Test Cases

Example Database:

Student

S_ID	Password	Name	D_ID	Semester
20CS30064	12345	Anamitra Mukhopadhyay	CS	4
20CS30057	12345	Utsav Basu	CS	4
20CS10063	12345	Spandan Haldar	CS	4

Teacher

T_ID	Password	Name	D_ID
AP001	12345	Prof1	CS
AP002	12345	Prof2	CS
AP003	12345	Prof3	PH

Admin

A_ID	Password	Name
AD001	12345	Admin1
AD002	12345	Admin2

Department

D_ID	Name
CS	Computer Science and Engineering
PH	Physics

Course

C_ID	Name	T_ID1	T_ID2	D_ID	Semester
CS20001	Algorithms	AP001	AP002	CS	4
PH30002	Particle Physics	AP003	NA	PH	4

Attendance

S_ID	C_ID	Y_N	Lesson	IP_Address

Attendance_code

C_ID	Code

All Users:

1. Login:
    a. Choose “Login as ...”
    b. Select “Student”, “Teacher”, or “Admin”
    c. Provide required login details.
    d. If login is successful, a pop-up windows displays “Success”, else. It shows “Error”.

2. Change Password:
    a. Login into your respective account
    b. Click on “Change Password”
    c. Enter old password, and new password (2 times)
    d. Click in Submit
    e. The system will log the user out to the login screen
    f. Login with new password as set.

Example:

Student 20CS30064 wants to change their password to “p@$$w0rd”. They follow the steps above, and the Student table is updated as given below.

S_ID	**Password**	**Name**	**D_ID**	**Semester**
20CS30064	p@$$w0rd	Anamitra Mukhopadhyay	CS	4
20CS30057	12345	Utsav Basu	CS	4
20CS10063	12345	Spandan Haldar	CS	4

NOTE: Passwords are shown here in this document, however, in reality ***BCRYPT*** hashes for the password are being stored in the database.

Student User:

1. Give Attendance by selecting the course and providing the “magic code”

   Desired Output:

   If user has provided correct code before the teacher stops attendance:

   The following message is displayed: “Your attendance has been recorded!” and a record is created in the Attendance table

   If the user has provided wrong code before the teacher stops attendance:

   The following message is displayed: “Wrong code!”

   If the user provides code (correct or wrong) after the teacher stops attendance:

   The following message is displayed: “Unable to record your attendance!”

   Example: Suppose Utsav and Spandan are able to successfully give attendance. The Attendance table will be updated as

S_ID	**C_ID**	**Y_N**	**Lesson**	**IP_Address**
20CS30057	CS20001	1	22-03-2022	0.20.20.20
20CS10063	CS20001	1	22-03-2022	0.20.20.20
20CS30064	CS20001	0	22-03-2022	NA

2. View Attendance by selecting the course

   Desired Output:

   The Attendance record of the user is displayed

   Example: Suppose Spandan views his attendance in CS20001, the output would look like

Lesson	**Attendance**
22-03-2022	P

Teacher User:

1. Take Attendance in a course

Desired Output:

A “magic code” is generated. The user is asked to announce the code to the attendees. The user is given the choice to Start Attendance. After the user selects “Start Attendance” another option is provided to “Stop Attendance”. The students who provided correct code get their attendance recorded and the attendance sheet is displayed. An option to "Get Possible Proxies" is given to the user, which on click displays a list of possible proxies during attendance.

Example: The teacher takes attendance for the course CS20001

Magic Code: 784564 (Random 6-digit integer)

As soon as the teacher starts attendance, Attendance_code table is updated a

C_ID	Code
CS20001	784564

After the teacher stops attendance the record is deleted, so the Attendance_code table becomes

C_ID	Code

The Attendance table is updated and the attendance sheet is shown as

S_ID	Attendance
20CS30057	P
20CS10063	P
20CS30064	A

Possible Proxies:

20CS30057, 20CS10063

(Note that the IP addresses were same for these two students)

2. View Attendance Record of a course

Desired Output:

A sheet containing percentage attendance in each lesson of the course is displayed.

Example: The teacher views attendance for CS20001

Lesson	S_ID	Attendance
22-03-2022	20CS30057	P
22-03-2022	20CS10063	P
22-03-2022	20CS30064	A

Admin User:

1. Create a new course.

Desired Output:

The database is updated with a new record added to the Course table.

Example: Admin1 adds course Algorithms-2 (CS30002) under Prof1 in semester 5 in the CS department. The Course table will be updated as:

C_ID	Name	T_ID1	T_ID2	D_ID	Semester
CS20001	Algorithms	AP001	AP002	CS	4
PH30002	Particle Physics	AP003	NA	PH	4
CS30002	Algorithms-2	AP001	NA	CS	5

2. Edit an existing course by changing the teacher(s) (Other attributes related to the course like the 'Semester' should not be changed in the middle of ongoing semester)

Desired Output: The teacher(s) is (are) changed in the Course.

Example: Admin1 adds prof2 to Algorithms-2 course. The Course table is updated as

C_ID	Name	T_ID1	T_ID2	D_ID	Semester
CS20001	Algorithms	AP001	AP002	CS	4
PH30002	Particle Physics	AP003	NA	PH	4
CS30002	Algorithms-2	AP001	AP002	CS	5

3. Delete a course

Desired Output: The database is updated with a record deleted from the Course table.

Example: Admin2 deletes Particle Physics (PH30002) course. The Course table is updated as

C_ID	Name	T_ID1	T_ID2	D_ID	Semester
CS20001	Algorithms	AP001	AP002	CS	4
CS30002	Algorithms-2	AP001	AP002	CS	5