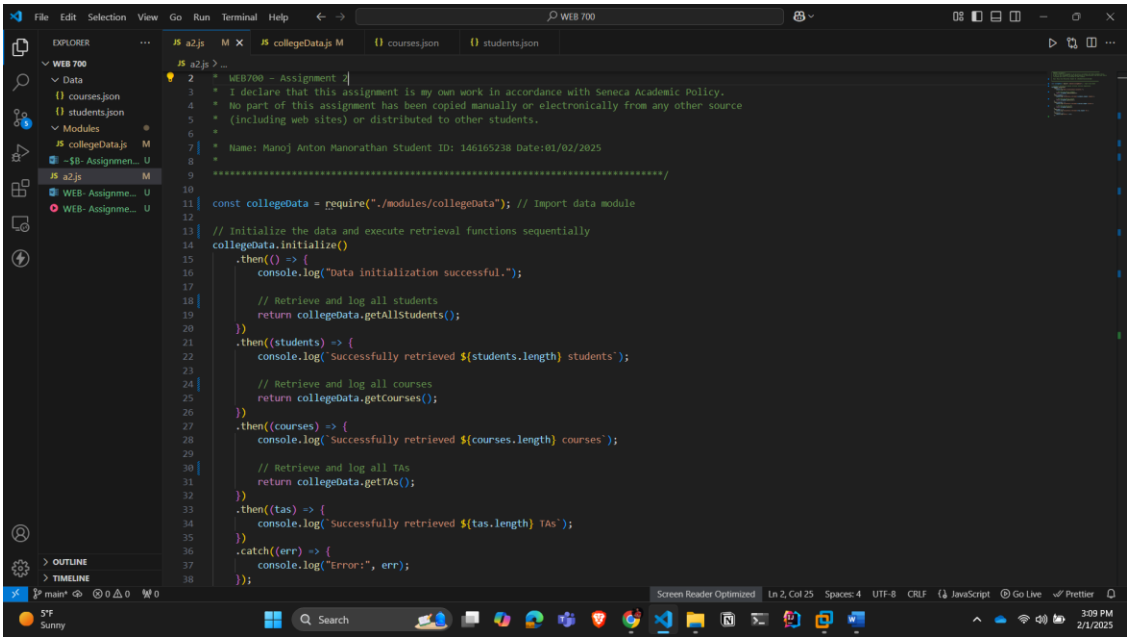
WEB700 Assignment 2

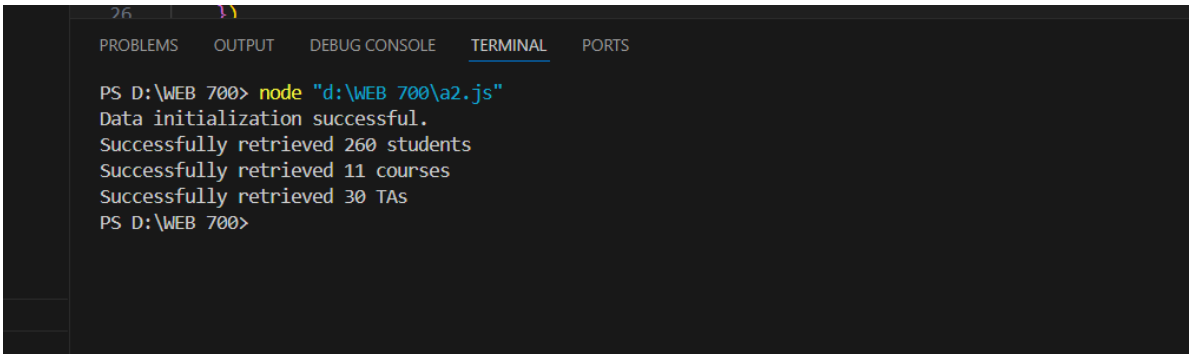
a2.js



```
/*********************************************************************************
*  WEB700 – Assignment 2
*  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: Manoj Anton Manorathan Student ID: 146165238 Date:01/02/2025
*
********************************************************************************/

const collegeData = require("./modules/collegeData"); // Import data module

// Initialize the data and execute retrieval functions sequentially
collegeData.initialize()
    .then(() => {
        console.log("Data initialization successful.");

        // Retrieve and log all students
        return collegeData.getAllStudents();
    })
    .then((students) => {
        console.log(`Successfully retrieved ${students.length} students`);

        // Retrieve and log all courses
        return collegeData.getCourses();
    })
    .then((courses) => {
        console.log(`Successfully retrieved ${courses.length} courses`);

        // Retrieve and log all TAs
        return collegeData.getTAs();
    })
    .then((tas) => {
        console.log(`Successfully retrieved ${tas.length} TAs`);
    })
    .catch((err) => {
        console.log("Error:", err);
    });
```

Code snippet of a2.js

Output:

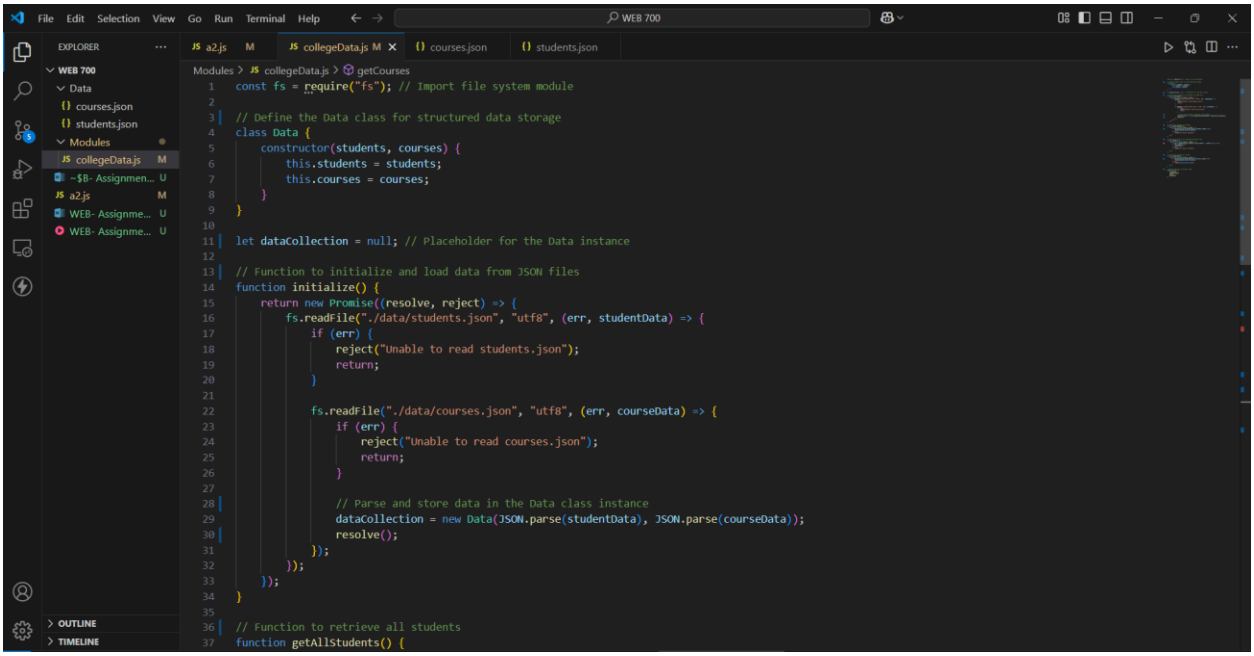


```
PS D:\WEB 700> node "d:\WEB 700\a2.js"
Data initialization successful.
Successfully retrieved 260 students
Successfully retrieved 11 courses
Successfully retrieved 30 TAs
PS D:\WEB 700>
```

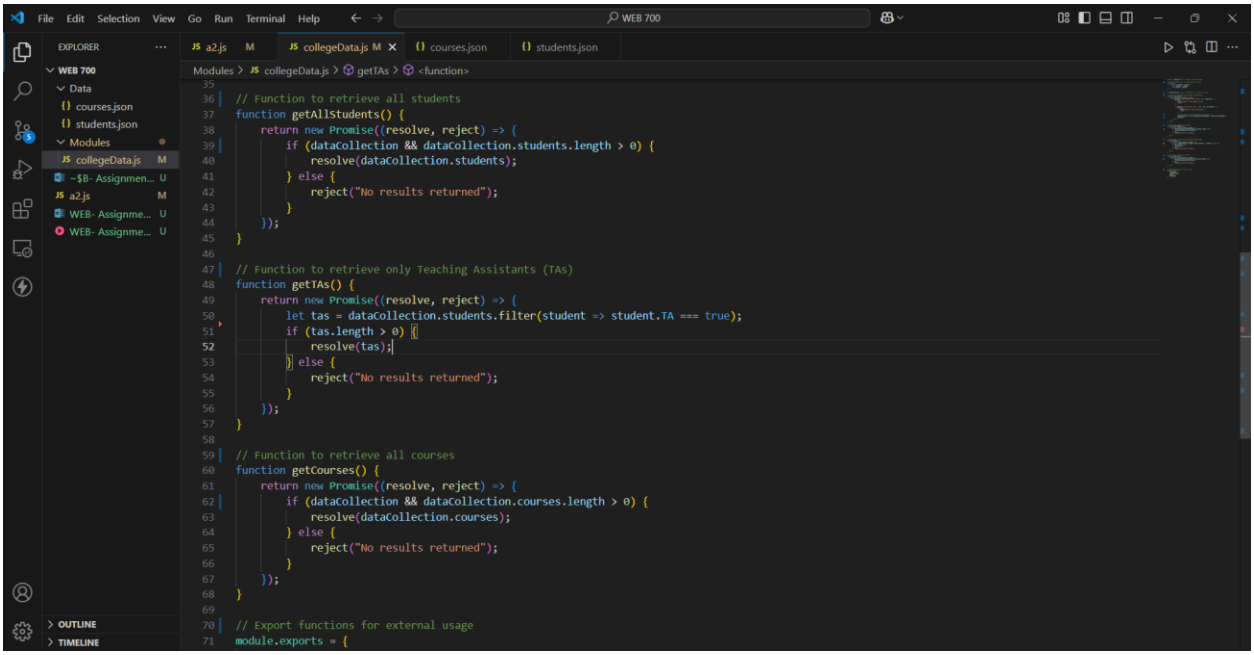
Final output of a2.js

WEB700 Assignment 2

Collegedata.js



```
const fs = require("fs"); // Import file system module

// Define the Data class for structured data storage
class Data {
    constructor(students, courses) {
        this.students = students;
        this.courses = courses;
    }
}

let dataCollection = null; // Placeholder for the Data instance

// Function to initialize and load data from JSON files
function initialize() {
    return new Promise((resolve, reject) => {
        fs.readFile("./data/students.json", "utf8", (err, studentData) => {
            if (err) {
                reject("Unable to read students.json");
                return;
            }

            fs.readFile("./data/courses.json", "utf8", (err, courseData) => {
                if (err) {
                    reject("Unable to read courses.json");
                    return;
                }

                // Parse and store data in the Data class instance
                dataCollection = new Data(JSON.parse(studentData), JSON.parse(courseData));
                resolve();
            });
        });
    });
}

// Function to retrieve all students
function getAllStudents() {
```



```
// Function to retrieve all students
function getAllStudents() {
    return new Promise((resolve, reject) => {
        if (dataCollection && dataCollection.students.length > 0) {
            resolve(dataCollection.students);
        } else {
            reject("No results returned");
        }
    });
}

// Function to retrieve only Teaching Assistants (TAs)
function getTAs() {
    return new Promise((resolve, reject) => {
        let tas = dataCollection.students.filter(student => student.TA === true);
        if (tas.length > 0) {
            resolve(tas);
        } else {
            reject("No results returned");
        }
    });
}

// Function to retrieve all courses
function getCourses() {
    return new Promise((resolve, reject) => {
        if (dataCollection && dataCollection.courses.length > 0) {
            resolve(dataCollection.courses);
        } else {
            reject("No results returned");
        }
    });
}

// Export functions for external usage
module.exports = {
```

Manoj Anton Manorathan- 146165238