

DATABASE MANAGEMENT SYSTEM

[UE19CS301]

5 TH SEM, Academic Year 2020-21

ASSIGNMENT – 4

Team 23:

Team Members:

- | | | |
|-------------------------|---|---------------|
| 1. Sadhvi Sushravya H S | - | PES1UG19CS410 |
| 2. Sanjana G | - | PES1UG19CS430 |
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OLYMPIC MANAGEMENT SYSTEM

FRONT END :

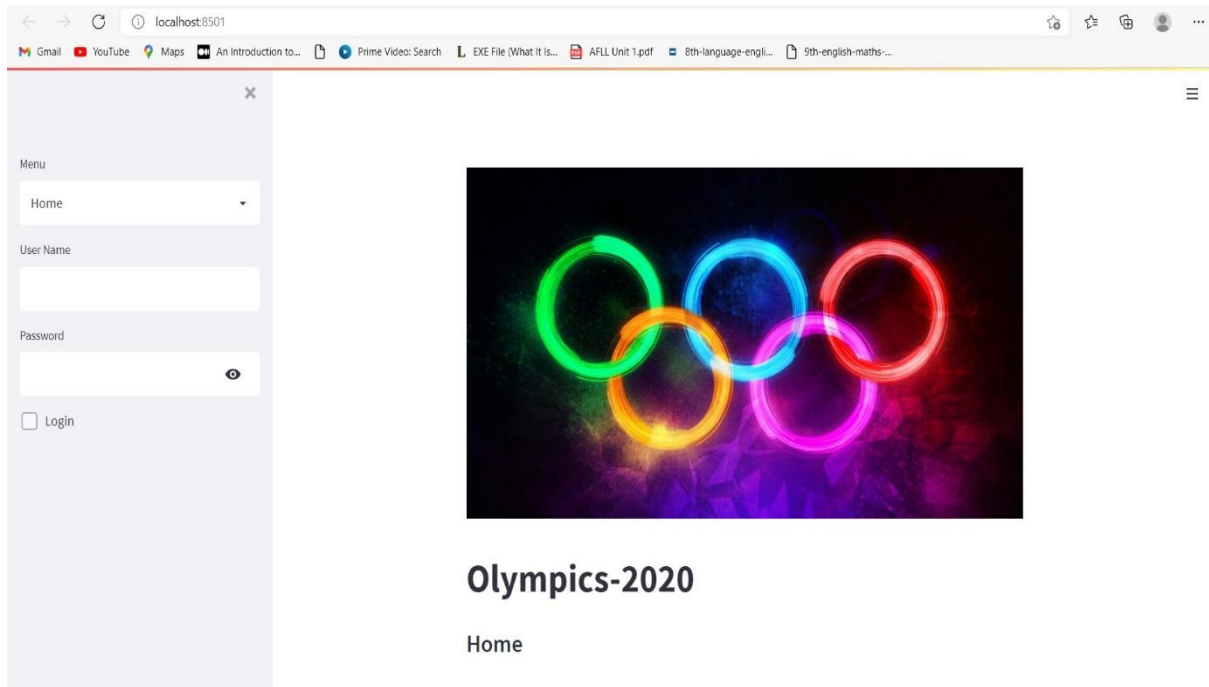
Streamlit (Open – Source Framework)

BACK END :

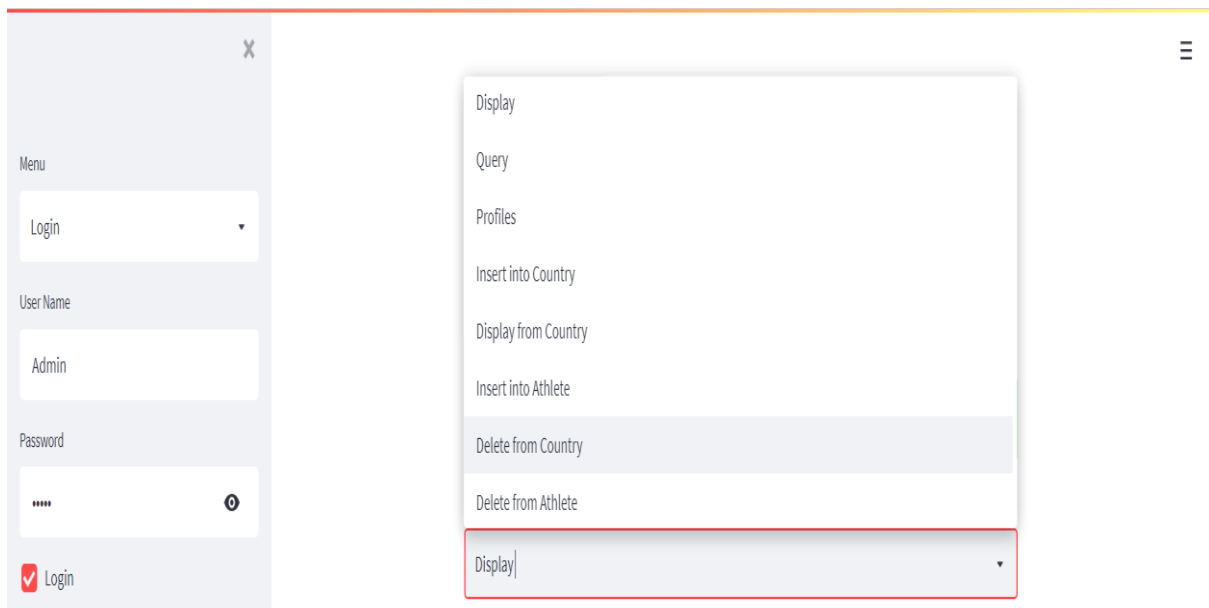
Postgresql Database

Screen – Shots :

The Home Page :

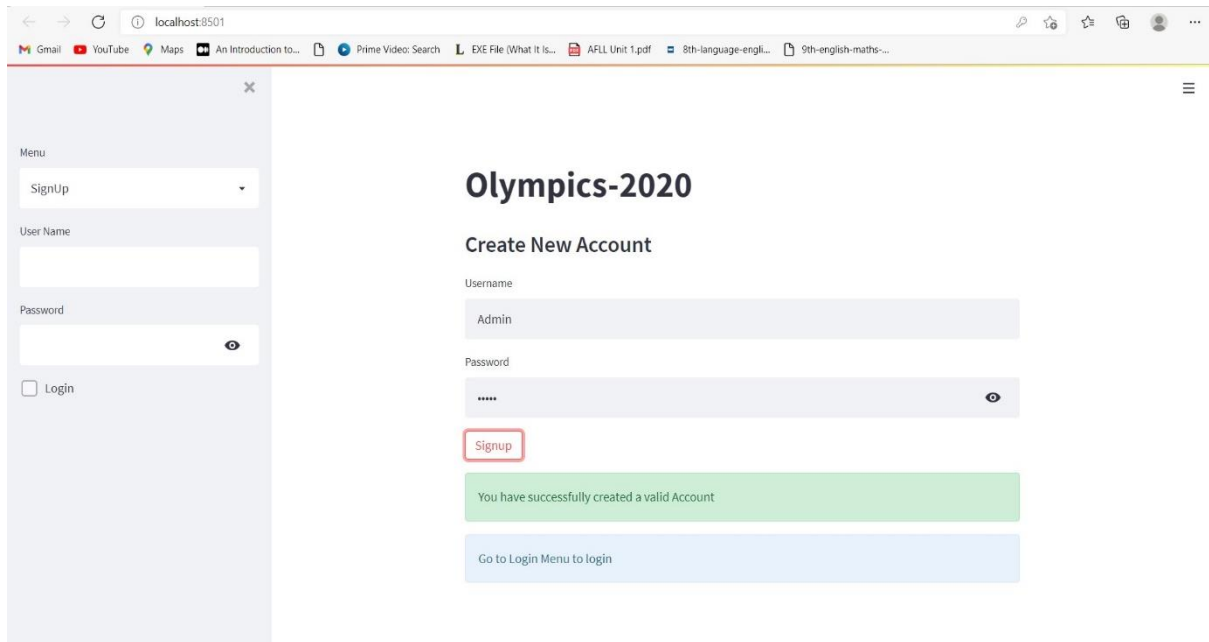


Fields :



Admin SignUp:

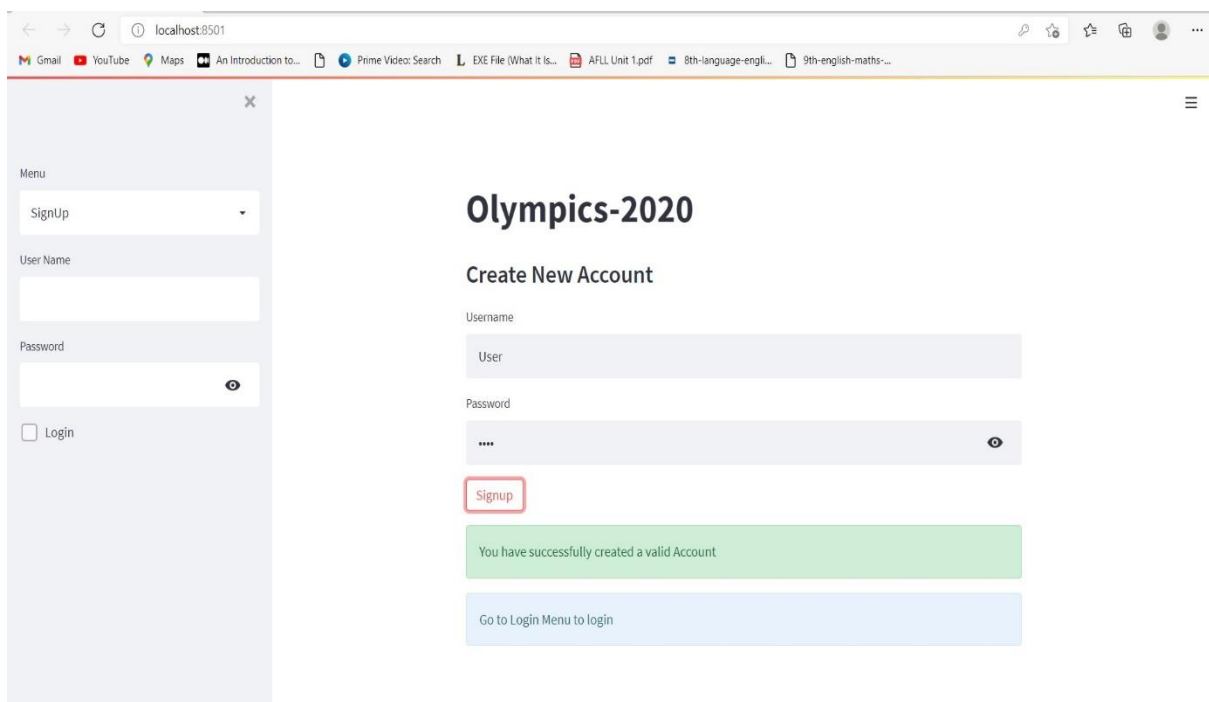
Admin has access to modify the database (delete, update, insert).



A screenshot of a web browser showing the 'Admin SignUp' page. The browser's address bar shows 'localhost:8501'. The page has a sidebar on the left with a 'Menu' dropdown set to 'SignUp', a 'User Name' input field, a 'Password' input field with a toggle icon, and a 'Login' checkbox. The main content area is titled 'Olympics-2020' and 'Create New Account'. It contains a 'Username' input field with 'Admin' entered, a 'Password' input field with masked characters, a red-bordered 'Signup' button, a green success message 'You have successfully created a valid Account', and a blue button 'Go to Login Menu to login'.

User SignUp:

User only has the access to view the changes made by the admin.



A screenshot of a web browser showing the 'User SignUp' page. The browser's address bar shows 'localhost:8501'. The page layout is identical to the Admin SignUp page, but the 'Username' input field contains the text 'User' instead of 'Admin'. The 'Signup' button is highlighted with a red border, and the success message 'You have successfully created a valid Account' is displayed in green.

Admin Login:

Menu

Login

User Name

Admin

Password

.....

☒ Login

Olympics-2020

Login Section

Logged In as Admin

Task

Display

User Login:

Menu

Login

User Name

User

Password

Olympics-2020

Login Section

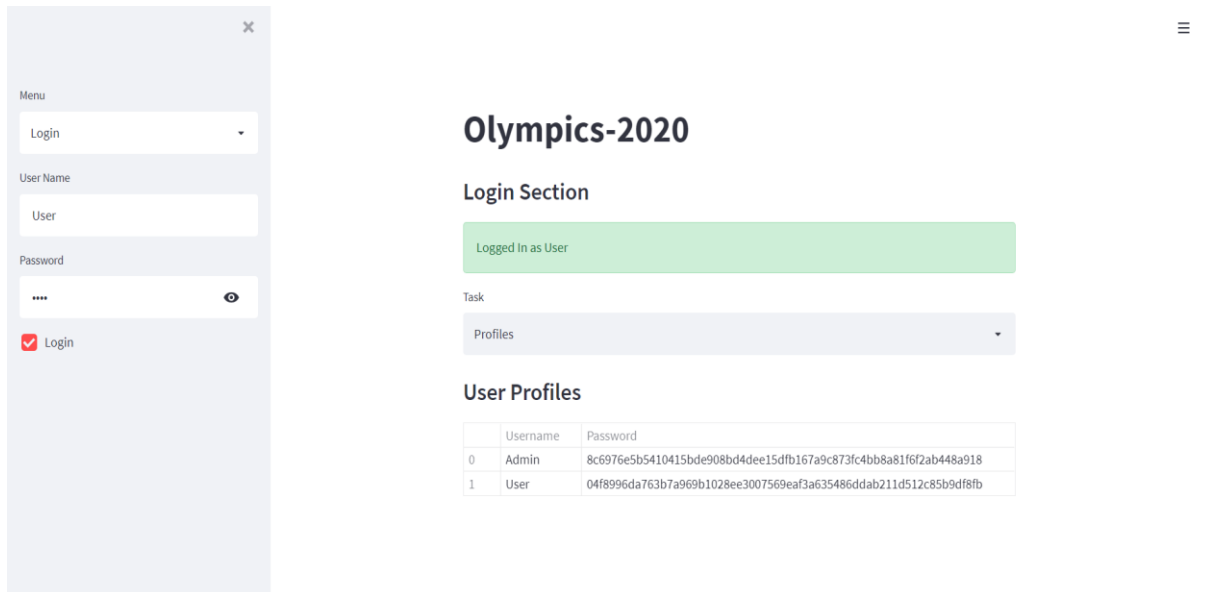
Logged In as User

Task

Display

User Profiles:

This section shows the number of users logged in with their respective usernames and encrypted password.



Olympics-2020

Login Section

Logged In as User

Task

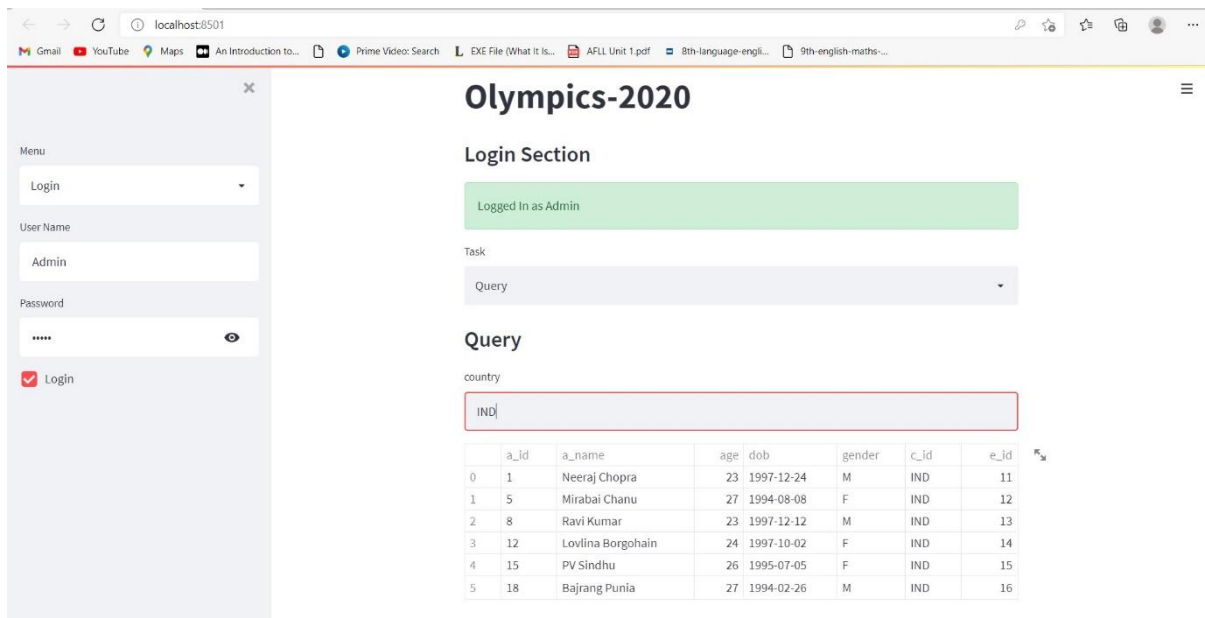
Profiles

User Profiles

	Username	Password
0	Admin	8c6976e5b5410415bde908bd4dee15dfb167a9c873fc4bb8a81f6f2ab448a918
1	User	04f8996da763b7a969b1028ee3007569eaf3a635486ddab211d512c85b9df8fb

Query on athlete:

This query displays all the athletes who belong to a particular country based on user input. In our case it displays the athletes belonging to INDIA.



Olympics-2020

Login Section

Logged In as Admin

Task

Query

Query

country

IND

	a_id	a_name	age	dob	gender	c_id	e_id
0	1	Neeraj Chopra	23	1997-12-24	M	IND	11
1	5	Mirabai Chanu	27	1994-08-08	F	IND	12
2	8	Ravi Kumar	23	1997-12-12	M	IND	13
3	12	Lovlina Borgohain	24	1997-10-02	F	IND	14
4	15	PV Sindhu	26	1995-07-05	F	IND	15
5	18	Bajrang Punia	27	1994-02-26	M	IND	16

Inserting into Country Table:

It is seen that Country named Vatican City is inserted into the table. It must be noted that this can only be done by Admin and not User.

Olympics-2020

Login Section

Logged In as Admin

Task

Insert into Country

Insert into Country

c_name

VATICAN CITY

c_id

VAT

c_name	c_id
	empty

Display from Country Table:

Vatican City is displayed in the Country table.

Olympics-2020

Login Section

Logged In as Admin

Task

Display from Country

Display from Country

	c_name	c_id
3	Indonesia	INA
4	Russia	ROC
5	United States	USA
6	Turkey	TUR
7	Taiwan	TPE
8	Japan	JPN
9	Azerbaijan	AZE
10		
11	KENYA	KEN
12	VATICAN CITY	VAT

Deleting from Country Table:

The country Vatican City being inserted above is now being deleted from the database.

The screenshot shows a web application running on localhost:8501. On the left is a sidebar menu with 'Login' selected. The main content area is titled 'Olympics-2020' and contains a 'Login Section' with a green 'Logged In as Admin' message. Below this is a 'Task' dropdown menu set to 'Delete from Country'. Underneath is a form titled 'Delete from Country' with a text input field containing 'VATICAN CITY' and a 'c_name' label. Below the input field is a small table with two rows: 'c_name' and 'empty'.

c_name
empty

Display from Country Table:

The display field below does not display Vatican City now because it is been deleted as listed above.

The screenshot shows the same web application. The 'Task' dropdown menu is now set to 'Display from Country'. Below it is a table titled 'Display from Country' with two columns: 'c_name' and 'c_id'. The table lists 10 countries, with 'Vatican City' missing from the list.

	c_name	c_id
1	Czech Republic	CZE
2	China	CHN
3	Indonasia	INA
4	Russia	ROC
5	United States	USA
6	Turkey	TUR
7	Taiwan	TPE
8	Japan	JPN
9	Azerbaijan	AZE
10	KENYA	KEN

Inserting into Athlete Table:

An athlete named Harry Potter with athlete id 20, age 24, dob 1997-07-31, gender Male, country id IND and event id 13 is inserted into the Athlete table.

The screenshot shows a web application titled "Olympics-2020". On the left is a sidebar menu with a "Login" option. The main content area is titled "Login Section" and shows a green message "Logged In as Admin". Below this, a "Task" dropdown menu is set to "Insert into Athlete". The "Insert into Athlete" form contains the following fields:

- a_id**: 20
- a_name**: Harry Potter
- age**: 24
- dob**: (empty)

Display from Athlete Table:

Athlete Harry Potter is being displayed.

The screenshot shows the same web application, but the "Task" dropdown menu is now set to "Display". Below the dropdown, a table titled "Display" shows the following data:

	a_id	a_name	age	dob	gender	c_id	e_id
12	13	Chen Yutai	23	1998-03-01	F	CHN	15
13	14	Tai Tzu-yíng	27	1994-06-20	F	TPE	15
14	15	PV Sindhu	26	1995-07-05	F	IND	15
15	16	Takuto Ottaguro	22	1998-12-13	M	JPN	16
16	17	Haji Aliyev	29	1991-04-21	M	AZE	16
17	18	Bajrang Punia	27	1994-02-26	M	IND	16
18	19	Smith	28	1993-04-26	M	AZE	17
19	19	Smith	28	1993-04-26	M	AZE	18
20	19	Smith	28	1993-04-26	M	AZE	19
21	20	Harry Potter	24	1997-07-31	M	IND	13

Delete from Athlete Table:

Athlete named Harry Potter has now been deleted from the database .

×

Menu

Login

User Name

Admin

Password

•••••

☒ Login

Olympics-2020

Login Section

Logged In as Admin

Task

Delete from Athlete

Delete from Athlete

a_id

z0

a_id

empty

Display from Athlete Table:

Athlete Harry Potter is now not displayed in the Display table below because its been deleted.

×

Menu

Login

User Name

Admin

Password

•••••

☒ Login

Olympics-2020

Login Section

Logged In as Admin

Task

Display

Display

	a_id	a_name	age	dob	gender	c_id	e_id
11	12	Lovlina Borgohain	24	1997-10-02	F	IND	14
12	13	Chen Yufei	23	1998-03-01	F	CHN	15
13	14	Tai Tzu-ying	27	1994-06-20	F	TPE	15
14	15	PV Sindhu	26	1995-07-05	F	IND	15
15	16	Takuto Otaguro	22	1998-12-13	M	JPN	16
16	17	Haji Aliyev	29	1991-04-21	M	AZE	16
17	18	Bajrang Punia	27	1994-02-26	M	IND	16
18	19	Smith	28	1993-04-26	M	AZE	17
19	19	Smith	28	1993-04-26	M	AZE	18
20	19	Smith	28	1993-04-26	M	AZE	19

Write up about the changes in Business/Application changes/expansion - that might lead to:

- **Schema Changes:**

In the scenario of the entry of a new player into the Olympics or even exit of a player due to injury, we can expect changes in the schema.

Under some drastic circumstances, like exit of a player due to illegal accusations, we can expect huge changes in the schema for the entire database as requirements with respect to how data consistency and maintenance needs to be done can change drastically.

- **Constraint changes:**

We can expect to see changes in constraints per table in the scenario that a new entity/table is introduced. In such a case, we would require existing tables to reference the primary key of the new table and vice versa introducing constraint changes.

- **DBMS migration:**

We can expect DBMS migration from RDBMS to a NoSQL system happening in the scenario where the Olympic Management System would like to expand and want to scale their existing DBMS system. NoSQL gives us the benefit of scalability, ex - as seen with MongoDB and its storing data in documents which is easy to add/delete.

If you have to migrate to any No-SQL variety, then which one will be your choice? Why? Out of the 4 major varieties, you have to pick one and justify your choice. If you can give comparative features across different flavours, that would be great.

The 4 Varieties of NoSQL databases are:

- key-value store,
- document store,
- column-oriented database, and - graph database.

The common databases are MySql, MongoDB, NoSQL and Oracle. The most common features they have are schema flexibility, database performances, relationships and security.

To start with why we could have chosen MongoDB is that document stores in MongoDB are created and stored in BSON files which are, in fact, a little-modified version of JSON files and hence all JS are supported.

Because of this, it is frequently used for Node.js projects. Moreover, JSON facilitates the exchange of data between web apps and servers in a human-readable format. It offers greater efficiency and reliability which in turn can meet data storage capacity and speed demands.

Real-Time Data Integration

There is a lot of value to data if it is consolidated and aggregated into one single view, and MongoDB plays a vital role in doing that. Due to the query capabilities and flexibility of MongoDB, now it is easier to aggregate data and create tools that will make an organization more efficient.

Contribution:

Commonly done: Report and brainstorming on additional queries

SADHVI SUSHRAVYA H S - PES1UG19CS410 (5 hours) - Worked on Front End, ER Diagram, Relational Table and Report

SANJANA G - PES1UG19CS410 (5 hours) - Worked on Front End, ER Diagram, Relational Table and Report

SATHVIK K - PES1UG19CS435 (5 hours) - Worked on queries, refined the front end and worked on ER Diagram

JOSHUA D'SOUZA – PES1UG20CS811 (5 hours) - Worked on simple and complex queries, refined the front end.

Github Link:

<https://github.com/Sanjanagujjar09/DataBaseManagementSystem>