**Python in depth, the applications with real life project-(College Management System)**

**A Project Report**

***in partial fulfillment for the award of the degree of***

##### **B.Tech**

under

**Engineers Study Centre**



###### ***Submitted by***

**Suprotim Datta**



**Netaji Subhash Engineering College**



**CERTIFICATE FROM SUPERVISOR**

This is to certify that **Suprotim Datta** successfully completed the project titled **“College management system using Python”** under my supervision during the period from February to May which is in partial fulfillment of requirements for the award of the B.Tech and submitted to Department **ELECTRONICS & COMMUNICATIONS ENGINEERING** of **Netaji Subhash Engineering College.**

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Date: ***Signature of the Supervisor***

**Name & Designation**

**Project Supervisor**

**Acknowledgement**

I take this opportunity to express my deep gratitude and sincerest thank to my project mentor, Prity Dwivedi madam for giving most valuable suggestion, helpful guidance and encouragement in the execution of this project work.

I will like to give a special mention to my group members- Suman Purkait , Subhashis Dutta and Sudhyabrata Guha. Last but not the least I am grateful to all the faculty members of **Engineers Study Centre** for their support.

**College Management System –An overview**

The task is to create a Database-driven College Management System in Python that will store the information in the MySQL Database.

For creating the College Management System in Python that uses MySQL database, we need to connect Python with MySQL.

For making a connection we need to install **[mysqlconnector](https://www.geeksforgeeks.org/mysql-connector-python-module-in-python/)** which can be done by writing the following command in the command prompt on Windows.

pip install mysqlconnector

Now after successful installation of mysqlconnector we can connect MySQL with Python which can be done by writing the following code :-

import mysql.connector

con = mysql.connector.connect(

    host="localhost", user="root", password="password", database="sd"

Python offers multiple options for developing GUI (Graphical User Interface).

We have used tkinter in our project. Out of all the GUI methods, tkinter is the most commonly used method. It is a standard Python interface to the Tk GUI toolkit shipped with Python. Python with tkinter is the fastest and easiest way to create the GUI applications. Creating a GUI using tkinter is an easy task.  
**To create a tkinter app:**

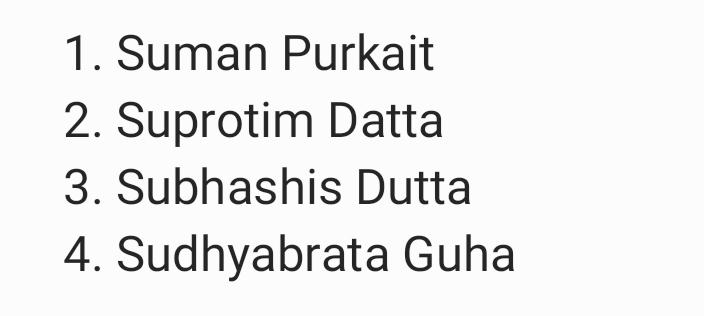
1. Importing the module – tkinter
2. Create the main window (container)
3. Add any number of widgets to the main window
4. Apply the event Trigger on the widge.

Importing tkinter is same as importing any other module in the Python code. Note that the name of the module in Python 2.x is ‘Tkinter’ and in Python 3.x it is ‘tkinter’.

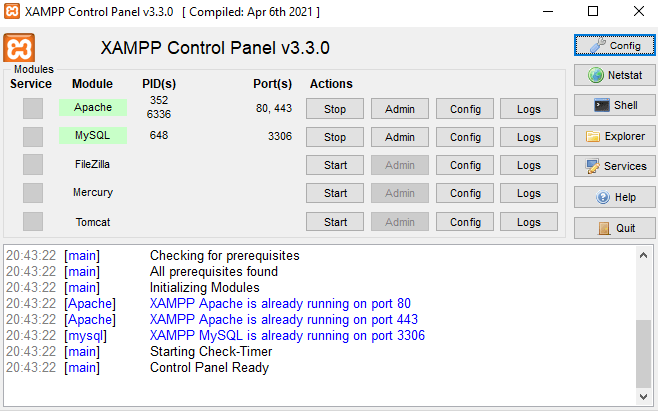
import tkinter

Our project mainly focuses on building a simple database driven management system with the primary aim of opening the home page – consisting of buttons connecting to environments created to perform specific tasks.

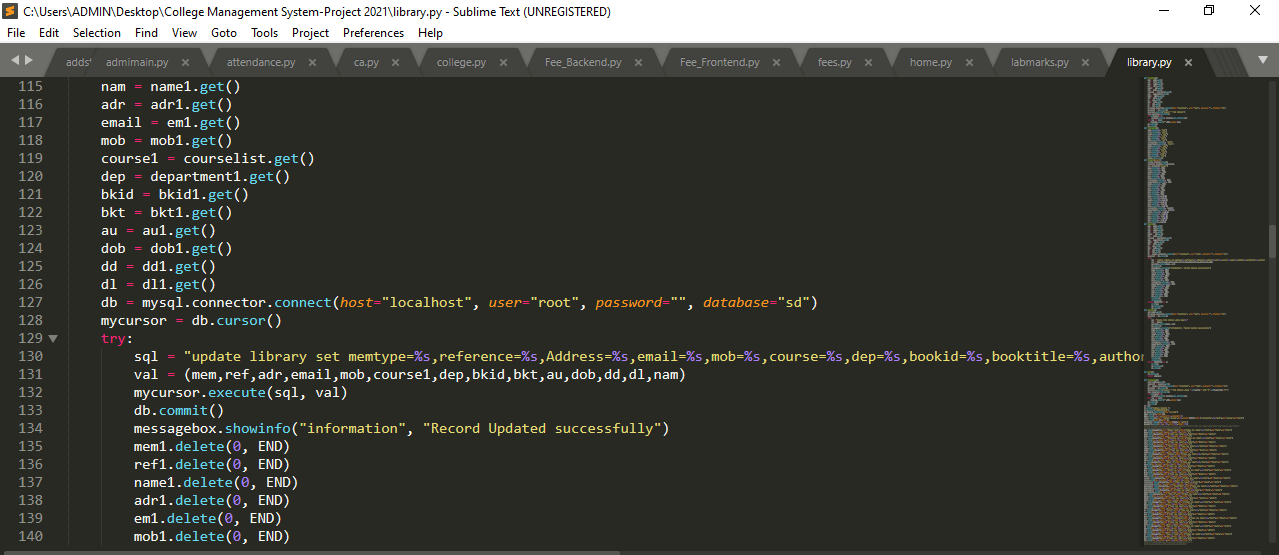
Now before we dive straight into our project – a brief introduction of my group members-



The database is created with the help of XAMPP Control Panel by activating APACHE & MYSQL ports. Tables are created in the phpMyAdmin portal according to our requirement.



The code is implemented in Python and run in a suitable Integrated Development Environment (IDE)- Visual Studio or Sublime Text.

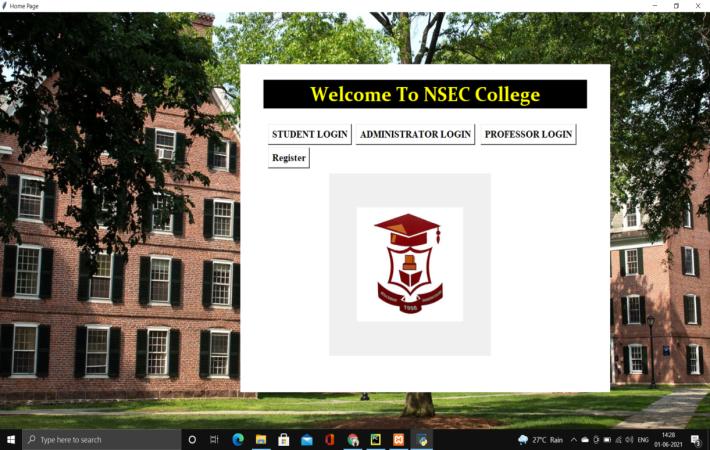


The remaining details are mentioned later.

**Scope of the Project- College Management System using Python**

* Install mysql using ‘pip’ command through the Command Prompt and import it through a code .
* Install tkinter – the most commonly used method for developing the GUI(Graphical User Interface)
* Using concepts of database management system with the help of SQL in our code for proper connectivity of each and every page of our project.
* Using the programming language of Python to develop, design & implement the different features in our database driven – College Management System.

Now we will describe briefly the various features in our Project through the help of attached screenshots.



**FIGURE-THE HOME PAGE**

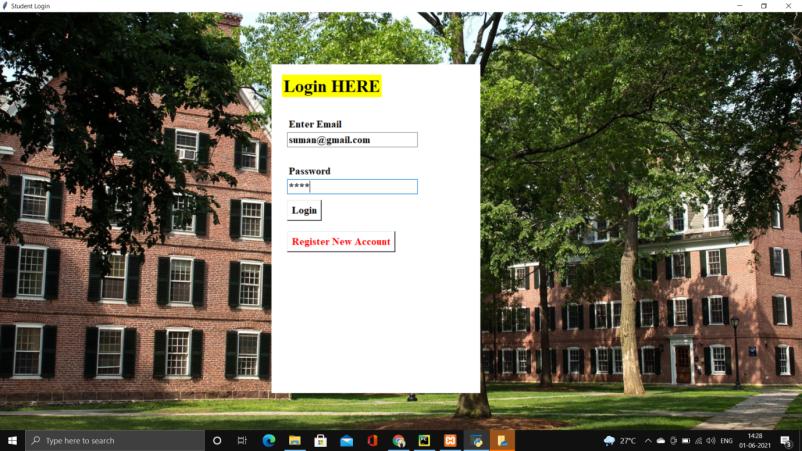
**Description:-** The Home page consists of 4 buttons –

1. Student Login
2. Administrator Login
3. Professor Login
4. Register

**The heading consists of the message**

**– “Welcome to NSEC College”.**

**1.STUDENT LOGIN**

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**FIGURE – STUDENT LOGIN**

**Description:-** Here, the students can login themselves after registering themselves with a specific mail id and password (from the registered database).

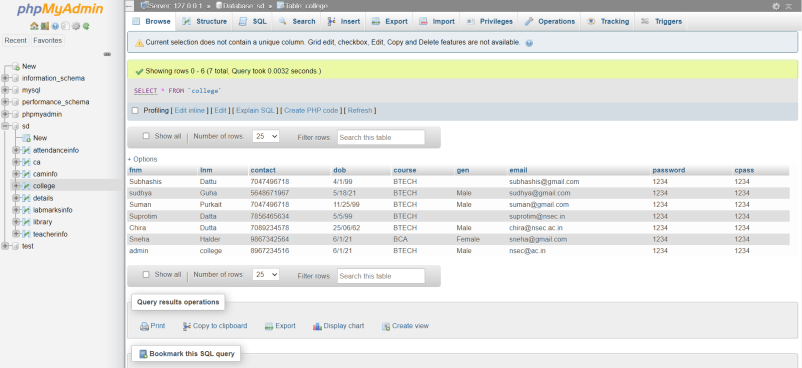
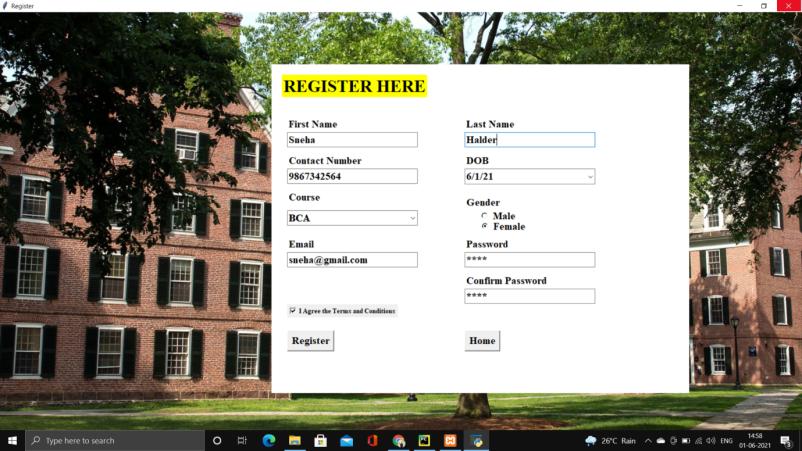


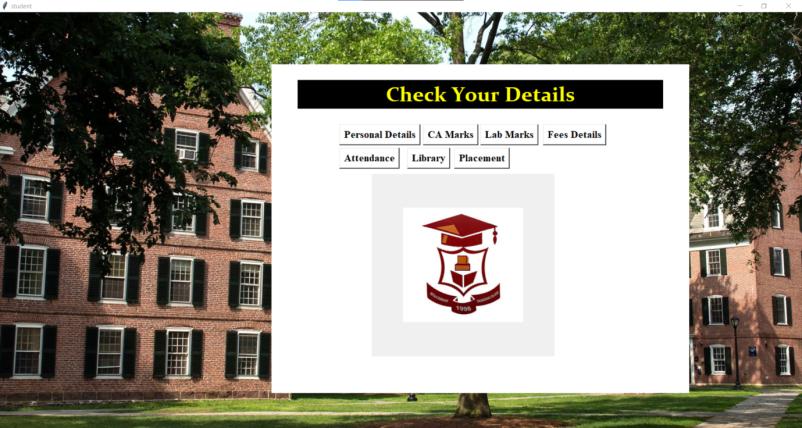
FIGURE- REGISTRATION DATABASE

Register New Account- takes us to the registration portal, where a student registers himself/herself by filling the details.



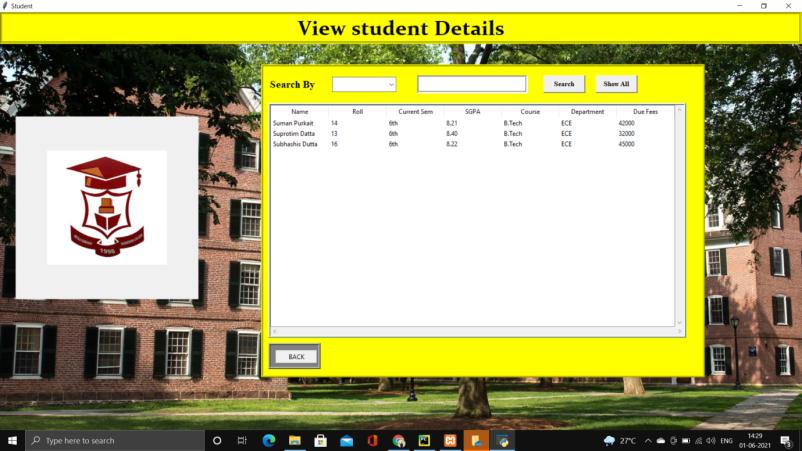
**FIGURE-REGISTRATION PAGE**

After a student logins himself/herself it takes him/her to this page below-

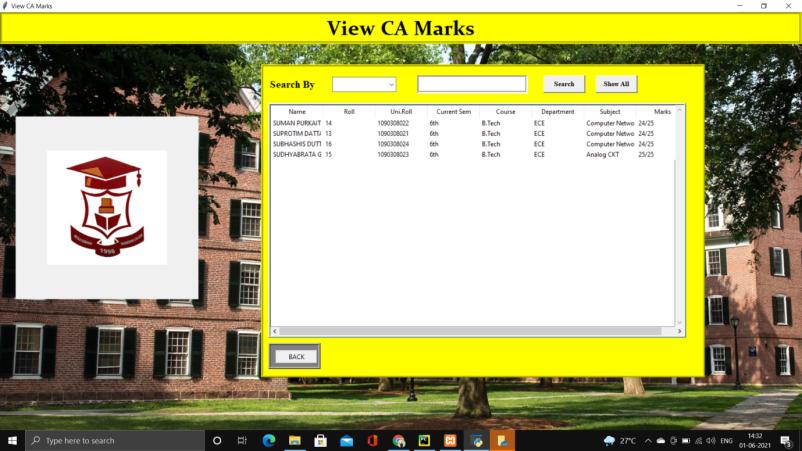


**FIGURE-STUDENT DETAILS**

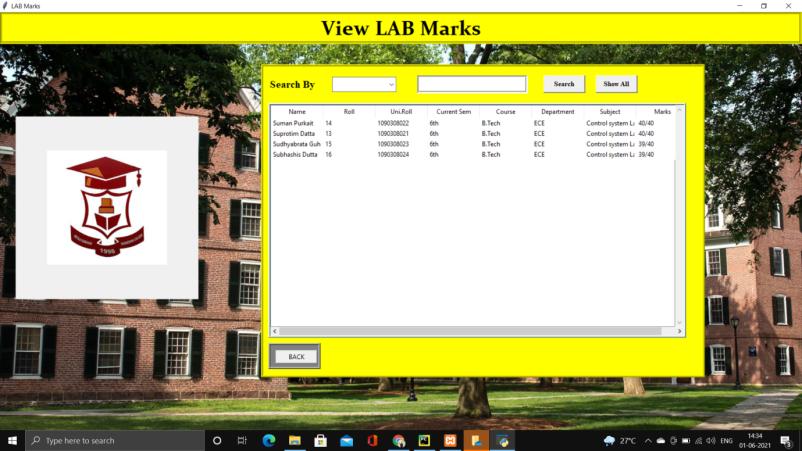
The buttons created takes the student to view the **personal details** & **academic details** - CA marks, Lab Marks, Fees details, Library & attendance details and Placement details.



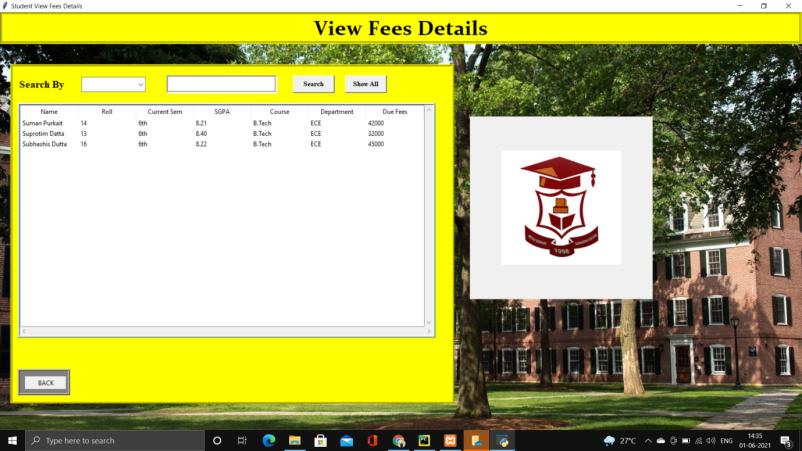
**FIGURE-VIEW STUDENT DETAILS**

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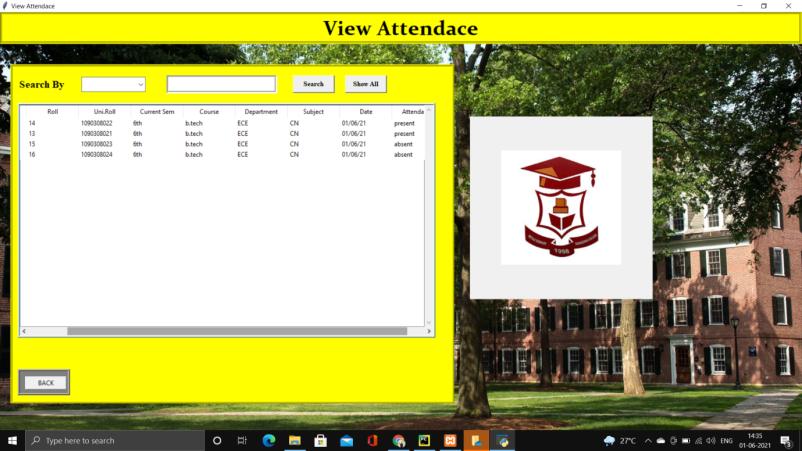
**FIGURE- VIEW CA MARKS**

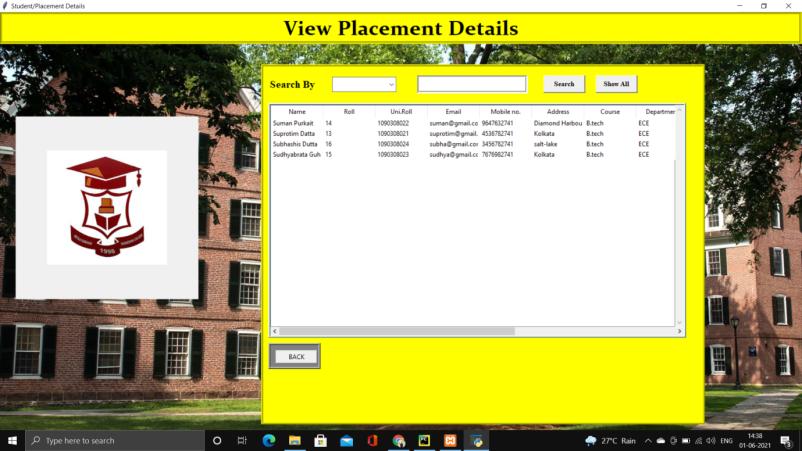
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**FIGURE-VIEW LAB MARKS**

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**FIGURE-VIEW FEES DETAILS**

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FIGURE-VIEW ATTENDANCE**

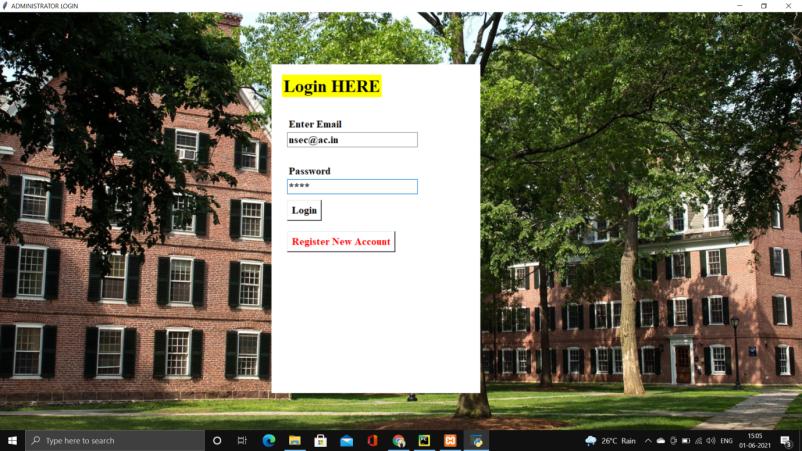


**FIGURE-VIEW PLACEMENT DETAILS**

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**FIGURE-VIEW LIBRARY DETAILS**

**2.ADMINSTRATOR LOGIN**



**FIGURE-ADMINISTRATOR LOGIN**

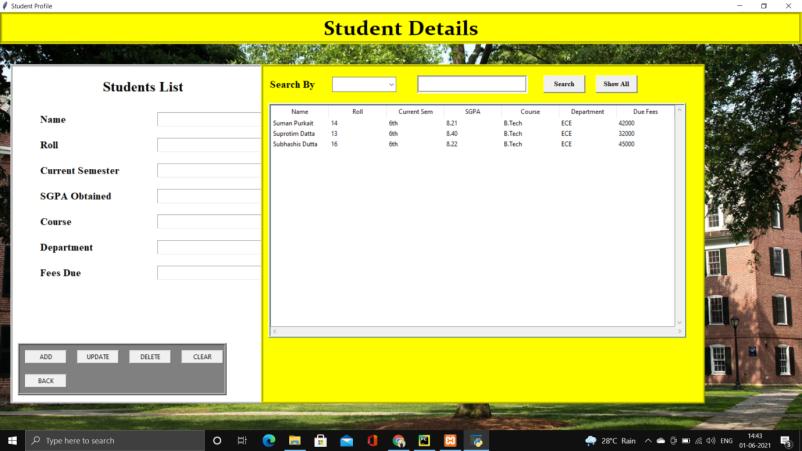
Apart from creating a student’s login portal we have also added the administrator login portal- that lets the college admin manage things in a suitable manner. We have kept a unique Email ID [–**nsec@ac.in**](mailto:–nsec@ac.in)**.**

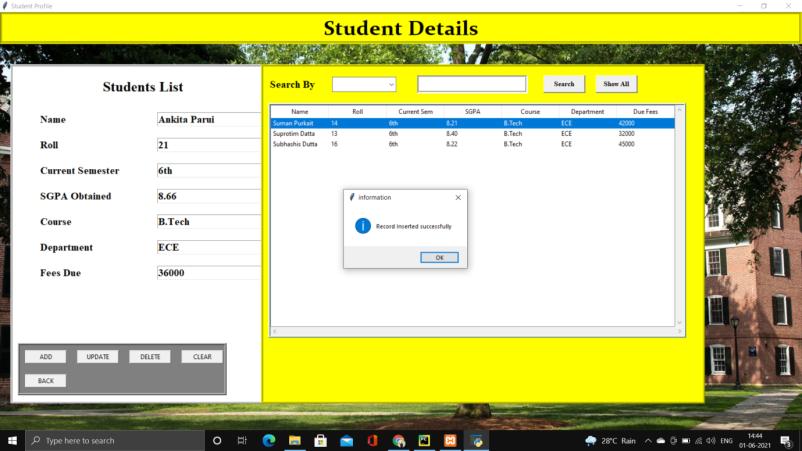
**After the admin logs in himself/ herself , it takes him to the main page-**

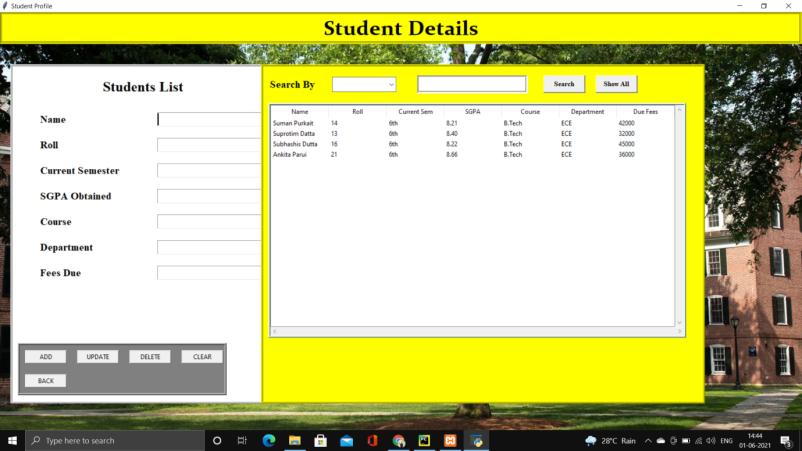


**FIGURE-ADMIN MAIN PAGE**

The buttons provided takes the admin to the individual profiles or the system and lets the admin to do required changes.







**FIGURE- EDIT STUDENT DETAILS**

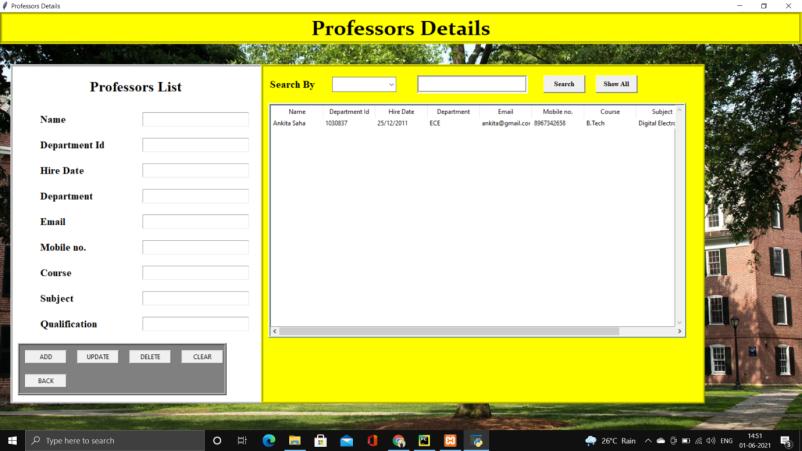
The admin can edit the STUDENT DETAILS with the help of the 4 buttons- **ADD, UPDATE, DELETE & CLEAR** each of them having the function to perform it’s specific task of *adding, updating ,deleting or clearing data* related with the **student’s details.**

The **Search** button allows us to search details in the database.

The **Search By** option allows us to search through the database by the specific details.

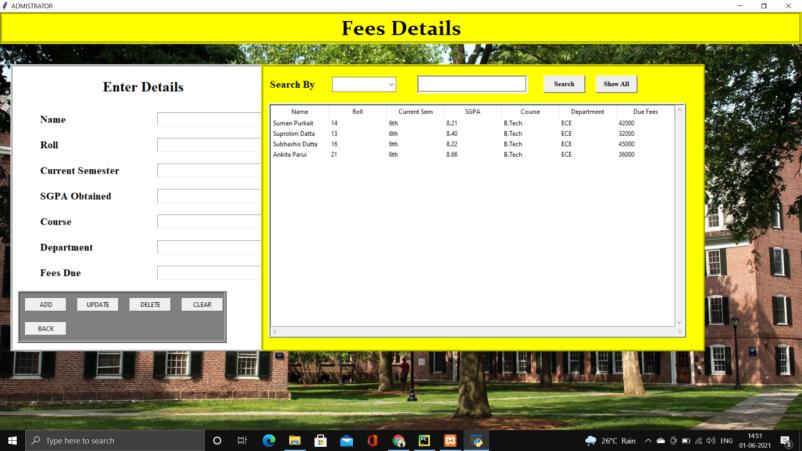
The **Show All** button shows each and every detail in the database

The admin also have access to edit and view the **professor’s details-** only the name in the system. However, he will not have access to edit the CA Marks, Lab Marks and Attendance details which the professor will have.

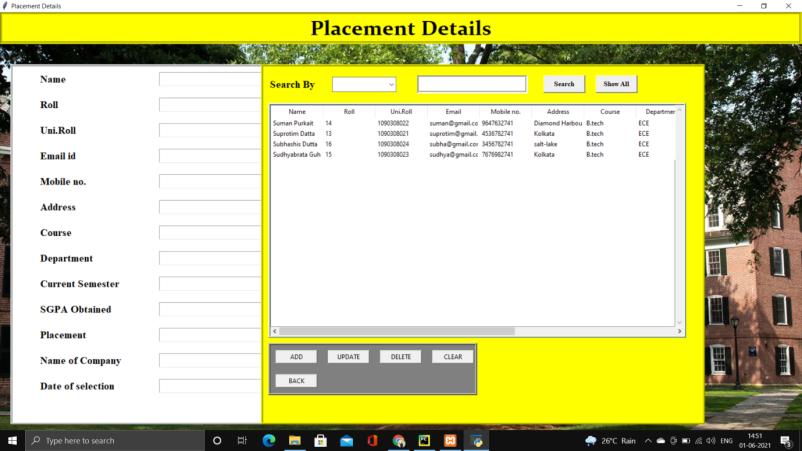
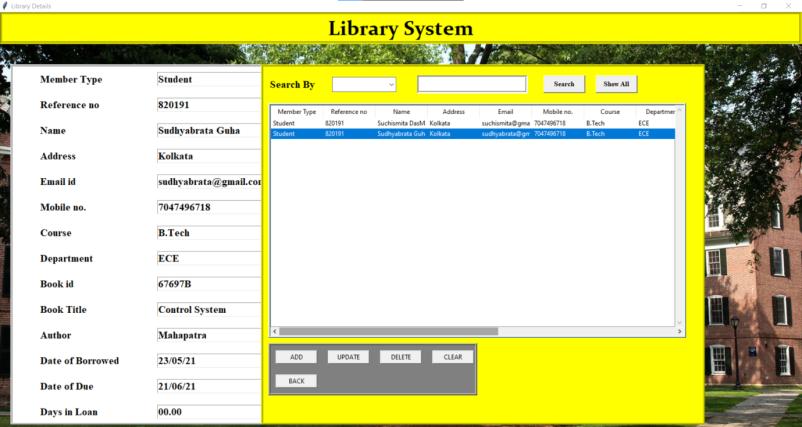


**FIGURE-EDIT PROFESSOR’S DETAILS**

The admin can also edit the **Fees, Placement & Library details.**



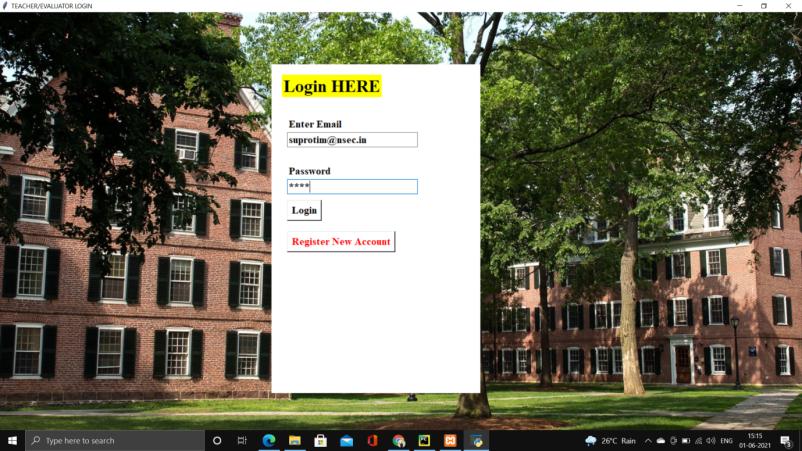
**FIGURE-EDIT FEES DETAILS**



**FIGURE-EDIT LIBRARY & PLACEMENT DETAILS**

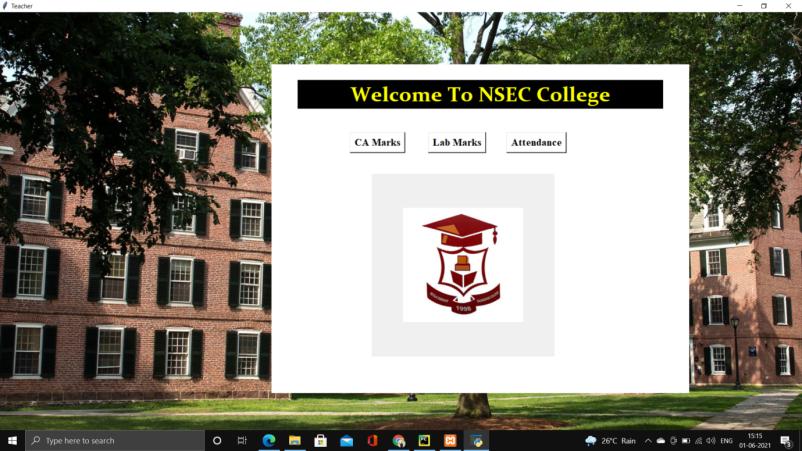
3.**PROFESSOR’S LOGIN**

The professor’s login system allows the professor to login using details from the registration database.



**FIGURE-PROFESSOR’S LOGIN**

After logging in, it takes the professor straight to the main page where the buttons provided takes him to the desired page, where he can view/edit details.



**FIGURE-PROFESSOR’S MAIN PAGE**

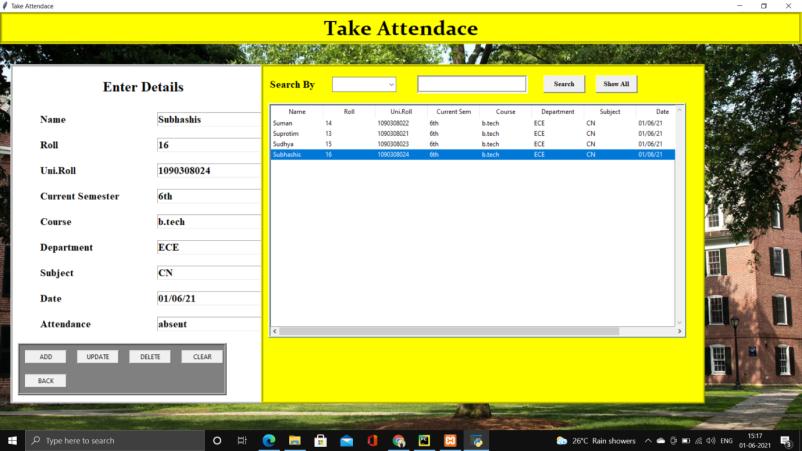
The main page lets the professor to edit the continuous assessment (CA) marks, the laboratory marks and allows him to record attendance.



**FIGURE-ADD CA MARKS**

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**FIGURE-ADD LAB MARKS**



**FIGURE-TAKE ATTENDANCE**

**CONCLUSION**

Hereby, I conclude my project- “COLLEGE MANAGEMENT SYSTEM WITH PYTHON & MYSQL”.

