

WEB700 ASSIGNMENT 3

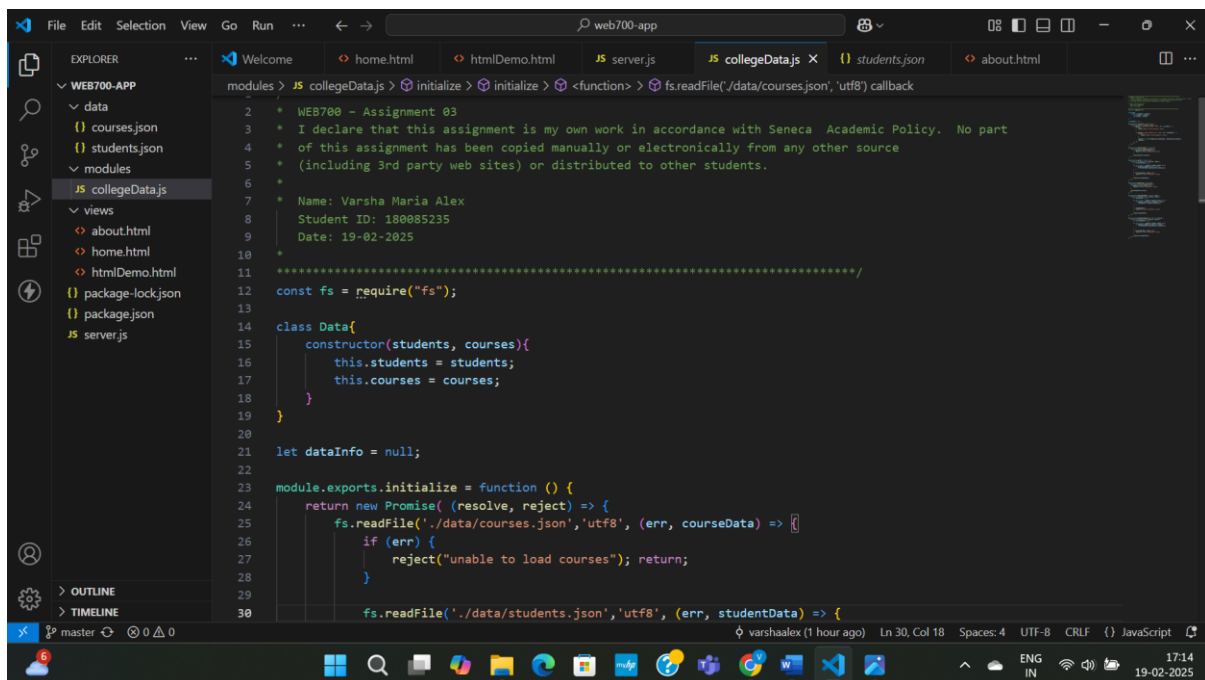
I declare that this assignment is my own work in accordance with Seneca Academic Policy. No part of this assignment has been copied manually or electronically from any other source (including web sites) or distributed to other students.

Name: Varsha Maria Alex

Student ID:180085235

Date: 19/02/2025

VS Code Screenshots



```
File Edit Selection View Go Run ... < -> web700-app
EXPLORER
  WEB700-APP
    data
      courses.json
      students.json
    modules
      JS collegeData.js
    views
      about.html
      home.html
      htmlDemo.html
      package-lock.json
      package.json
      server.js
  OUTLINE
  TIMELINE

modules > JS collegeData.js > initialize > initialize > <function> > fs.readFile("./data/courses.json", 'utf8') callback
2  * WEB700 - Assignment 03
3  * I declare that this assignment is my own work in accordance with Seneca Academic Policy. No part
4  * of this assignment has been copied manually or electronically from any other source
5  * (including 3rd party web sites) or distributed to other students.
6  *
7  * Name: Varsha Maria Alex
8  * Student ID: 180085235
9  * Date: 19-02-2025
10 *
11 *****
12 const fs = require("fs");
13
14 class Data{
15     constructor(students, courses){
16         this.students = students;
17         this.courses = courses;
18     }
19 }
20
21 let dataInfo = null;
22
23 module.exports.initialize = function () {
24     return new Promise( (resolve, reject) => {
25         fs.readFile('./data/courses.json', 'utf8', (err, courseData) => {
26             if (err) {
27                 reject("unable to load courses"); return;
28             }
29         })
30         fs.readFile('./data/students.json', 'utf8', (err, studentData) => {
```

```
modules > JS collegeData.js > initialize > initialize > <function> > fs.readFile("./data/courses.json", 'utf8') callback
80 module.exports.getStudentById = function (id) {
81   return new Promise(function (resolve, reject) {
82     if (!foundStudent) {
83       reject("No results Available"); return;
84     }
85     resolve(foundStudent);
86   });
87 }
88
89 module.exports.getStudentsByCourse = function (course) {
90   return new Promise(function (resolve, reject) {
91     var filteredStudents = [];
92
93     for (let i = 0; i < dataInfo.students.length; i++) {
94       if (dataInfo.students[i].course == course) {
95         filteredStudents.push(dataInfo.students[i]);
96       }
97     }
98
99     if (filteredStudents.length == 0) {
100       reject("No results Available"); return;
101     }
102
103     resolve(filteredStudents);
104   });
105 }
106
107 module.exports.getAllStudents = function () {
108   return new Promise(function (resolve, reject) {
109     resolve(dataInfo.students);
110   });
111 }
112
113
114
115
116
```

```
JS server.js > [0] HTTP_PORT
12 const express = require("express");
13 const path = require("path");
14 const collegeData = require("../modules/collegeData");
15 const app = express();
16 const HTTP_PORT = process.env.PORT || 8083;
17
18 // Home Page Route
19 app.get("/home", (req, res) => {
20   res.sendFile(path.join(__dirname, "views", "home.html"));
21 });
22
23 // About Page Route
24 app.get("/about", (req, res) => {
25   res.sendFile(path.join(__dirname, "views", "about.html"));
26 });
27
28 // HTML Demo Page Route
29 app.get("/htmlDemo", (req, res) => {
30   res.sendFile(path.join(__dirname, "views", "htmlDemo.html"));
31 });
32
33 // Get all students or by course
34 app.get("/students", (req, res) => {
35   if (req.query.course) {
36     collegeData.getStudentsByCourse(req.query.course)
37       .then(students => res.json(students))
38       .catch(() => res.json({ message: "no results" }));
39   } else {
40     collegeData.getAllStudents()

```

The screenshot shows the Visual Studio Code editor with a project named 'web700-app'. The Explorer sidebar on the left shows the file structure: WEB7... (containing data, modules, and views), package-lock.json, and package.json. The 'server.js' file is selected and open in the editor. The code in 'server.js' is as follows:

```
JS server.js > HTTP_PORT
61 app.get("/student/:num", (req, res) => {
62   // ...
63 });
64
65 // 404 Page Not Found
66 app.use((req, res) => {
67   res.status(404).send("Page Not Found");
68 });
69
70 // Initialize and start the server
71 collegeData.initialize()
72   .then(() => {
73     app.listen(HTTP_PORT, () => {
74       console.log(`Server listening on port ${HTTP_PORT}`);
75     });
76   })
77   .catch(err => {
78     console.error("Failed to initialize data: ", err);
79   });
80
81
82
```

The status bar at the bottom indicates the file is 'server.js', the user is 'varshaalex' (2 minutes ago), and the cursor is at line 16, column 43. The system tray shows the time as 17:15 on 19-02-2025.

The screenshot shows the Visual Studio Code editor with the same 'web700-app' project. The Explorer sidebar shows the 'data' folder selected, containing 'courses.json' and 'students.json'. The 'courses.json' file is open in the editor. The JSON content is as follows:

```
data > {} courses.json > ...
1 [
2   {
3     "courseId": 1,
4     "courseCode": "DES720",
5     "courseDescription": "Relational Database Design and Implementation"
6   },
7   {
8     "courseId": 2,
9     "courseCode": "JAV745",
10    "courseDescription": "Java Programming"
11  },
12  {
13    "courseId": 3,
14    "courseCode": "OPS705",
15    "courseDescription": "Introduction to Cloud Computing"
16  },
17  {
18    "courseId": 4,
19    "courseCode": "SQL710",
20    "courseDescription": "Database Administration and Management"
21  },
22  {
23    "courseId": 5,
24    "courseCode": "WEB700",
25    "courseDescription": "Web Programming"
26  },
27  {
28    "courseId": 6,
29    "courseCode": "CAP805",
30    "courseDescription": "Cloud Architecture and Design"
31  }
32 ]
```

The status bar at the bottom indicates the file is 'courses.json', the user is 'varshaalex' (1 hour ago), and the cursor is at line 57, column 4. The system tray shows the time as 17:15 on 19-02-2025.

This screenshot shows the Visual Studio Code editor with the `students.json` file open. The Explorer sidebar on the left shows the project structure, including `data`, `modules`, `views`, and `server.js`. The main editor area displays the JSON content of `students.json`, which contains an array of three student objects. The status bar at the bottom indicates the file is at line 3356, column 4, with 2 spaces, in UTF-8 encoding with CRLF line endings.

```
data > {} students.json > ...
1  [
2    {
3      "studentNum": 1,
4      "firstName": "Foster",
5      "lastName": "Thorburn",
6      "email": "fthorburn0@mySeneca.ca",
7      "addressStreet": "8 Arapahoe Park",
8      "addressCity": "Toronto",
9      "addressProvince": "ON",
10     "TA": true,
11     "status": "Full Time",
12     "course": 2
13   },
14   {
15     "studentNum": 2,
16     "firstName": "Emmy",
17     "lastName": "Trehearne",
18     "email": "etrehearne1@mySeneca.ca",
19     "addressStreet": "66965 Shelley Circle",
20     "addressCity": "Toronto",
21     "addressProvince": "ON",
22     "TA": true,
23     "status": "Full Time",
24     "course": 2
25   },
26   {
27     "studentNum": 3,
28     "firstName": "Zonnya",
29     "lastName": "Laytham",
30     "email": "zlaytham1@mySeneca.ca",
31     "addressStreet": "1234 Main St",
32     "addressCity": "Toronto",
33     "addressProvince": "ON",
34     "TA": false,
35     "status": "Part Time",
36     "course": 1
37   }
38 ]
```

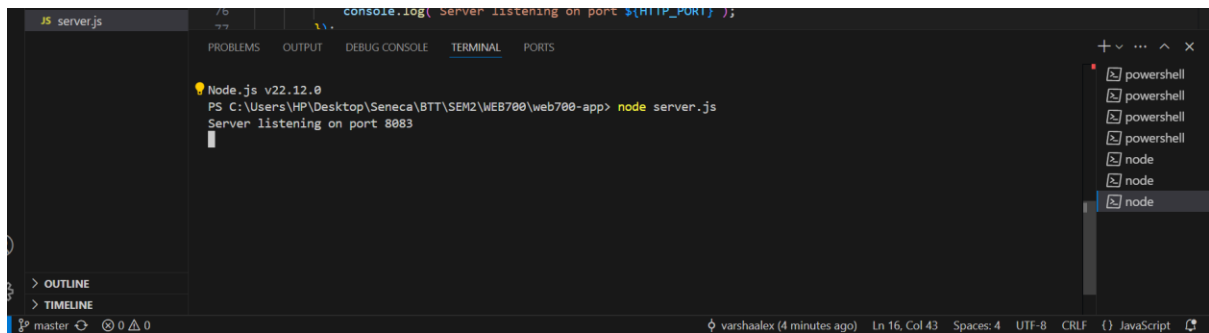
This screenshot shows the Visual Studio Code editor with the `about.html` file open. The Explorer sidebar on the left shows the project structure. The main editor area displays the HTML content of `about.html`, which includes a container with a row of columns. The status bar at the bottom indicates the file is at line 19, column 61, with a tab size of 4, in UTF-8 encoding with CRLF line endings.

```
views > {} about.html > {} html > {} head > {} style
2  <html>
49  <body>
70    <div class="container">
71      <div class="row">
72        <main class="col-md-12">
73
74        <!-- Start your code here -->
75
76
77        <br>
78        <h1>Welcome to the About Page</h1>
79
80        <p>
81          Hey! Thank you for visiting this page. <br> In this page you will find an introduction about
82          and about the web development Assignment 3.
83        </p>
84        <br>
85
86        <h2> About the Webpage</h2><br>
87
88        <p>
89          My name is Varsha Maria Alex, student of Seneca College Toronto. My student ID is 180085235.
90          Business Information Technology and this is an Assignment of Web Programming in which i learn
91          Node.js, Express.js and HTML.<br>
92          In this Assignment, I am creating an Express.js server along with a basic of HTML.
93        </p><br>
94        </p>
95
96
97
98        <!-- End your code here -->
99      </div>
100    </div>
101  </body>
102</html>
```

```
views > home.html > html > body > div.container.mt-4 > ul > li
2 <html lang="en">
49 <body>
67 </nav>
68
69 <div class="container mt-4">
70   <h1 class="text-center">Welcome to WEB700 - Assignment 3</h1>
71   <hr>
72   <p>Welcome to my website. This website is designed to demonstrate a simple Express.js web server using fundam
73   <p>This site consists of <strong>3 static views</strong> (<a href="/home">Home</a>,
74   <a href="/about">About</a>, and <a href="/htmlDemo">HTML Demo</a>) as well as
75   <strong>5 routes</strong> that supply data, including: All Students, Students by Course, A Single Student
76
77   Here you can navigate through the following websites using the following links
78   </p>
79
80   <ul>
81     <li><a href="/students">All Students</a></li>
82     <li><a href="/students/courses3">Students by Course</a></li>
83     <li><a href="/student/2">A Single Student by Student Number</a></li>
84     <li><a href="/tas">All Managers</a></li>
85     <li><a href="/courses">All Courses</a></li>
86   </ul>
87
88   <h2>Introduction to HTML</h2>
89   <p>HTML stands for HyperText Markup Language. It is the standard language used to create and structure conten
90   HTML is a markup language, not a programming language, meaning it annotates text to define how it is stru
91   It forms the building blocks of all websites and is complemented by CSS for style and JavaScript for inte
92   </p>
93 </div>
94
```

```
views > htmlDemo.html > html > body > div.container > div.row > main.col-md-12 > div.table-container > div.media-section
56 <body>
57   <nav class="navbar navbar-expand-lg navbar-light bg-light">
58     </div>
59   </nav>
60
61   <div class="container">
62     <div class="row">
63       <main class="col-md-12">
64         <!-- Start your code here -->
65         <h1>Tables</h1><hr>
66         <p>This section demonstrates the use of tables in HTML, including captions, table headers, row, a
67
68         <div class="table-container">
69           <table class="table table-bordered">
70             <caption>Table 1: Pet Animals</caption>
71             <thead class="thead-dark">
72               <tr>
73                 <th>Dog</th>
74                 <th>Cat</th>
75                 <th>Rabbit</th>
76               </tr>
77             </thead>
78             <tbody>
79               <tr>
80                 <td>Husky</td>
81                 <td>Russian Blue</td>
82                 <td>Mini Lop</td>
83               </tr>
84             </tbody>
85           </table>
86         </div>
87       </main>
88     </div>
89   </div>
90
```

Output Terminal:

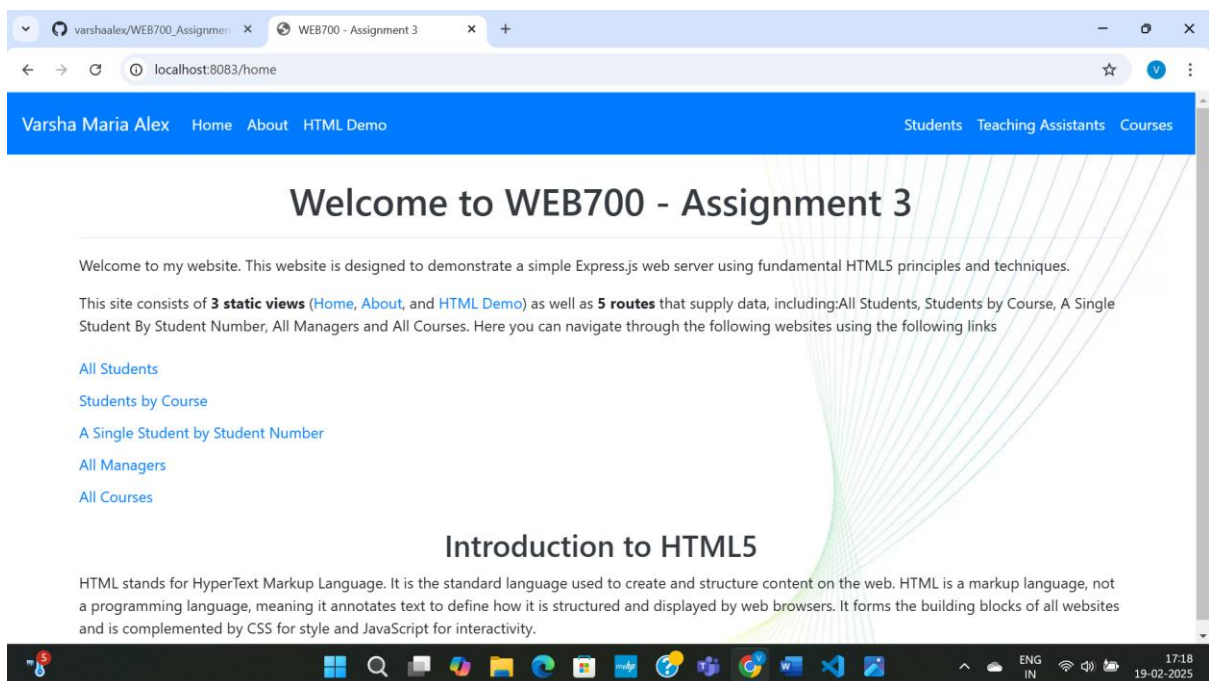


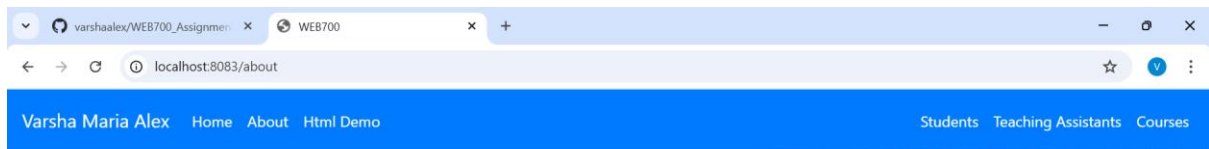
The screenshot shows the VS Code interface with a terminal window open. The terminal displays the following output:

```
Node.js v22.12.0
PS C:\Users\HP\Desktop\Seneca\BTT\SEM2\WEB700\web700-app> node server.js
Server listening on port 8083
```

The background editor shows a file named `server.js` with a line of code: `console.log('Server listening on port ${HTTP_PORT}');`. The terminal tabs on the right show multiple instances of 'powershell' and 'node'.

Output Webpage





Welcome to the About Page

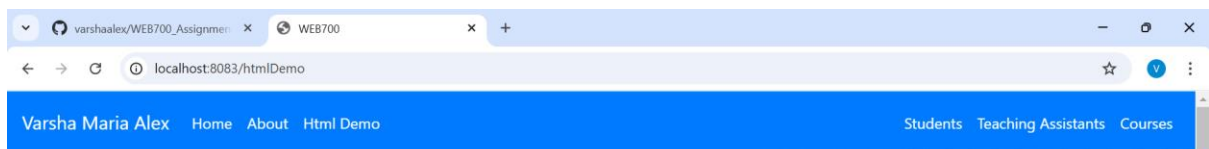
Hey! Thank you for visiting this page.

In this page you will find an introduction about myself, my academic background, and about the web development Assignment 3.

About the Webpage

My name is Varsha Maria Alex, student of Seneca College Toronto. My student ID is 180085235. I am currently enrolled in the program Business Information Technology and this is an Assignment of Web Programming in which i learn about JavaScript including Node.js, Express.js and HTML.

In this Assignment, I am creating an Express.js server along with a basic of HTML.



Tables

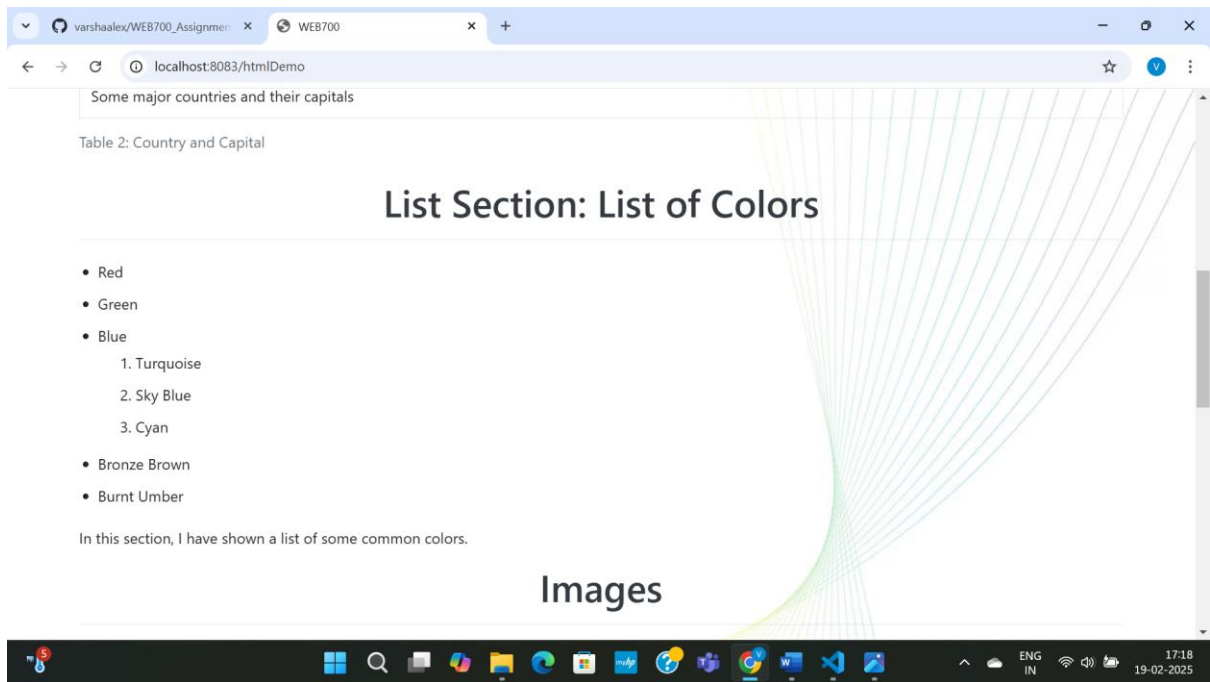
This section demonstrates the use of tables in HTML, including captions, table headers, row, and column spanning.

Dog	Cat	Rabbit
Husky	Russian Blue	Mini Lop
Shih Tzu	Maine Coon	Californian Rabbit
Poodle	Munchkin Cat	Rex Rabbit
These are some pet animal breeds		

Table 1: Pet Animals

Country	Capital
India	New Delhi






varshaalex/WEB700_Assignmen x WEB700

localhost:8083/htmlDemo

In this section, I have shown a list of some common colors.

Images

Below are some images sourced from Wikimedia Commons.



0:00 / 0:27

The top screenshot shows a web browser window with two tabs. The active tab is 'WEB700' showing a page with the text 'In this section, I have shown a list of some common colors.' followed by a heading 'Images'. Below the heading is the text 'Below are some images sourced from Wikimedia Commons.' and three images: a snowboarder, a forest path, and a dog. Below the images is an audio player with a play button and a progress bar showing '0:00 / 0:27'.

varshaalex/WEB700_Assignmen x WEB700


localhost:8083/htmlDemo

Click play to listen to the audio sample

0:00 / 0:27

Video

Here demonstrating how a video is embedded in HTML.



0:00 / 0:30

The bottom screenshot shows the same web browser window, but the 'Images' section is now a video player. The video player shows a view of Earth from space. Below the video player is an audio player with a play button and a progress bar showing '0:00 / 0:30'. The heading 'Video' is centered above the video player.