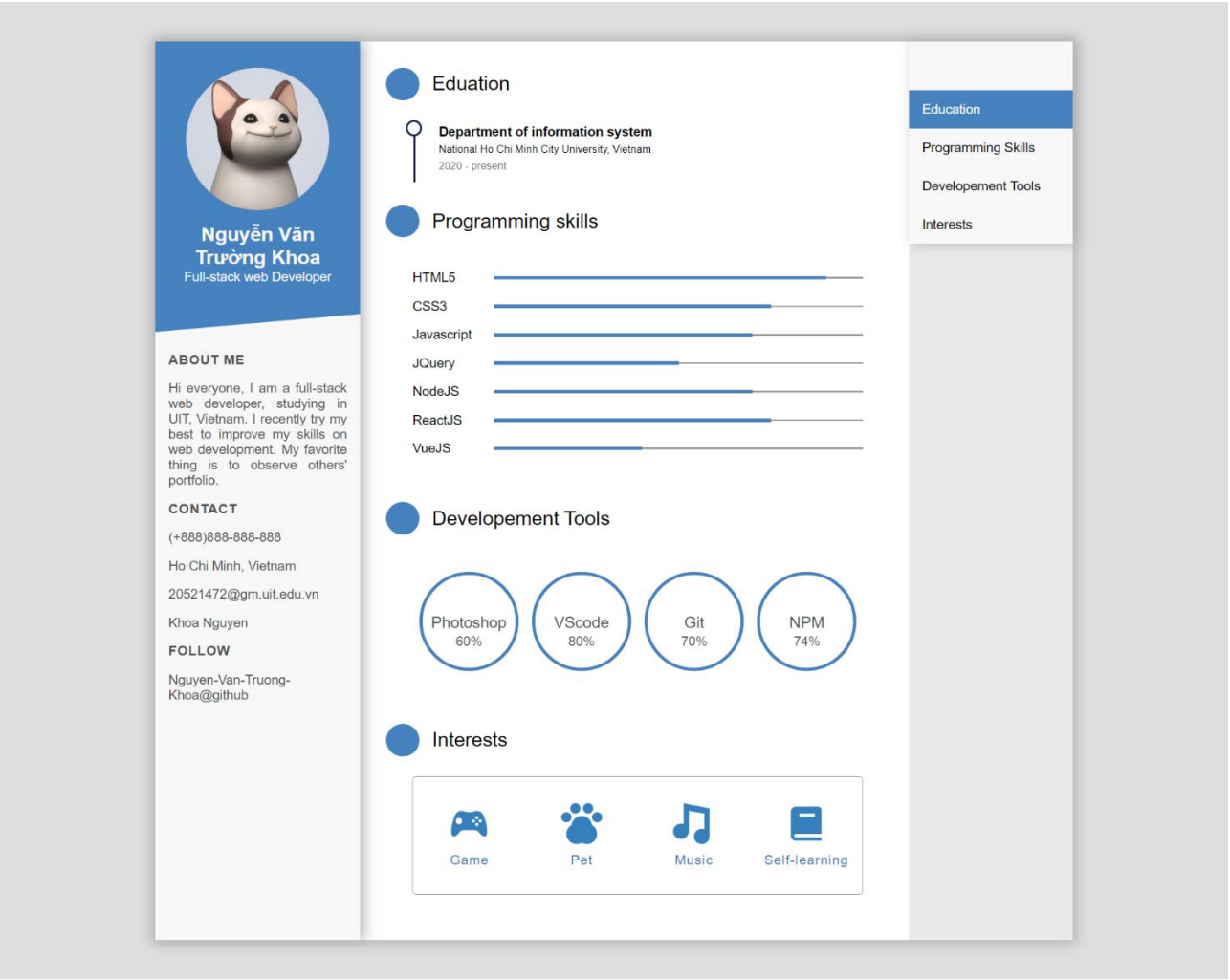


Homework 1:

From the old code I have like below :



I transfer to


Nguyễn Văn Trường Khoa
Full-stack web Developer
ABOUT ME
Hi everyone, I am a full-stack web developer, studying in UIT, Vietnam. I recently try my best to improve my skills on web development. My favorite thing is to observe others' portfolio.
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2020 - present
Programming skills
HTML5
CSS3
Javascript
JQuery
NodeJS
ReactJS
VueJS
Developement Tools
Photoshop 60%
VScode 80%
Git 70%
NPM 74%
Interests
Game
Pet
Music
Self-learning
Education
Programming Skills
Developement Tools
Interests

Code

```
<body>
    <div class="wrapper">
        <div class="intro">…
        </div>
        <div class="detail">
          <div class="detail-section edu" id="education">…
          </div>
          <div class="detail-section pg-skill" id="program-skills">…
          </div>
          <div class="detail-section tool-skill" id="developement-tools">…
          </div>
          <div class="detail-section interests" id="interests">…
          </div>
        </div>
        <div id="sidebar">
          <div id="navbar">
            <a href="#" onclick="scrollToSection('education')" >
              Education
            </a>
            <a href="#" onclick="scrollToSection('program-skills')">
              Programming Skills
            </a>
            <a href="#" onclick="scrollToSection('developement-tools')">
              Developement Tools
            </a>
            <a href="#" onclick="scrollToSection('interests')">
              Interests
            </a>
          </div>
        </div>
      </div>
</body>
```

```
<script>
  function scrollToSection(sectionId) {
    const section = document.getElementById(sectionId);
    const sectionPosition = section.offsetTop;

    window.scrollTo({
        top: sectionPosition,
        behavior: 'smooth'
    });
}
</script>
```

Homework 2.1:

Code
Html

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

<head>
  <meta charset="utf-8">
  <title>Drum Kit</title>
  <link rel="stylesheet" href="styles.css">
  <link href="https://fonts.googleapis.com/css?family=Arvo" rel="stylesheet">
</head>

<body>
  <h1 id="title">Drum Kit</h1>
  <div class="set">
    <button class="w drum">w</button>
    <button class="a drum">a</button>
    <button class="s drum">s</button>
    <button class="d drum">d</button>
    <button class="j drum">j</button>
    <button class="k drum">k</button>
    <button class="l drum">l</button>
  </div>


<script src="index.js" charset="utf-8"></script>

</body>
</html>
```

Css

```css
body {
  text-align: center;
  background-color: #283149;
}

h1 {
  font-size: 5rem;
  color: #DBEDF3;
  font-family: "Arvo", cursive;
  text-shadow: 3px 0 #DA0463;

}

footer {
  color: #DBEDF3;
  font-family: sans-serif;
}

.w {
  background-image: url("images/tom1.png");
}

.a {
  background-image: url("images/tom2.png");
}

.s {
  background-image: url("images/tom3.png");
}

.d {
  background-image: url("images/tom4.png");
}

.j {
  background-image: url("images/snare.png");
}

.k {
  background-image: url("images/crash.png");
}

.l {
  background-image: url("images/kick.png");
}

.set {
```

```
  margin: 10% auto;
}

.pressed {
  box-shadow: 0 3px 4px 0 #DBEDF3;
  opacity: 0.5;
}

.red {
  color: red;
}

.drum {
  outline: none;
  border: 10px solid #404B69;
  font-size: 5rem;
  font-family: 'Arvo', cursive;
  line-height: 2;
  font-weight: 900;
  color: #DA0463;
  text-shadow: 3px 0 #DBEDF3;
  border-radius: 15px;
  display: inline-block;
  width: 150px;
  height: 150px;
  text-align: center;
  margin: 10px;
  background-color: white;
}
```

Javascript

```
var numberOfDrumButtons = document.querySelectorAll(".drum").length;

for (var i = 0; i < numberOfDrumButtons; i++) {

  document.querySelectorAll(".drum")[i].addEventListener("click", function() {

    var buttonInnerHTML = this.innerHTML;

    makeSound(buttonInnerHTML);

    buttonAnimation(buttonInnerHTML);

  });

}
```

```
document.addEventListener("keypress", function(event) {

  makeSound(event.key);

  buttonAnimation(event.key);

});


function makeSound(key) {

  switch (key) {
    case "w":
      var tom1 = new Audio("sounds/tom-1.mp3");
      tom1.play();
      break;

    case "a":
      var tom2 = new Audio("sounds/tom-2.mp3");
      tom2.play();
      break;

    case "s":
      var tom3 = new Audio('sounds/tom-3.mp3');
      tom3.play();
      break;

    case "d":
      var tom4 = new Audio('sounds/tom-4.mp3');
      tom4.play();
      break;

    case "j":
      var snare = new Audio('sounds/snare.mp3');
      snare.play();
      break;

    case "k":
      var crash = new Audio('sounds/crash.mp3');
      crash.play();
      break;

    case "l":
      var kick = new Audio('sounds/kick-bass.mp3');
      kick.play();
      break;
```

```
    default: console.log(key);

  }
}


function buttonAnimation(currentKey) {

  var activeButton = document.querySelector("." + currentKey);

  activeButton.classList.add("pressed");

  setTimeout(function() {
    activeButton.classList.remove("pressed");
  }, 100);

}
```

Homework 2.2:

Problem 1 (javascript)

```
function MakeMultiFilter(originalArray) {
    let currentArray = [...originalArray];
    function arrayFilterer(filterCriteria, callback) {
      if (typeof filterCriteria === 'function') {
        currentArray = currentArray.filter(filterCriteria);
      }
      if (typeof callback === 'function') {
        callback.call(originalArray, currentArray);
      }
      return filterCriteria ? arrayFilterer : currentArray;
    }
    return arrayFilterer;
  }

  // Invoking MakeMultiFilter() with originalArray = [1, 2, 3] returns a
// function, saved in the variable arrayFilterer1, that can be used to
// repeatedly filter the input array
var arrayFilterer1 = MakeMultiFilter([1, 2, 3]);

// Call arrayFilterer1 (with a callback function) to filter out all the numbers
// not equal to 2.
arrayFilterer1(function (elem) {
return elem !== 2; // check if element is not equal to 2
}, function (currentArray) {
```

```
// 'this' within the callback function should refer to originalArray which is [1,
2, 3]
console.log(this); // prints [1, 2, 3]
console.log(currentArray); // prints [1, 3]
});

// Call arrayFilterer1 (without a callback function) to filter out all the
// elements not equal to 3.
arrayFilterer1(function (elem) {
return elem !== 3; // check if element is not equal to 3
});

// Calling arrayFilterer1 with no filterCriteria should return the currentArray.
var currentArray = arrayFilterer1();
console.log('currentArray', currentArray); // prints [1] since we filtered out 2
and 3

// Since arrayFilterer returns itself, calls can be chained
function filterTwos(elem) { return elem !== 2; }
function filterThrees(elem) { return elem !== 3; }
var arrayFilterer2 = MakeMultiFilter([1, 2, 3]);
var currentArray2 = arrayFilterer2(filterTwos)(filterThrees)();
console.log('currentArray2', currentArray2); // prints [1] since we filtered out
2 and 3

// Multiple active filters at the same time
var arrayFilterer3 = MakeMultiFilter([1, 2, 3]);
var arrayFilterer4 = MakeMultiFilter([4, 5, 6]);
console.log(arrayFilterer3(filterTwos)()); // prints [1, 3]
console.log(arrayFilterer4(filterThrees)()); // prints [4, 5, 6]
```

Result

```
G:\Wep_app_practice\Lab 2\src\homework2.2>node problem1.js
[ 1, 2, 3 ]
[ 1, 3 ]
currentArray [ 1 ]
currentArray2 [ 1 ]
[ 1, 3 ]
[ 4, 5, 6 ]
```

Problem 2 (javascript)

```
class TemplateProcessor {
    constructor(template) {
      this.template = template;
    }
    fillIn(dictionary) {
      const filledTemplate = this.template.replace(/{{\s*([^}]+)\s*}}/g, (match,
property) => {
```

```
        return dictionary[property] !== undefined ? dictionary[property] : '';
      });
      return filledTemplate;
    }
  }

  var template = 'My favorite month is {{month}} but not the day {{day}} or the
year {{year}}';
  var dateTemplate = new TemplateProcessor(template);

  var dictionary = { month: 'July', day: '1', year: '2016' };
  var str = dateTemplate.fillIn(dictionary);

  console.log(str); // Output: 'My favorite month is July but not the day 1 or
the year 2016'

  // Case: property doesn't exist in dictionary
  var dictionary2 = { day: '1', year: '2016' };
  var str2 = dateTemplate.fillIn(dictionary2);

  console.log(str2); // Output: 'My favorite month is but not the day 1 or the
year 2016'
```

Result

```
G:\Wep_app_practice\Lab 2\src\homework2.2>node problem2.js
My favorite month is July but not the day 1 or the year 2016
My favorite month is  but not the day 1 or the year 2016
```

Homework 2.3:

Problem 1 (javascript)

```
function checkCredentials(username, password) {
    if (/[^a-zA-Z\s]/.test(username) || /\s{2,}/.test(username)) {
      console.log("Invalid Name or Password.");
      return;
    }
    if (/\s/.test(password) || /[^a-zA-Z0-9@]/.test(password)) {
      console.log("Invalid Name or Password.");
      return;
    }
    console.log("Credentials are valid!");
  }

  // Example usage:
  checkCredentials("John Doe", "Pass@123"); // Valid credentials
  checkCredentials("Jane$$Doe", "Invalid Password"); // Invalid credentials
```

Result

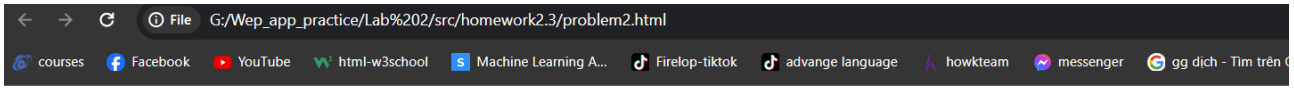
```
G:\Wep_app_practice\Lab 2\src\homework2.3>node problem1.js
Credentials are valid!
Invalid Name or Password.
```

Problem 2

Code

```html
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>KIM Clock</title>
  <style>
    body {
      display: flex;
      align-items: center;
      justify-content: center;
      height: 100vh;
      margin: 0;
      font-family: 'Arial', sans-serif;
      font-size: 3em;
    }
  </style>
</head>
<body>
  <script>
    function updateTime() {
      const now = new Date();
      const hours = now.getHours().toString().padStart(2, '0');
      const minutes = now.getMinutes().toString().padStart(2, '0');
      const seconds = now.getSeconds().toString().padStart(2, '0');

      const timeString = `${hours}:${minutes}:${seconds}`;
      document.body.textContent = timeString;
    }
    setInterval(updateTime, 1000);
    updateTime();
  </script>
</body>
</html>
```

Demo



23:38:08

Problem 3

Code

Html

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>New Year Countdown</title>
  <link rel="stylesheet" href="styles.css">
  <link
href="https://fonts.googleapis.com/css2?family=Lobster&family=Roboto:wght@400;700
&display=swap" rel="stylesheet">
</head>
<body>
  <div class="countdown-container">
    <h1 class="title">New Year Countdown</h1>
    <div id="countdown" class="countdown">
        <div class="background-image"></div>
      <div class="countdown-item">
        <div class="number" id="days"></div>
        <div class="text">Days</div>
      </div>
      <div class="countdown-item">
        <div class="number" id="hours"></div>
        <div class="text">Hours</div>
      </div>
      <div class="countdown-item">
        <div class="number" id="minutes"></div>
        <div class="text">Minutes</div>
      </div>
      <div class="countdown-item">
```

```
        <div class="number" id="seconds"></div>
        <div class="text">Seconds</div>
      </div>
    </div>
  </div>

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

Css

```
body {
  margin: 0;
  display: flex;
  align-items: center;
  justify-content: center;
  height: 100vh;
  font-family: 'Roboto', sans-serif;
  overflow: hidden;
  background-image: url('./background.jfif');
  background-size: cover;
  background-position: center;
}

.countdown-container {
  position: relative;
  text-align: center;
}

.background-image {
  position: absolute;
  top: 35%;
  left: 0;
  width: 100%;
  height: 70%;
  background-color: rgba(255, 255, 255, 0.2);
  border-radius: 5px;
}

.countdown {
  font-family: 'Lobster', cursive;
  font-size: 2em;
  color: #fff;
  display: flex;
  flex-direction: row;
  gap: 10px;
}

.countdown-item {
```

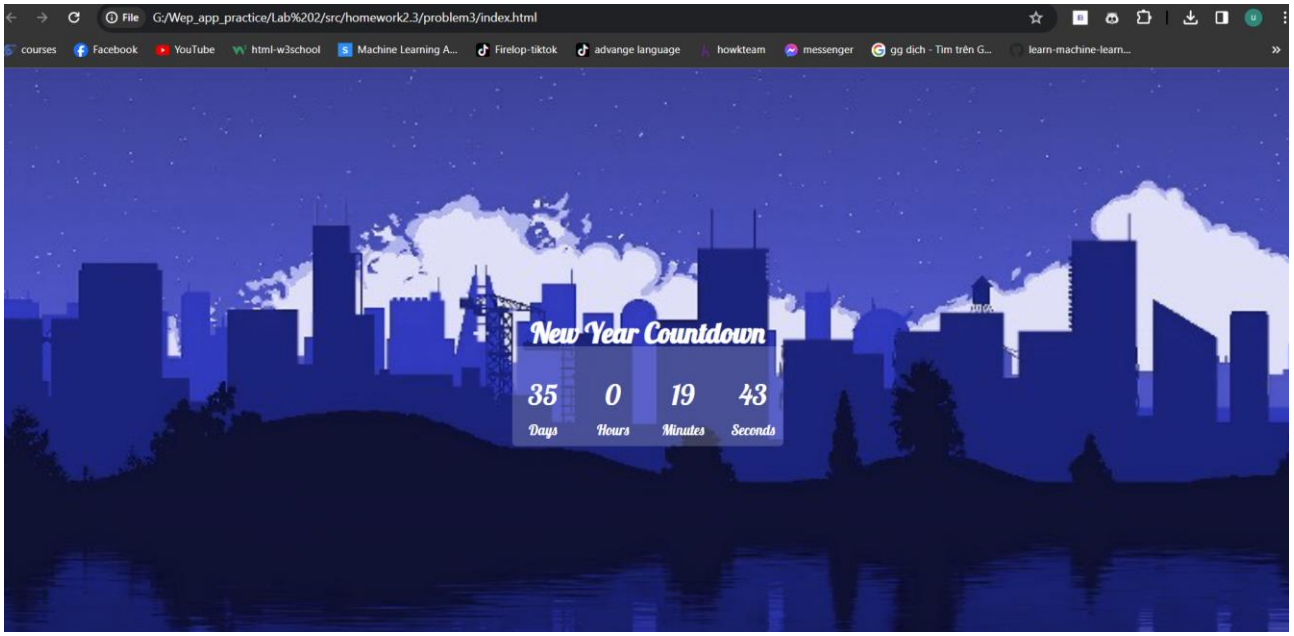
```
  display: flex;
  flex-direction: column;
  align-items: center;
}

.number {
  padding: 10px;
  width: 50px; /* Adjust as needed */
  text-align: center;
  color: #fff;
}

.text {
  font-size: 0.5em;
  color: #fff;
}

.title {
  font-family: 'Lobster', cursive;
  font-size: 2em;
  color: #fff;
}
```

Js

```
document.addEventListener('DOMContentLoaded', function () {
    const daysElement = document.getElementById('days');
    const hoursElement = document.getElementById('hours');
    const minutesElement = document.getElementById('minutes');
    const secondsElement = document.getElementById('seconds');

    function updateCountdown() {
      const currentTime = new Date();
      const currentYear = currentTime.getFullYear();
      const newYear = new Date(currentYear + 1, 0, 1);

      const timeDifference = newYear - currentTime;

      const days = Math.floor(timeDifference / (1000 * 60 * 60 * 24));
      const hours = Math.floor((timeDifference % (1000 * 60 * 60 * 24)) / (1000 *
60 * 60));
      const minutes = Math.floor((timeDifference % (1000 * 60 * 60)) / (1000 *
60));
      const seconds = Math.floor((timeDifference % (1000 * 60)) / 1000);

      daysElement.textContent = days;
      hoursElement.textContent = hours;
      minutesElement.textContent = minutes;
      secondsElement.textContent = seconds;
    }
```

```
    setInterval(updateCountdown, 1000);

    updateCountdown();
  });
```

Demo



Problem 4

Code

Html

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Simple Calculator</title>
  <link rel="stylesheet" href="styles.css">
</head>
<body>
  <div class="calculator">
    <input type="text" id="display" disabled>
    <div class="buttons">
      <button onclick="appendValue('1')">1</button>
      <button onclick="appendValue('2')">2</button>
      <button onclick="appendValue('3')">3</button>
      <button onclick="appendOperator('+')">+</button>
      <button onclick="appendValue('4')">4</button>
      <button onclick="appendValue('5')">5</button>
      <button onclick="appendValue('6')">6</button>
      <button onclick="appendOperator('-')">-</button>
```

```
      <button onclick="appendValue('7')">7</button>
      <button onclick="appendValue('8')">8</button>
      <button onclick="appendValue('9')">9</button>
      <button onclick="appendOperator('*')">*</button>
      <button onclick="appendValue('0')">0</button>
      <button onclick="clearDisplay()">C</button>
      <button onclick="calculateResult()">=</button>
      <button onclick="appendOperator('/')">/</button>
    </div>
  </div>
  <script src="script.js"></script>
</body>
</html>
```

Css

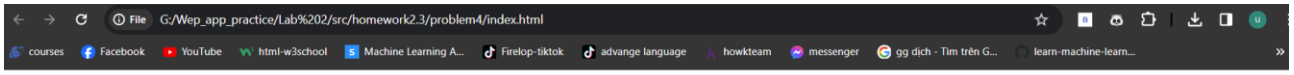
```
body {
    display: flex;
    align-items: center;
    justify-content: center;
    height: 100vh;
    margin: 0;
    font-family: Arial, sans-serif;
  }

  .calculator {
    text-align: center;
  }

  #display {
    width: 200px;
    margin-bottom: 10px;
  }

  .buttons {
    display: grid;
    grid-template-columns: repeat(4, 1fr);
    gap: 5px;
  }

  button {
    width: 50px;
    height: 50px;
    font-size: 1.2em;
    cursor: pointer;
  }
```

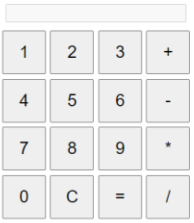
Js

```
let displayValue = '';
```

```
function appendValue(value) {
  displayValue += value;
  updateDisplay();
}

function appendOperator(operator) {
  if (displayValue !== '') {
    displayValue += ` ${operator} `;
    updateDisplay();
  }
}

function clearDisplay() {
  displayValue = '';
  updateDisplay();
}

function calculateResult() {
  try {
    const result = eval(displayValue);
    displayValue = result.toString();
    updateDisplay();
  } catch (error) {
    displayValue = 'Error';
    updateDisplay();
  }
}

function updateDisplay() {
  document.getElementById('display').value = displayValue;
}
```

Demo


File
G:/Wep_app_practice/Lab%202/src/homework2.3/problem4/index.html
courses
Facebook
YouTube
html-w3school
Machine Learning A...
Firelop-tiktok
advange language
howkteam
messenger
gg dịch - Tìm trên G...
learn-machine-learn...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