



# **SCHOOL ATTENDANCE SYSTEM**

## **DATABASE PROJECT REPORT**

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As part of the Course **Database Systems– CS52**

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## **CERTIFICATE**

This is to certify that **DANISH MAHAJAN** have completed the “**SCHOOL ATTENDANCE SYSTEM**” as part of Database Project. We declare that the entire content embodied in this B.E. 5<sup>th</sup> Semester report contents are not plagiarized.

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**Evaluation Sheet**

Sl. No	USN	Name	Research Content understanding and Coding (10)	Demo & Report submission (10)	Total Marks (20)
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## **CONTENT ABSTRACT:**

Over the years the manual attendance management has been carried across most of educational institutions. To overcome the problems of manual attendance, we have developed “Web based attendance Management System and Mobile Android Version”. Attendance Management System is based on web server, which can be implemented on any computer or Android Phone.

In This application, PHP is a server sides language, MySQL and PHP is used as back-end design and HTML, CSS and JavaScript are used as front-end tools. The system communicates with database residing on a remote server. It calculates automatically, the attendance percentage of students Without any manual paper-based work.

The system facilitates the end users with interactive design and automated processing of attendance management. With the effective use, any Institute can apply the “Attendance Management System” for conducting quick attendance and getting better results in less time.

## Introduction

Attendance Management System is software developed for daily evaluation of students in their continuous assessment record, and performance in accordance with the principle of the institution. It is facilitated to access the performance and information of attendance of a particular Student in a particular semester of study. The information is sorted by the teachers, instructors and advisors, as provided by the student for a particular day throughout a complete semester. This system will also enable the evaluation of student regular presence in various lectures which will determine the eligibility of the student to sit for a semester examination. Attendance Management System basically has two main modules for proper functioning

- First module is handled by the user which can be a teacher or Instructor. This user has a right of making daily attendance, updating, editing and generating reports to the students.
- Second is handled by a user which is the student, he has less privilege to the access of the system; the student can only view his own record by providing his username and password. He will be able to see the percentage of his attendance as well as his results. If any comment or change of class schedule the student can see in his own profile only.

## **Background, motivation and scope**

### **Background and motivation:**

School attendance is a list of names in every class that use for all teachers to take their student attendance in every day. This is to help teachers to enter the attendance of student. However, in school now is lack of new technology by using in online attendance system.

School Attendance Management System is a web computing system that can be used in order to gain the data of student attendance in school. The system will be able to store list of student name in systematic and collect the number of attendances for each student. This new system will replace the old approach the attendance management and increase efficiency of work done using an appropriate tools and technique. This system must conduct all the basic function likes add name of student and collect number of attendances

Finally, the system will provide high ability to store student name into database so it will be stored in a more organized manner. The system can be helpful to the teacher using the keyboard without using the paper and pen to write the names of student and it will help out the management in managing the work.

## **Objectives**

Generally, the objective to develop the new system is to replace the manually management system for school attendance, which not efficient to be used in today's environment. For the main objectives of this project have been identified as follows:

- a) To design a management school attendance system that can make via online.
- b) To implement the web computing in the system.
- c) To develop the functional of the system in helping the user to manage the class attendance

## **Scope**

The intention of developing Attendance Management System is to computerized the tradition way of taking attendance. Another purpose for developing this software is to generate the desired reports automatically at the end of the session or in the between of the session as they require. This project is basically a desktop application which means self, Contained software runs on the system on which it has been installed under the user control and it will work for a particular institute or college only



## **Methodology**

### **Research Methodology**

Main methodology activities held during the research is acquiring information and knowledge about school attendance system through reading books, and researches that were previously done in related area. All the research materials were obtained over the internet, Wikipedia and other websites. Next step taken is reading, comprehending and analyzing literature review and matching information obtained. This research emphasizing school attendance system, which include usability, user-friendly interface, reliability, costing and meeting needs of target users

### **Project Activities**

In order to fully use MySQL server technology, it is essential to make sure that the database is well designed. The files names chosen to label all the tables created within the database attempt to reflect the table's purpose and, therefore, contribute to well-design system. The intimal step in designing was to decide, according to the requirements and specifications of the project, which tables should be created, and what type of information each one should hold.

## Requirements

### XAMPP Server

XAMPP is often used for web, development and internal testing, it also can be used for serving live websites.

Xampp Server is available freely in two versions that is 32 and 64 bits. Keep in mind that Wampserver 2.5 is not compatible with Windows XP, SP3, and Windows Server 2003. Its older versions are available on [Source Forge](#).

### Apache

The Apache HTTP Server, informally called Apache, is the world's most popular web server software that in 2009 it became the first web server software to serve more than 100 million websites. The Apache development began in early 1995 and originally based on the [NCSA HTTP](#) server. Apache is developed and maintained by an open community of developers under the patronage of the Apache Software Foundation. Mostly used on a Unix-like system, the software is also available for a vast variety of operating systems, including Microsoft Windows, Open VMS, NetWare and TPF.

### MySQL

SQL stands for Structured Query Language. MySQL is an open-source Relational Database Management System (RDBMS); it is a popular database for use in web applications, and is a central part of the greatly used LAMP (Linux, Apache, MySQL, Perl/PHP/Python) open-source web application software stack. MySQL is used by many applications like, WordPress, Joomla, TYPO3, Drupal, MyBB, phpBB, MODX and other software. Numerous large scale websites including Google, YouTube, Facebook, Twitter, and Flickr are also using MySQL. On all platformsexcluding Windows, MySQL sends with no GUI (Graphical User Interface) to administer MySQL databases or managing the data held within the databases. Users may install MySQL Workbench by downloading separately or simply may use the command line tools. Numbers of third-party GUI tools are also available.

### PHP

It stands for PHP: Hypertext Pre-processor but, originally stood for Personal Home Page. It is a server-side scripting language that designed for web development, as

well as used for general purpose language. It was created in 1994 by Rasmus Lerdorf, in the present time the reference execution of PHP is produced by the PHP group.

### **PHPMYADMIN:**

It is an open source tool and also, it is free written in PHP, [XHTML](#), [CSS](#), and [JavaScript](#) planned to manage the administration of MySQL by using of a web. It is able to perform various missions like creating, modifying databases, tables, fields, executing SQL statements or managing and supervise users.

PhpMyAdmin is being translated into 72 languages in order to make the usage easy to a wide domain of people and it supports both LTR and RTL languages.

Following is some features of the

- phpMyAdmin, It is web interface

- It administrates multiple servers

- It is able to create PDF graphics of the database layout

- Importing data from SQL and CSV

- Export data to different formats such as SQL, PDF, CSV, XML

- and others It works with various Operating Systems

### **The Sublime Text 3 editor**

Sublime Text is a cross platform source code editor written in C++ and python. It originally supports plenty of programming and markup languages, and its functionality can be increased via users with plugins.

It is downloaded from [www.sublimetext.com/3](http://www.sublimetext.com/3), site.

### **HTML AND CSS**

HTML stands for Hypertext Markup Language and CSS stands for Cascading Style Sheets. They are the crucial technologies for creating web pages. HTML supplies the structure of the page, and CSS the layout, for diversity of devices. Together with scripting and [graphics](#), HTML and CSS are the fundamental of building Web Applications and Web pages.

HTML provides designers and developers the following facilities,

- To design forms for directing transactions with remote services, for use in making reservation, searching for information, ordering products, and others
- Retrieving online information through hypertext links.
- To include video and sound clips, spread sheets, and other applications straight in their documents

Designer can publish online documents with text, headings, tables, photos and others. CSS describes the Web pages presentation, involving layout, colours, and fonts. CSS is separate from HTML, and their separation makes it easy to preserve and maintain sites, share style sheets across pages, and accommodate pages to various environments.

## **Frameworks**

### **Bootstrap**

Bootstrap is front-end framework and collection of tools and mechanisms for building web applications. It consists of HTML and CSS based design templates for navigations, forms, buttons, typography, and other interface elements, and also JavaScript extensions.

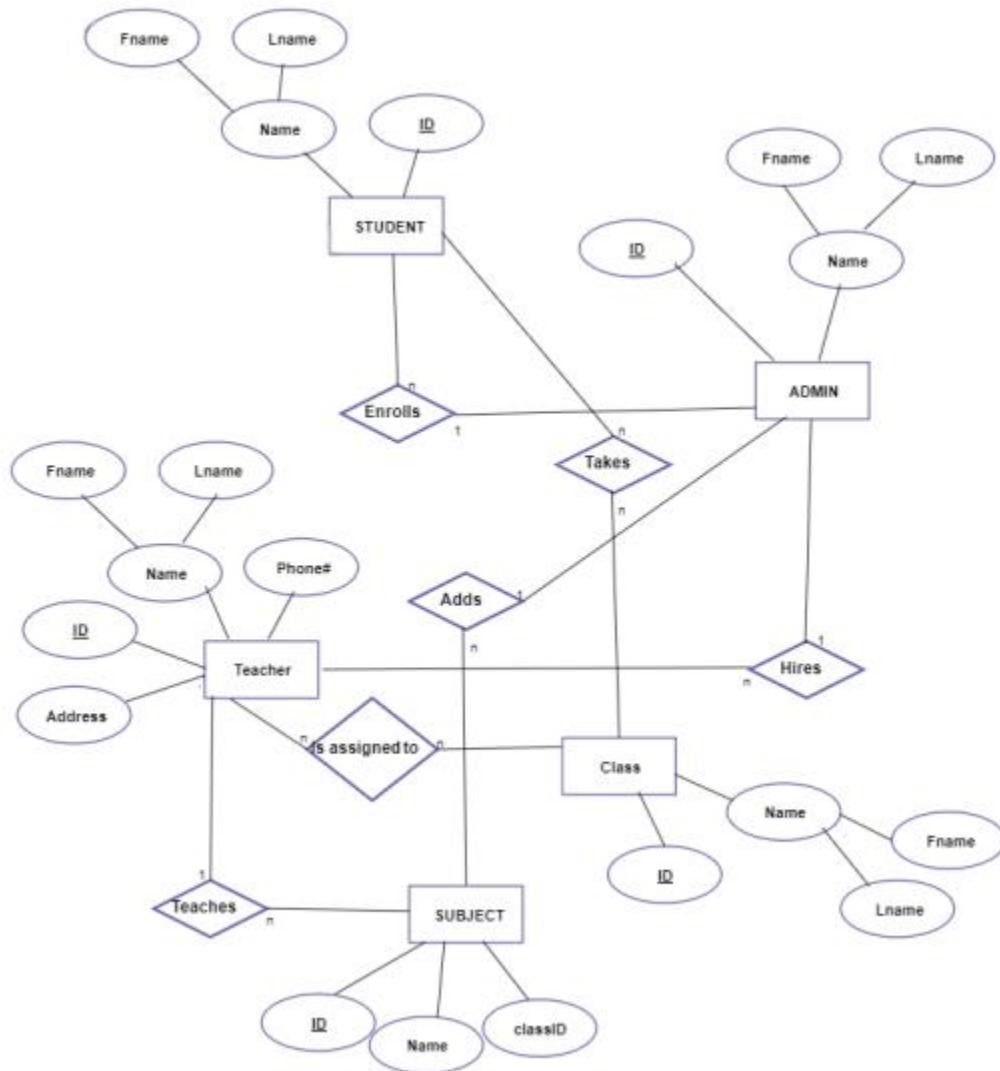
Bootstrap is free and open source, and its purpose is to make easy the development of dynamic websites and web applications. It is the most starred project on GitHub, with more than 85,000 stars and 34,000 forks.

### **JavaScript Framework(jQuery)**

jQuery is JavaScript library intended to make simple the client-side scripting of HTML. It is the most popular JavaScript framework, which is free and open-source software licensed under the MIT License.

The diagram is an Entity-Relationship (ER) model for a database system. It includes the following entities, attributes, and relationships:

- Entities and Attributes:**
  - STUDENT:** Attributes are ID (primary key), Name (composed of Fname and Lname).
  - ADMIN:** Attributes are ID (primary key), Name (composed of Fname and Lname).
  - Teacher:** Attributes are ID (primary key), Name (composed of Fname and Lname), Phone#, and Address.
  - Class:** Attributes are ID (primary key), Name (composed of Fname and Lname).
  - SUBJECT:** Attributes are ID (primary key), Name, and classID.
- Relationships:**
  - Enrolls:** A many-to-many relationship between STUDENT and ADMIN.
  - Takes:** A many-to-many relationship between ADMIN and Class.
  - Adds:** A one-to-many relationship between ADMIN and Class.
  - Hires:** A one-to-many relationship between ADMIN and Teacher.
  - is assigned to:** A many-to-many relationship between Teacher and Class.
  - Teaches:** A one-to-many relationship between Teacher and SUBJECT.



## Database Normalization

### 1NF:

#### Table structure for STUDENT:

FNAME	LNAME	SID	EMAIL
DANISH	MAHAJAN	1	<a href="mailto:danish@gmail.com">danish@gmail.com</a>
DANISH	MAHAJAN	1	mahajan@gmail.com
HARRY	VERMA	2	harry@gmail.com

#### Table structure for TEACHER:

FNAME	LNAME	SID	EMAIL
ABC	XYZ	1	<a href="mailto:abc@gmail.com">abc@gmail.com</a>
ABC	XYZ	1	xyz@gmail.com
HARRY	VERMA	2	harry@gmail.com

**Table structure for class:**

CID	FNAME	LNAME
1	Operating	System
1	Database	System

**2NF:**

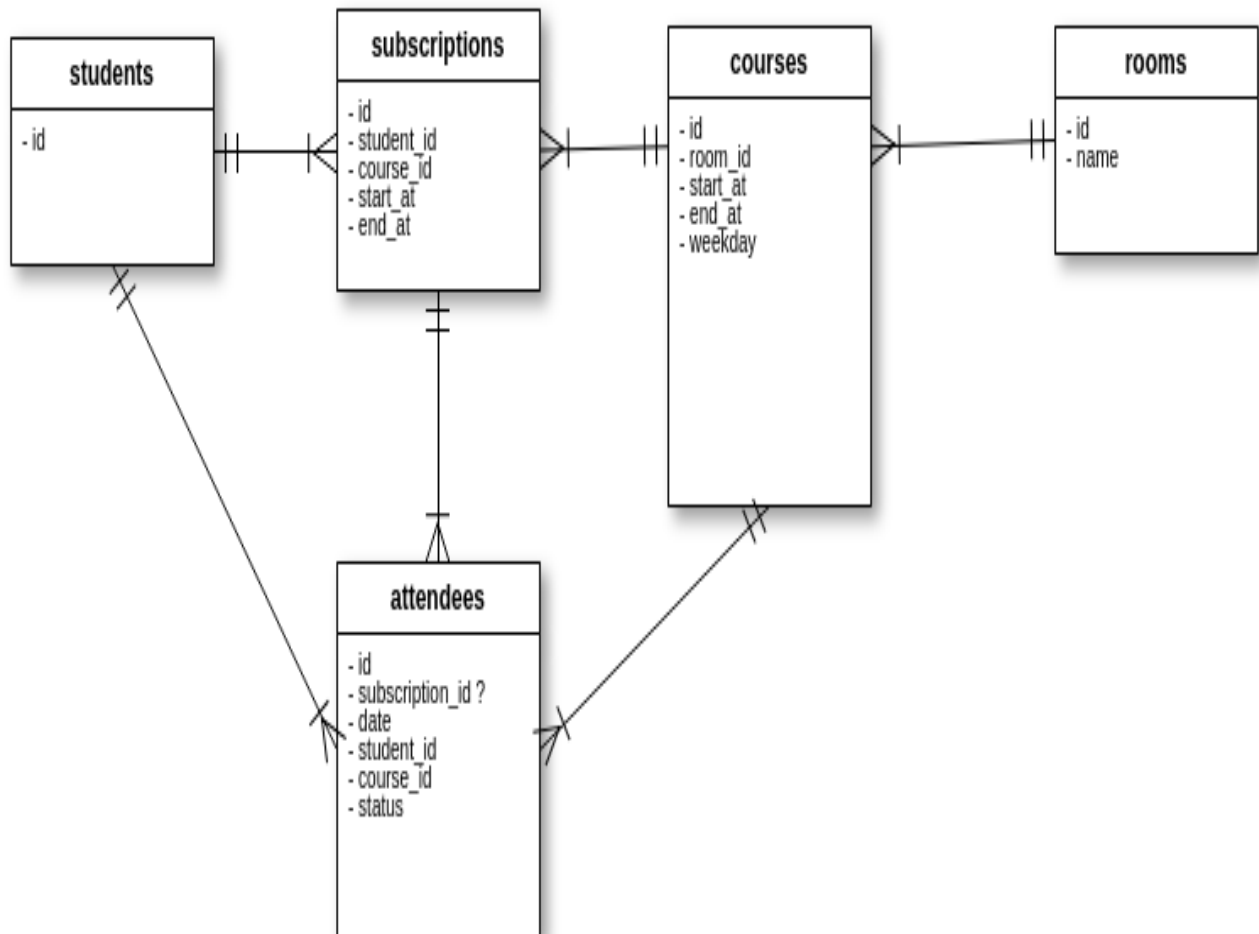
**Table structure for STUDENT:**

FNAME	LNAME	SID
DANISH	MAHAJAN	1
DANISH	MAHAJAN	1
HARRY	VERMA	2

**Table structure for TEACHER:**

FNAME	LNAME	SID
ABC	XYZ	1
ABC	XYZ	1
HARRY	VERMA	2

## Relation database design:





## DATA DIRECTORY -

**Table structure for STUDENT:**

Column	Type	Null	Description
FNAME	Varchar(25)	No	Front name
LMNAME	Varchar(25)	No	Last name
SID	Int(10)	Primary key	Student id
EMAIL	Varchar(25)	No	Email
ADDRESS	varchar(25)	No	Address of student

**Table structure for TEACHER:**

Column	Type	Null	Description
FNAME	Varchar(25)	No	Front name
LMNAME	Varchar(25)	No	Last name
TID	Int(10)	Primary key	Teacher id
EMAIL	Varchar(25)	No	Email
ADDRESS	varchar(25)	No	Address of Teacher

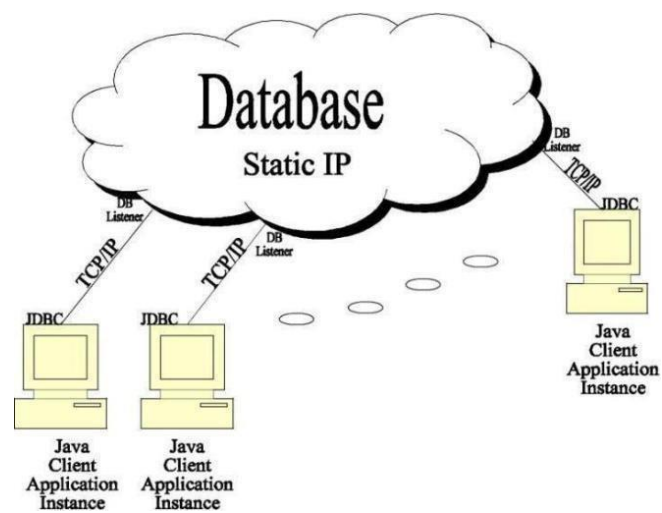
**Table structure for CLASS:**

Column	Type	Null	Description
CID	Int(10)	Primary key	CLASS ID
LNAME	Varchar(25)	No	Last name
FNAME	Varchar(25)	No	Front name

### Table structure for SUBJECT:

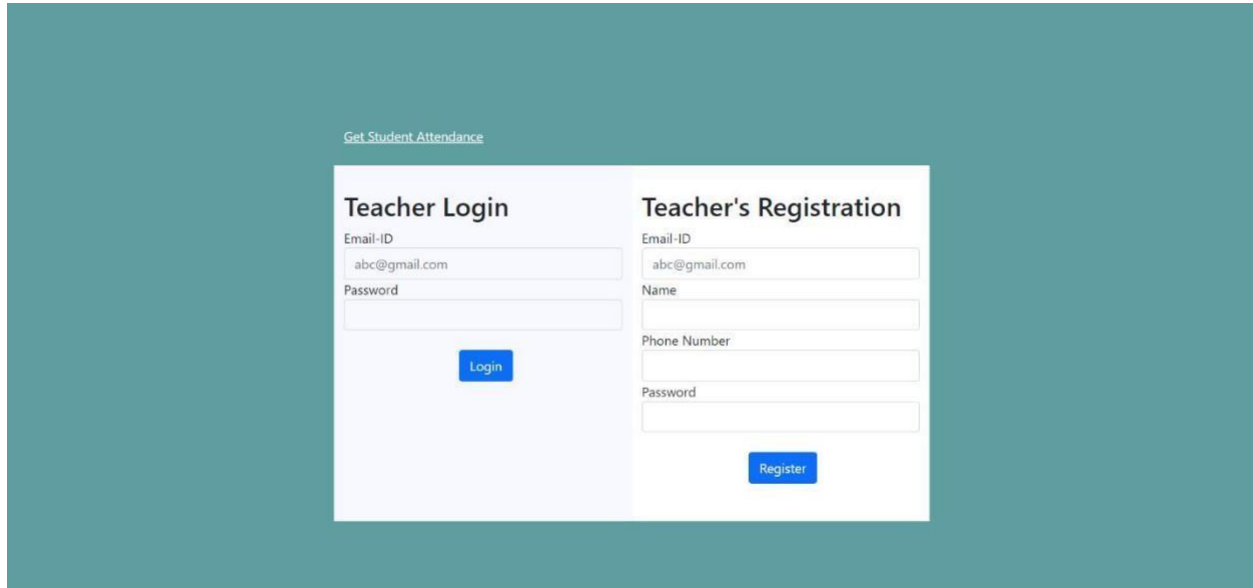
Column	Type	Null	Description
ID	Int	Primary key	Subject ID
NAME	Varchar(25)	No	Name
CID	Int(10)	Foreign key	Class Id

### Graphical Representation of Project



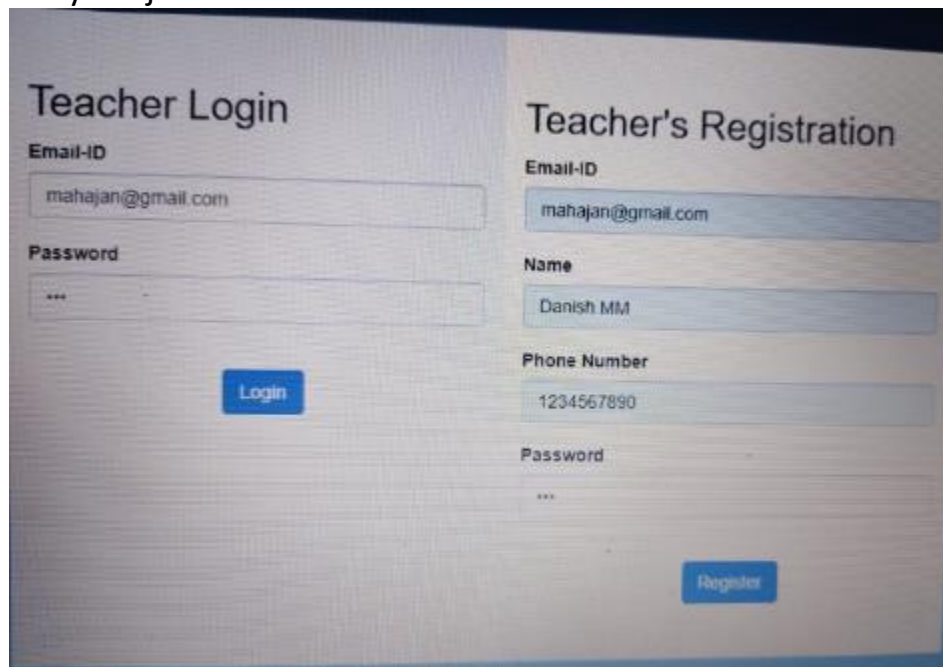
## PROPOSED SYSTEM(FRONT-END)

### Register



The screenshot displays a web interface with a teal background. At the top center, there is a link labeled "Get Student Attendance". Below this, there are two white rectangular forms side-by-side. The left form is titled "Teacher Login" and contains fields for "Email-ID" (with the value "abc@gmail.com") and "Password", followed by a blue "Login" button. The right form is titled "Teacher's Registration" and contains fields for "Email-ID" (with the value "abc@gmail.com"), "Name", "Phone Number", and "Password", followed by a blue "Register" button.

This is the home page of the proposed system which consists of 3 buttons: teacher's account registration, teacher's login, and a link to get student's attendance in any subject.

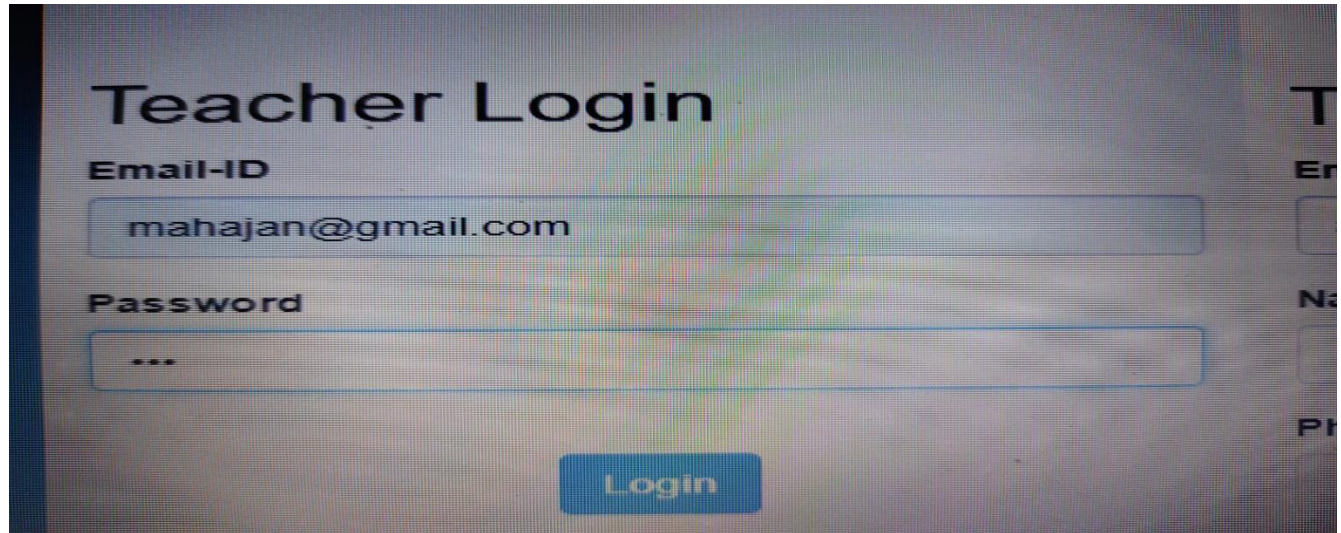


This screenshot shows the same web interface as the previous one, but with sample data entered into the fields. The "Teacher Login" form has "mahajan@gmail.com" in the "Email-ID" field and masked characters "\*\*\*" in the "Password" field, with a blue "Login" button below. The "Teacher's Registration" form has "mahajan@gmail.com" in the "Email-ID" field, "Danish MM" in the "Name" field, "1234567890" in the "Phone Number" field, and masked characters "\*\*\*" in the "Password" field, with a blue "Register" button below.

The teacher has to enter his/her email-ID, name, phone number, and password. The prompt message will show if your registration was successful or not. After successful registration, they have to login in their account.

## Login:

After login teacher's dashboard will be shown, which looks like this. It has 3 links on the navbar i.e. statistics(to get the overall result), edit profile and logo

A screenshot of a web application's login page for teachers. The page has a light gray background. At the top, the title "Teacher Login" is displayed in a large, bold, black font. Below the title, there are two input fields. The first field is labeled "Email-ID" in a bold black font and contains the text "mahajan@gmail.com". The second field is labeled "Password" in a bold black font and contains three dots, indicating a masked password. Below these fields is a blue button with the word "Login" in white text. On the right side of the image, there is a partial view of a sidebar or navbar with some text and checkboxes, including "T", "Er", "Na", and "PH".

**Teacher Login**

**Email-ID**

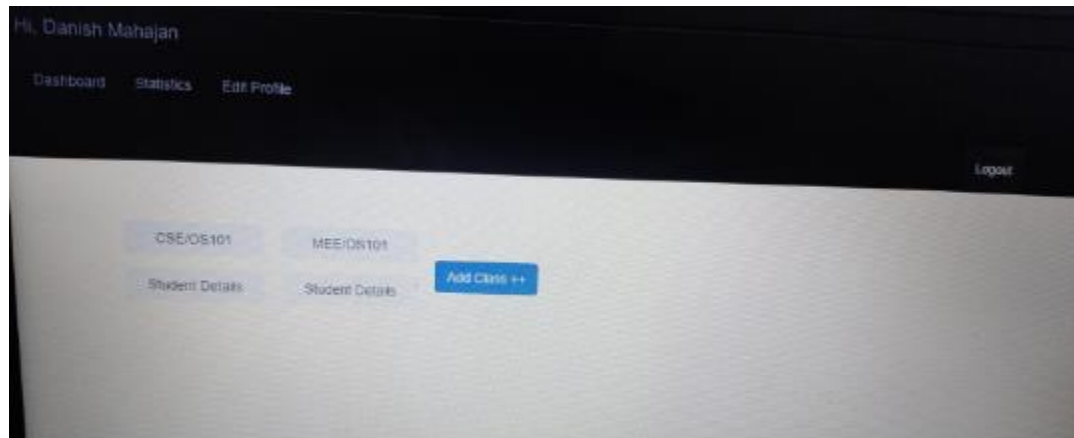
mahajan@gmail.com

**Password**

...

Login

## Add class



The dashboard also shows all the classes which the teacher's takes with respective branch and student details. Teacher can also add new class by entering the following details.

A form for adding a new class. It contains the following fields: 'Subject Name' with the value 'cn\_lab'; 'Branch' with a dropdown menu showing 'Computer Science Engineering'; 'Subject Code' with the value 'CNS001'; 'Semester' with a dropdown menu showing 'V'; 'Year' with the value '2022'; 'Starting Roll No' with the value '1'; and 'Ending Roll No' with the value '10'. At the bottom right, there is a 'Cancel' button and a blue 'Save changes' button.

Here, Teachers ID is fixed and is given by mysql.

Now to mark the attendance in a class, respective class button should be clicked, and it will show an interface like this.

## Mark Attendance

The attendance is marked on present or absent radio button.

**Mark Attendance for CSE/OS101**  
Date : Sunday 11th of December 2022

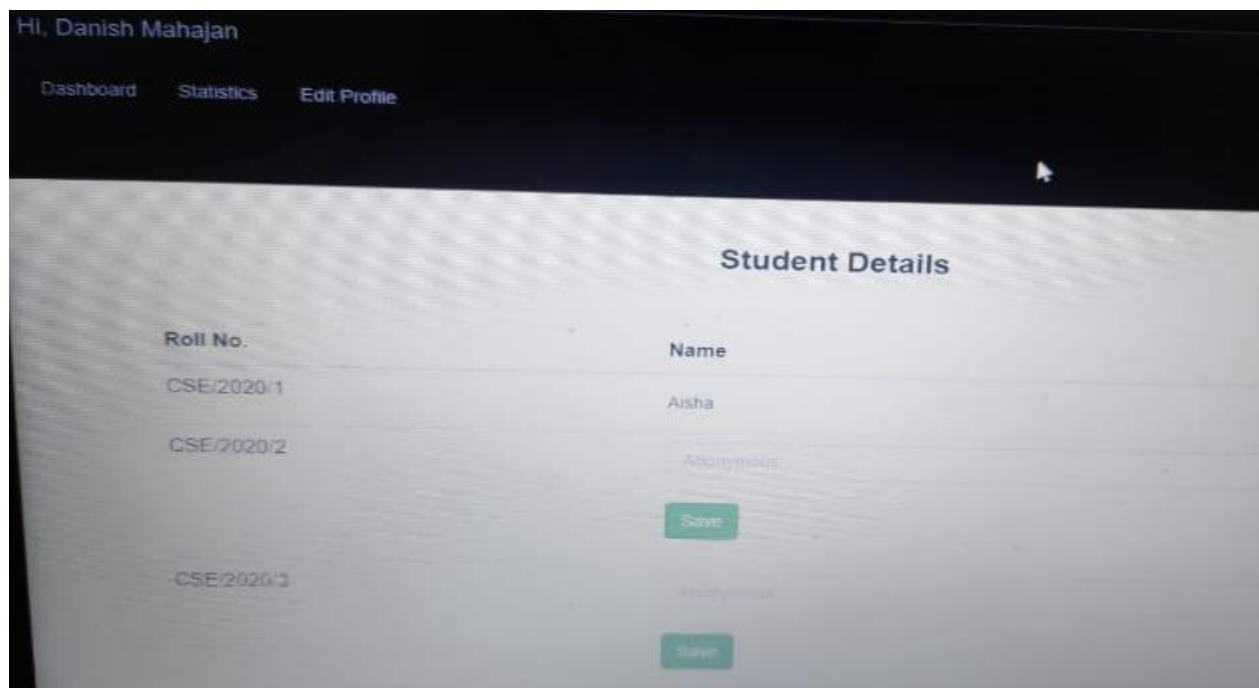
Roll No.	Attendance
CSE/2020/1	<input checked="" type="radio"/> Present <input type="radio"/> Absent
CSE/2020/2	<input type="radio"/> Present <input checked="" type="radio"/> Absent
CSE/2020/3	<input checked="" type="radio"/> Present <input type="radio"/> Absent
CSE/2020/4	<input type="radio"/> Present <input checked="" type="radio"/> Absent
CSE/2020/5	<input checked="" type="radio"/> Present <input type="radio"/> Absent

This shows the data is successfully saved in the database.

In the Student Detail button, the name of the student is shown along with their Roll No. Teacher can also Save their name if not present.

## Save Student Details

The Edit Profile feature in the navbar, will allow the teacher to edit his/her data.



Hi, Danish Mahajan

Dashboard Statistics Edit Profile

### Student Details

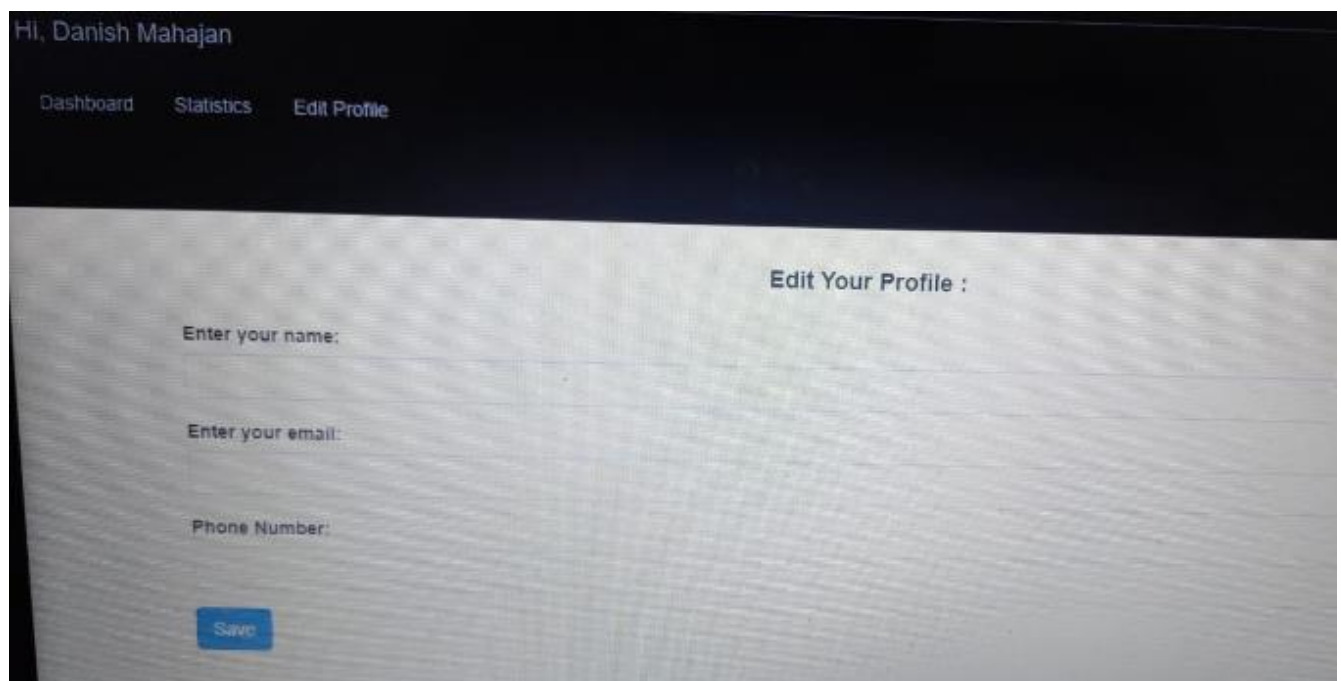
Roll No.	Name
CSE/2020/1	Aisha
CSE/2020/2	Anonymous
CSE/2020/3	Anonymous

Save

Save

This screenshot shows a web application interface for managing student details. At the top, a dark navigation bar contains the user's name 'Hi, Danish Mahajan' and three menu items: 'Dashboard', 'Statistics', and 'Edit Profile'. The main content area is titled 'Student Details' and displays a table with two columns: 'Roll No.' and 'Name'. The table contains three rows of data. Below the table, there are two green 'Save' buttons, one for each of the last two rows.

## Edit Profile



Hi, Danish Mahajan

Dashboard Statistics Edit Profile

### Edit Your Profile :

Enter your name:

Enter your email:

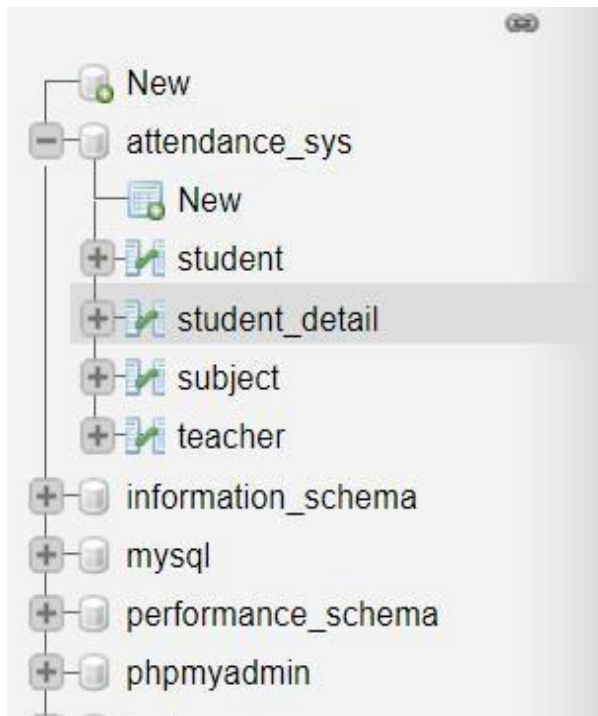
Phone Number:

Save

This screenshot shows the 'Edit Your Profile' form in the same web application. The navigation bar is identical to the previous screenshot. The main content area is titled 'Edit Your Profile :'. It contains three input fields with labels: 'Enter your name:', 'Enter your email:', and 'Phone Number:'. At the bottom of the form is a blue 'Save' button.

## PROPOSED SYSTEM(Back-End)

To achieve the flow of data and data processing task, I have created a database named attendance\_sys and inside this database four entities have been created, mentioned below, Attendance Database is:





## Teacher entity

The screenshot shows the phpMyAdmin interface for the 'attendance\_sys' database. The 'teacher' table is selected, and the SQL query 'SELECT \* FROM `teacher`' is executed. The table structure and data are displayed below the query results.

tid	email	name	phone	password
1	shruti@gmail.com	Shruti Kumari	7903283866	1234

Query results operations: Print, Copy to clipboard, Export, Display chart, Create view.

Bookmark this SQL query: Label:  Let every user access this bookmark.

Console: Press Ctrl+Enter to execute query. >SELECT \* FROM `student\_detail` >SELECT \* FROM `subject`

## Subject entity

The screenshot shows the phpMyAdmin interface for the 'attendance\_sys' database. The 'subject' table is selected, and the SQL query 'SELECT \* FROM `subject`' is executed. The table structure and data are displayed below the query results.

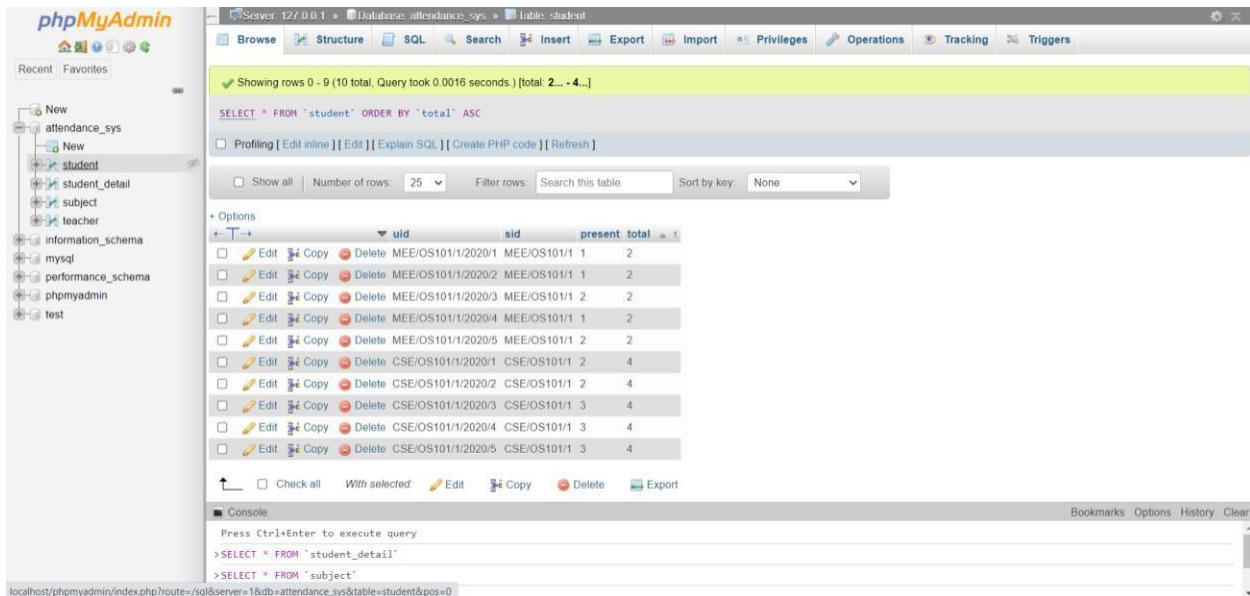
sid	tid	sname	scode	sem	year	branch
CSE/OS101/1	1	Cyber Security	GSE/OS101	III	2020	CSE
MEE/OS101/1	1	Operating System	MEE/OS101	III	2020	MEE

Query results operations: Print, Copy to clipboard, Export, Display chart, Create view.

Bookmark this SQL query: Label:  Let every user access this bookmark.

Console: Press Ctrl+Enter to execute query. >SELECT \* FROM `student\_detail` >SELECT \* FROM `subject`

## Student entity



Server: 127.0.0.1 » Database: attendance\_sys » Table: student

Showing rows 0 - 9 (10 total, Query took 0.0016 seconds) [total: 2... - 4...]

```
SELECT * FROM `student` ORDER BY `total` ASC
```

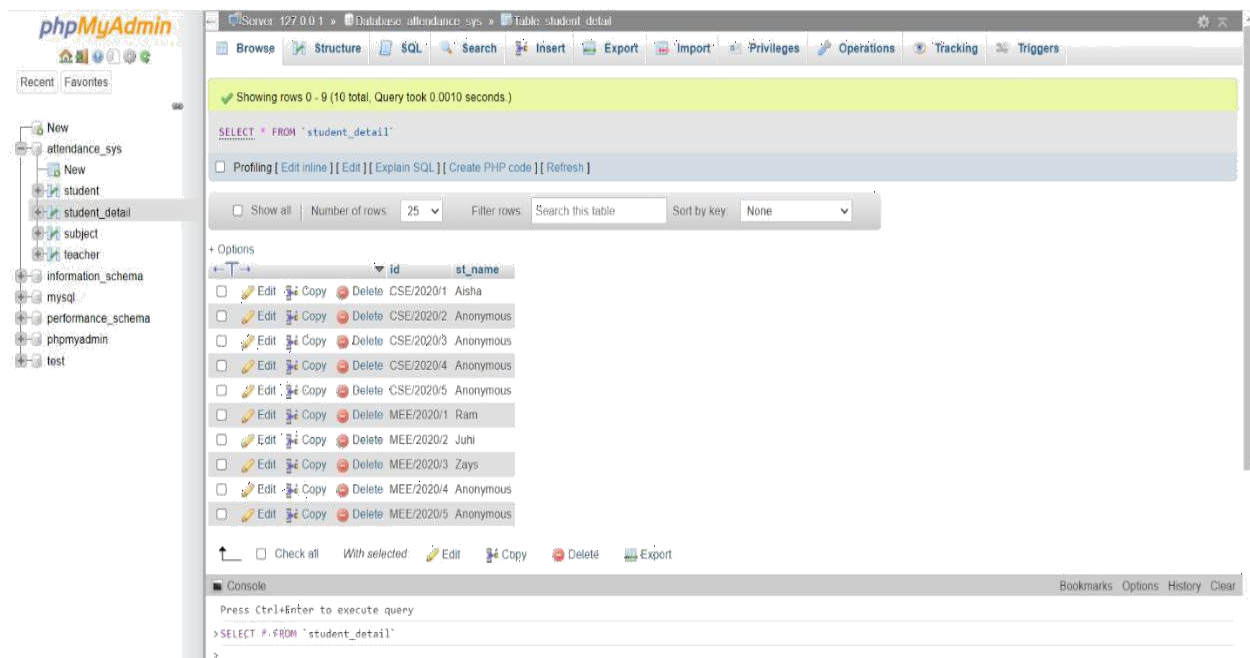
Options: ☐ Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

	uid	sid	present	total
<input type="checkbox"/>	MEE/OS101/1/2020/1	MEE/OS101/1	1	2
<input type="checkbox"/>	MEE/OS101/1/2020/2	MEE/OS101/1	1	2
<input type="checkbox"/>	MEE/OS101/1/2020/3	MEE/OS101/1	2	2
<input type="checkbox"/>	MEE/OS101/1/2020/4	MEE/OS101/1	1	2
<input type="checkbox"/>	MEE/OS101/1/2020/5	MEE/OS101/1	2	2
<input type="checkbox"/>	CSE/OS101/1/2020/1	CSE/OS101/1	2	4
<input type="checkbox"/>	CSE/OS101/1/2020/2	CSE/OS101/1	2	4
<input type="checkbox"/>	CSE/OS101/1/2020/3	CSE/OS101/1	3	4
<input type="checkbox"/>	CSE/OS101/1/2020/4	CSE/OS101/1	3	4
<input type="checkbox"/>	CSE/OS101/1/2020/5	CSE/OS101/1	3	4

Console: Press Ctrl+Enter to execute query

```
> SELECT * FROM `student_detail`
```

## Student Detail entity



Server: 127.0.0.1 » Database: attendance\_sys » Table: student\_detail

Showing rows 0 - 9 (10 total, Query took 0.0010 seconds)

```
SELECT * FROM `student_detail`
```

Options: ☐ Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

	id	st_name
<input type="checkbox"/>	CSE/2020/1	Aisha
<input type="checkbox"/>	CSE/2020/2	Anonymous
<input type="checkbox"/>	CSE/2020/3	Anonymous
<input type="checkbox"/>	CSE/2020/4	Anonymous
<input type="checkbox"/>	CSE/2020/5	Anonymous
<input type="checkbox"/>	MEE/2020/1	Ram
<input type="checkbox"/>	MEE/2020/2	Juhi
<input type="checkbox"/>	MEE/2020/3	Zays
<input type="checkbox"/>	MEE/2020/4	Anonymous
<input type="checkbox"/>	MEE/2020/5	Anonymous

Console: Press Ctrl+Enter to execute query

```
> SELECT * FROM `student_detail`
```

Here are glimpses of the code.

```
CREATE TABLE `student` (  
  `uid` varchar(255) NOT NULL,  
  `sid` varchar(255) NOT NULL,  
  `present` int(11) NOT NULL DEFAULT 0,  
  `total` int(11) NOT NULL DEFAULT 0  
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;  
  
--  
-- Dumping data for table `student`  
--  
  
INSERT INTO `student` (`uid`, `sid`, `present`, `total`) VALUES  
( 'CSE/OS101/1/2020/1', 'CSE/OS101/1', 2, 4),  
( 'CSE/OS101/1/2020/2', 'CSE/OS101/1', 2, 4),  
( 'CSE/OS101/1/2020/3', 'CSE/OS101/1', 3, 4),  
( 'CSE/OS101/1/2020/4', 'CSE/OS101/1', 3, 4),  
( 'CSE/OS101/1/2020/5', 'CSE/OS101/1', 3, 4),  
( 'MEE/OS101/1/2020/1', 'MEE/OS101/1', 2, 3),  
( 'MEE/OS101/1/2020/2', 'MEE/OS101/1', 2, 3),  
( 'MEE/OS101/1/2020/3', 'MEE/OS101/1', 3, 3),  
( 'MEE/OS101/1/2020/4', 'MEE/OS101/1', 2, 3),  
( 'MEE/OS101/1/2020/5', 'MEE/OS101/1', 3, 3);  
*****  
*****  
  
include('home.php');  
if(isset($_POST['email']))  
{  
  $name = $_POST['name'];  
  $email = $_POST['email'];  
  $phone = $_POST['phone'];  
  
  $query1 = "update teacher set name = '$name' where tid = $x ";  
  mysqli_query($con,$query1);  
  $query2 = "update teacher set email = '$email' where tid = $x ";  
  mysqli_query($con,$query2);  
  $query3 = "update teacher set phone = '$phone' where tid = $x ";  
  mysqli_query($con,$query3);  
  $_SESSION['email'] = $email;  
  header('location:dashboard.php');  
}
```

## RESULT AND ANALYSIS

There are 2 reports generated, one is the overall report of the students in a class the other is the report of each student in the respective classes.



The overall report can be accessed by the teacher by clicking on the Statistics link, it will generate the average attendance and attendance of each student in tabular form.

Enter Details to get your Attendance :

Roll Number

Year

Branch

Subject Code

Subject Code

Hello! Aisha, your attendance is : 50%

Student can also get their attendance in each subject by entering the details

## Conclusion

In this work ,the web based attendance management system is developed using PHP server-side language and CSS,HTML ,JavaScript for designing which is fully meet the system's goals.

This system overcome many limitations incorporated in attendance, this system saves a great amount of time and reduces errors which may occur during attendance calculation.

The system I have developed is fully responsive which can be used in mobile, tablets and different operating systems. Some other benefits are,

- Automated and web-based for easy accessibility
- It is a dynamic and flexible system
- It excludes paperwork and the possibility of making mistakes while using paper for taking attendance
- It is very user friendly and handy
- The records of current and previous can be available in prompt and an immediate.

## Future work

I will make some future improvement in my project by making this Biometric Attendance System in order to make more advanced and increase its reliability and effectiveness. Biometrics is automated technique of identifying a person behavioural or physiological characteristic.

A fingerprint scanner has two basic tasks which are,

- It requires to get an image of a person finger.
- It requires identifying and diagnosing that whether the pattern of ridges and valleys in current image matches the pattern of ridges and valleys of previous scanned images.

Unique characteristics of every fingerprint are filtered and saved as a mathematical representation. The image of fingerprint will not be saved, only sequence (series) of binary code, that is used for verification is saved the algorithm can't be transformed to an image, so no one can duplicate any one's fingerprint

