Software Requirements Specification

for

E-LEARNING PLATFORM

Version 1.0 approved

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AUTONOMOUS

DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

BONAFIDE CERTIFICATE

Certified that this project report "**E-LEARNING PLATFORM**" is the bonafide work of **KARNASSAGAR S (202109026), SIVA PRASANTH M(202109049), RAMKUMAR K (202109253)** who carried out the project work under my supervision.

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The project report submitted for the viva voce held on …….

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Revision History

Name	Date	Reason For Changes	Version
Review - I	06/03/24		1.0.0
Review - II	17/04/24		2.0.0

1. Introduction

1.1 Purpose

The purpose of the E-Learning Platform project is to provide an online environment for educational institutions to facilitate teaching and learning activities. In today's digital era, the demand for flexible and accessible learning solutions has grown significantly. This platform aims to bridge the gap between traditional classroom settings and modern online learning by offering a comprehensive suite of tools and features. It is designed to cater to the specific needs of administrators, teachers, and students by offering role-based functionalities.

1.2 Document Conventions

Bold: Headings, subheadings, and emphasis.
Italics: Terms defined in the glossary and references.
Monospace: Code snippets, commands, or system outputs.

1.3 Intended Audience and Reading Suggestions

This document is intended for the development team, project stakeholders, quality assurance team, and end-users including administrators, teachers, and students. The reading suggestions are provided in the document for different audience groups. Developers can refer to the provided source code for implementation details.

1.4 Product Scope

The E-Learning Platform will have three login roles: Admin, Teacher, and Student. Each role will have specific functionalities to perform various tasks related to course management, attendance, assessments, and communication. The platform will utilize MongoDB for data storage and retrieval.

1.5 References

E-Learning Platform Vision and Scope Document, Version 1.0, Author: [Insert Author Name], Date: [Insert Date], Location: [Insert Location]
E-Learning Platform User Interface Style Guide, Version 1.0, Author: [Insert Author Name], Date: [Insert Date], Location: [Insert Location]
E-Learning Platform System Requirements Specification, Version 1.0, Author: [Insert Author Name], Date: [Insert Date], Location: [Insert Location]
E-Learning Platform Use Case Document, Version 1.0, Author: [Insert Author Name], Date: [Insert Date], Location: [Insert Location]

2. Overall Description

2.1 Product Perspective

The E-Learning Platform is a standalone system designed to facilitate online education. It will interact with users through a web-based interface. As an integral part of the educational ecosystem, the platform aims to complement traditional teaching methods by providing a flexible and accessible online learning environment. It will support seamless integration with existing Learning Management Systems (LMS) and educational tools, ensuring a cohesive and enhanced learning experience for all users.

2.2 Product Functions

Admin:

Create Classes: Set up and organize virtual classrooms for different courses.
Create Courses: Define course details, syllabus, and learning objectives.
Manage Teachers and Students: Add, remove, or modify user profiles, assign roles, and manage user permissions.
Take Attendance: Record and track student attendance for each class.
Publish Notices: Share important announcements, updates, and notifications with teachers and students.

Teacher:

Take Attendance: Mark and manage student attendance during classes.
Provide Marks: Evaluate student performance, assign grades, and share feedback.
Upload Materials: Upload lecture notes, presentations, assignments, and additional learning resources.
Upload Quizzes: Create, upload, and manage quizzes and assessments.
Publish Notices: Communicate with students by sharing class schedules, updates, and reminders.

Student:

View Marks and Attendance: Access and review their academic performance, attendance records, and grades.
Download Materials: Download course materials, lecture notes, and additional resources shared by teachers.
Attend Quizzes: Participate in quizzes and assessments as per the course curriculum.
Raise Complaints: Lodge complaints or concerns related to course content, assessments, or any other issues.

2.3 User Classes and Characteristics

Admin:
Role: Administrator
Characteristics:
Manages the overall system and course administration.
Responsible for user management, course creation, and system configuration.

Teacher:
Role: Instructor or Educator
Characteristics:
Conducts classes, assessments, and interactive sessions.
Uploads course materials, evaluates student performance, and provides academic support.

Student:
Role: Learner or Participant
Characteristics:
Engages in learning activities, attends virtual classes, and accesses course materials.
Participates in assessments, quizzes, and collaborative learning activities.

2.4 Operating Environment

The platform will operate in a web-based environment compatible with modern web browsers such as Google Chrome, Mozilla Firefox, Safari, and Microsoft Edge. It will require a stable internet connection to ensure uninterrupted access and optimal performance. The platform will also be accessible on various devices, including desktop computers, laptops, tablets, and smartphones, providing users with the flexibility to learn anytime, anywhere.

2.5 Design and Implementation Constraints

Security Measures:

Implementation of robust security protocols to protect user data and prevent unauthorized access.
Encryption of sensitive information and secure data transmission to safeguard user privacy and confidentiality.

Scalability:

Design and architecture of the platform to accommodate a large number of users, courses, and concurrent sessions.

Optimization of database queries and server resources to ensure efficient performance and scalability.
Compatibility:

Development of a responsive and adaptive design to ensure compatibility with various devices, screen sizes, and resolutions.
Cross-browser compatibility testing and optimization to provide a consistent and seamless user experience across different web browsers.We have used Basic model-Organic for our project.

a = 2.4
b = 1.05
c = 2.5
d = 0.3

E = a * (KLOC) ^ b person-months.

E = 2.4 * (150) ^ 1.05

E = 462.5 person-months.

T = c * (E) ^ d months.

T = 2.5 * (462.5) ^ 0.38

T = 25.74 months.

No of Persons required = E/T Persons.

No of Persons required = 462.5/25.74

No of Persons required = 18 Persons.

2.6 User Documentation

User documentation will include user manuals, online help, and tutorials. The delivery format will be web-based and accessible within the platform.

2.7 Assumptions and Dependencies

Assumed factors include stable internet connectivity for users.
Dependencies include third party libraries for certain functionalities.

3. External Interface Requirements

3.1 User Interfaces

Intuitive Web-Based Interfaces:

Admin Interface:

Dashboard displaying an overview of system status, user management, course creation, and other administrative functions.

Navigation menu for easy access to various functionalities like class management, course creation, user management, and system settings.

Interactive forms and input fields for data entry, modification, and deletion.

Real-time notifications and alerts for important updates and announcements.

Teacher Interface:

Dashboard providing an overview of classes, student attendance, course materials, and assessments.

Navigation menu for accessing attendance management, grade submission, material upload, and communication tools.

User-friendly interfaces for uploading course materials, managing quizzes, and interacting with students.

Real-time notifications for attendance, assessments, and communication from administrators or students.

Student Interface:

Dashboard displaying course enrollments, attendance records, grades, and available course materials.

Navigation menu for accessing course details, attendance records, material downloads, and communication tools.

User-friendly interfaces for viewing and downloading course materials, attending quizzes, and raising complaints.

Real-time notifications for course updates, grades, and communication from teachers or administrators.

Consistent Layout and Navigation:

Standardized design elements, such as headers, footers, and navigation bars, to maintain consistency across different pages and user roles.

Responsive and adaptive design to ensure compatibility and optimal viewing experience on various devices and screen sizes.

3.2 Hardware Interfaces

No Specific Hardware Interfaces Required:

The platform is designed to operate on standard computing devices, including desktop computers, laptops, tablets, and smartphones, without the need for specialized hardware interfaces.

3.3 Software Interfaces

Integration with Authentication Systems:

Integration with Single Sign-On (SSO) systems or third-party authentication services for secure and seamless user login.

Implementation of OAuth or JWT for secure authentication and authorization processes.

Database Interfaces:

Integration with MongoDB for efficient and scalable data storage and retrieval.

Implementation of CRUD (Create, Read, Update, Delete) operations for managing user data, course details, attendance records, and other relevant information.

3.4 Communications Interfaces

Email Notifications:

Automated email notifications for important events, such as course updates, notices, and announcements.

Customizable email templates and scheduling options for sending notifications to administrators, teachers, and students.

Real-Time Communication Tools:

In-platform chat or discussion forums for facilitating real-time communication and collaboration among users.

Integration with messaging APIs or platforms, such as WebSocket, to enable seamless and interactive communication within the platform.

4. System Features

4.1 Admin Features

Create Classes and Courses:
Add New Class: Admin can create new classes by specifying the class name, subject, time, and other relevant details.
Manage Courses: Admin can create, edit, or delete courses by providing course details such as course name, description, department, and associated class.

Manage Teachers and Students:
Add New Teacher/Student: Admin can add new teachers or students by entering their personal and contact details.
Edit/Delete Teacher/Student: Admin can modify or remove existing teacher or student profiles as needed.

Take Attendance:
Class-wise Attendance: Admin can mark and maintain attendance records for each class and view attendance reports.
Generate Attendance Reports: Admin can generate and download detailed attendance reports for teachers and students.

Publish Notices:
Create Notices: Admin can create and publish notices regarding important updates, announcements, or events.
Notify Users: Admin can send notifications to teachers and students via email or in-platform alerts.

4.2 Teacher Features

Take Attendance:
Mark Attendance: Teachers can mark and update attendance records for their respective classes.
View Attendance Reports: Teachers can view and monitor attendance reports for students in their classes.

Provide Marks:
Enter Marks: Teachers can enter and update assessment marks for students.
Generate Grade Reports: Teachers can generate and share grade reports with students and administrators.

Upload Materials:
Upload Course Materials: Teachers can upload and manage course materials such as lecture notes, assignments, and reference materials.

Categorize Materials: Teachers can categorize and organize uploaded materials for easy access by students.

Upload Quizzes:
Create Quizzes: Teachers can create and upload quizzes with questions, options, and correct answers.
Schedule Quizzes: Teachers can schedule quizzes and notify students about the quiz date, time, and duration.

Publish Notices:
Share Updates: Teachers can publish notices to update students about class schedules, assignment deadlines, or other important information.
Notify Students: Teachers can send notifications to students via email or in-platform alerts.

4.3 Student Features

View Marks and Attendance:
Check Grades: Students can view their assessment marks and grades for each course.
Access Attendance Records: Students can check and monitor their attendance records for each class.

Download Materials:
Access Course Materials: Students can download course materials uploaded by teachers, such as lecture notes, assignments, and reference materials.
Search and Filter Materials: Students can search, filter, and access specific course materials based on course name, subject, or date.

Attend Quizzes:
Take Quizzes: Students can attend quizzes scheduled by teachers, answering questions and submitting their responses within the specified time.
View Quiz Results: Students can view quiz results, including scores and correct answers, upon quiz completion.

Raise Complaints:
Submit Complaints: Students can raise complaints or concerns regarding classes, assessments, or other platform-related issues.
Track Complaint Status: Students can track the status of their complaints and view responses from administrators or teachers.

5. Other Nonfunctional Requirements

5.1 Performance Requirements

Platform Responsiveness:

The platform should load quickly, with a maximum load time of 2-3 seconds for all pages and functionalities.

The system should respond to user actions promptly, with a response time of less than 1 second for basic operations.

Concurrent User Support:

The platform should support a minimum of 1000 concurrent users to ensure smooth operation during peak times.

Load balancing mechanisms should be in place to distribute incoming traffic and maintain optimal performance.

5.2 Safety Requirements

Data Encryption:

All user data transmitted over the platform should be encrypted using secure encryption algorithms such as AES (Advanced Encryption Standard).

Data stored in the database should be encrypted to protect against unauthorized access and data breaches.

Access Control Measures:

Role-based access control (RBAC) should be implemented to restrict access to sensitive information based on user roles (Admin, Teacher, Student).

Two-factor authentication (2FA) should be enabled for enhanced security during login.

5.3 Security Requirements

User Authentication Mechanisms:

Secure user authentication methods such as password hashing, salting, and multi-factor authentication (MFA) should be implemented.

Password policies, including minimum length, complexity, and expiration, should be enforced for user accounts.

Regular Security Audits and Updates:

Regular security audits should be conducted to identify and address potential vulnerabilities.The platform should be updated with the latest security patches and updates to protect against new and emerging threats.

5.4 Software Quality Attributes

Usability:

Intuitive and user-friendly interfaces should be designed for easy navigation and accessibility across different devices and screen sizes.

Clear and concise instructions, tooltips, and help guides should be provided to assist users in using the platform effectively.

Reliability:

The system should be stable and available 24/7, with a minimum uptime of 99.9%.

Automated backup and recovery mechanisms should be in place to ensure data integrity and availability in the event of system failures or data loss.

Maintainability:

The platform should be modular and scalable, allowing for easy updates, modifications, and maintenance of system components.

Documentation and code commenting should be maintained to facilitate understanding and modification of the system by developers and administrators.

5.5 Business Rules

Admin Role:

Admins can only manage courses, classes, and users within their assigned roles and departments.

Admins should have the ability to assign and manage roles for teachers and students.

Teacher Role:

Teachers can only access and manage courses, classes, and students they are assigned to.

Teachers should have the ability to upload and manage course materials, quizzes, and assessments.

Student Role:

Students can only access and view courses, classes, and materials they are enrolled in.

Students should have the ability to view their grades, attendance, and raise complaints or concerns to teachers or administrators.

6. Blackbox Testing

Three major modules:

- Admin
- Teacher
- Student

We are going to test each module by unit-testing and then we will check integration-testing of the module by combining those functionalities with other modules.

Testing of Admin Module:

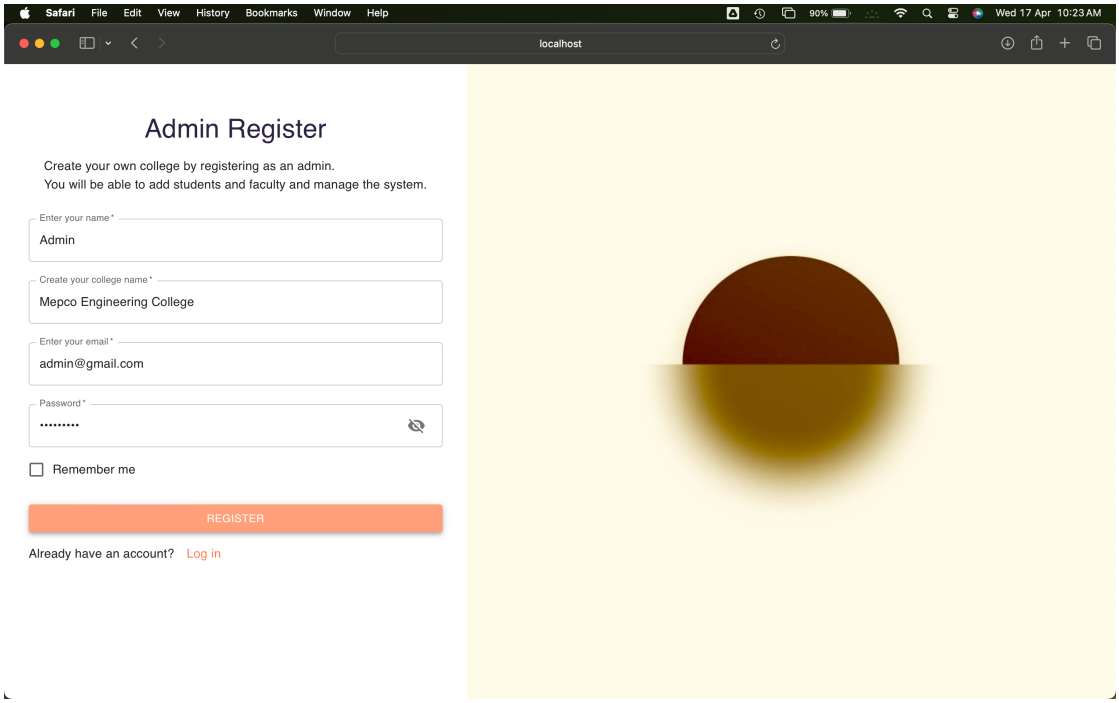
List of Modules:

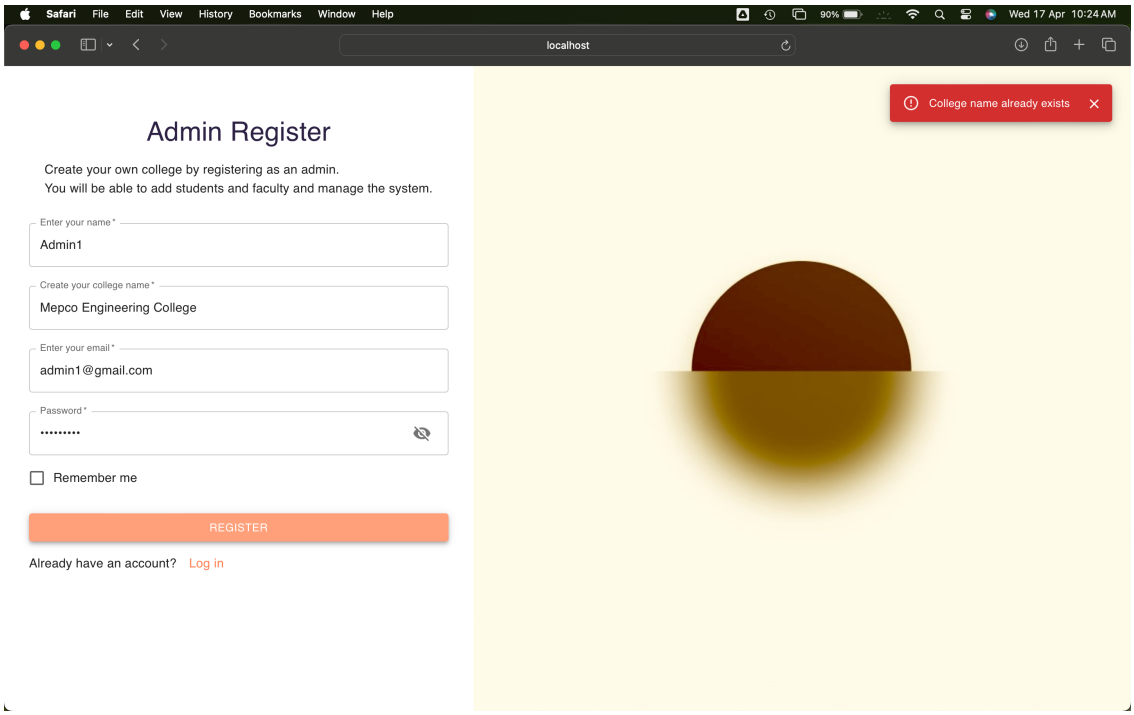
- Signup Page
- Login Page
- Admin SideBar
- Dashboard
- Class Creation
- Course Creation
- Teacher Login Id creation
- Student Login Id creation
- Notice
- Complain
- Logout

Unit Testing:

Signup Page:

Test case: Check for Signup page loading.

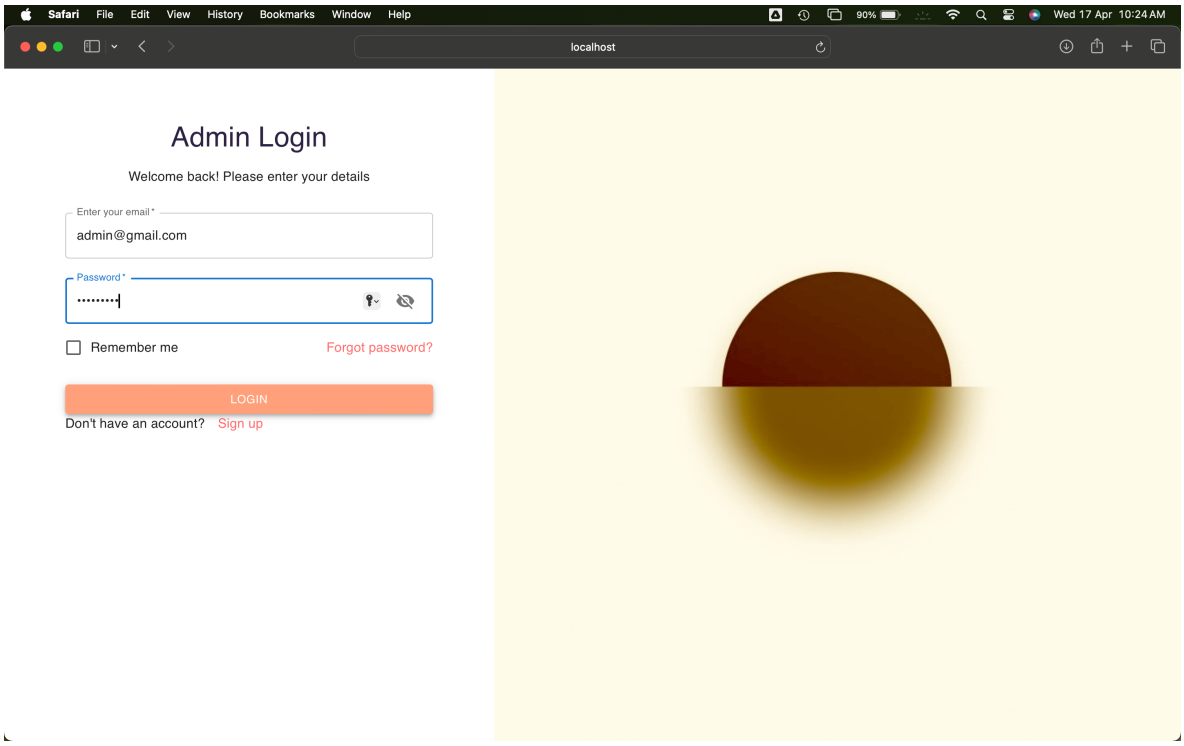


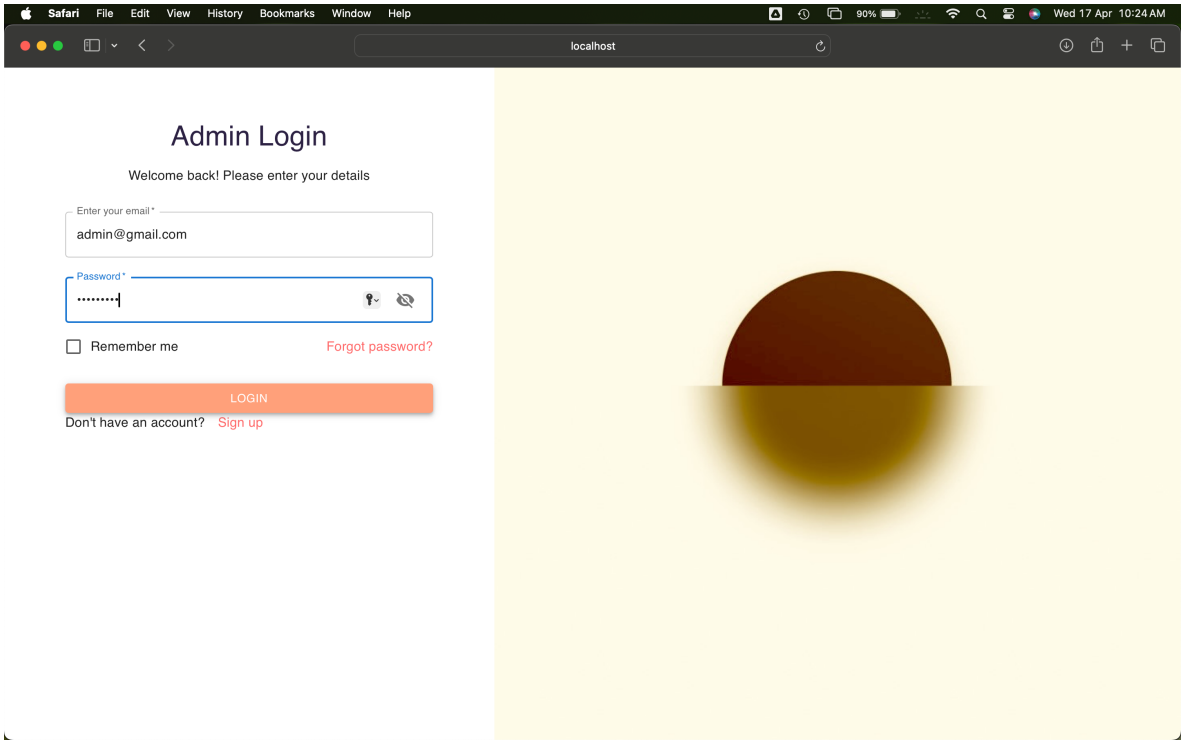


Conclusion: Test case passed as we cannot use a registered college name for a new admin id.

Login Page:

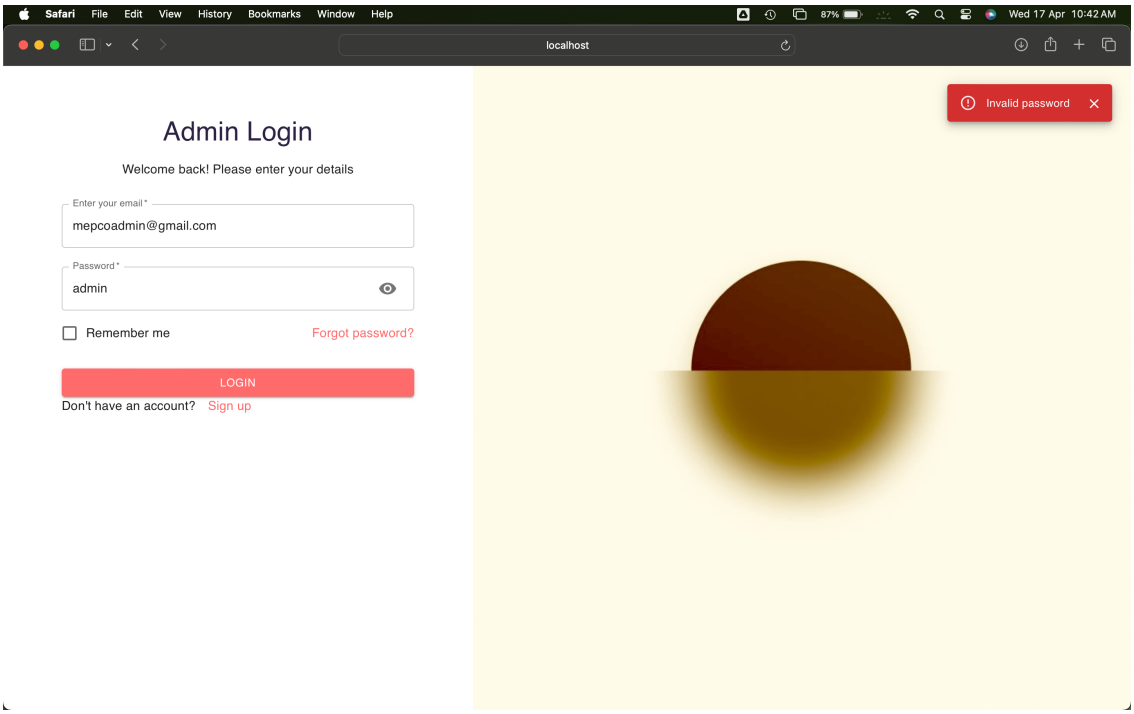
Test case: Login page loading





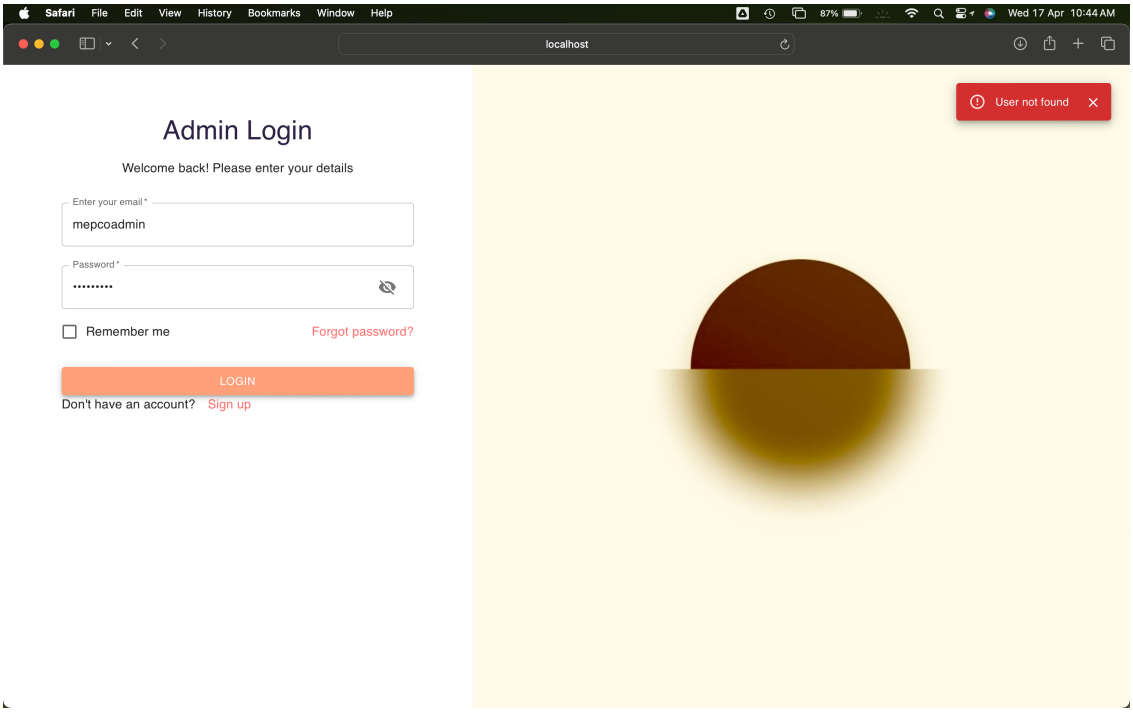
Conclusion: Test case passed. Login page loaded successfully.

Test case: Check for password validation



Conclusion: Test case passed. Validates password successfully.

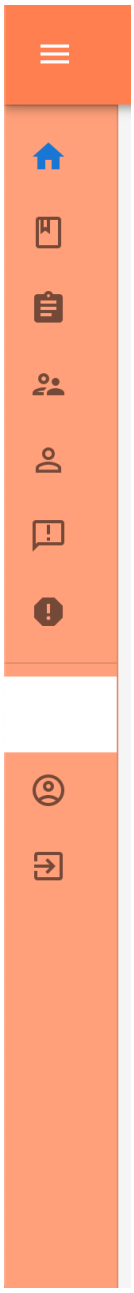
Test case: Check for mail validation



Conclusion: Test case passed. Validates mail successfully.

Admin Sidebar:

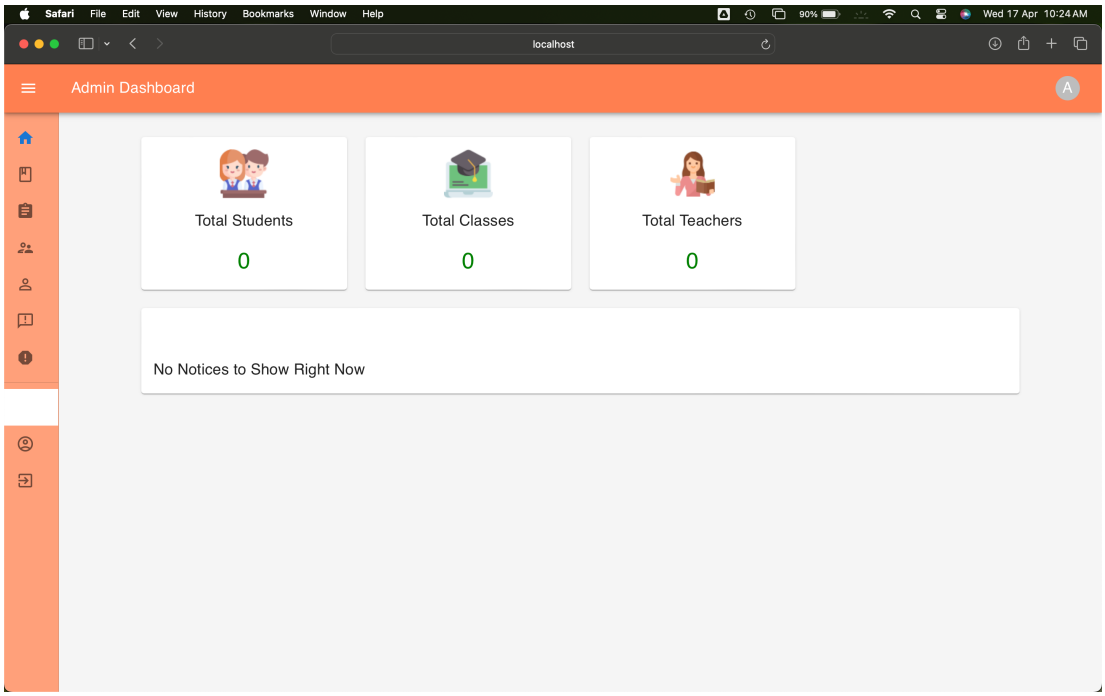
Test case: Check for loading of Admin NavBar



Conclusion: Test case passed. Admin NavBar loaded successfully.

Dashboard:

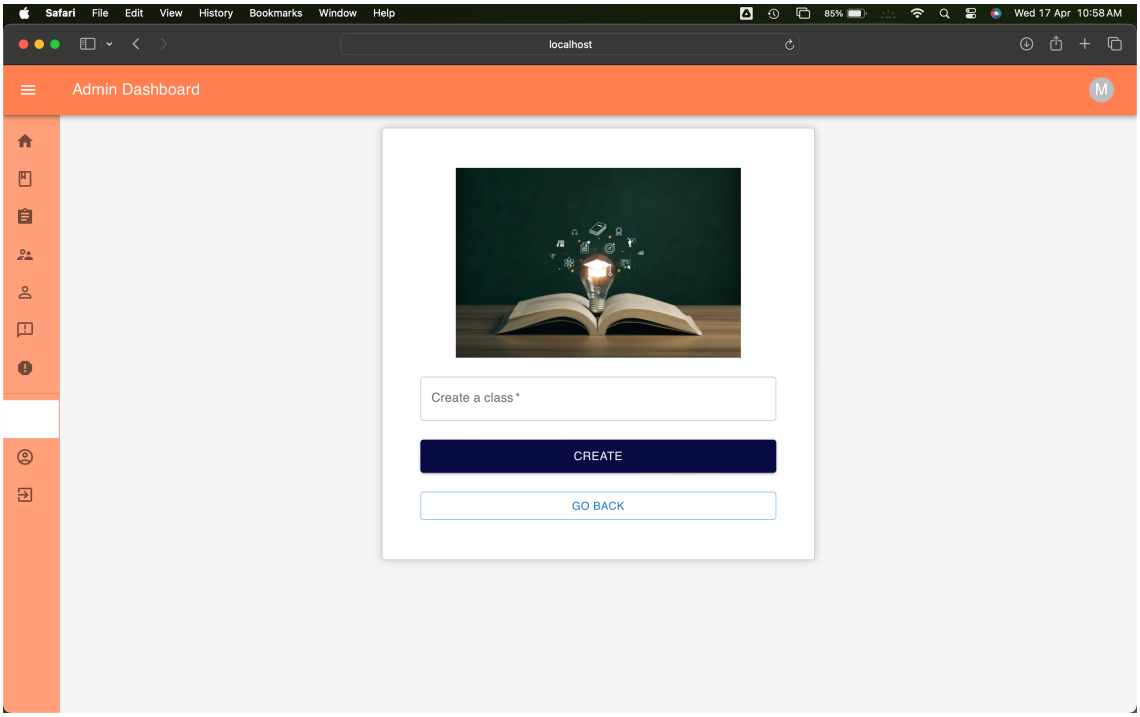
Test case: Check for Admin Dashboard loading.



Conclusion: Test case passed. Admin Dashboard loaded successfully.

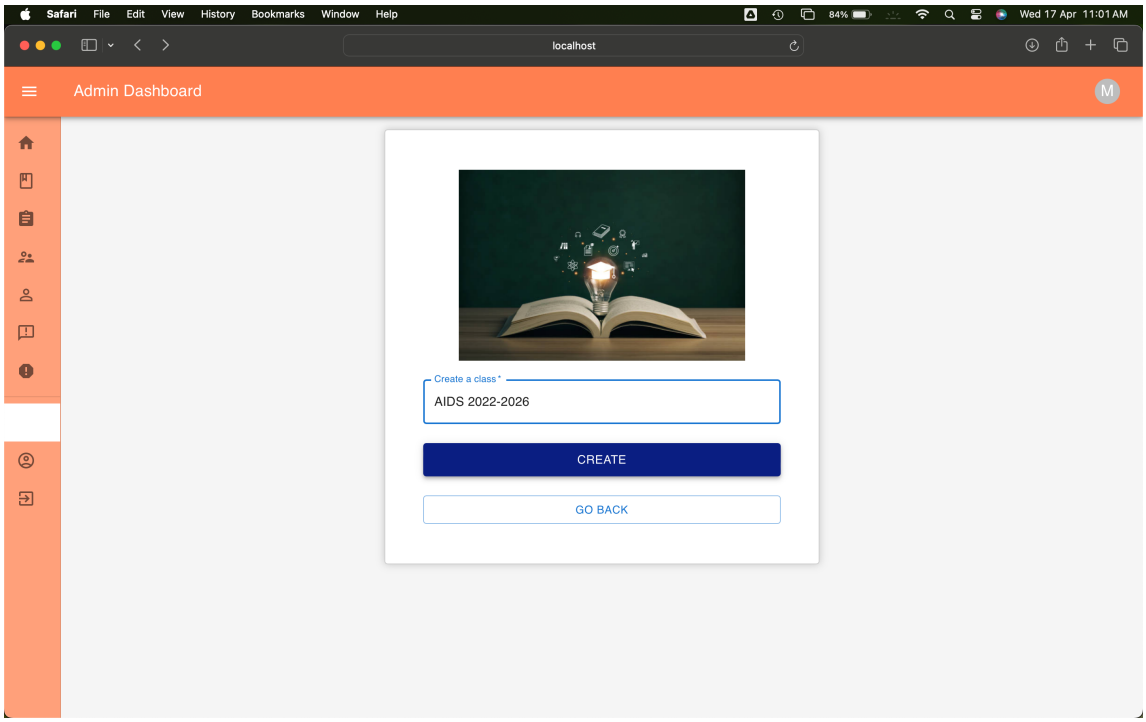
Class Creation:

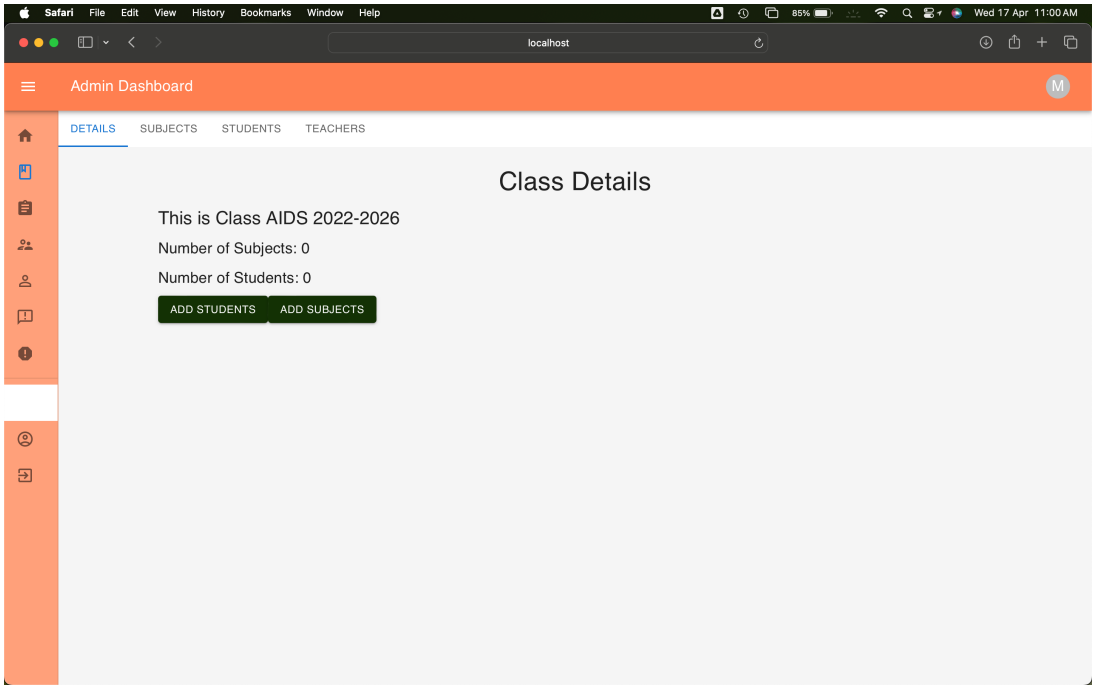
Test case: Check for class creation page loading.



Conclusion: Test case passed. Class creation page loaded successfully.

Test case: Check for class creation successful.

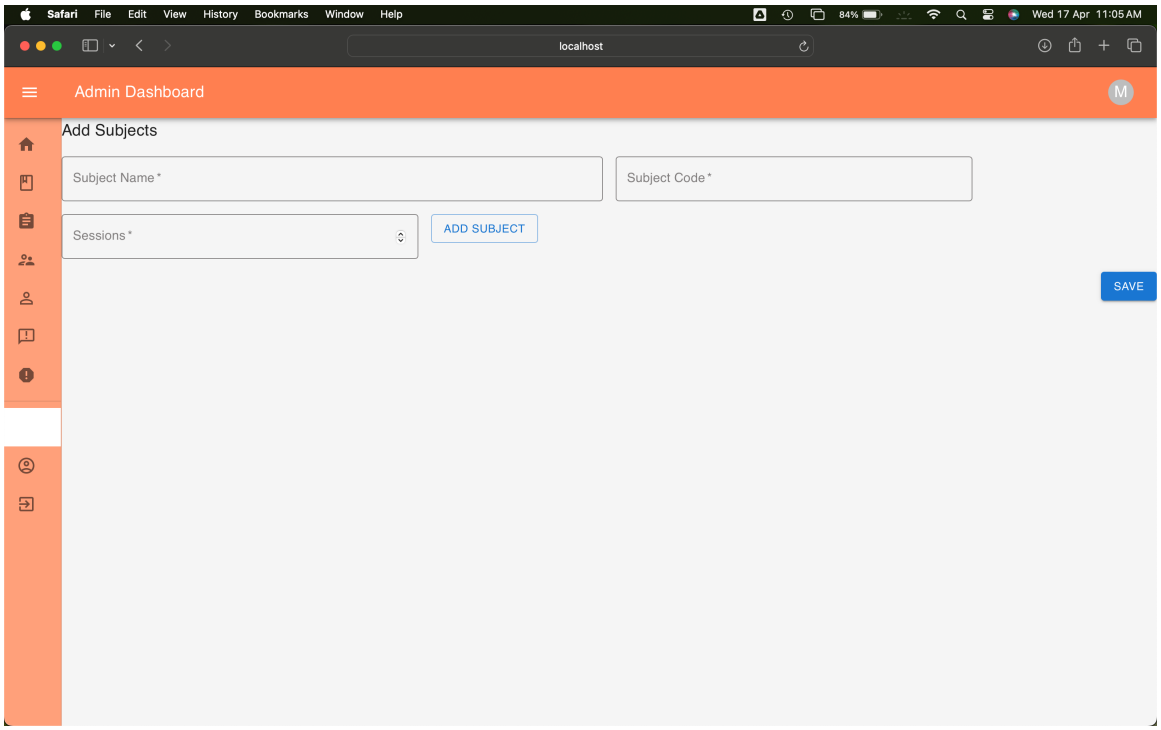




Conclusion: Test case passed. Class creation successful.

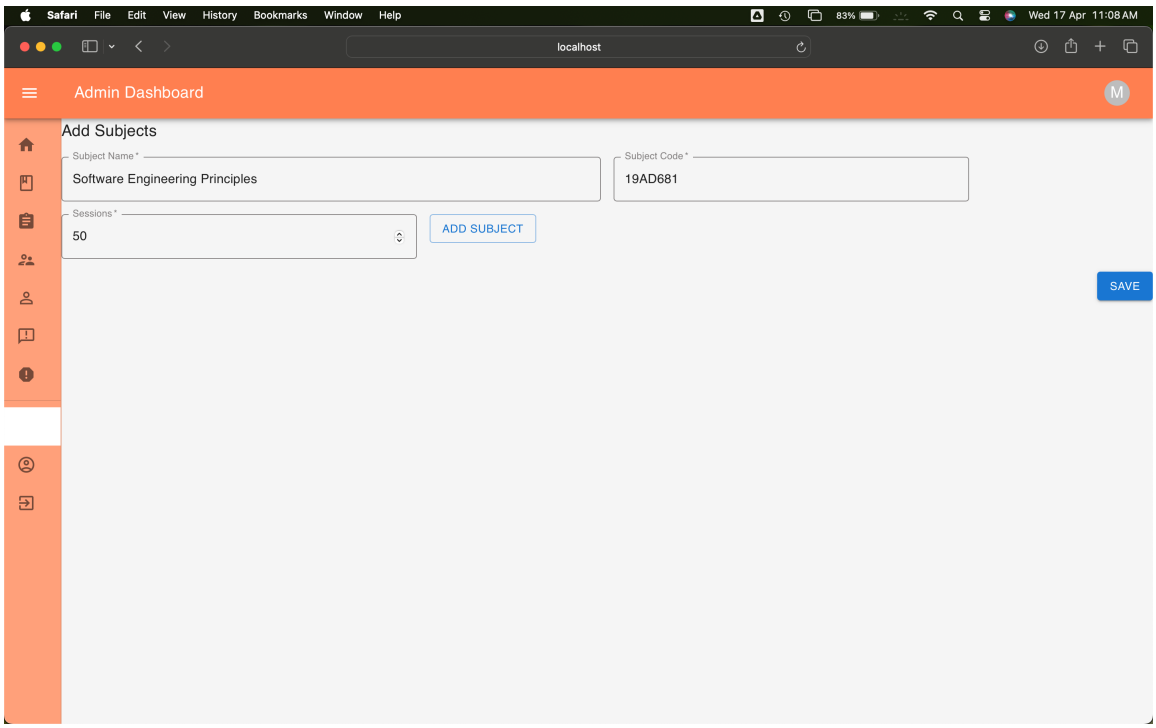
Course Creation:

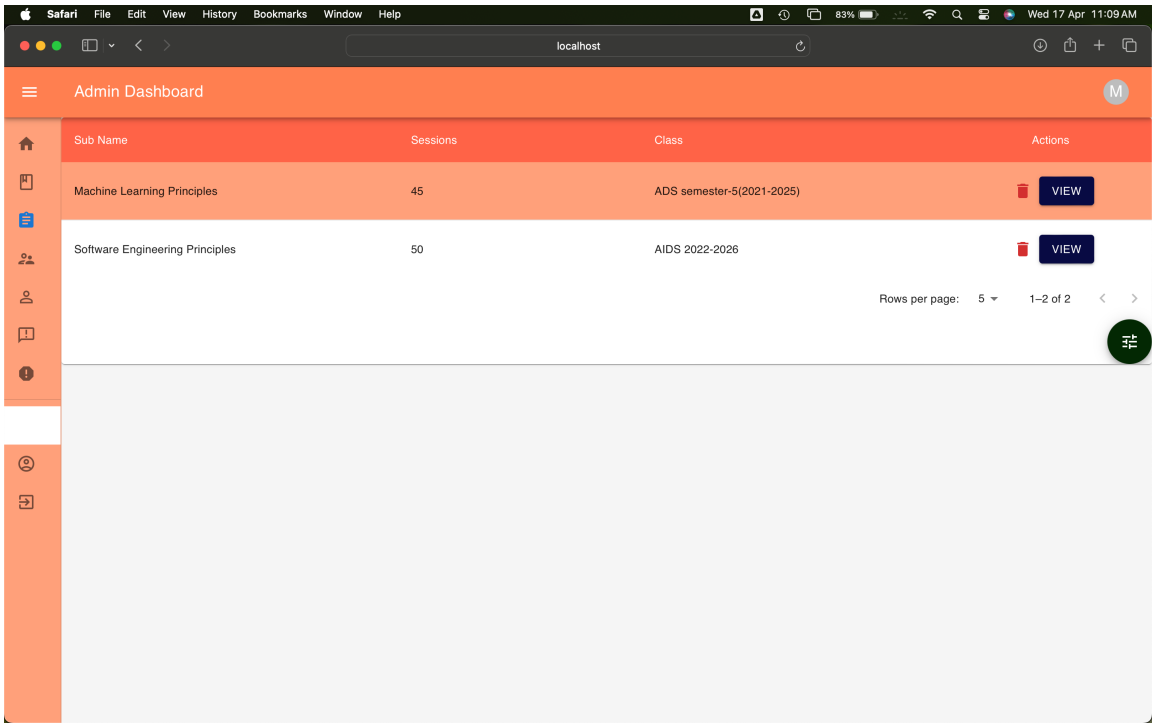
Test case: Check for course creation page loading.



Conclusion: Test case passed. Course creation page loading successful.

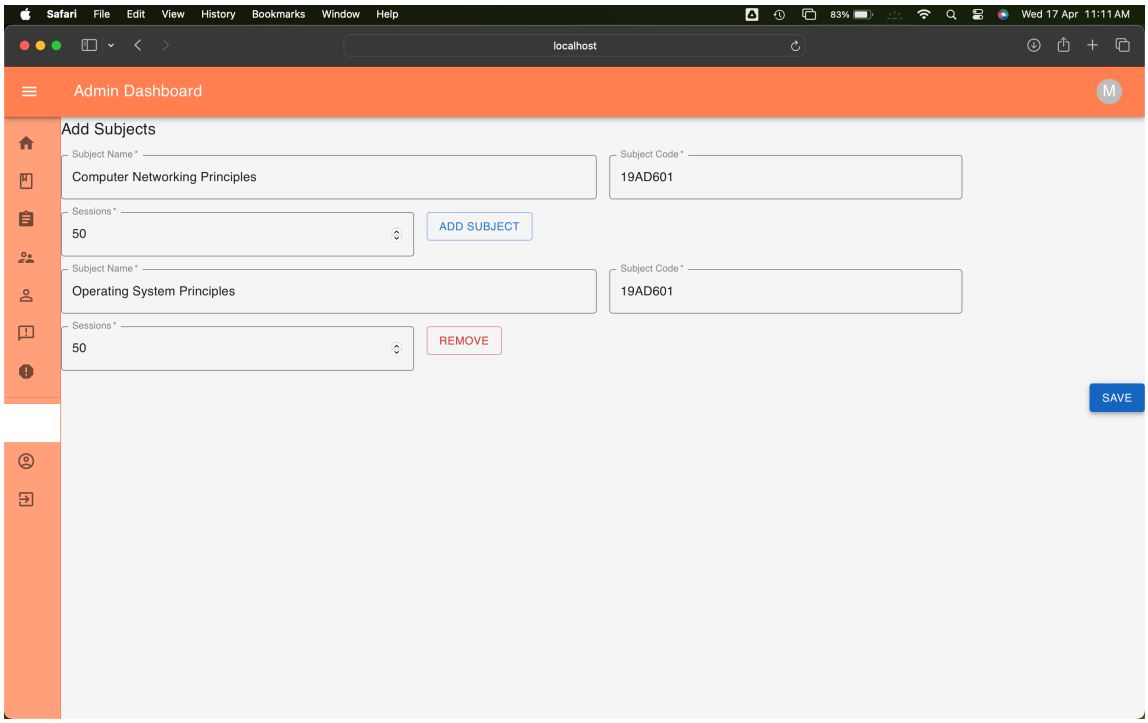
Test case: Check for course creation successful.

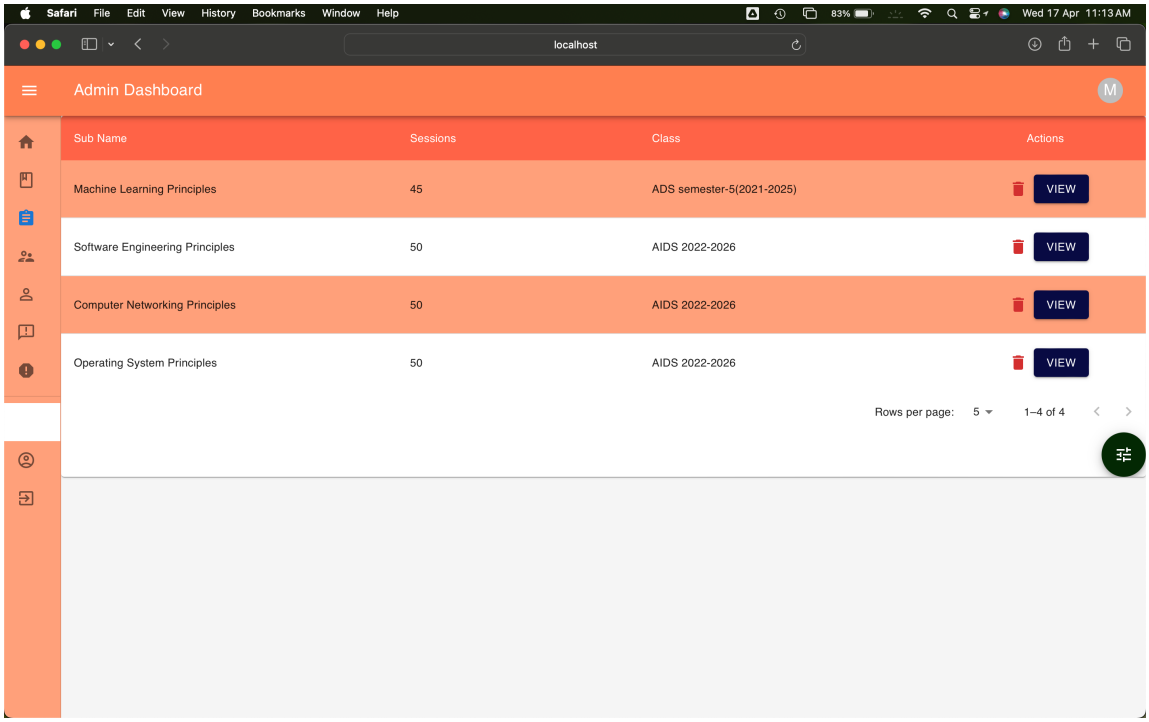




Conclusion: Test case passed. Course creation successful.

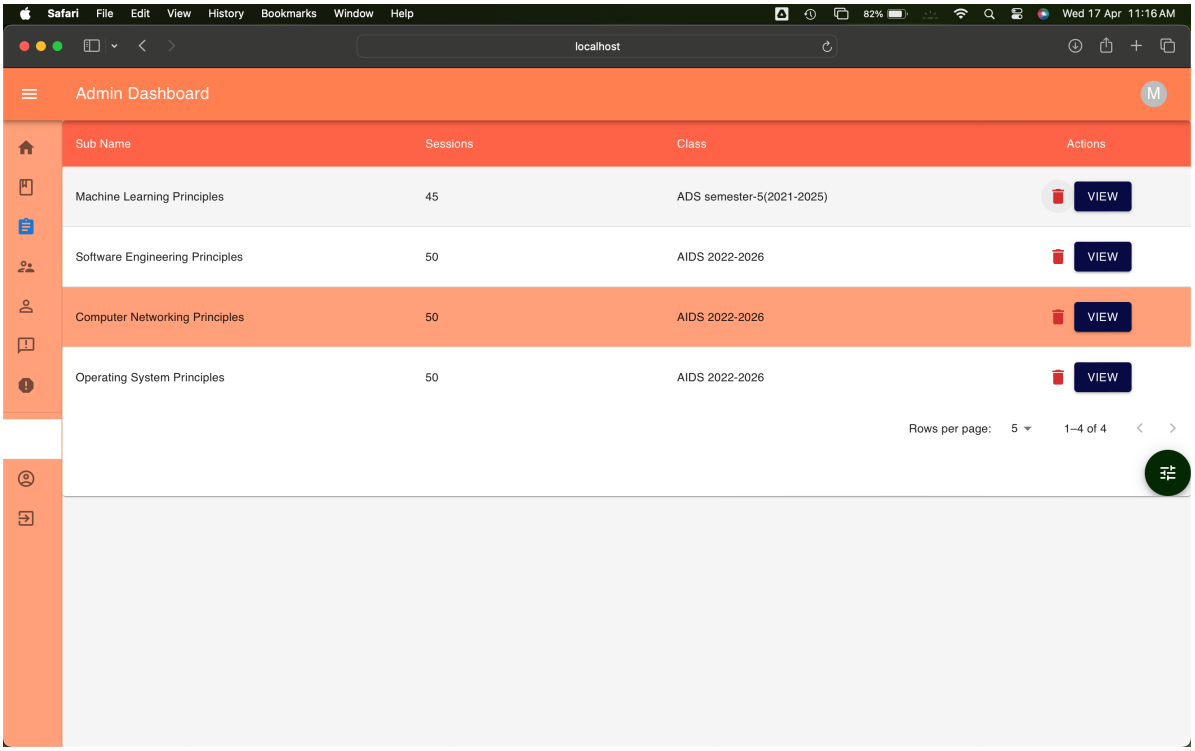
Test case: Check for multiple course creation.

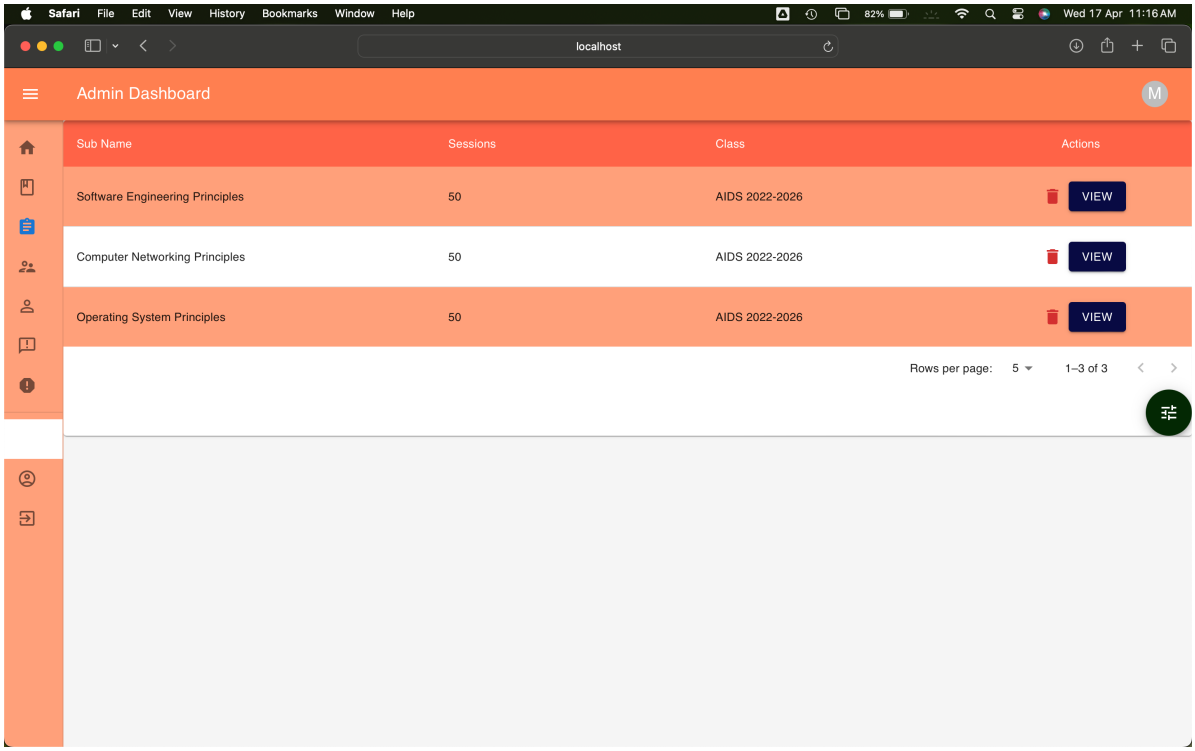




Conclusion: Test case passed. Multiple course creation successful.

Test case: Check for deletion of a course.

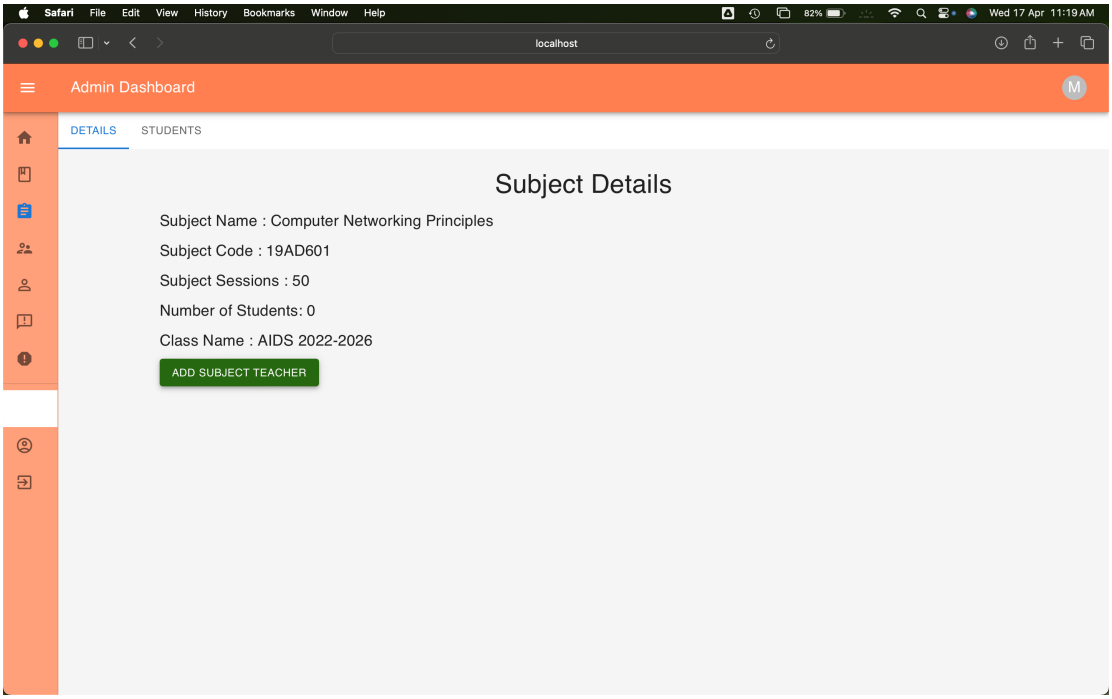


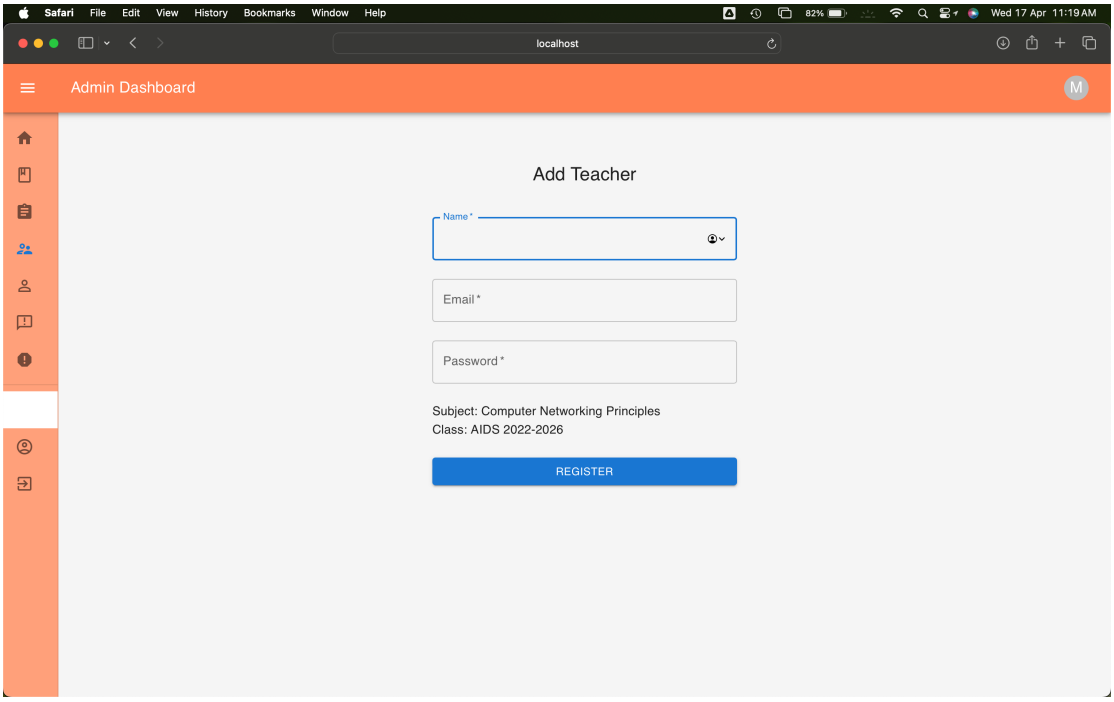


Conclusion: Test case passed. Course deletion successful.

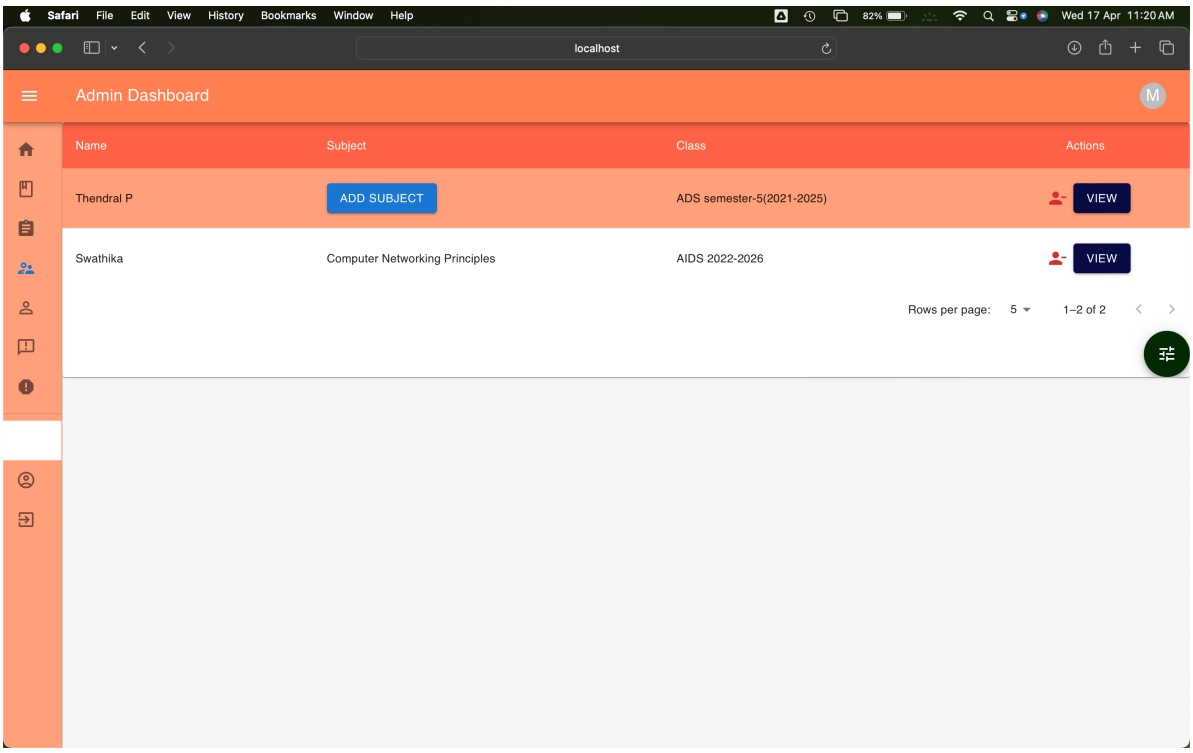
Teacher Login ID Creation:

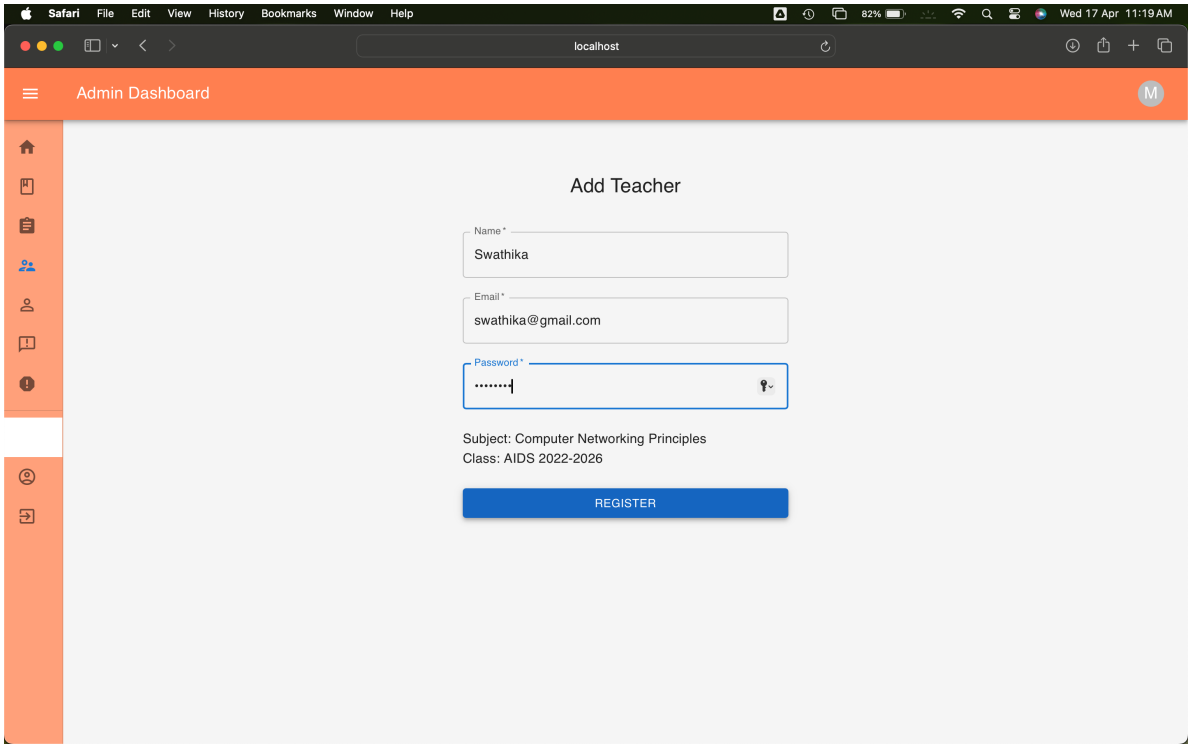
Test case: Check for Teacher login id creation successful.





Conclusion: Test case passed. Teacher Id creation successful.
Test case: Check for Teacher Login Id deletion.

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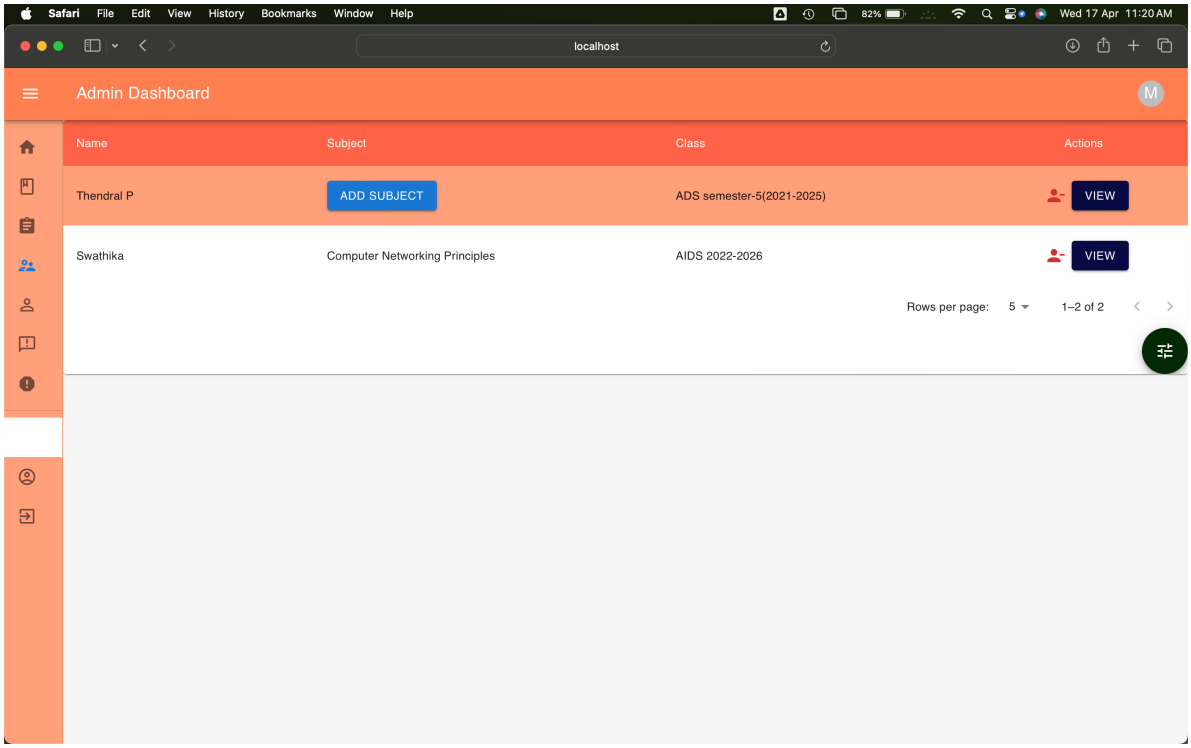
REGISTER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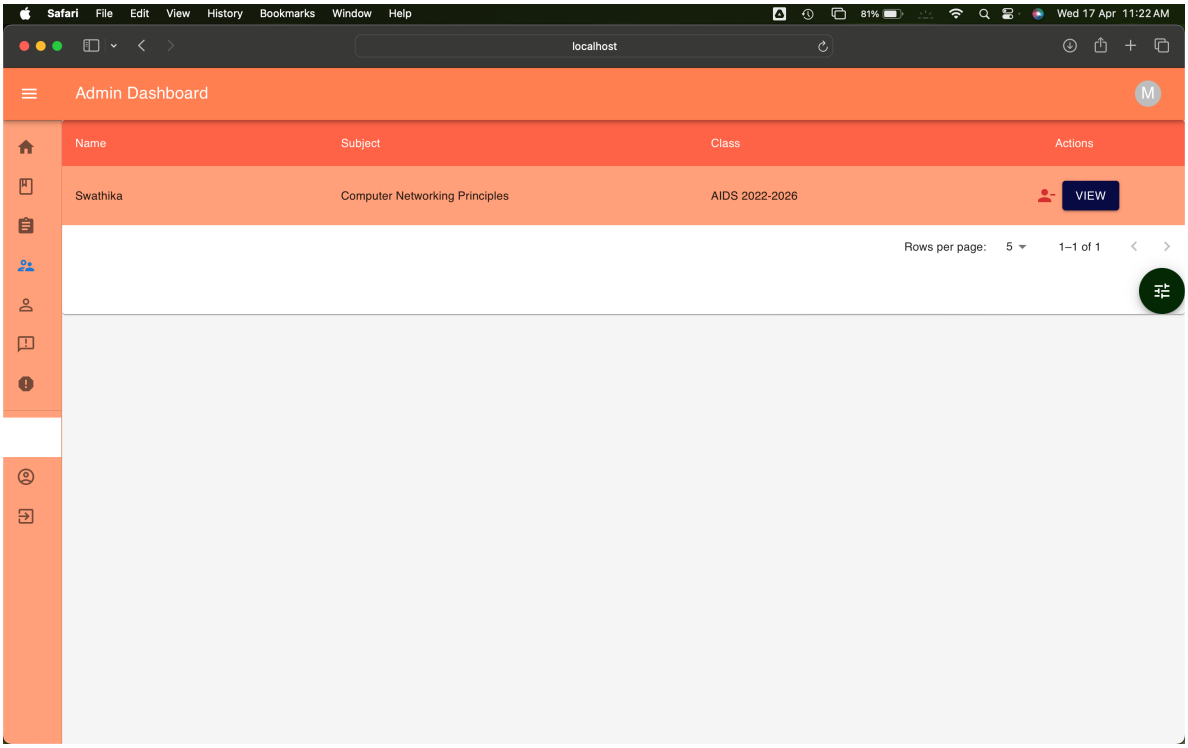
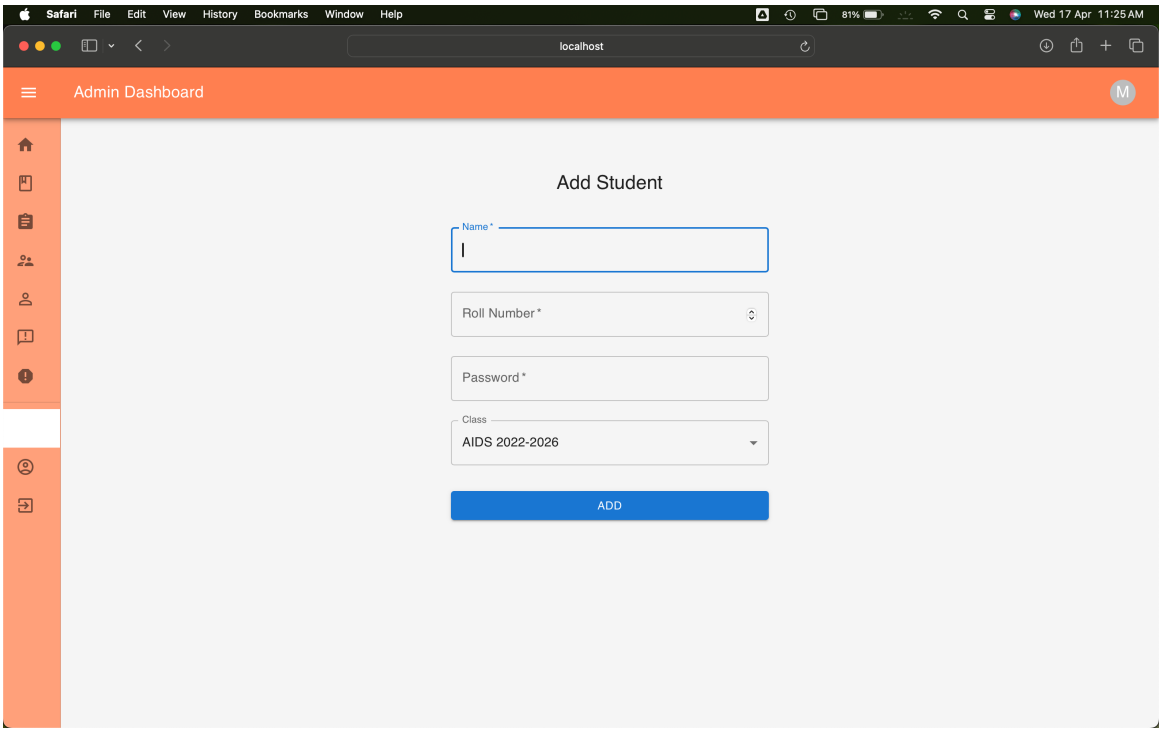


Conclusion: Test case passed. Teacher Login id deleted successfully.

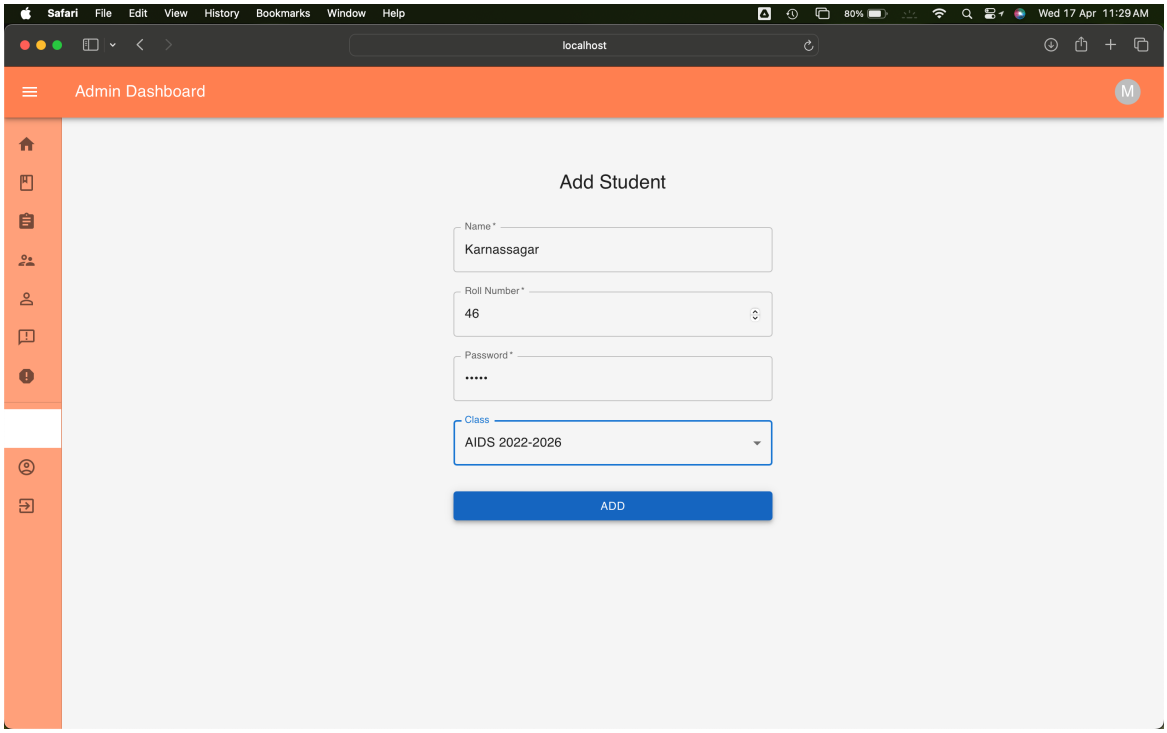
Student Login Id Creation:

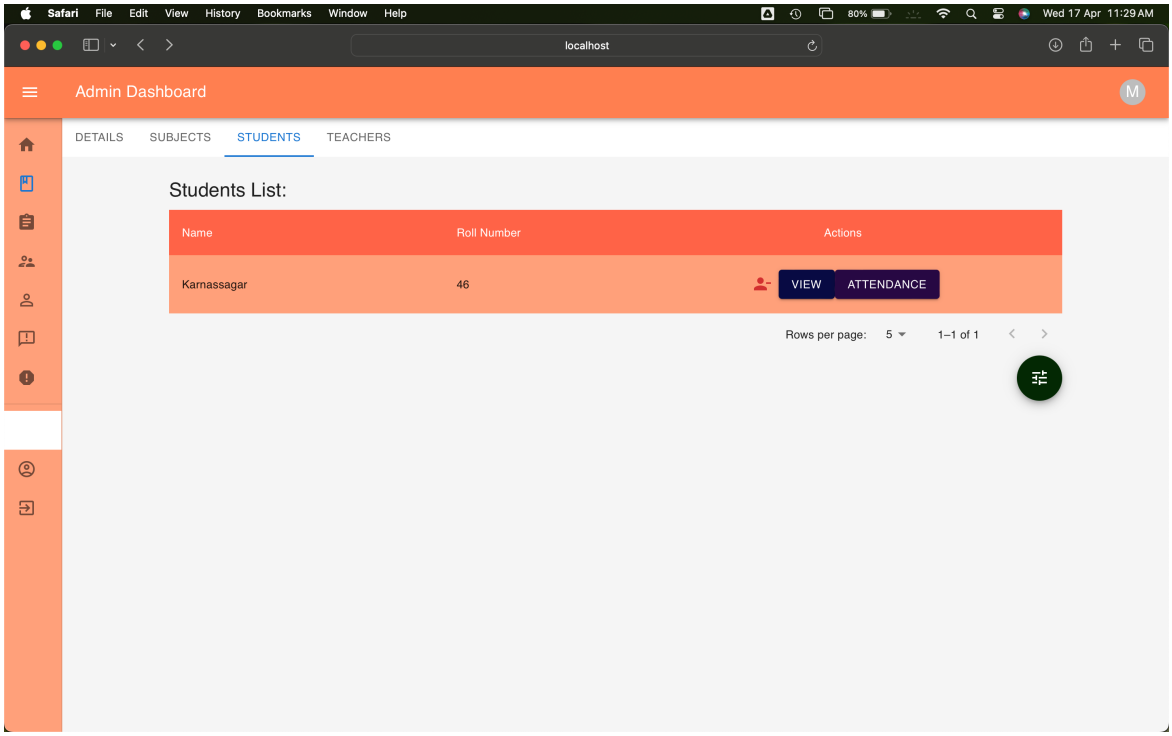
Test case: Check for student login id creation page loading.



Conclusion: Test case passed. Student login id creation page loading successful.

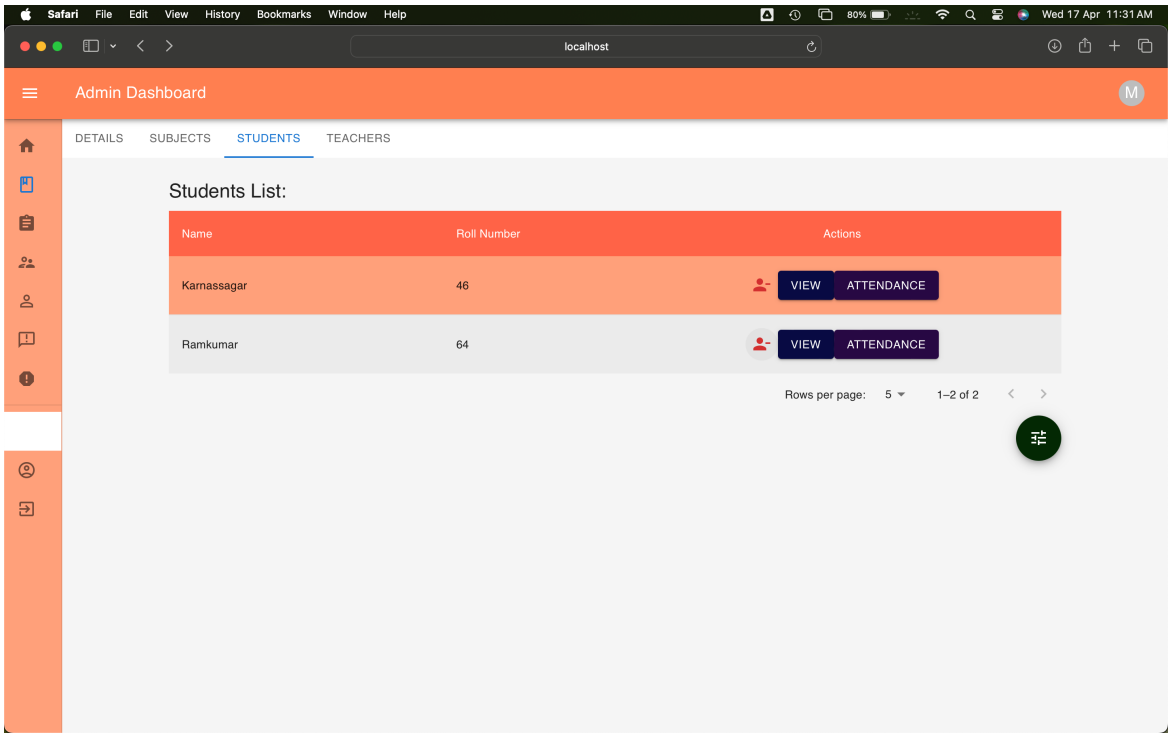
Test case: Check for Student login id creation.

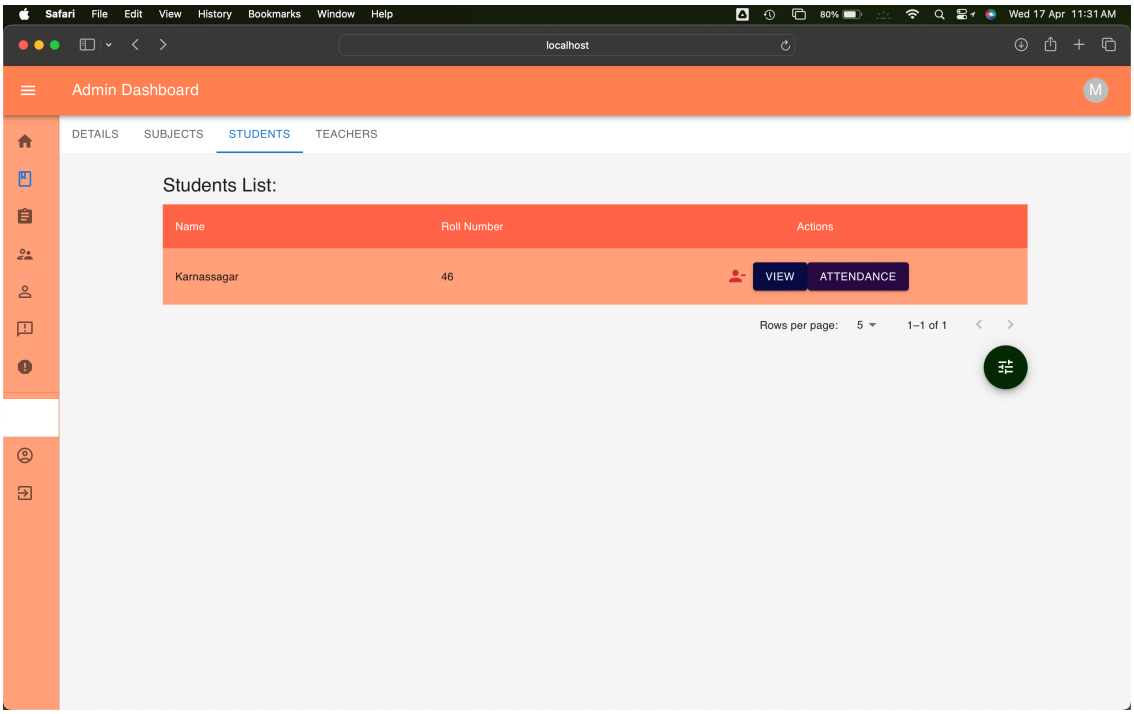




Conclusion: Test case passed. Student login id created successfully.

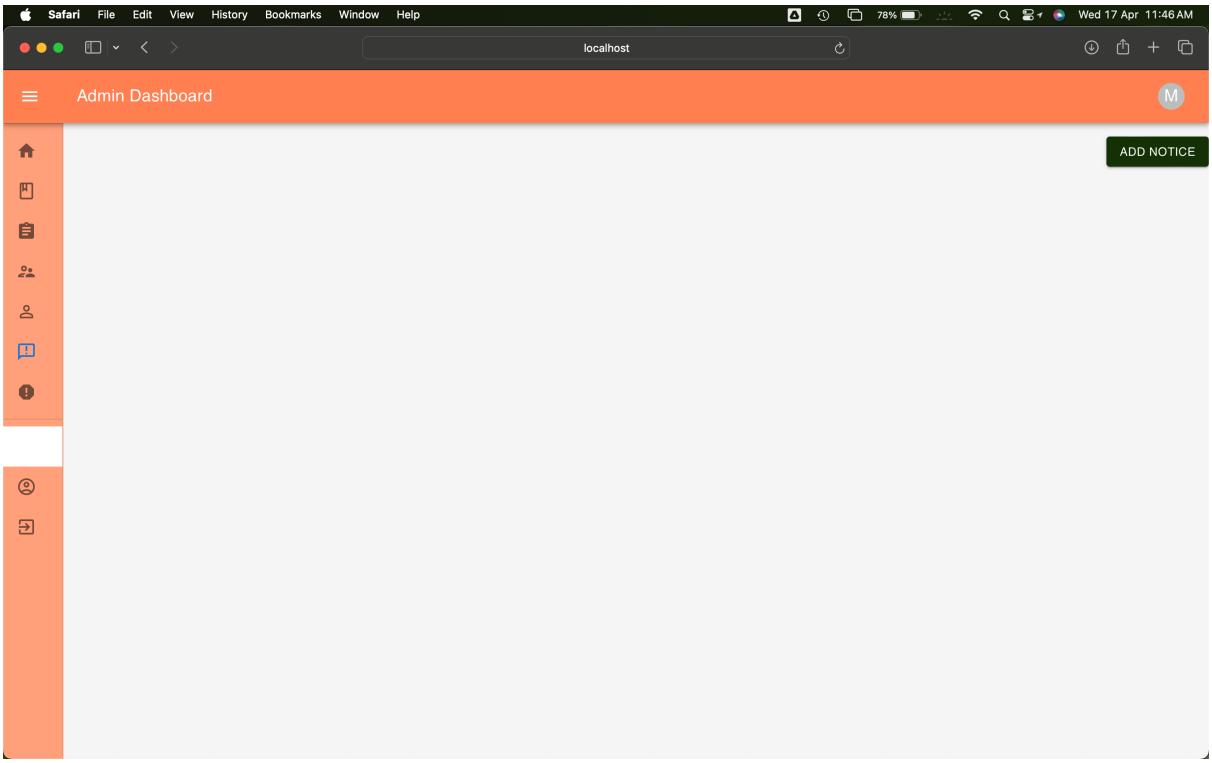
Test case: Check for student login id deletion.





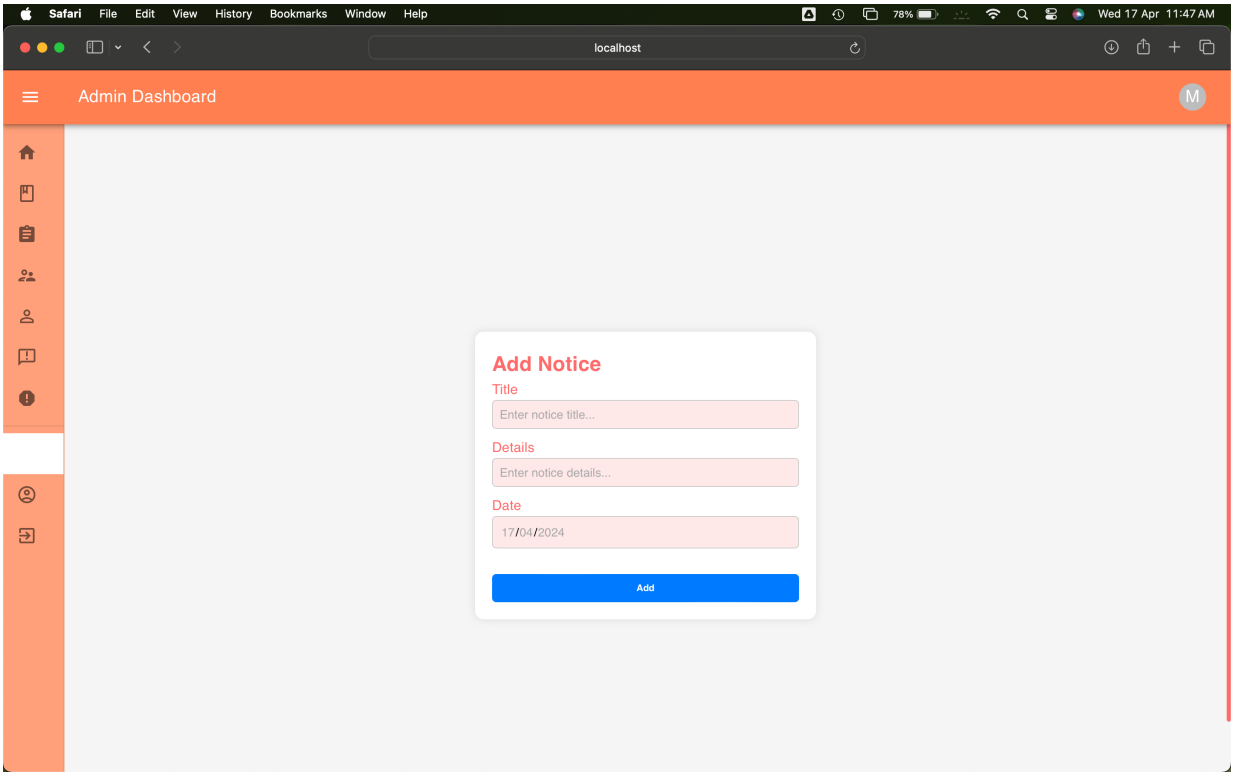
Conclusion: Test case passed. Student login id deletion successful.

Test case: Check for Notice page loading.



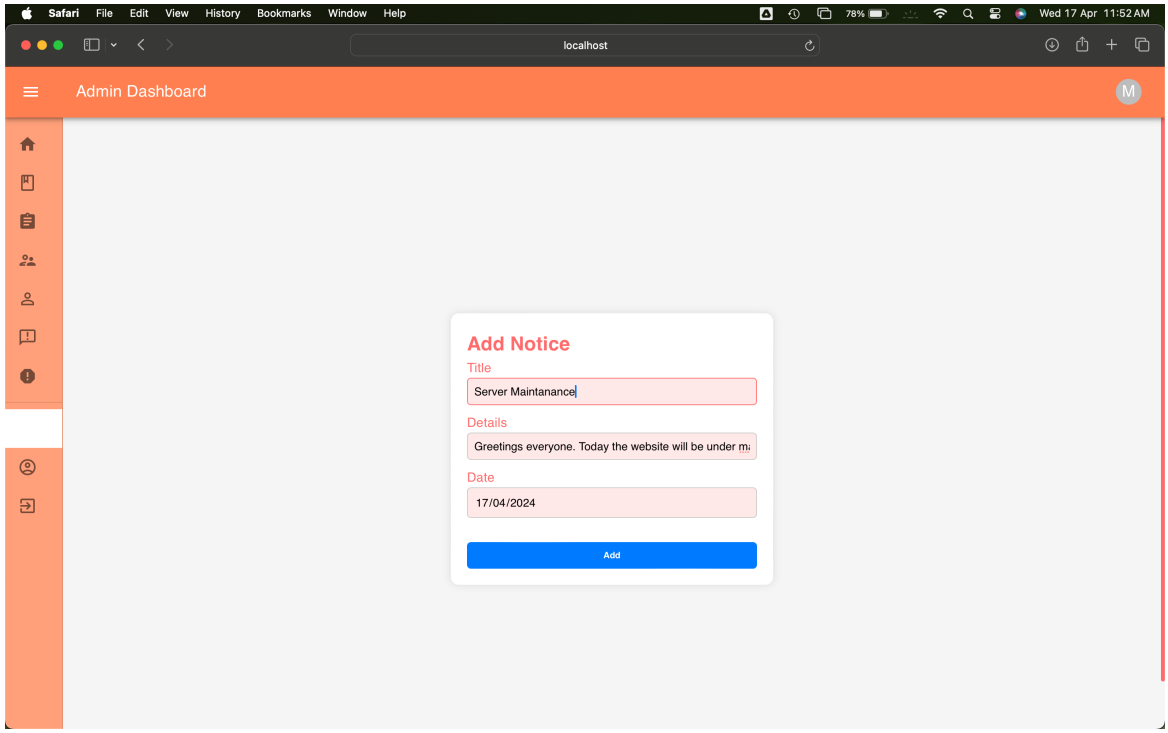
Conclusion: Test case passed. Notice page loading successful.

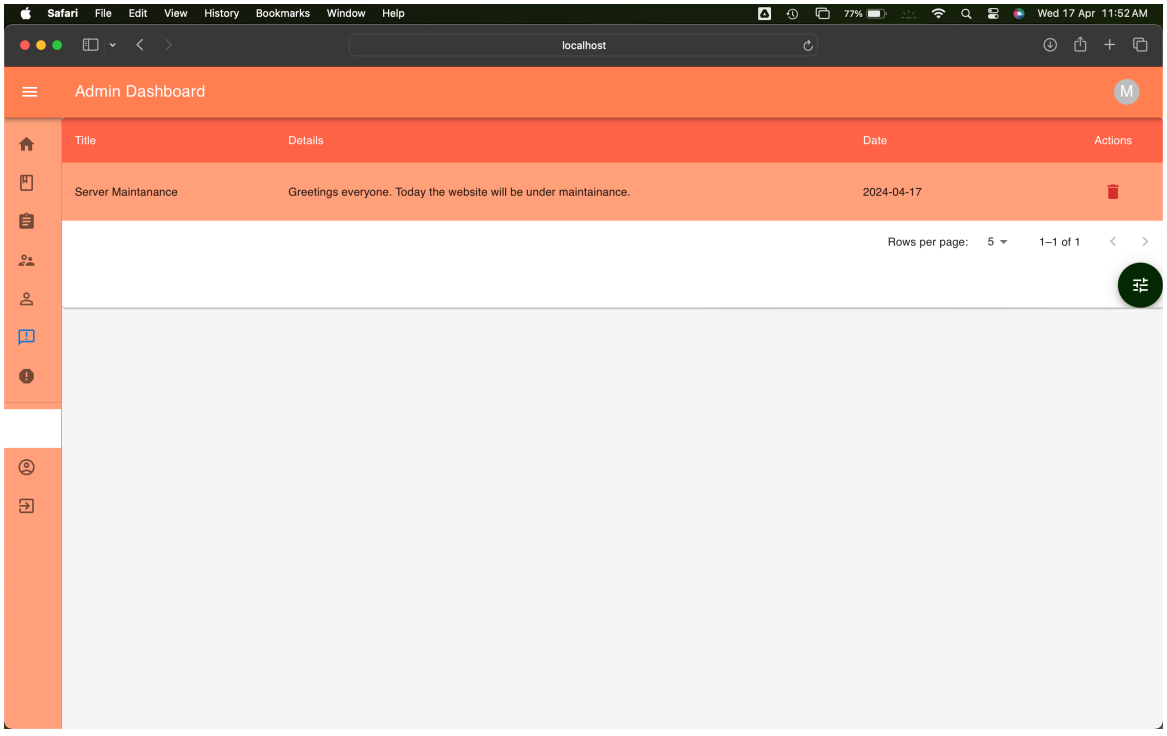
Test case: Check for Notice creation page loading.

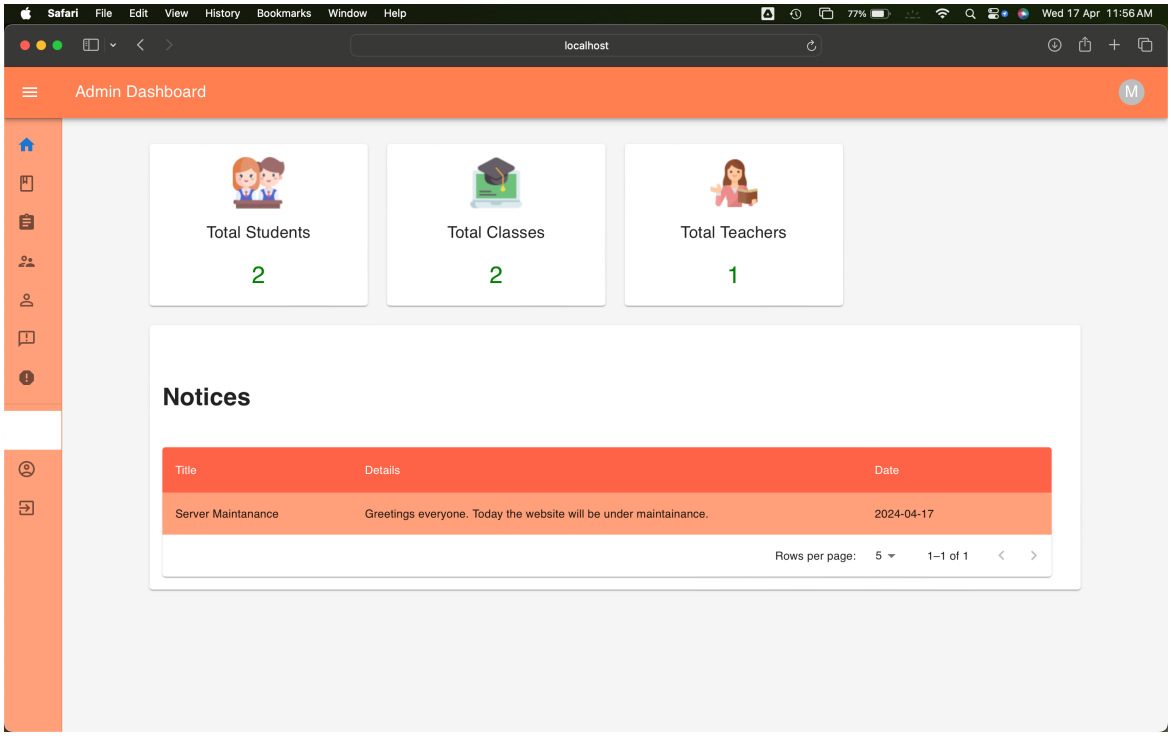


Conclusion: Test case passed. Notice creation page loading successful.

Test case: Check for creation of notice.

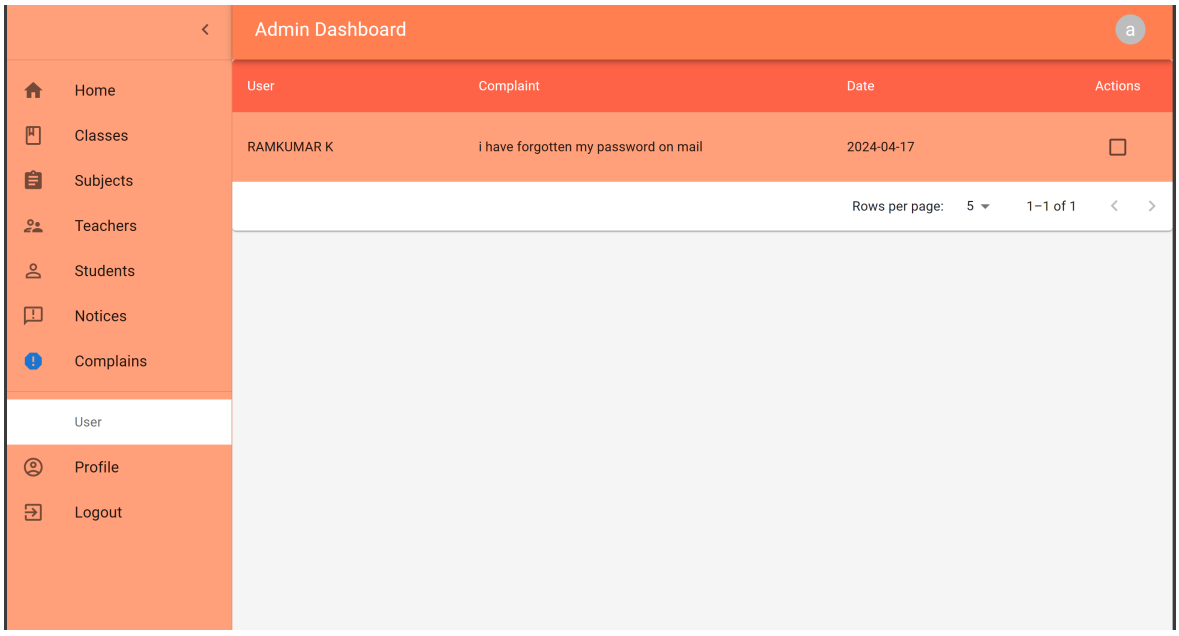






Conclusion: Test case passed. Notice creation successful.

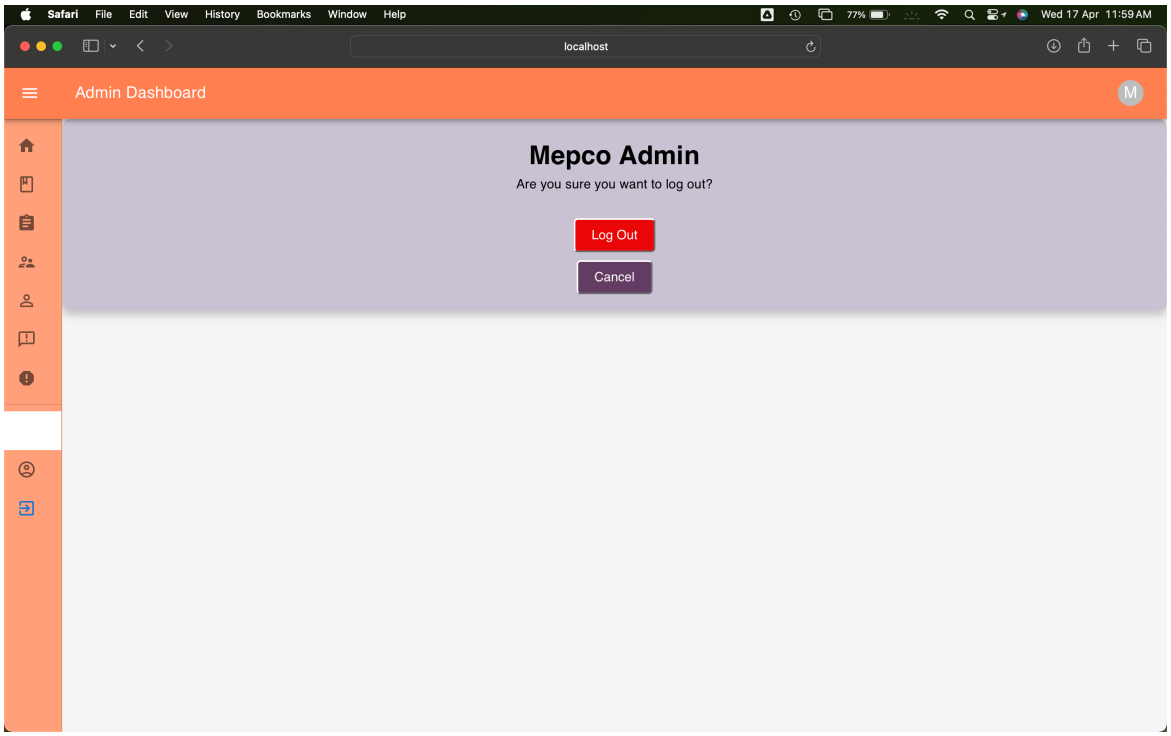
Test case: Check for Complain page loading.



Conclusion: Test case passed. Complain page loading successful.

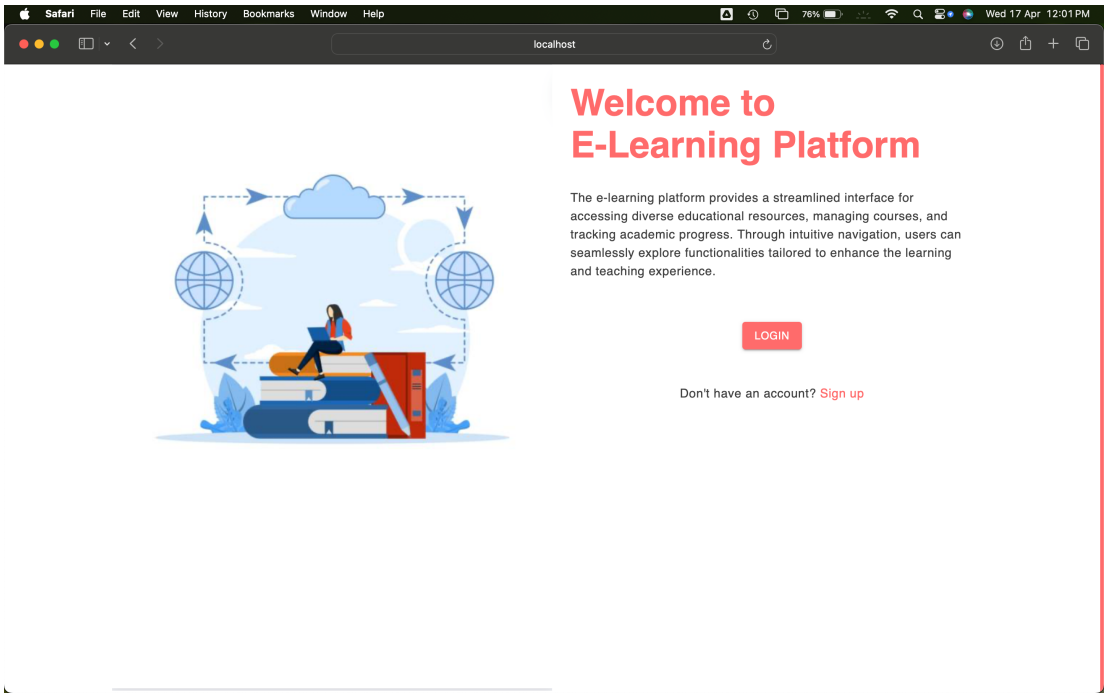
Logout:

Test case: Check for Logout page loading.



Conclusion: Test case passed. Logout page loading successful.

Test case: Check for successful logout.



Conclusion: Test case passed. Logout successful.

Testing of Student Module:

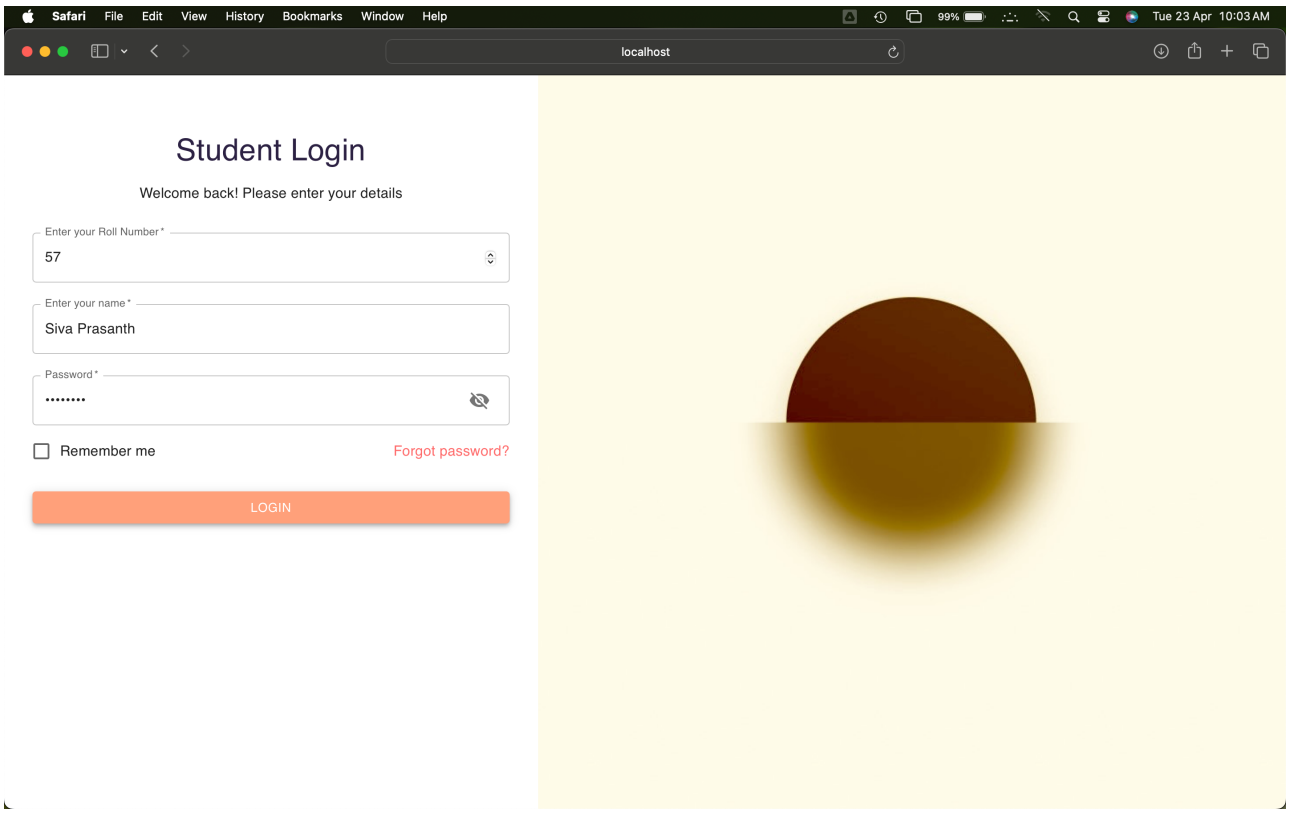
List of Modules:

- Login
- Dashboard
- Subject
- Attendance
- Quiz
- Complain
- Profile
- Logout

Unit Testing:

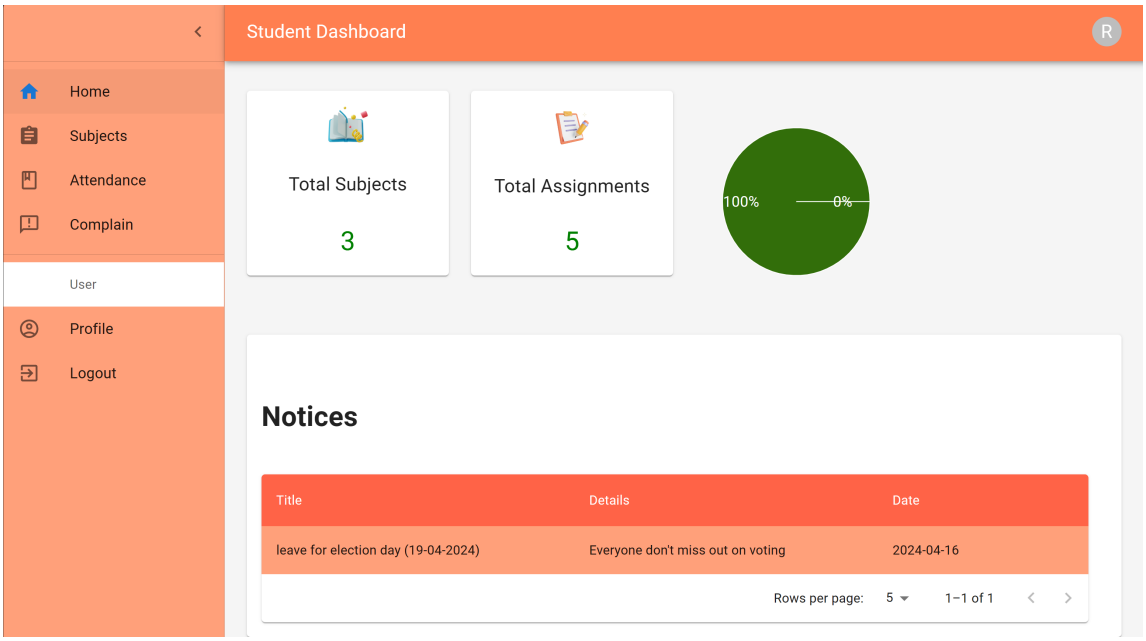
Login:

Test case: Check for Login screen loading.



Conclusion: Test case passed. Login screen loaded successfully.

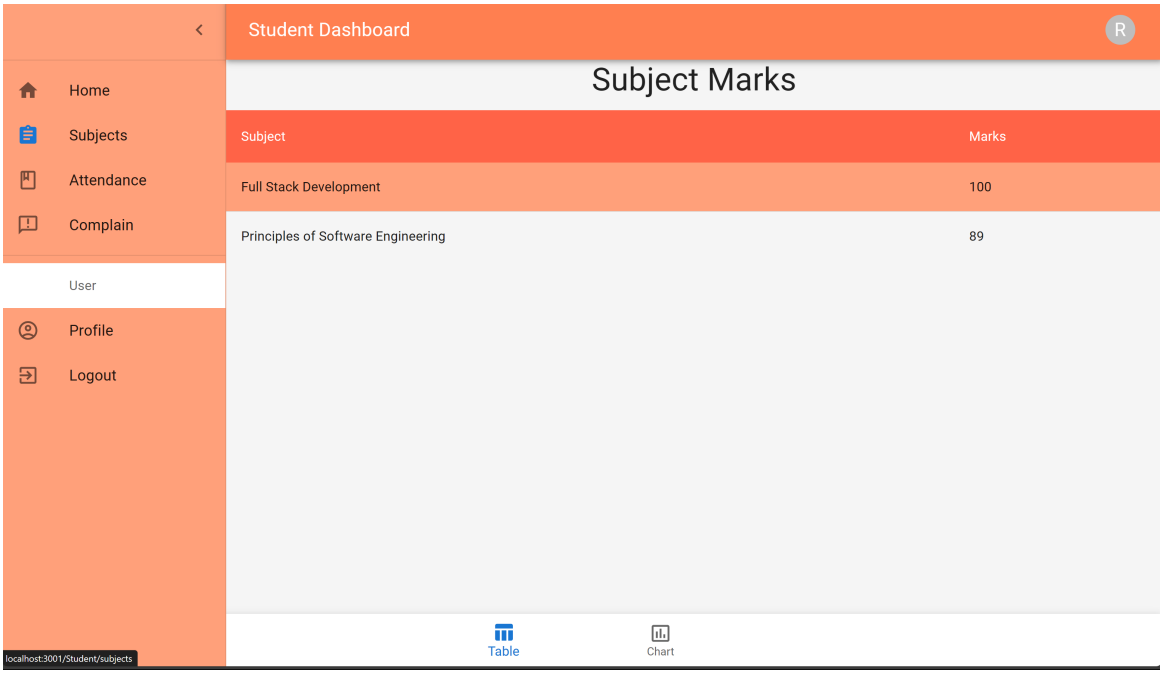
Test case: Check for login successful.



Conclusion: Test case passed. Login successful.

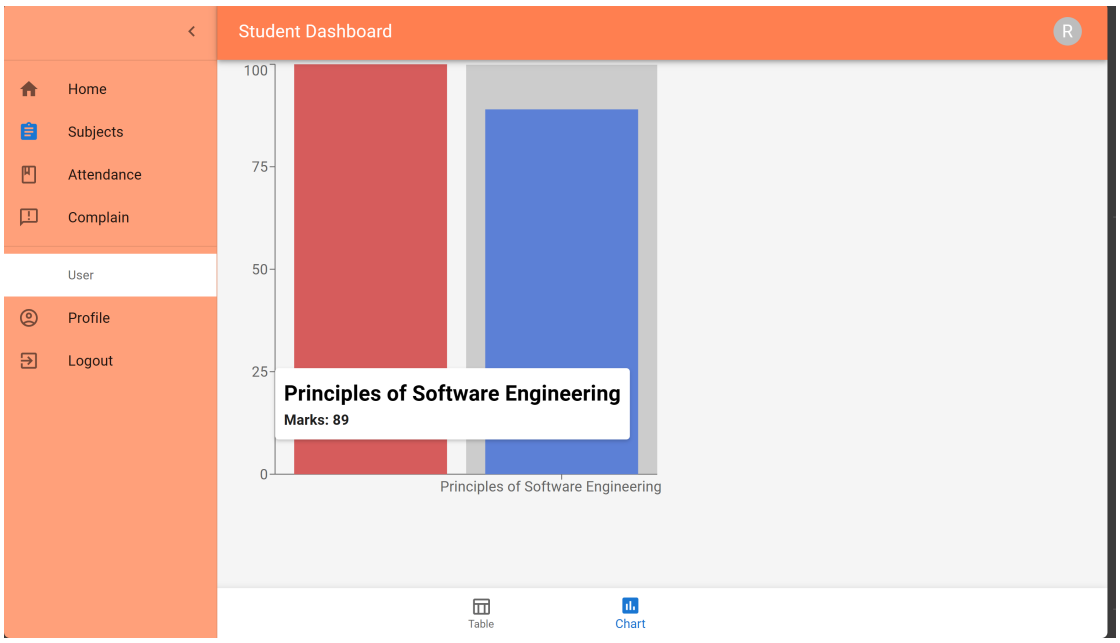
Subject:

Test case: Check for subject page loading.



Conclusion: Test case passed. Subject page loading successful.

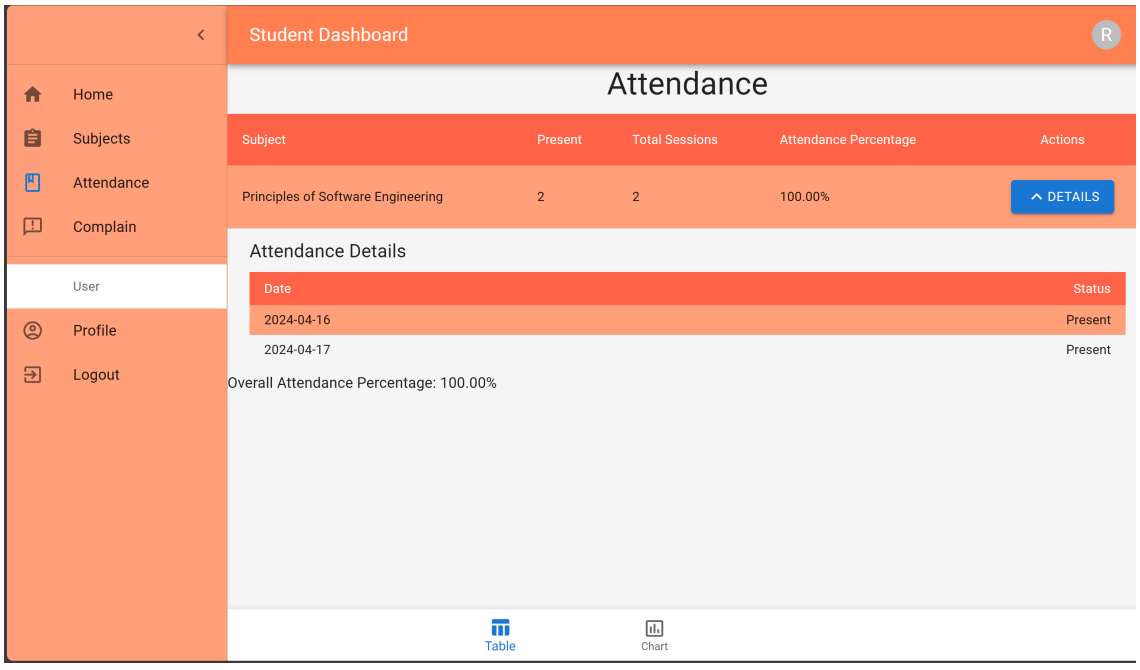
Test case: Check for Mark analysis.



Conclusion: Test case passed. Mark analysis successful.

Attendance:

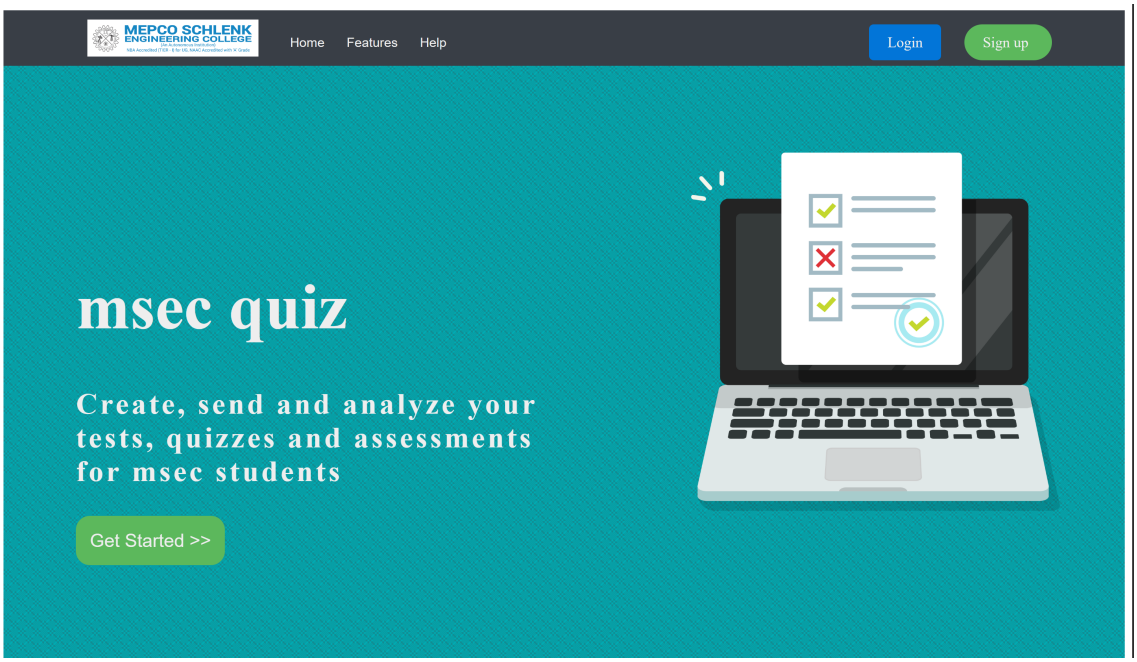
Test case: Check for attendance analysis for a subject.



Conclusion: Test case passed. Attendance analysis for a subject successful.

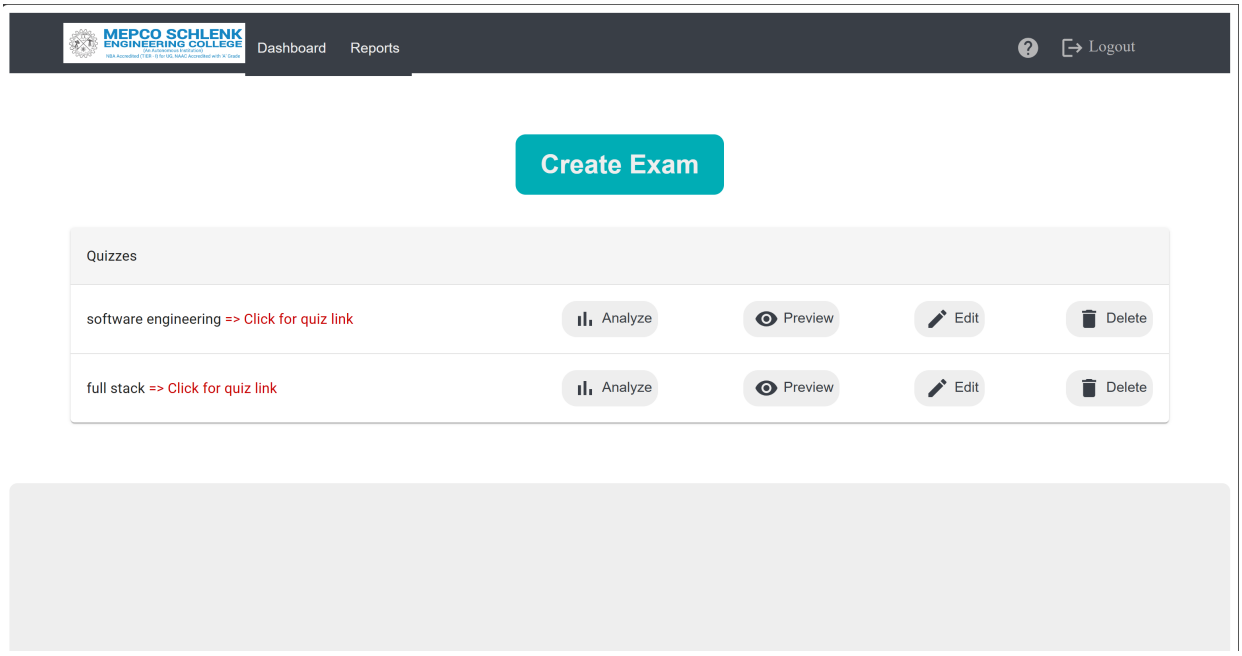
Quiz:

Test case: Check for Quiz homepage loading.



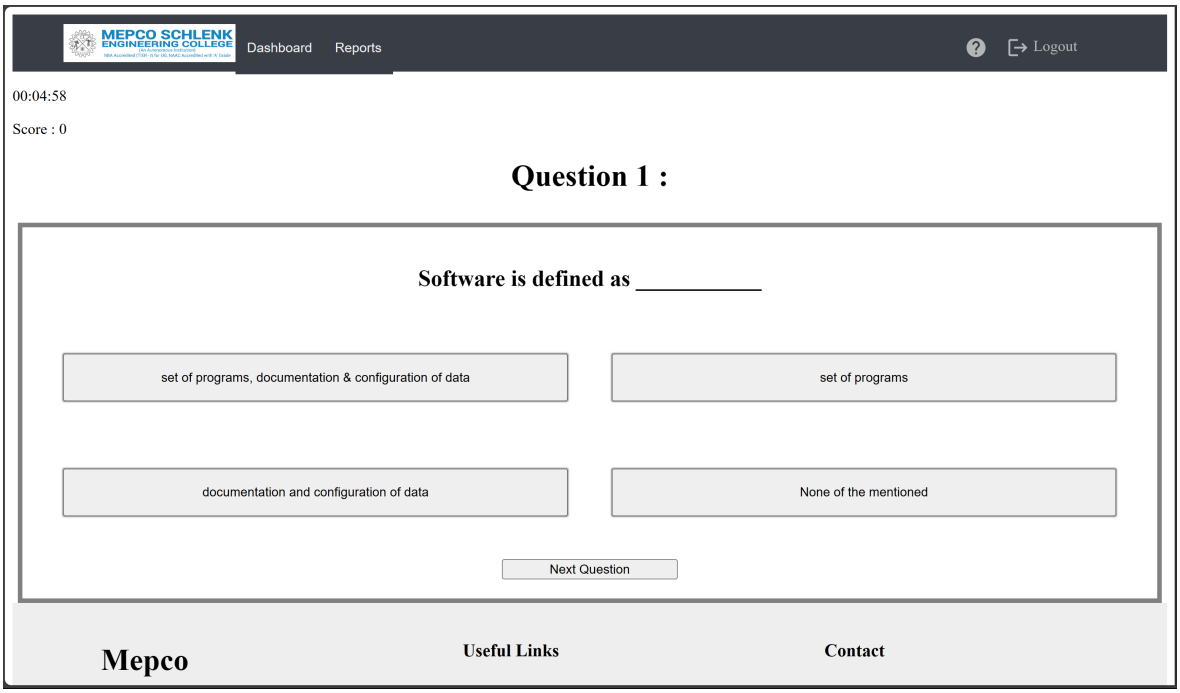
Conclusion: Test case passed. Quiz homepage loading successful.

Test Case: Check for Quiz dashboard loading.



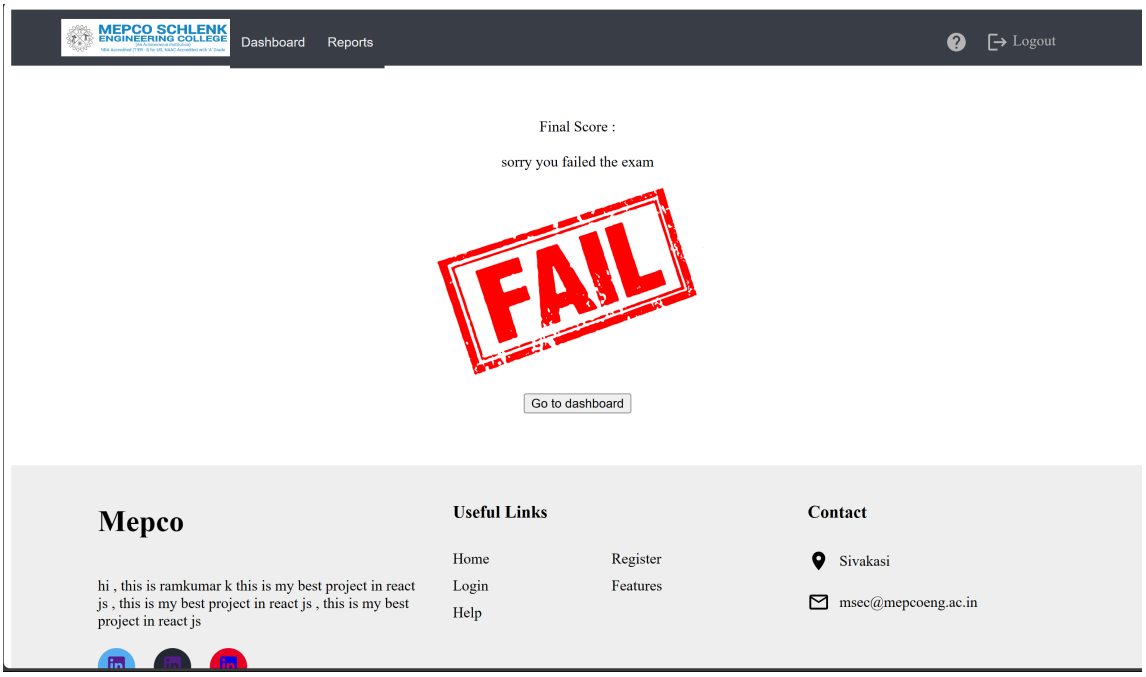
Conclusion: Test case passed. Quiz dashboard loading successful.

Test case: Check for quiz attending.



Conclusion: Test case passed. Quiz attending successful.

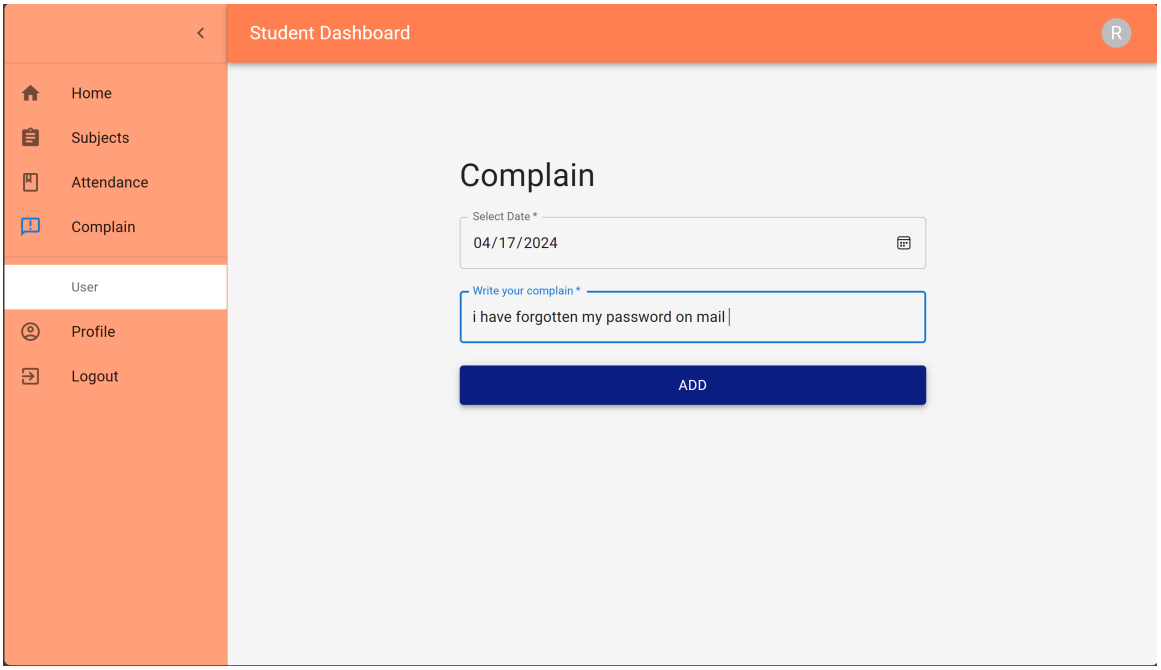
Test case: Check for quiz result.



Conclusion: Test case passed. Quiz result successful.

Complain:

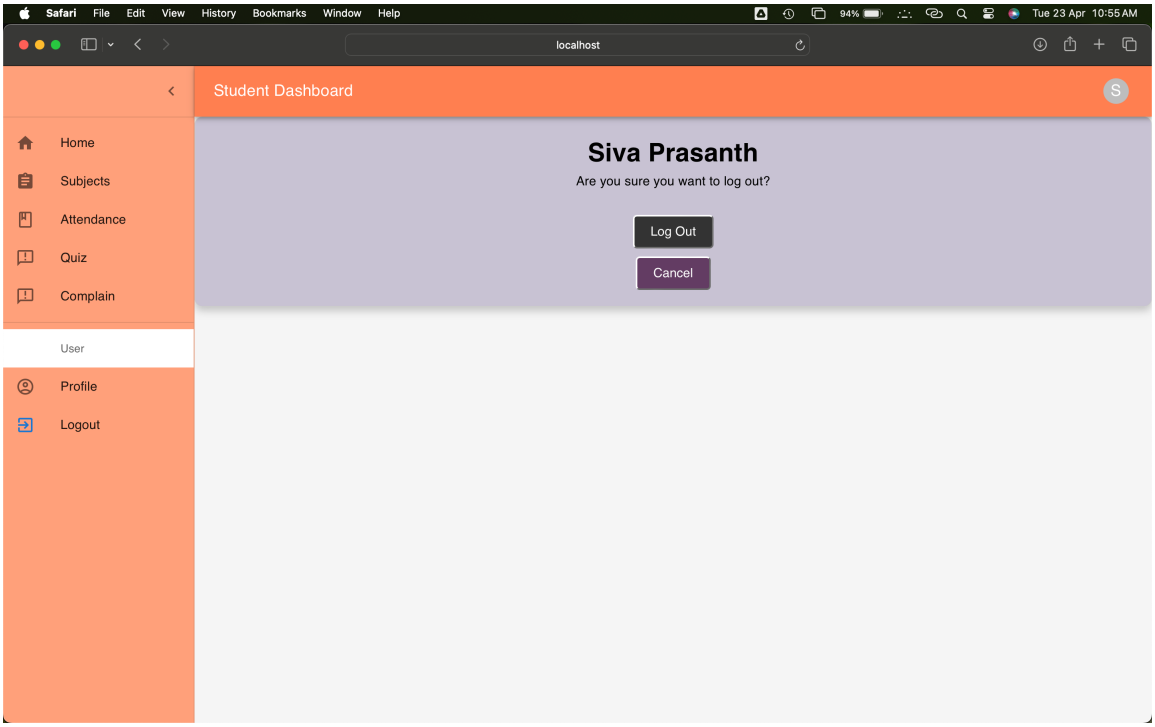
Test case: Check for complain creation.



Conclusion: Test case passed. Complain creation successful.

Logout:

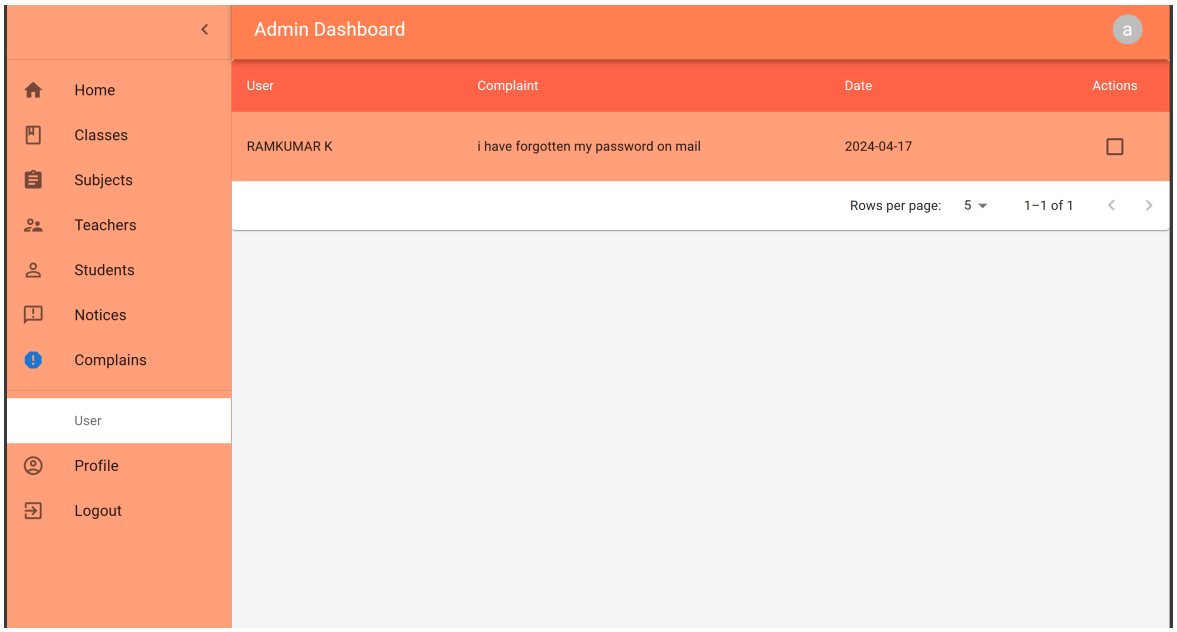
Test case: Check for logout page loading.



Conclusion: Test case passed. Logout page loading successful.

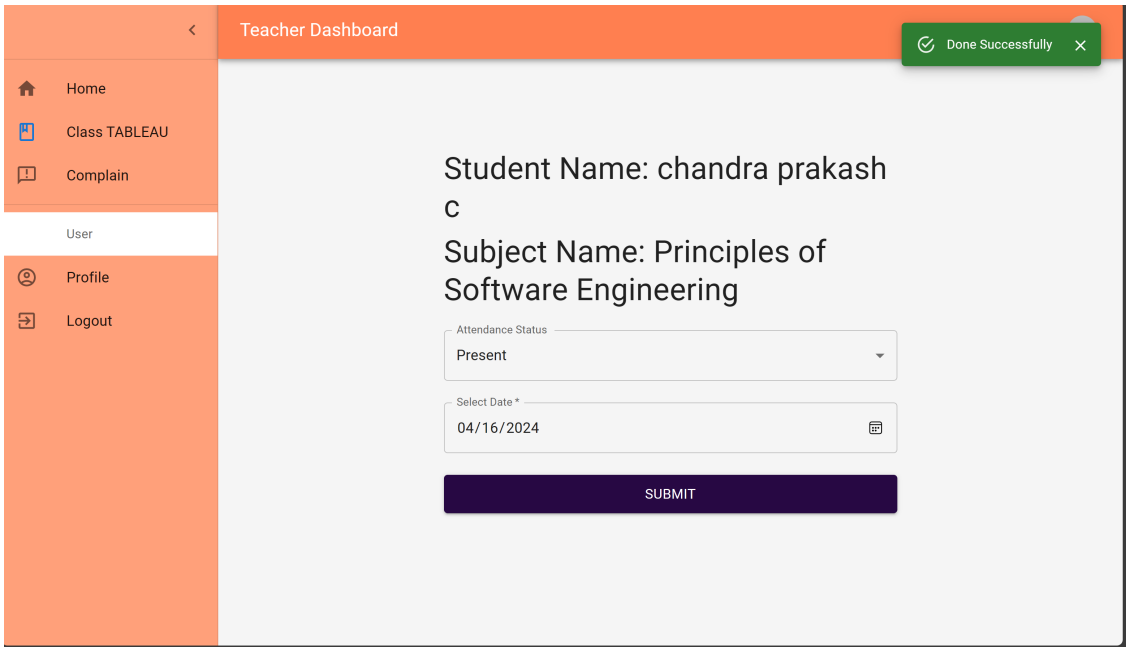
Integration Testing:

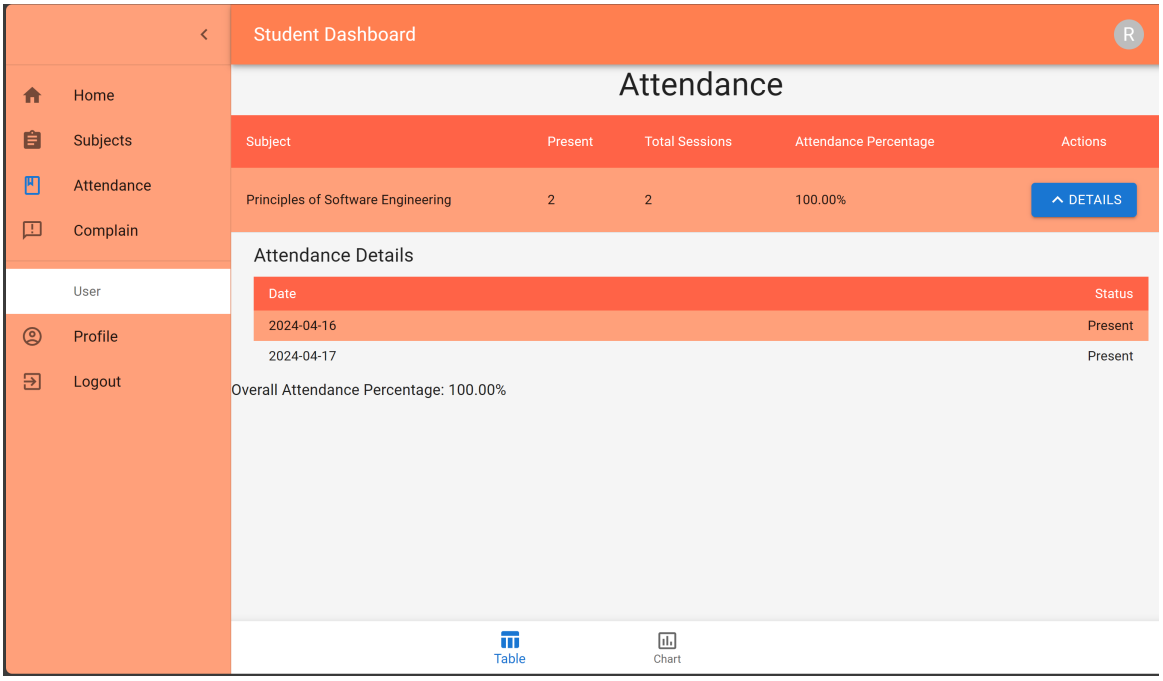
Test case: Check for complain raise in admin.



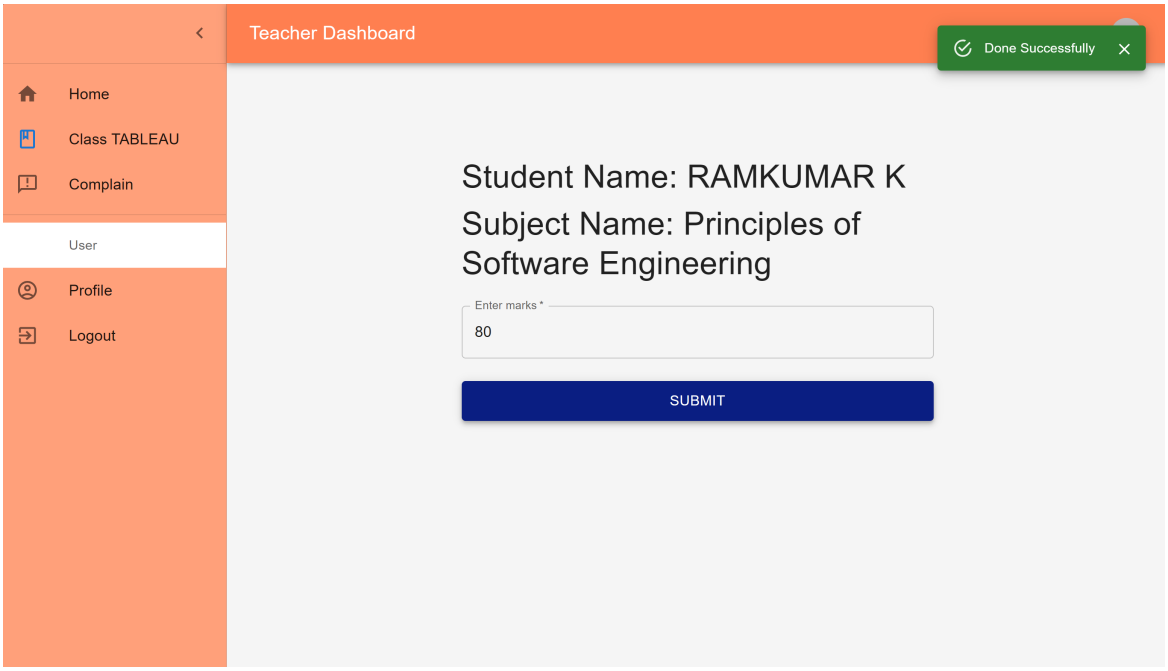
Conclusion: Test case passed. Complain raise in admin successful.

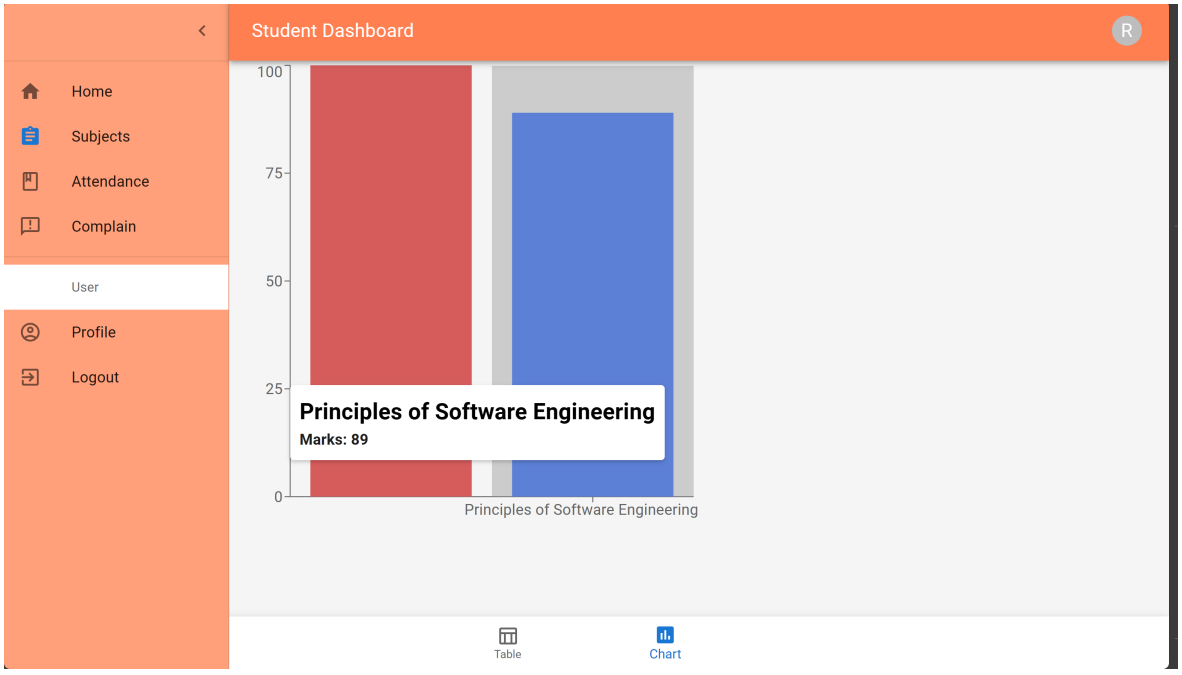
Test case: Check for attendance updation in student.





Conclusion: Test case passed. Attendance updation in student successful.
Test case: Check for mark updation in student.





Conclusion: Test case passed. Mark updation in student successful.

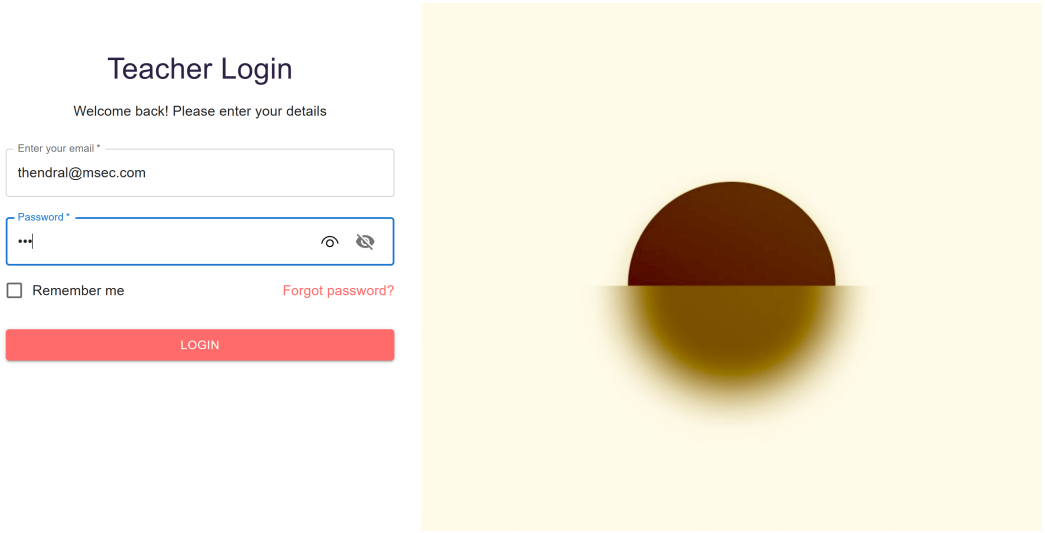
Testing of Teacher Module:

List of Modules:

- Login
- Attendance
- Marks
- Subject
- Quiz
- Logout

Login:

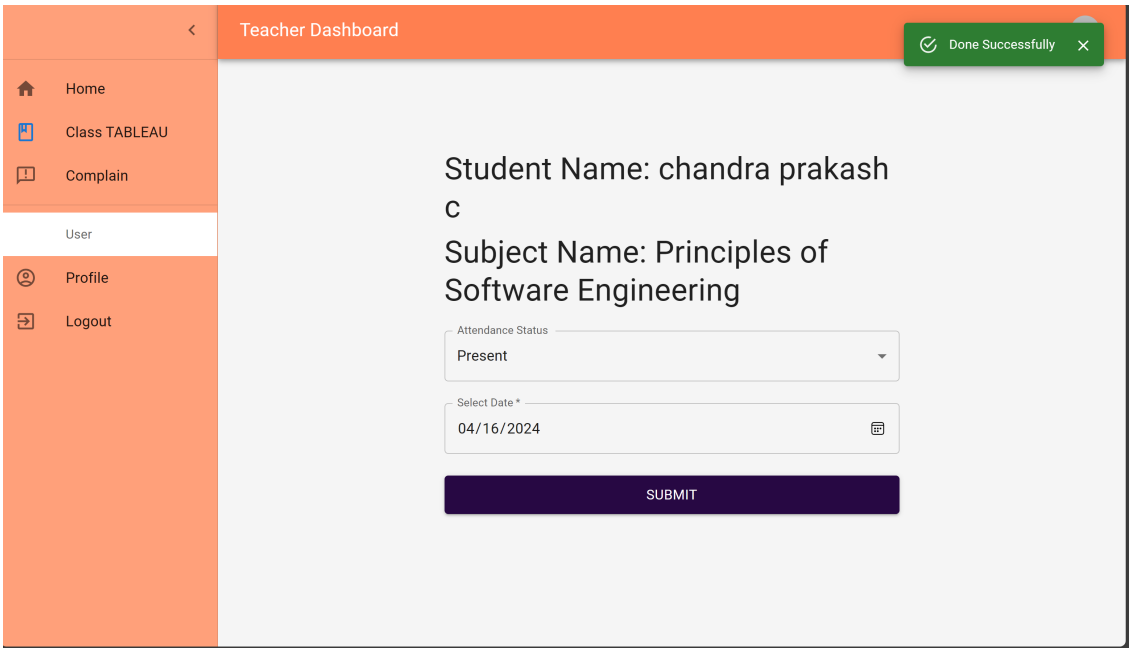
Test case: Check for teacher login.



Conclusion: Test case passed. Teacher login successful.

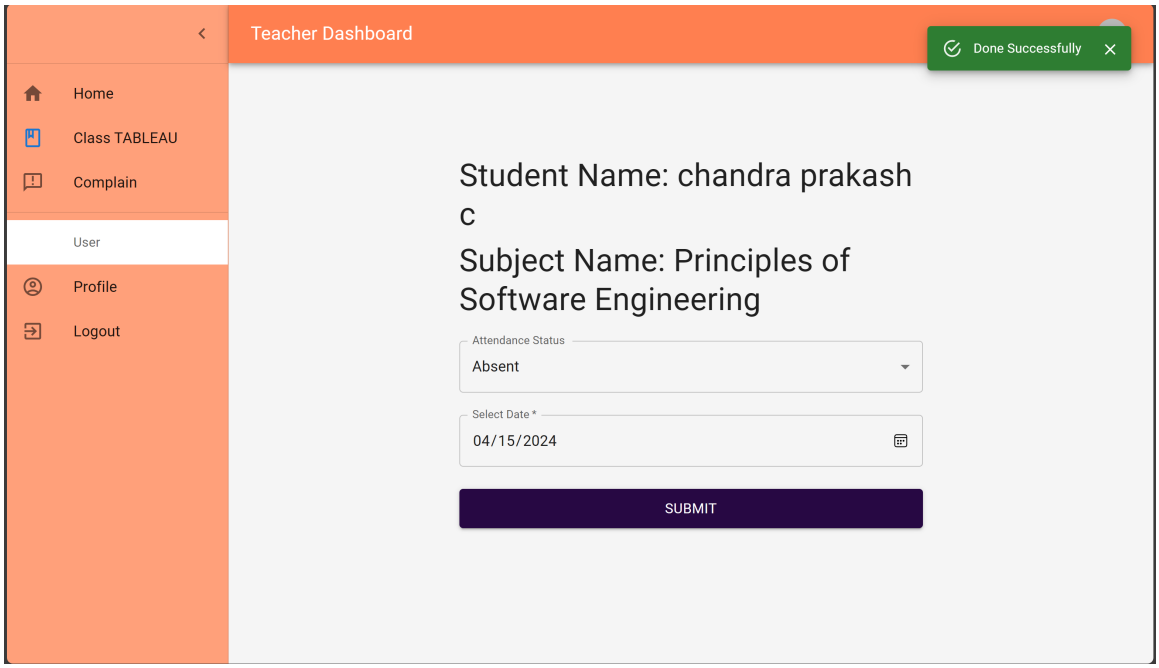
Attendance:

Test case: Check for marking present in the attendance.



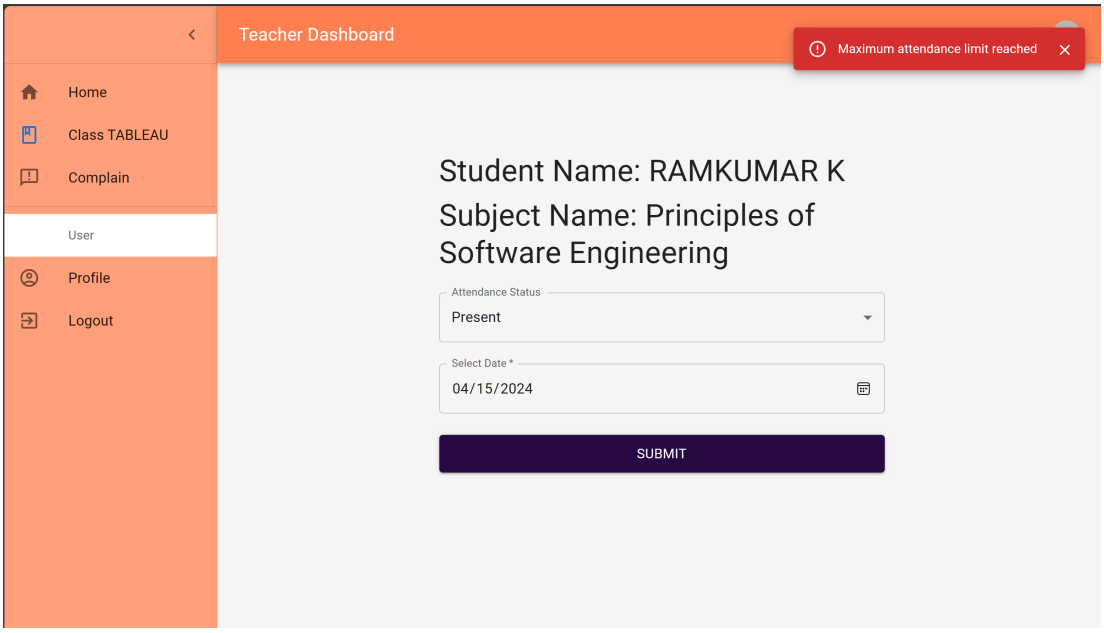
Conclusion: Test case passed. Marking present in the attendance.

Test case: Check for marking absent in the attendance.



Conclusion: Test case passed. Marking absent in the attendance.

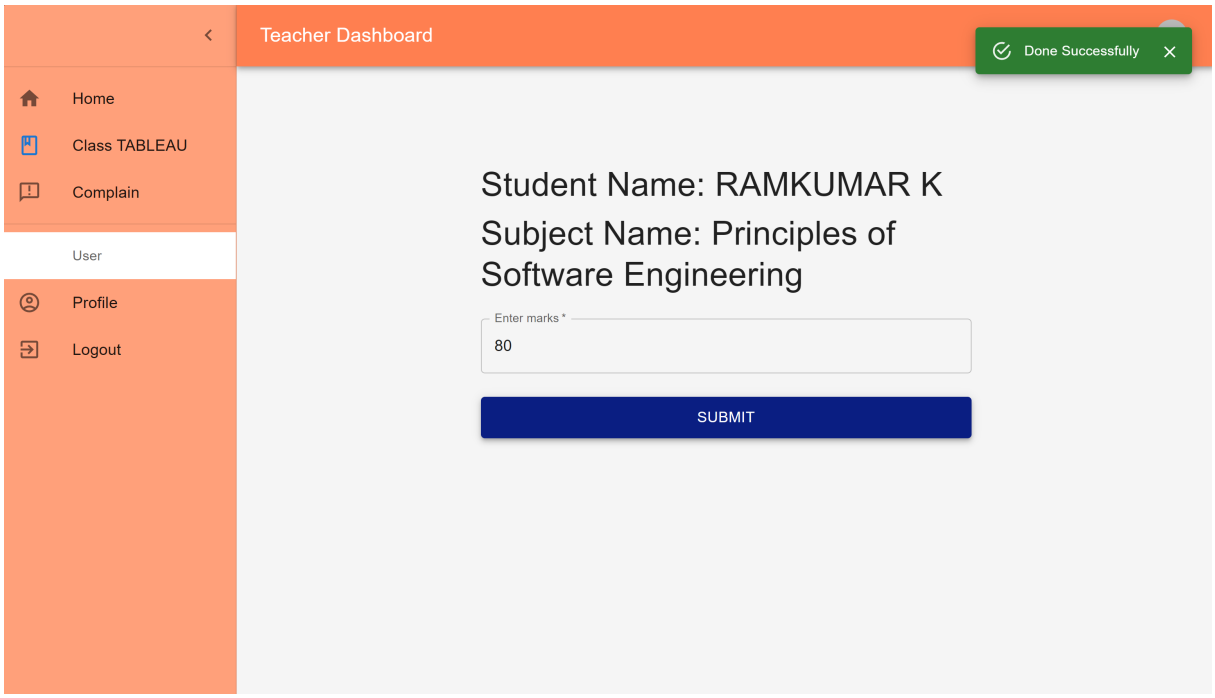
Test case: Check for maximum attendance marking.



Conclusion: Test case passed. Maximum attendance marking successful.

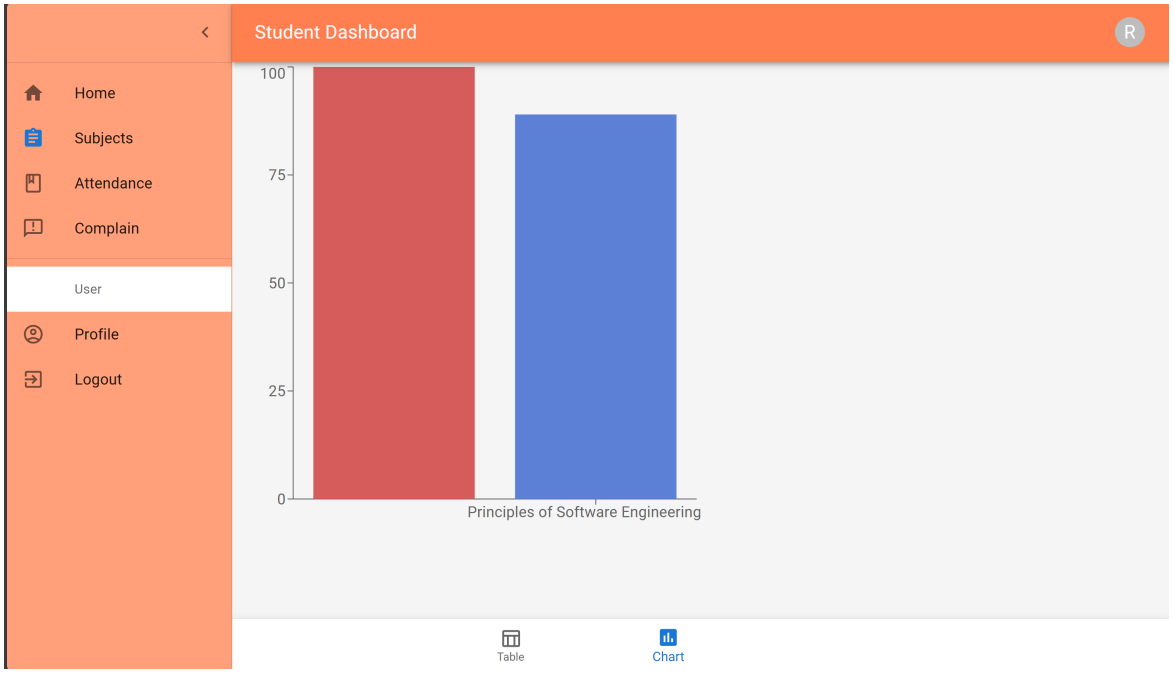
Marks:

Test case: Check for providing mark.



Conclusion: Test case passed. Providing mark successful.

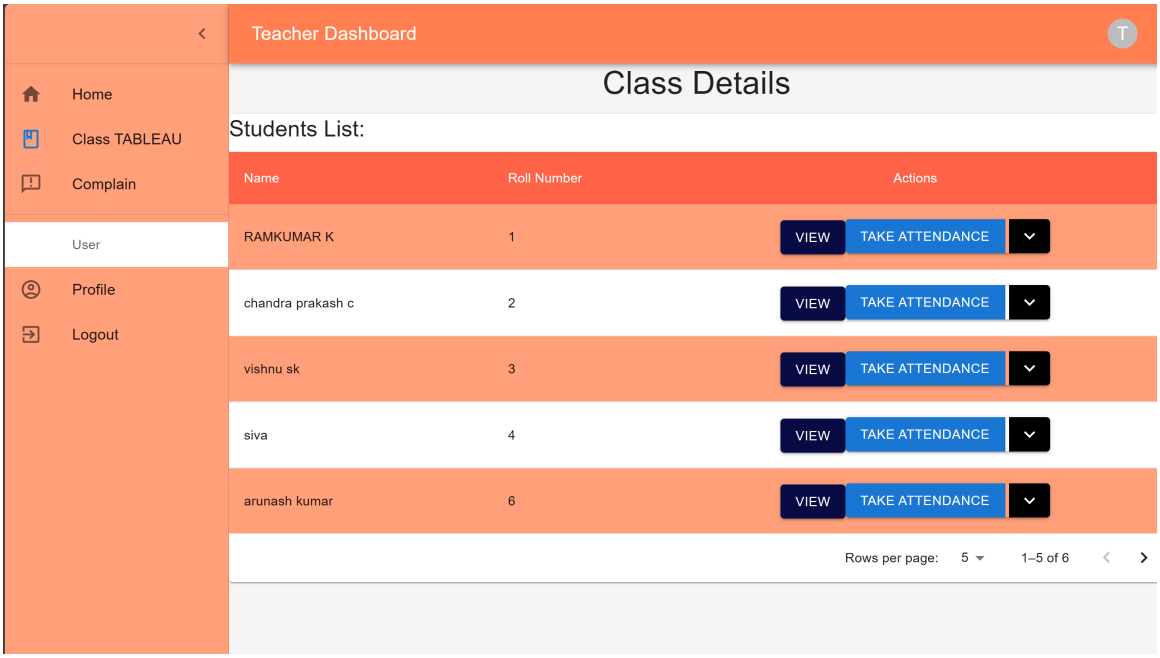
Test case: Check for mark analysis.



Conclusion: Test case passed. Mark analysis successful.

Subject:

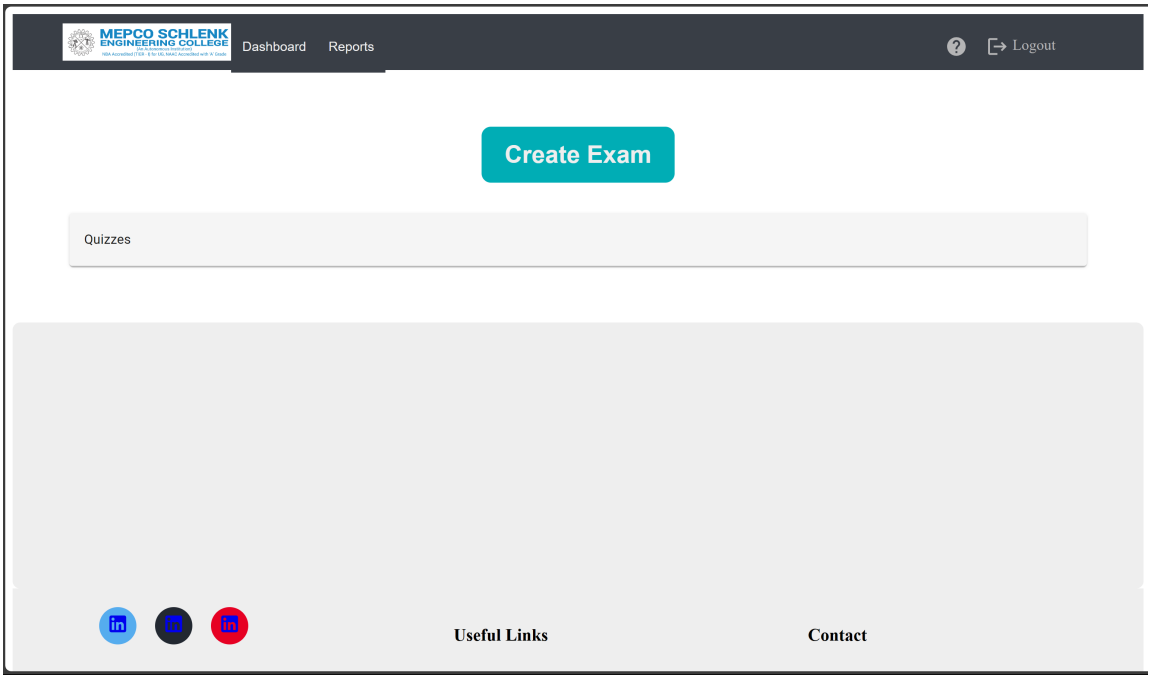
Test case: Check for listing students in the subject.



Conclusion: Test case passed. Listing students in the subject successful.

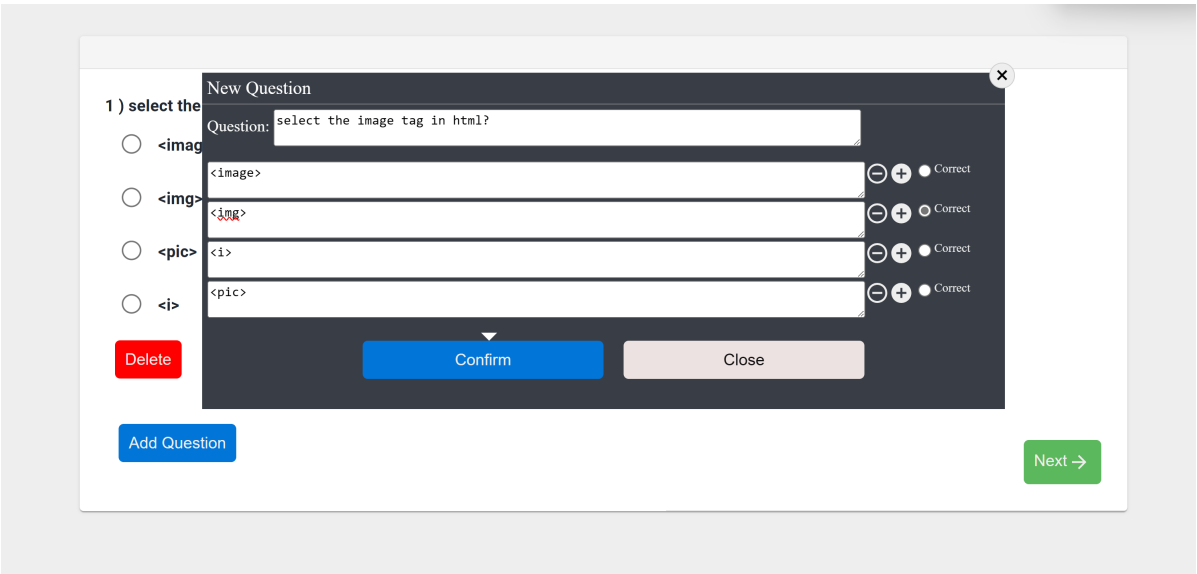
Quiz:

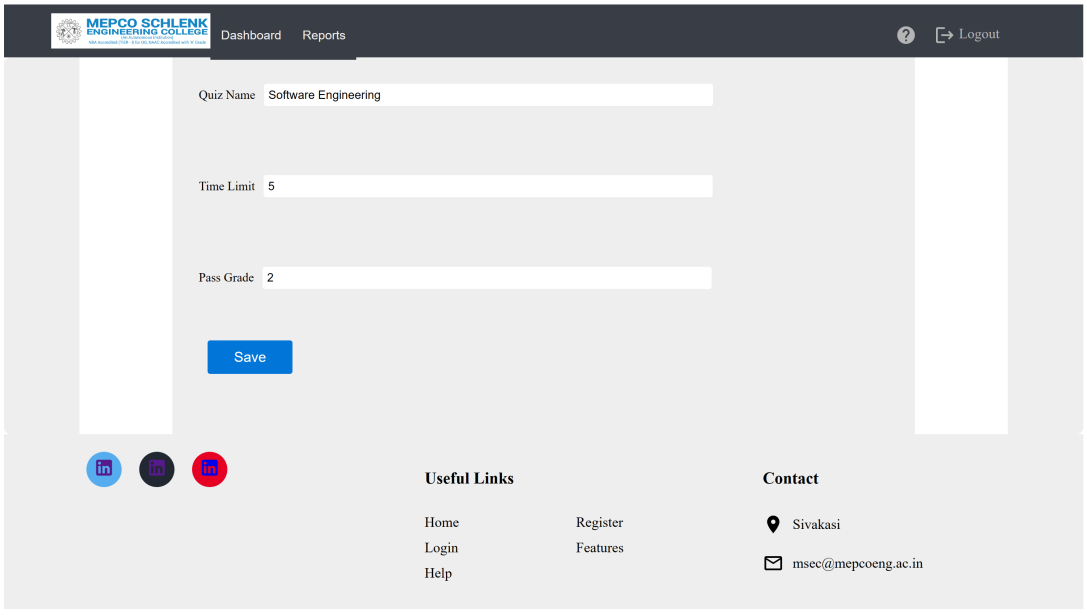
Test case: Check for quiz page loading.

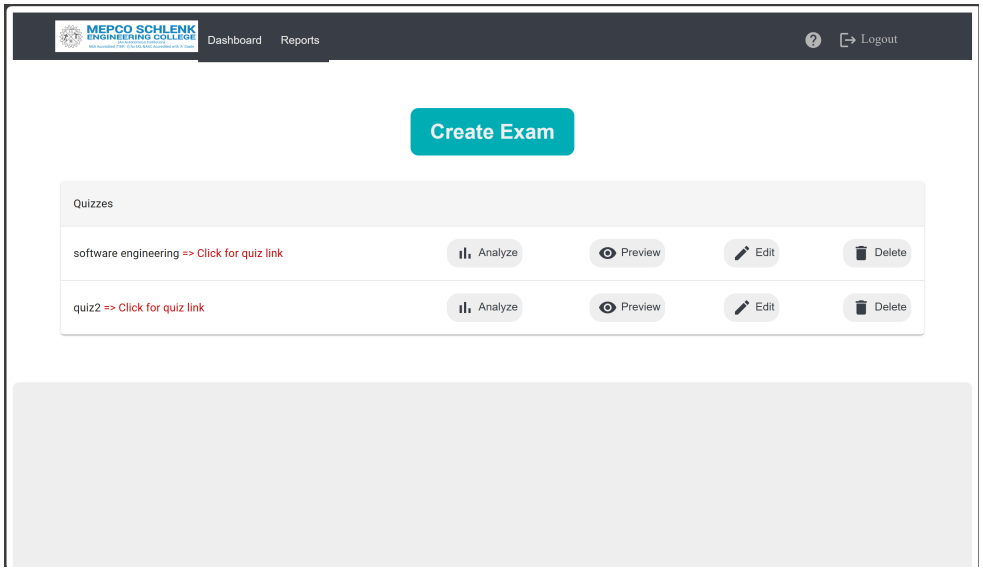


Conclusion: Test case passed. Quiz page loading successful.

Test case: Check for quiz creation.



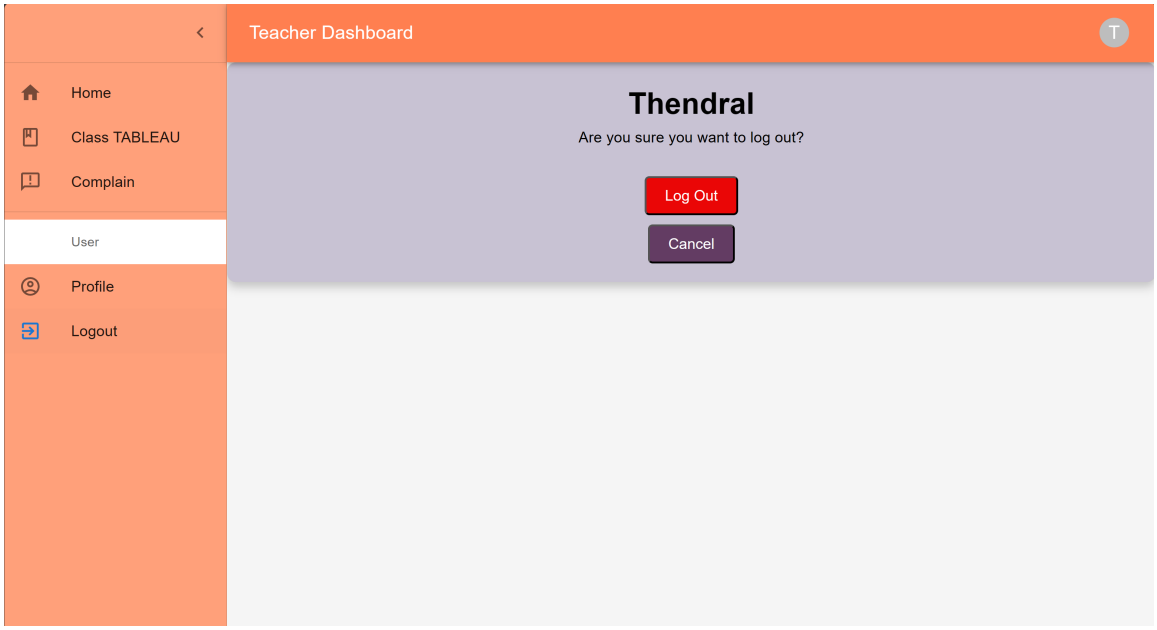




Conclusion: Test case passed. Quiz creation successful.

Logout:

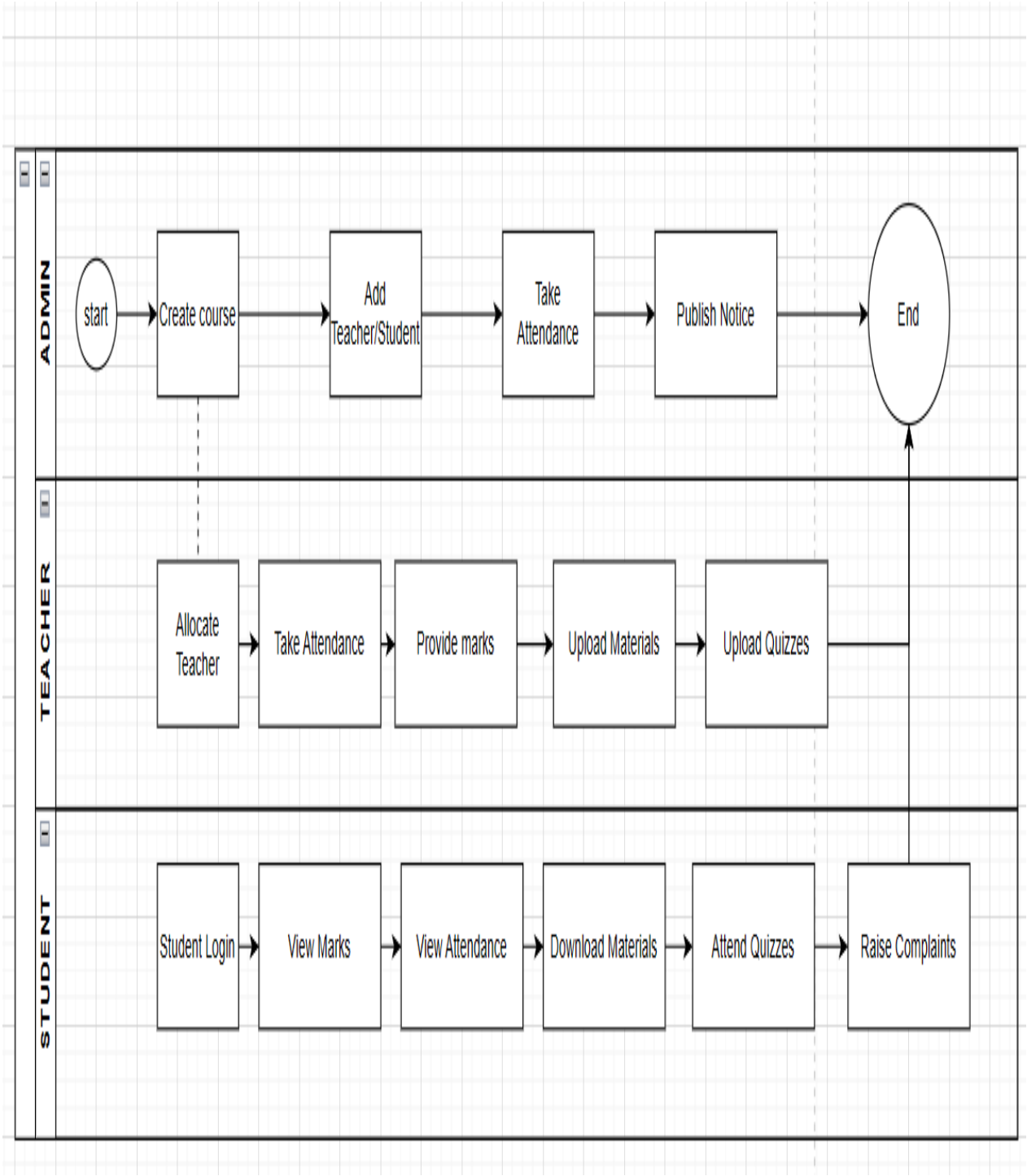
Test case: Check for teacher logout.



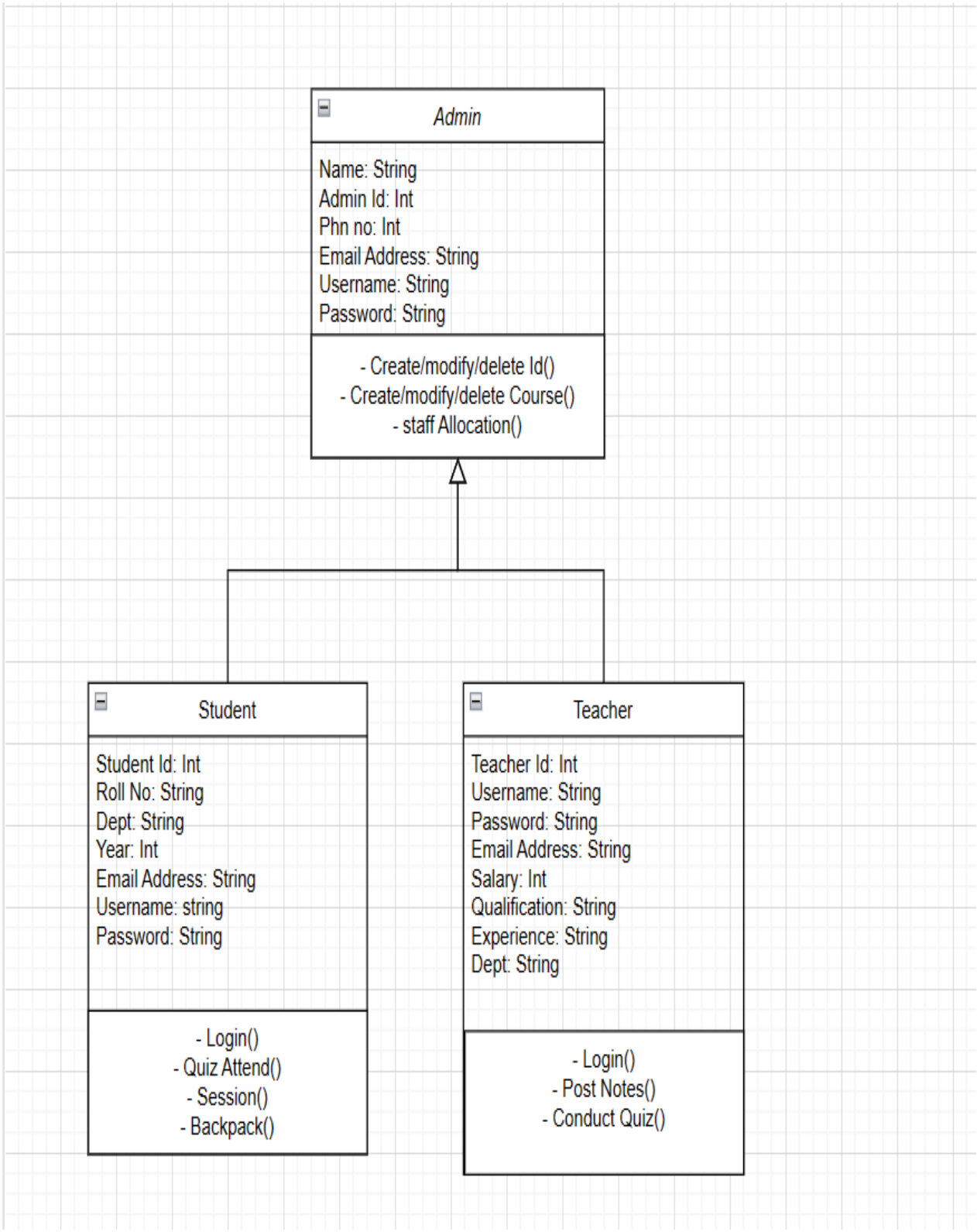
Conclusion: Test case passed. Teacher logout successful.

6. Other Requirements

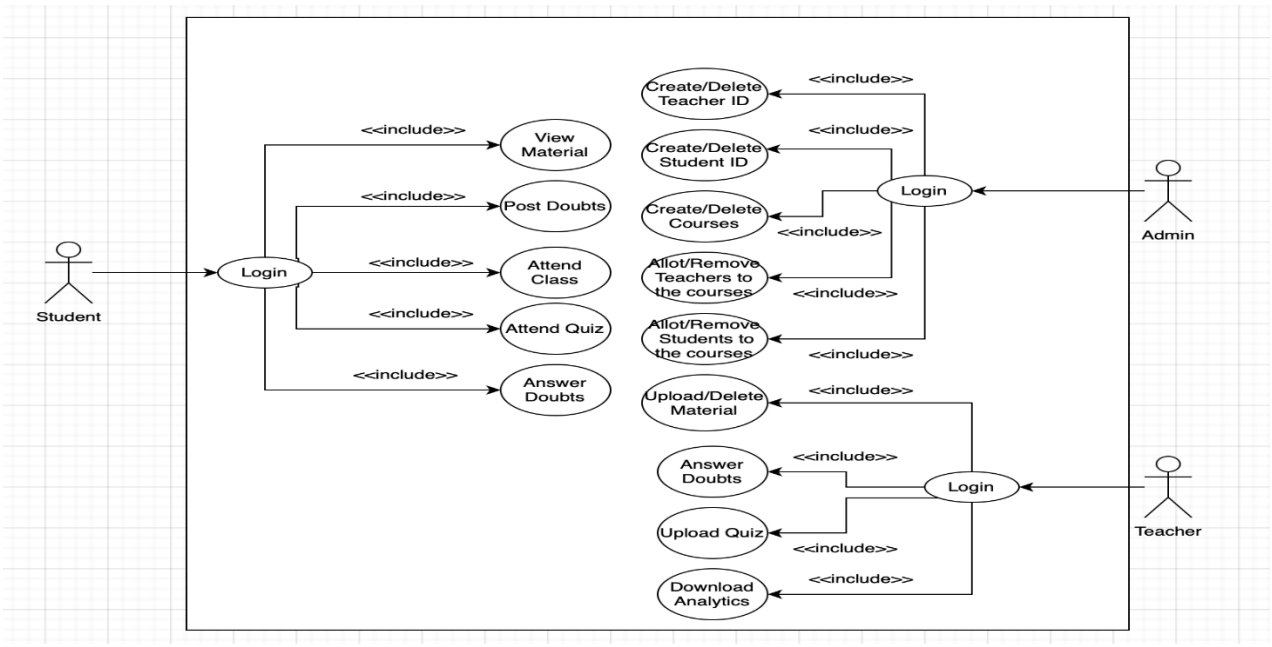
Appendix A: Activity



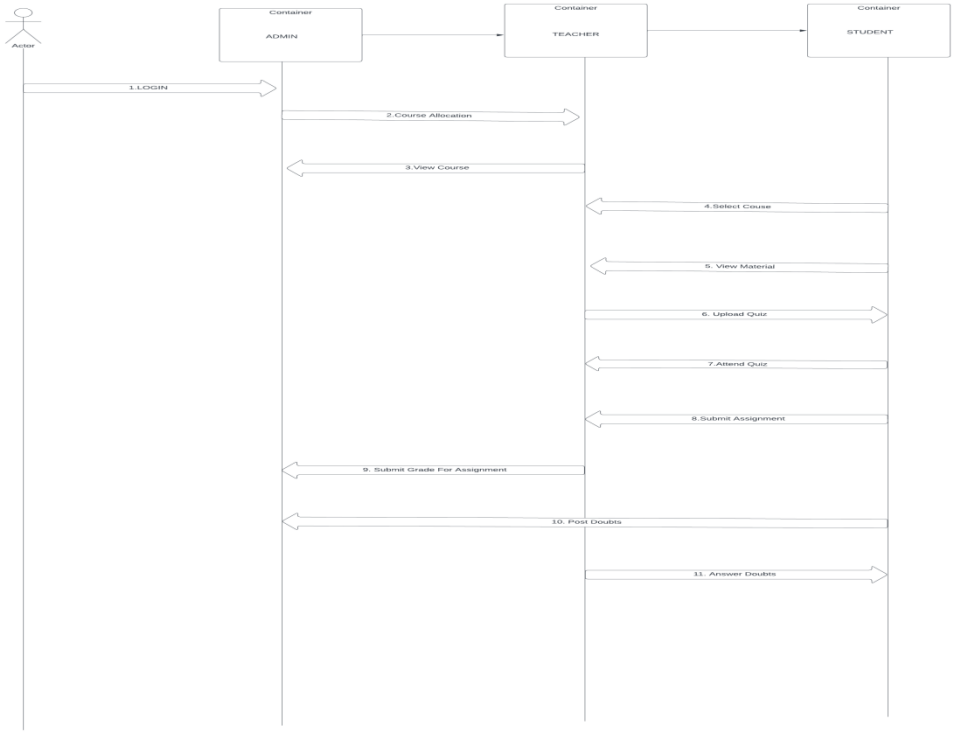
Appendix B: Class diagram



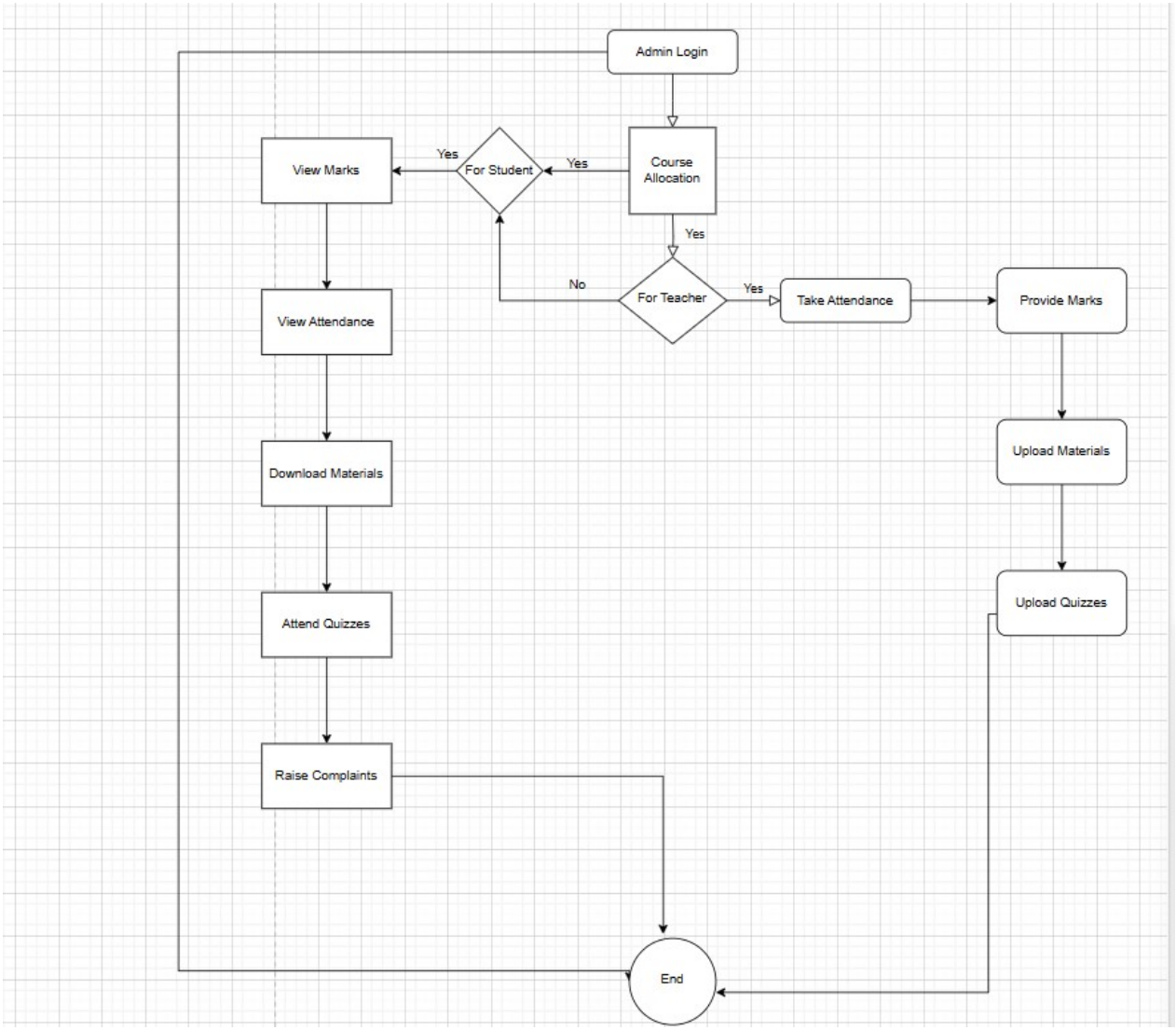
Appendix C:



Appendix D:



Appendix E:


Admin Login
Course Allocation
Yes
For Student
Yes
View Marks
Yes
For Teacher
No
Yes
Take Attendance
Provide Marks
View Attendance
Download Materials
Upload Materials
Attend Quizzes
Upload Quizzes
Raise Complaints
End

Appendix F: Source Code

/backend/controllers:

admin-controller.js

```
const bcrypt = require('bcrypt');
const Admin = require('../models/adminSchema.js');
const Sclass = require('../models/sclassSchema.js');
const Student = require('../models/studentSchema.js');
const Teacher = require('../models/teacherSchema.js');
const Subject = require('../models/subjectSchema.js');
const Notice = require('../models/noticeSchema.js');
const Complain = require('../models/complainSchema.js');
const Quiz = require('../models/quizSchema.js'); // Import the Quiz model
const Material = require('../models/materialSchema.js');


 const adminRegister = async (req, res) => {
    try {
        const salt = await bcrypt.genSalt(10);
        const hashedPass = await bcrypt.hash(req.body.password, salt);

        const admin = new Admin({
            ...req.body,
            password: hashedPass
        });

        const existingAdminByEmail = await Admin.findOne({ email: req.body.email });
        const existingCollege = await Admin.findOne({ collegeName: req.body.collegeName });

        if (existingAdminByEmail) {
            res.send({ message: 'Email already exists' });
        }
        else if (existingCollege) {
            res.send({ message: 'College name already exists' });
        }
        else {
            let result = await admin.save();
            result.password = undefined;
            res.send(result);
        }
    } catch (err) {
        res.status(500).json(err);
```

```
    }
};

const adminLogIn = async (req, res) => {
    if (req.body.email && req.body.password) {
        let admin = await Admin.findOne({ email: req.body.email });
        if (admin) {
            const validated = await bcrypt.compare(req.body.password, admin.password);
            if (validated) {
                admin.password = undefined;
                res.send(admin);
            } else {
                res.send({ message: "Invalid password" });
            }
        } else {
            res.send({ message: "User not found" });
        }
    } else {
        res.send({ message: "Email and password are required" });
    }
};

const getAdminDetail = async (req, res) => {
    try {
        let admin = await Admin.findById(req.params.id);
        if (admin) {
            admin.password = undefined;
            res.send(admin);
        }
        else {
            res.send({ message: "No admin found" });
        }
    } catch (err) {
        res.status(500).json(err);
    }
}
// New method to handle quiz creation by admin
const createQuiz = async (req, res) => {
    try {
        const quiz = new Quiz(req.body);
        const result = await quiz.save();
        res.send(result);
    } catch (err) {
```

```
        res.status(500).json(err);
    }
};

// New method to handle material upload by admin
const uploadMaterial = async (req, res) => {
    try {
        const material = new Material(req.body);
        const result = await material.save();
        res.send(result);
    } catch (err) {
        res.status(500).json(err);
    }
};
// const deleteAdmin = async (req, res) => {
//     try {
//         const result = await Admin.findByIdAndDelete(req.params.id)

//         await Sclass.deleteMany({ college: req.params.id });
//         await Student.deleteMany({ college: req.params.id });
//         await Teacher.deleteMany({ college: req.params.id });
//         await Subject.deleteMany({ college: req.params.id });
//         await Notice.deleteMany({ college: req.params.id });
//         await Complain.deleteMany({ college: req.params.id });

//         res.send(result)
//     } catch (error) {
//         res.status(500).json(err);
//     }
// }

// const updateAdmin = async (req, res) => {
//     try {
//         if (req.body.password) {
//             const salt = await bcrypt.genSalt(10)
//             res.body.password = await bcrypt.hash(res.body.password, salt)
//         }
//         let result = await Admin.findByIdAndUpdate(req.params.id,
//             { $set: req.body },
//             { new: true })

//         result.password = undefined;
//         res.send(result)
```

```
//     } catch (error) {
//         res.status(500).json(err);
//     }
// }

// module.exports = { adminRegister, adminLogIn, getAdminDetail, deleteAdmin,
updateAdmin };

module.exports = { adminRegister, adminLogIn, getAdminDetail, createQuiz, uploadMaterial };

class-controller.js
const Sclass = require('../models/sclassSchema.js');
const Student = require('../models/studentSchema.js');
const Subject = require('../models/subjectSchema.js');
const Teacher = require('../models/teacherSchema.js');

const sclassCreate = async (req, res) => {
    try {
        const sclass = new Sclass({
            sclassName: req.body.sclassName,
            college: req.body.adminID
        });

        const existingSclassByName = await Sclass.findOne({
            sclassName: req.body.sclassName,
            college: req.body.adminID
        });

        if (existingSclassByName) {
            res.send({ message: 'Sorry this class name already exists' });
        }
        else {
            const result = await sclass.save();
            res.send(result);
        }
    } catch (err) {
        res.status(500).json(err);
    }
};

const sclassList = async (req, res) => {
    try {
        let sclasses = await Sclass.find({ college: req.params.id })
```

```
        if (sclasses.length > 0) {
            res.send(sclasses)
        } else {
            res.send({ message: "No sclasses found" });
        }
    } catch (err) {
        res.status(500).json(err);
    }
};

const getSclassDetail = async (req, res) => {
    try {
        let sclass = await Sclass.findById(req.params.id);
        if (sclass) {
            sclass = await sclass.populate("college", "collegeName")
            res.send(sclass);
        }
        else {
            res.send({ message: "No class found" });
        }
    } catch (err) {
        res.status(500).json(err);
    }
}

const getSclassStudents = async (req, res) => {
    try {
        let students = await Student.find({ sclassName: req.params.id })
        if (students.length > 0) {
            let modifiedStudents = students.map((student) => {
                return { ...student._doc, password: undefined };
            });
            res.send(modifiedStudents);
        } else {
            res.send({ message: "No students found" });
        }
    } catch (err) {
        res.status(500).json(err);
    }
}

const deleteSclass = async (req, res) => {
    try {
```

```
        const deletedClass = await Sclass.findByIdAndDelete(req.params.id);
        if (!deletedClass) {
            return res.send({ message: "Class not found" });
        }
        const deletedStudents = await Student.deleteMany({ sclassName: req.params.id });
        const deletedSubjects = await Subject.deleteMany({ sclassName: req.params.id });
        const deletedTeachers = await Teacher.deleteMany({ teachSclass: req.params.id });
        res.send(deletedClass);
    } catch (error) {
        res.status(500).json(error);
    }
}

const deleteSclasses = async (req, res) => {
    try {
        const deletedClasses = await Sclass.deleteMany({ college: req.params.id });
        if (deletedClasses.deletedCount === 0) {
            return res.send({ message: "No classes found to delete" });
        }
        const deletedStudents = await Student.deleteMany({ college: req.params.id });
        const deletedSubjects = await Subject.deleteMany({ college: req.params.id });
        const deletedTeachers = await Teacher.deleteMany({ college: req.params.id });
        res.send(deletedClasses);
    } catch (error) {
        res.status(500).json(error);
    }
}


module.exports = { sclassCreate, sclassList, deleteSclass, deleteSclasses, getSclassDetail,
getSclassStudents };

complain-controller.js
const Complain = require('../models/complainSchema.js');

const complainCreate = async (req, res) => {
    try {
        const complain = new Complain(req.body)
        const result = await complain.save()
        res.send(result)
    } catch (err) {
        res.status(500).json(err);
    }
```

```
};

const complainList = async (req, res) => {
  try {
    let complains = await Complain.find({ college: req.params.id }).populate("user", "name");
    if (complains.length > 0) {
      res.send(complains)
    } else {
      res.send({ message: "No complains found" });
    }
  } catch (err) {
    res.status(500).json(err);
  }
};

module.exports = { complainCreate, complainList };
```

material-controller.js

```
const Material = require('../models/materialSchema');

const uploadMaterial = async (req, res) => {
  try {
    const { description, fileUrl } = req.body;
    const newMaterial = new Material({
      description,
      fileUrl,
    });
    await newMaterial.save();
    res.status(201).json({ message: 'Material uploaded successfully', material: newMaterial });
  } catch (error) {
    res.status(500).json({ message: 'Could not upload material', error: error.message });
  }
};

const getMaterials = async (req, res) => {
  try {
    const materials = await Material.find();
    res.status(200).json({ materials });
  } catch (error) {
    res.status(500).json({ message: 'Could not fetch materials', error: error.message });
  }
};
```

```
module.exports = { uploadMaterial, getMaterials };

notice-controller.js
const Notice = require('../models/noticeSchema.js');

const noticeCreate = async (req, res) => {
    try {
        const notice = new Notice({
            ...req.body,
            college: req.body.adminID
        })
        const result = await notice.save()
        res.send(result)
    } catch (err) {
        res.status(500).json(err);
    }
};

const noticeList = async (req, res) => {
    try {
        let notices = await Notice.find({ college: req.params.id })
        if (notices.length > 0) {
            res.send(notices)
        } else {
            res.send({ message: "No notices found" });
        }
    } catch (err) {
        res.status(500).json(err);
    }
};

const updateNotice = async (req, res) => {
    try {
        const result = await Notice.findByIdAndUpdate(req.params.id,
            { $set: req.body },
            { new: true })
        res.send(result)
    } catch (error) {
        res.status(500).json(error);
    }
}

const deleteNotice = async (req, res) => {
```

```
    try {
        const result = await Notice.findByIdAndDelete(req.params.id)
        res.send(result)
    } catch (error) {
        res.status(500).json(err);
    }
}

const deleteNotices = async (req, res) => {
    try {
        const result = await Notice.deleteMany({ college: req.params.id })
        if (result.deletedCount === 0) {
            res.send({ message: "No notices found to delete" })
        } else {
            res.send(result)
        }
    } catch (error) {
        res.status(500).json(err);
    }
}

module.exports = { noticeCreate, noticeList, updateNotice, deleteNotice, deleteNotices };

quiz-controller.js
const Quiz = require('../models/quizSchema');

const createQuiz = async (req, res) => {
    try {
        const { question, options, correctOption } = req.body;
        const newQuiz = new Quiz({
            question,
            options,
            correctOption,
        });
        await newQuiz.save();
        res.status(201).json({ message: 'Quiz created successfully', quiz: newQuiz });
    } catch (error) {
        res.status(500).json({ message: 'Could not create quiz', error: error.message });
    }
};

const getQuizzes = async (req, res) => {
    try {
```

```
        const quizzes = await Quiz.find();
        res.status(200).json({ quizzes });
    } catch (error) {
        res.status(500).json({ message: 'Could not fetch quizzes', error: error.message });
    }
};

module.exports = { createQuiz, getQuizzes };
```

student_controller.js

```
const bcrypt = require('bcrypt');
const Student = require('../models/studentSchema.js');
const Subject = require('../models/subjectSchema.js');
const QuizAttempt = require('../models/quizSchema.js'); // Import the QuizAttempt model
const MaterialAccess = require('../models/materialSchema.js');

const studentRegister = async (req, res) => {
    try {
        const salt = await bcrypt.genSalt(10);
        const hashedPass = await bcrypt.hash(req.body.password, salt);

        const existingStudent = await Student.findOne({
            rollNum: req.body.rollNum,
            college: req.body.adminID,
            sclassName: req.body.sclassName,
        });

        if (existingStudent) {
            res.send({ message: 'Roll Number already exists' });
        }
        else {
            const student = new Student({
                ...req.body,
                college: req.body.adminID,
                password: hashedPass
            });

            let result = await student.save();

            result.password = undefined;
            res.send(result);
        }
    } catch (err) {
```

```
        res.status(500).json(err);
    }
};

const studentLogIn = async (req, res) => {
    try {
        let student = await Student.findOne({ rollNum: req.body.rollNum, name:
req.body.studentName });
        if (student) {
            const validated = await bcrypt.compare(req.body.password, student.password);
            if (validated) {
                student = await student.populate("college", "collegeName")
                student = await student.populate("sclassName", "sclassName")
                student.password = undefined;
                student.examResult = undefined;
                student.attendance = undefined;
                res.send(student);
            } else {
                res.send({ message: "Invalid password" });
            }
        } else {
            res.send({ message: "Student not found" });
        }
    } catch (err) {
        res.status(500).json(err);
    }
};

const getStudents = async (req, res) => {
    try {
        let students = await Student.find({ college: req.params.id }).populate("sclassName",
"sclassName");
        if (students.length > 0) {
            let modifiedStudents = students.map((student) => {
                return { ...student._doc, password: undefined };
            });
            res.send(modifiedStudents);
        } else {
            res.send({ message: "No students found" });
        }
    } catch (err) {
        res.status(500).json(err);
    }
```

```
};

const getStudentDetail = async (req, res) => {
    try {
        let student = await Student.findById(req.params.id)
            .populate("college", "collegeName")
            .populate("sclassName", "sclassName")
            .populate("examResult.subName", "subName")
            .populate("attendance.subName", "subName sessions");
        if (student) {
            student.password = undefined;
            res.send(student);
        }
        else {
            res.send({ message: "No student found" });
        }
    } catch (err) {
        res.status(500).json(err);
    }
}

const deleteStudent = async (req, res) => {
    try {
        const result = await Student.findByIdAndDelete(req.params.id)
        res.send(result)
    } catch (error) {
        res.status(500).json(err);
    }
}

const deleteStudents = async (req, res) => {
    try {
        const result = await Student.deleteMany({ college: req.params.id })
        if (result.deletedCount === 0) {
            res.send({ message: "No students found to delete" })
        } else {
            res.send(result)
        }
    } catch (error) {
        res.status(500).json(err);
    }
}
```

```
const deleteStudentsByClass = async (req, res) => {
    try {
        const result = await Student.deleteMany({ sclassName: req.params.id })
        if (result.deletedCount === 0) {
            res.send({ message: "No students found to delete" })
        } else {
            res.send(result)
        }
    } catch (error) {
        res.status(500).json(err);
    }
}

const updateStudent = async (req, res) => {
    try {
        if (req.body.password) {
            const salt = await bcrypt.genSalt(10)
            res.body.password = await bcrypt.hash(res.body.password, salt)
        }
        let result = await Student.findByIdAndUpdate(req.params.id,
            { $set: req.body },
            { new: true })

        result.password = undefined;
        res.send(result)
    } catch (error) {
        res.status(500).json(error);
    }
}

const updateExamResult = async (req, res) => {
    const { subName, marksObtained } = req.body;

    try {
        const student = await Student.findById(req.params.id);

        if (!student) {
            return res.send({ message: 'Student not found' });
        }

        const existingResult = student.examResult.find(
            (result) => result.subName.toString() === subName
        );
```

```
        if (existingResult) {
            existingResult.marksObtained = marksObtained;
        } else {
            student.examResult.push({ subName, marksObtained });
        }

        const result = await student.save();
        return res.send(result);
    } catch (error) {
        res.status(500).json(error);
    }
};

const studentAttendance = async (req, res) => {
    const { subName, status, date } = req.body;

    try {
        const student = await Student.findById(req.params.id);

        if (!student) {
            return res.send({ message: 'Student not found' });
        }

        const subject = await Subject.findById(subName);

        const existingAttendance = student.attendance.find(
            (a) =>
                a.date.toDateString() === new Date(date).toDateString() &&
                a.subName.toString() === subName
        );

        if (existingAttendance) {
            existingAttendance.status = status;
        } else {
            // Check if the student has already attended the maximum number of sessions
            const attendedSessions = student.attendance.filter(
                (a) => a.subName.toString() === subName
            ).length;

            if (attendedSessions >= subject.sessions) {
                return res.send({ message: 'Maximum attendance limit reached' });
            }
```

```
            student.attendance.push({ date, status, subName });
        }

        const result = await student.save();
        return res.send(result);
    } catch (error) {
        res.status(500).json(error);
    }
};

const clearAllStudentsAttendanceBySubject = async (req, res) => {
    const subName = req.params.id;

    try {
        const result = await Student.updateMany(
            { 'attendance.subName': subName },
            { $pull: { attendance: { subName } } }
        );
        return res.send(result);
    } catch (error) {
        res.status(500).json(error);
    }
};

const clearAllStudentsAttendance = async (req, res) => {
    const collegeId = req.params.id

    try {
        const result = await Student.updateMany(
            { college: collegeId },
            { $set: { attendance: [] } }
        );

        return res.send(result);
    } catch (error) {
        res.status(500).json(error);
    }
};

const removeStudentAttendanceBySubject = async (req, res) => {
    const studentId = req.params.id;
    const subName = req.body.subId
```

```
    try {
        const result = await Student.updateOne(
            { _id: studentId },
            { $pull: { attendance: { subName: subName } } }
        );

        return res.send(result);
    } catch (error) {
        res.status(500).json(error);
    }
};


const removeStudentAttendance = async (req, res) => {
    const studentId = req.params.id;

    try {
        const result = await Student.updateOne(
            { _id: studentId },
            { $set: { attendance: [] } }
        );

        return res.send(result);
    } catch (error) {
        res.status(500).json(error);
    }
};

// New method to handle quiz attempts by students
const attemptQuiz = async (req, res) => {
    try {
        const quizAttempt = new QuizAttempt(req.body);
        const result = await quizAttempt.save();
        res.send(result);
    } catch (err) {
        res.status(500).json(err);
    }
};

// New method to handle material access by students
const accessMaterial = async (req, res) => {
    try {
```

```
        const materialAccess = new MaterialAccess(req.body);
        const result = await materialAccess.save();
        res.send(result);
    } catch (err) {
        res.status(500).json(err);
    }
};


module.exports = {
    studentRegister,
    studentLogIn,
    getStudents,
    getStudentDetail,
    deleteStudents,
    deleteStudent,
    updateStudent,
    studentAttendance,
    deleteStudentsByClass,
    updateExamResult,
    clearAllStudentsAttendanceBySubject,
    clearAllStudentsAttendance,
    removeStudentAttendanceBySubject,
    removeStudentAttendance,
    attemptQuiz,
    accessMaterial,
};
```

subject-controller.js

```
const Subject = require('../models/subjectSchema.js');
const Teacher = require('../models/teacherSchema.js');
const Student = require('../models/studentSchema.js');

const subjectCreate = async (req, res) => {
    try {
        const subjects = req.body.subjects.map((subject) => ({
            subName: subject.subName,
            subCode: subject.subCode,
            sessions: subject.sessions,
        }));

        const existingSubjectBySubCode = await Subject.findOne({
            'subjects.subCode': subjects[0].subCode,
```

```
            college: req.body.adminID,
        });

        if (existingSubjectBySubCode) {
            res.send({ message: 'Sorry, this subcode must be unique as it already exists' });
        } else {
            const newSubjects = subjects.map((subject) => ({
                ...subject,
                sclassName: req.body.sclassName,
                college: req.body.adminID,
                quiz: [], // Initialize an empty quiz array
            }));

            const result = await Subject.insertMany(newSubjects);
            res.send(result);
        }
    } catch (err) {
        res.status(500).json(err);
    }
};

const allSubjects = async (req, res) => {
    try {
        let subjects = await Subject.find({ college: req.params.id })
            .populate("sclassName", "sclassName")
        if (subjects.length > 0) {
            res.send(subjects)
        } else {
            res.send({ message: "No subjects found" });
        }
    } catch (err) {
        res.status(500).json(err);
    }
};

const classSubjects = async (req, res) => {
    try {
        let subjects = await Subject.find({ sclassName: req.params.id })
        if (subjects.length > 0) {
            res.send(subjects)
        } else {
            res.send({ message: "No subjects found" });
        }
```

```
    } catch (err) {
        res.status(500).json(err);
    }
};

const freeSubjectList = async (req, res) => {
    try {
        let subjects = await Subject.find({ sclassName: req.params.id, teacher: { $exists: false } });
        if (subjects.length > 0) {
            res.send(subjects);
        } else {
            res.send({ message: "No subjects found" });
        }
    } catch (err) {
        res.status(500).json(err);
    }
};

const getSubjectDetail = async (req, res) => {
    try {
        let subject = await Subject.findById(req.params.id);
        if (subject) {
            subject = await subject.populate("sclassName", "sclassName")
            subject = await subject.populate("teacher", "name")
            res.send(subject);
        }
        else {
            res.send({ message: "No subject found" });
        }
    } catch (err) {
        res.status(500).json(err);
    }
}

const deleteSubject = async (req, res) => {
    try {
        const deletedSubject = await Subject.findByIdAndDelete(req.params.id);

        // Set the teachSubject field to null in teachers
        await Teacher.updateOne(
            { teachSubject: deletedSubject._id },
            { $unset: { teachSubject: "" }, $unset: { teachSubject: null } }
        );
```

```
        // Remove the objects containing the deleted subject from students' examResult array
        await Student.updateMany(
            {},
            { $pull: { examResult: { subName: deletedSubject._id } } }
        );

        // Remove the objects containing the deleted subject from students' attendance array
        await Student.updateMany(
            {},
            { $pull: { attendance: { subName: deletedSubject._id } } }
        );

        res.send(deletedSubject);
    } catch (error) {
        res.status(500).json(error);
    }
};

const deleteSubjects = async (req, res) => {
    try {
        const deletedSubjects = await Subject.deleteMany({ college: req.params.id });

        // Set the teachSubject field to null in teachers
        await Teacher.updateMany(
            { teachSubject: { $in: deletedSubjects.map(subject => subject._id) } },
            { $unset: { teachSubject: "" }, $unset: { teachSubject: null } }
        );

        // Set examResult and attendance to null in all students
        await Student.updateMany(
            {},
            { $set: { examResult: null, attendance: null } }
        );

        res.send(deletedSubjects);
    } catch (error) {
        res.status(500).json(error);
    }
};

const deleteSubjectsByClass = async (req, res) => {
    try {
```

```
        const deletedSubjects = await Subject.deleteMany({ sclassName: req.params.id });

        // Set the teachSubject field to null in teachers
        await Teacher.updateMany(
            { teachSubject: { $in: deletedSubjects.map(subject => subject._id) } },
            { $unset: { teachSubject: "" }, $unset: { teachSubject: null } }
        );

        // Set examResult and attendance to null in all students
        await Student.updateMany(
            {},
            { $set: { examResult: null, attendance: null } }
        );

        res.send(deletedSubjects);
    } catch (error) {
        res.status(500).json(error);
    }
};

const createQuiz = async (req, res) => {
    try {
        const subjectId = req.params.id;
        const { question, options, correctAnswer } = req.body;
        const quizItem = { question, options, correctAnswer };

        const subject = await Subject.findById(subjectId);
        if (!subject) {
            return res.status(404).json({ message: 'Subject not found' });
        }

        subject.quiz.push(quizItem);
        await subject.save();

        res.status(201).json({ message: 'Quiz item created successfully' });
    } catch (error) {
        res.status(500).json({ message: 'Error creating quiz item', error });
    }
};

const deleteQuiz = async (req, res) => {
    try {
        const subjectId = req.params.id;
```

```
        const quizId = req.params.quizId;

        const subject = await Subject.findById(subjectId);
        if (!subject) {
            return res.status(404).json({ message: 'Subject not found' });
        }

        subject.quiz.id(quizId).remove();
        await subject.save();

        res.status(200).json({ message: 'Quiz item deleted successfully' });
    } catch (error) {
        res.status(500).json({ message: 'Error deleting quiz item', error });
    }
};

const updateQuiz = async (req, res) => {
    try {
        const subjectId = req.params.id;
        const quizId = req.params.quizId;
        const { question, options, correctAnswer } = req.body;

        const subject = await Subject.findById(subjectId);
        if (!subject) {
            return res.status(404).json({ message: 'Subject not found' });
        }

        const quizItem = subject.quiz.id(quizId);
        if (!quizItem) {
            return res.status(404).json({ message: 'Quiz item not found' });
        }

        quizItem.question = question;
        quizItem.options = options;
        quizItem.correctAnswer = correctAnswer;

        await subject.save();

        res.status(200).json({ message: 'Quiz item updated successfully' });
    } catch (error) {
        res.status(500).json({ message: 'Error updating quiz item', error });
    }
};
```

```
  module.exports = { subjectCreate, freeSubjectList, classSubjects, getSubjectDetail,
  deleteSubjectsByClass, deleteSubjects, deleteSubject, allSubjects, createQuiz, deleteQuiz,
  updateQuiz};

  createQuiz.js
import { useContext, useEffect, useState } from 'react'
import styled from 'styled-components'
import Footer from '../components/Footer'
import LoginNavbar from '../components/LoginNavbar'
import Table from '@mui/material/Table';
import TableBody from '@mui/material/TableBody';
import TableCell from '@mui/material/TableCell';
import TableContainer from '@mui/material/TableContainer';
import TableHead from '@mui/material/TableHead';
import TableRow from '@mui/material/TableRow';
import Paper from '@mui/material/Paper';
import { ArrowForward, AddCircle, RemoveCircleOutline } from '@mui/icons-material';
import Popup from 'reactjs-popup';
import { v4 as uuidv4 } from 'uuid';
import { useParams } from 'react-router-dom'
import axios from 'axios'
import { Link } from "react-router-dom";


const Container = styled.table`
     width: 100%;
     height:40vh;
     border-collapse: collapse;
     text-align: center;
     border-radius:8px;
     overflow: hidden;
     background-color:#EEEEEE;
  `;
const Wrapper = styled.div`
  width:86%;
  margin:7%;
  max-width:1300px;
  `
const Check = styled.input`
  transform : scale(1.5);
    margin:20px;
    color:;
  `
const Label = styled.label`
  color:;
```

```
  maxWidth:1400px;
  `
const Button = styled.button`
font-size:16px;
margin:10px;
padding:10px;
border:none;
border-radius:5px;
background-color:#0275d8;
color:#EEEEEE;
cursor: pointer;
&:hover {
   background-color: #228CE9;
  }
  `
const NextButton = styled.button`
font-size:16px;
margin:10px;
padding:10px;
border:none;
border-radius:5px;
background-color:#5cb85c;
color:#EEEEEE;
cursor: pointer;
&:hover {
   background-color: #75DB75;
  }
  `


const CreateQuiz = () => {

   const params = useParams();
   const id = params;

   const [options, setOptions] = useState([]);
   const [correctOption, setCorrectOption] = useState();
   const [inputFields, setInputFields] = useState([{ id: uuidv4(), option: " }]);
   const [examDatas, setExamDatas] = useState([]);
   const [questionTitle, setQuestionTitle] = useState("");
   const [dummy, setDummy] = useState(0);
   const [dumy, setDumy] = useState(0);


   const addQuestion = async (e) => {
      e.preventDefault();
      if (correctOption === undefined) {
```

```
        alert("You have select an correct option")
    } else if (inputFields[0]?.option === "") {
        alert("You have to add a question to use Add Question feature")
    }
    else {

        const inputOption = await Promise.all(inputFields.map((inputF) => inputF.option))
        /* const index = inputOption.indexOf(correctOption)
        if (index > -1) {
            inputOption.splice(index, 1);
        } */
        console.log(inputOption);
        setOptions(inputOption);

        const newQuestion = {
            examId: id.id,
            questionTitle: questionTitle,
        };
        console.log(newQuestion)
        axios.post("http://localhost:5100/examquestions/", newQuestion).then((response) => {
            console.log(response.status);
            const data = response.data._id;
            handleOptions({ data, inputOption });
        });
    }
}

const handleOptions = ({ data, inputOption }) => {
    var questionOptions;
    var control;
    for (let i = 0; i < inputOption.length; i++) {
        var questionOptions = inputOption[i];
        if (questionOptions === correctOption) {
            control = true
        } else {
            control = false
        }
        const option = {
            options: {
                option: questionOptions,
                isCorrect: control
            }
        }
        console.log(option);
        axios.put("http://localhost:5100/examquestions/" + data, option).then((response) => {
            console.log(response.status);
```

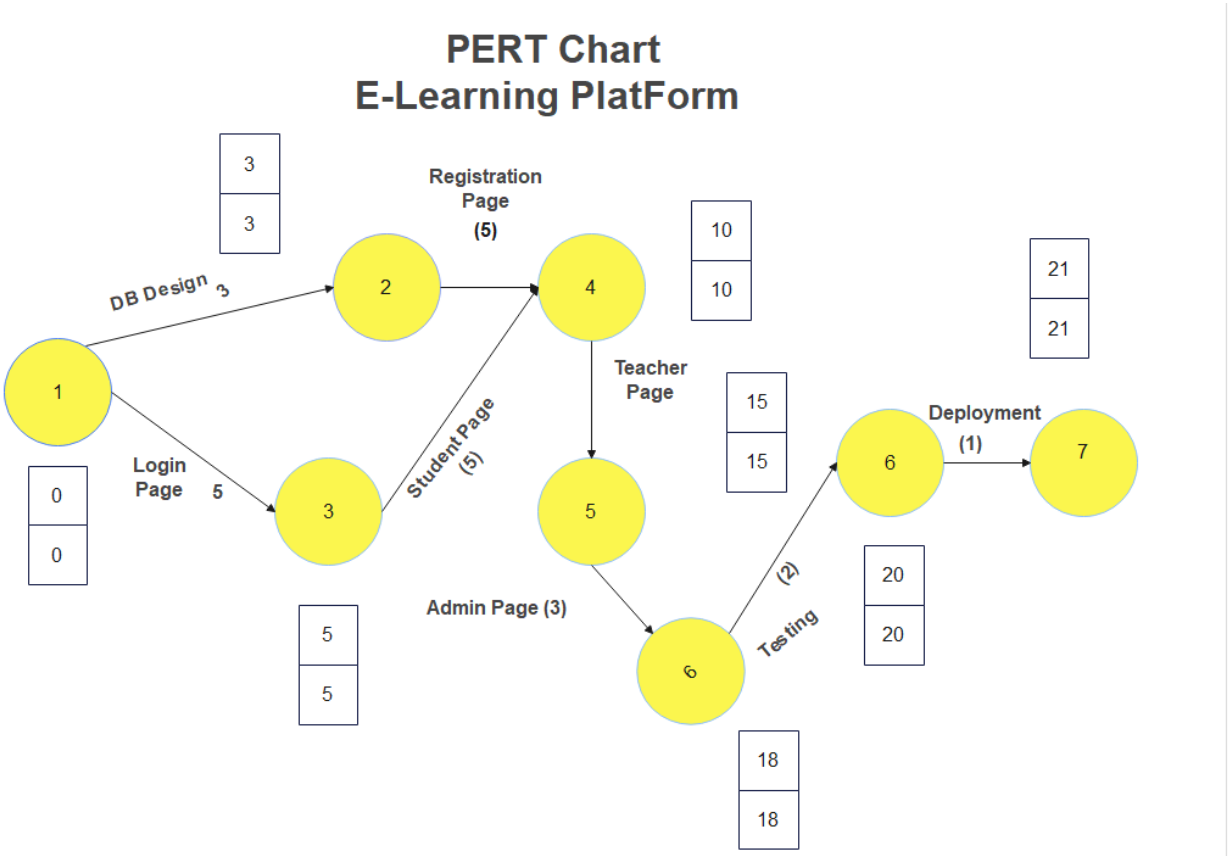
```
            console.log(response);
        });
    }
    setDumy(dumy + 1)
}


const handleChangeInput = async (id, event) => {
    const newInputFields = await Promise.all(inputFields.map(i => {
        if (id === i.id) {
            i[event.target.name] = event.target.value
        }
        return i;
    }))
    setInputFields(newInputFields);
}

const handleAddFields = () => {
    setInputFields([...inputFields, { id: uuidv4(), option: '' }])
}

const handleRemoveFields = id => {
    const values = [...inputFields];
    values.splice(values.findIndex(value => value.id === id), 1);
    setInputFields(values);
}

useEffect(() => {
    getExams();
    console.log("Check")
}, [options, dummy, dumy]);

const getExams = async () => {
    const { data } = await axios.get('http://localhost:5100/examquestions/' + id.id);
    setExamDatas(data);
    console.log(data[0].options)
}

const deleteQuestion = (propId) => {
    axios.delete('http://localhost:5100/examquestions/' + propId).then((response) => {
        console.log(response.status);
        console.log(response.data);
        setDummy(dummy + 1);
    });
}
```

```
  return (
    <>
      <LoginNavbar />
      <Container>
        <Wrapper>
          <TableContainer component={Paper}>
            <Table sx={{ minWidth: 650 }} aria-label="simple table">
              <TableHead>
                <TableRow style={{ backgroundColor: "whitesmoke" }}>
                  <TableCell align="right"></TableCell>
                  <TableCell align="right"></TableCell>
                  <TableCell align="right"></TableCell>
                  <TableCell align="right"></TableCell>
                  <TableCell align="right"></TableCell>
                </TableRow>
              </TableHead>
              <TableBody>
                {examDatas.map((exam, index) => (
                  <TableRow
                    sx={{ '&:last-child td, &:last-child th': { border: 0 } }}
                  >
                    <TableCell component="th" scope="exam" style={{ color: "#222831",
fontSize: "16px", fontWeight: "600", padding: "25px" }}>
                      <Label>{(index + 1) + " ) "}{exam.questionTitle}</Label>
                      {exam.options.map((option) => (
                        <>
                          <br /><Check type="radio" name={`${index + 1}`} />
                          <Label>{option.option}</Label>
                        </>
                      ))}
                      <br />
                      <Button style={{ backgroundColor: "red" }} onClick={() =>
deleteQuestion(exam._id)}>Delete</Button>
                    </TableCell>
                    <TableCell align="right"></TableCell>
                    <TableCell align="right"></TableCell>
                    <TableCell align="right"></TableCell>
                    <TableCell align="right"></TableCell>
                  </TableRow>
                ))}
              </TableBody>
              <TableHead>
                <TableRow>
                  <Popup
                    trigger={<Button style={{ marginLeft: "-65%" }}>Add Question</
Button>}
```

```
                        modal
                        nested
                    >
                        {close => (
                            <div style={{ fontSize: "12px", backgroundColor: "#393E46", width:
"800px", height: "auto" }}>
                                <button style={{ cursor: "pointer", position: "absolute", display:
"block", padding: "2px 5px", lineHeight: "20px", right: "-10px", top: "-10px", fontSize: "24px",
background: "#EEEEEE", borderRadius: "18px", border: "1px solid #cfcece" }} onClick={close}>
                                    &times;
                                </button>

                                <div style={{ width: "100", borderBottom: "1px solid gray",
fontSize: "18px", padding: "5px", color: "white" }}>New Question</div>
                                <div style={{ padding: "5px", fontSize: "16px", fontWeight: "500",
color: "white" }}>Question: <textarea style={{ verticalAlign: "middle", maxWidth: "580px",
maxHeight: "200px", width: "580px" }} type="text" onChange={e =>
setQuestionTitle(e.target.value)} /></div>
                                <form onSubmit={addQuestion} style={{ width: "100%", padding:
"10px 5px" }}>
                                    {inputFields.map(inputField => (
                                        <div key={inputField.id}>
                                            <textarea
                                                name="option"
                                                label="First Name"
                                                variant="filled"
                                                value={inputField.option}
                                                onChange={event => handleChangeInput(inputField.id,
event)}
                                                style={{ maxWidth: "650px", maxHeight: "200px", width:
"650px" }}
                                            />

                                            <RemoveCircleOutline style={{ verticalAlign: "top", color:
"#EEEEEE" }} disabled={inputFields.length === 1} onClick={() =>
handleRemoveFields(inputField.id)} />
                                            <AddCircle style={{ verticalAlign: "top", color:
"#EEEEEE" }} onClick={handleAddFields} />
                                            <input style={{ verticalAlign: "top", color: "#EEEEEE" }}
type="radio" name='correct' value={inputField.option} onClick={(e) =>
setCorrectOption(e.target.value)} />
                                            <Label style={{ verticalAlign: "top", color: "#EEEEEE" }}
htmlFor="correct">Correct</Label>
                                        </div>
                                    ))}
```

```
                                    <div style={{ width: "100%", padding: "10px 5px", margin:
"auto", textAlign: "center" }}>
                                        <Popup
                                            trigger={<Button className="formQButton" type='submit'
style={{ width: "30%", marginRight: "10px" }}> Confirm </Button>}
                                            position="top center"
                                            nested
                                        >
                                        </Popup>
                                        <Button
                                            className="formQButton" onClick={() => { close(); }}
style={{ width: "30%", backgroundColor: "#ECE2E1", color: "#100F0F" }}> Close
                                        </Button>
                                    </div>
                                </form>
                            </div>
                        )}
                    </Popup>
                    <TableCell></TableCell>
                    <TableCell></TableCell>
                    <TableCell></TableCell>
                    <TableCell align='right'><Link to={`/configure/${id.id}`}
><NextButton>Next<ArrowForward style={{ verticalAlign: "middle", transform: "scale(0.9)" }} /
></NextButton></Link></TableCell>
                </TableRow>
            </TableHead>
        </Table>
    </TableContainer>
</Wrapper>
</Container>
<Footer />
</>
)
}

export default CreateQuiz
```

Appendix G: Project Management



GANTT CHART:

Task ID	Task Description	Start Date	Duration (Days)	End Date	Predecessor(s)
1.	Requirements Analysis	January 2, 2024	8	January 10, 2024	None
2.	Design	January 11, 2024	10	January 20, 2024	1
3.	Development	January 21, 2024	35	February 25, 2024	2
4.	Testing	February 26, 2024	4	February 29, 2024	3
5.	Deployment	March 1, 2024	31	March 31, 2024	4

January 2024 - January 2024 : [Requirements Analysis]

January 2024 - January 2024 : [Design]

January 2024 - February 2024 : [Development]

February 2024 - February 2024 : [Testing]

March 2024 - March 2024 : [Deployment]