



DBMS - Mini Project Course Registration

Submitted By
Name: Doredla Tirumala Raviteja
SRN: PES2UG20CS115
SEM: 5
Section: B

Short Description and Scope of the Project

ABSTRACT

The need for structured storage, modification and maintenance of huge amounts of data has resulted in the emergence of the Database Management System (DBMS) as one of the core fields in the Computer Science industry. DBMS is the system of computer software that is aimed to provide a managing tool for maintaining the data, through various data models.

Course registration system to help student to gather information about a particular course and then they can easily register them self in a particular course.

The system provides a real-time, complete platform for online course enrollment at a University. There are two types of users for this system admin and students. Based on their user role stored in the database, users can access their respective resources.

- System will allow the registration of students in particular course
- System has inbuilt validation system to validate the entered data after successful submission, system will give unique registration no. for each student.
- Student can login into system by using username and check the details of course, faculty and department.

The purpose of implementing this project is to understand the data modelling concepts that is used in a real time scenario and to implement a fully functional database system which interacts with a front end interface.

The main aim of the project is to learn the intricacies of modelling the database with the database with the given requirements and using a web based interface to interact with the backend keeping in mind the data consistency and the stability of the entire system

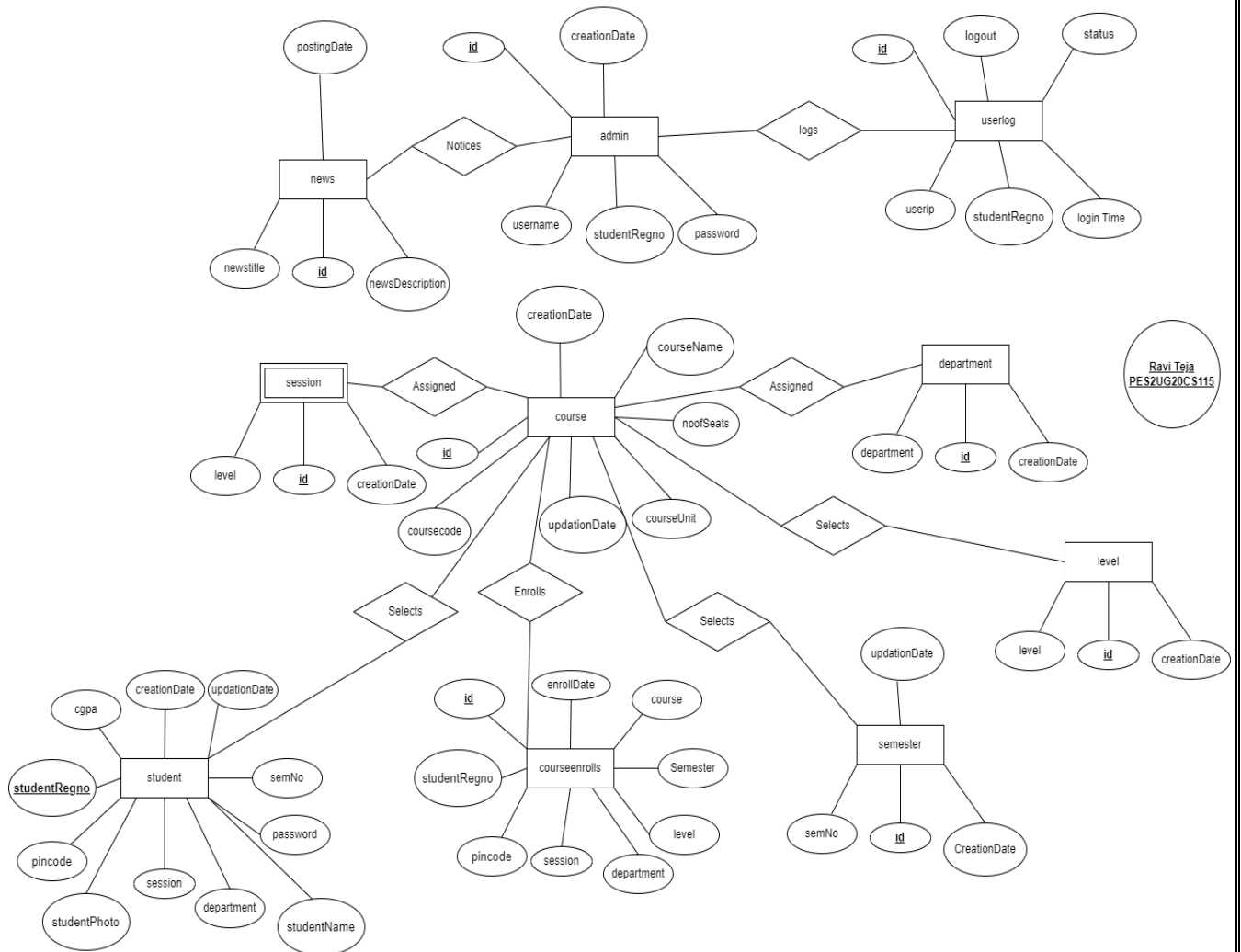
Student Priviledges Admin Priviledges

View currently enrolled courses View all courses offered by the University View courses taken in the past Add new courses to the catalog Add courses to Cart Remove courses from the catalog Delete courses from Cart Register courses for a particular user Register Courses Drop courses for a particular user Drop Courses View course schedule for the current semester

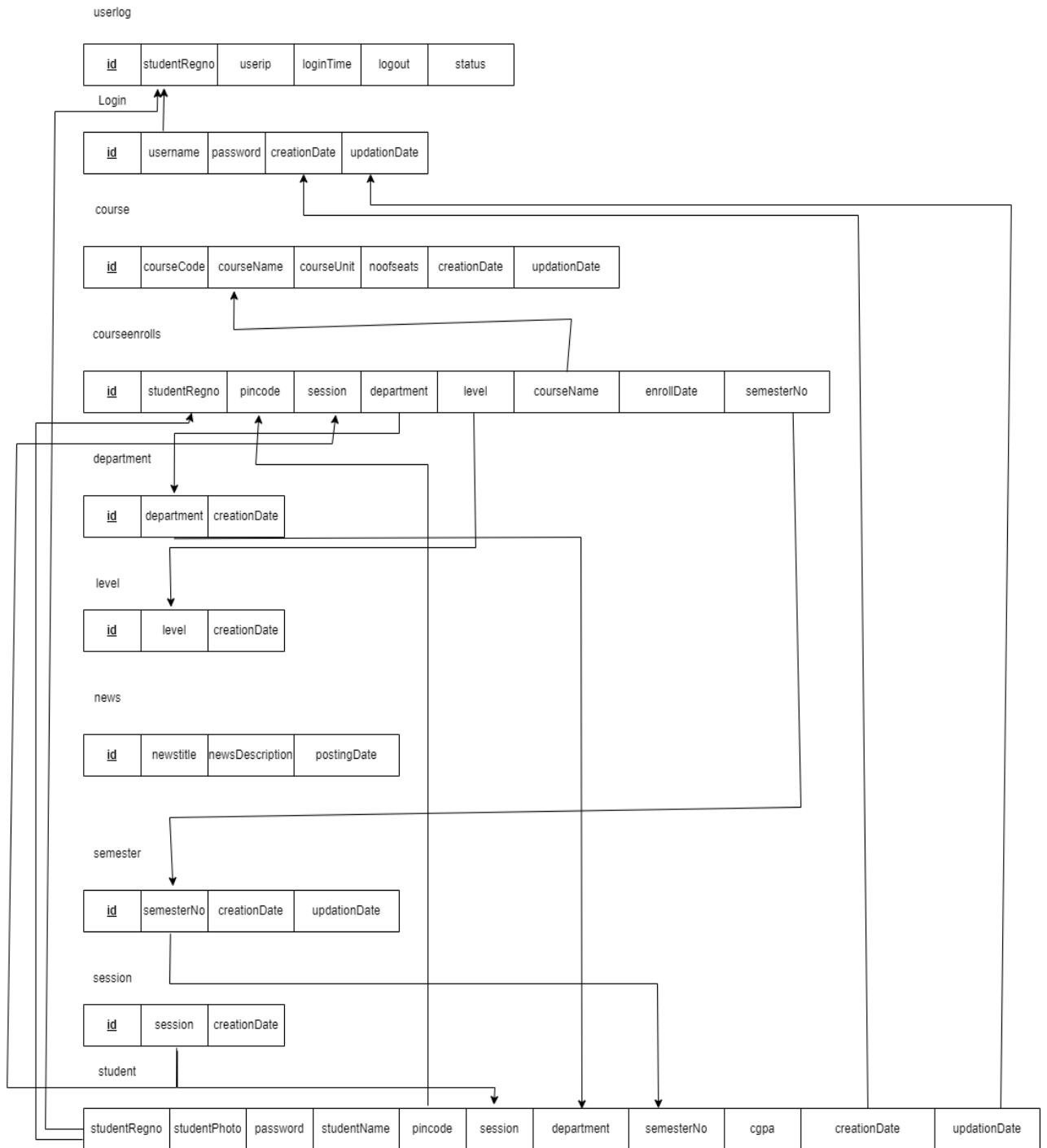
Tools Used: My SQL, PHP, HTML, CSS

ER Diagram

ER Diagram



Relational Schema



DDL statements - Building the database

```
CREATE TABLE admin (  
  id int(11) NOT NULL,  
  username varchar(255) DEFAULT NULL,  
  password varchar(255) DEFAULT NULL,  
  creationDate timestamp NULL DEFAULT current_timestamp(),  
  updationDate timestamp NULL DEFAULT NULL ON UPDATE  
  current_timestamp(), ADD PRIMARY KEY (id)  
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

```
INSERT INTO admin (id, username, password, creationDate, updationDate)  
VALUES  
(1, 'admin', 'f925916e2754e5e03f75dd58a5733251', '2022-01-31 16:21:18',  
'2022-01-31 16:21:18');
```

```
CREATE TABLE course (  
  id int(11) NOT NULL,  
  courseCode varchar(255) DEFAULT NULL,  
  courseName varchar(255) DEFAULT NULL,  
  courseUnit varchar(255) DEFAULT NULL,  
  noofSeats int(11) DEFAULT NULL,  
  creationDate timestamp NULL DEFAULT current_timestamp(),  
  updationDate varchar(255) DEFAULT NULL,  
  ADD PRIMARY KEY (id)  
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

```
CREATE TABLE courseenrolls (  
  id int(11) NOT NULL,  
  studentRegno varchar(255) DEFAULT NULL,  
  pincode varchar(255) DEFAULT NULL,  
  session int(11) DEFAULT NULL,  
  department int(11) DEFAULT NULL,  
  level int(11) DEFAULT NULL,  
  semester int(11) DEFAULT NULL,  
  course int(11) DEFAULT NULL, ADD PRIMARY KEY (id),  
  enrollDate timestamp NULL DEFAULT current_timestamp()  
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

```
CREATE TABLE department (  
  id int(11) NOT NULL,  
  department varchar(255) DEFAULT NULL,  
  creationDate timestamp NULL DEFAULT current_timestamp(),  
  ADD PRIMARY KEY (id)  
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

```
CREATE TABLE level (  
  id int(11) NOT NULL,  
  level varchar(255) DEFAULT NULL,  
  creationDate timestamp NULL DEFAULT current_timestamp(),  
  ADD PRIMARY KEY (id)  
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

```
INSERT INTO `level` (id, level, creationDate) VALUES  
(1, '1', '2022-02-11 00:59:02'),  
(2, '2', '2022-02-11 00:59:02'),  
(3, '3', '2022-02-11 00:59:09');
```

```
CREATE TABLE news (  
  id int(11) NOT NULL,  
  newstitle varchar(255) DEFAULT NULL,  
  newsDescription mediumtext DEFAULT NULL,  
  postingDate timestamp NULL DEFAULT current_timestamp(),  
  ADD PRIMARY KEY (id)  
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

```
CREATE TABLE semester (  
  id int(11) NOT NULL,  
  semester varchar(255) DEFAULT NULL,  
  creationDate timestamp NULL DEFAULT current_timestamp(),  
  updationDate varchar(255) DEFAULT NULL,  
  ADD PRIMARY KEY (id)  
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

```
CREATE TABLE session(  
  id int(11) NOT NULL,  
  session varchar(255) DEFAULT NULL,  
  creationDate timestamp NULL DEFAULT current_timestamp(),  
  ADD PRIMARY KEY (id)  
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

```
CREATE TABLE students (  
  StudentRegno varchar(255) NOT NULL,  
  studentPhoto varchar(255) DEFAULT NULL,  
  password varchar(255) DEFAULT NULL,  
  studentName varchar(255) DEFAULT NULL,  
  pincode varchar(255) DEFAULT NULL,  
  session varchar(255) DEFAULT NULL,  
  department varchar(255) DEFAULT NULL,  
  semester varchar(255) DEFAULT NULL,  
  cgpa decimal(10,2) DEFAULT NULL,  
  creationdate timestamp NULL DEFAULT current_timestamp(),  
  updatationDate varchar(255) DEFAULT NULL,  
  ADD PRIMARY KEY (StudentRegno)  
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

```
CREATE TABLE userlog (  
  id int(11) NOT NULL,  
  studentRegno varchar(255) DEFAULT NULL,  
  userip binary(16) DEFAULT NULL,  
  loginTime timestamp NULL DEFAULT current_timestamp(),  
  logout varchar(255) DEFAULT NULL,  
  status int(11) DEFAULT NULL,  
  ADD PRIMARY KEY (id)  
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

```
ALTER TABLE admin  
  MODIFY id int(11) NOT NULL AUTO_INCREMENT,  
  AUTO_INCREMENT=2;
```

```
ALTER TABLE course  
  MODIFY id int(11) NOT NULL AUTO_INCREMENT,  
  AUTO_INCREMENT=3;
```

```
ALTER TABLE courseenrolls  
  MODIFY id int(11) NOT NULL AUTO_INCREMENT,  
  AUTO_INCREMENT=3;
```

```
ALTER TABLE department  
  MODIFY id int(11) NOT NULL AUTO_INCREMENT,  
  AUTO_INCREMENT=2;
```

```
ALTER TABLE level  
  MODIFY id int(11) NOT NULL AUTO_INCREMENT,  
  AUTO_INCREMENT=4;
```

```
ALTER TABLE news  
  MODIFY `id` int(11) NOT NULL AUTO_INCREMENT,  
  AUTO_INCREMENT=3;
```

```
ALTER TABLE semester  
  MODIFY id int(11) NOT NULL AUTO_INCREMENT,  
  AUTO_INCREMENT=4;
```

```
ALTER TABLE session  
  MODIFY id int(11) NOT NULL AUTO_INCREMENT,  
  AUTO_INCREMENT=3;
```

```
ALTER TABLE userlog  
  MODIFY id int(11) NOT NULL AUTO_INCREMENT,  
  AUTO_INCREMENT=4;  
COMMIT;
```


Populating the Database

➤ Admin

The screenshot shows the phpMyAdmin interface for the 'onlinecourse' database, specifically the 'admin' table. The top navigation bar includes links for Browse, Structure, SQL, Search, Insert, Export, Import, Privileges, Operations, Tracking, and More. A status bar at the top indicates 'Showing rows 0 - 0 (1 total, Query took 0.0010 seconds.)'. The SQL query editor contains the query 'SELECT * FROM `admin`'. Below the query editor, there are options for Profiling, Edit inline, Edit, Explain SQL, Create PHP code, and Refresh. A toolbar shows 'Show all', 'Number of rows: 25', and a 'Filter rows' search box. The 'Extra options' section is expanded, showing a table with columns: id, username, password, creationDate, and updationDate. The table contains one row with the following data: id=1, username=admin, password=e807f1fc82d132f9bb018ca6738a19f, creationDate=2022-01-31 21:51:18, and updationDate=0000-00-00 00:00:00. Below the table, there are options for 'Check all', 'With selected', Edit, Copy, Delete, and Export. Another toolbar shows 'Show all', 'Number of rows: 25', and a 'Filter rows' search box. The 'Query results operations' section is expanded, showing options for Print, Copy to clipboard, Export, Display chart, and Create view. The 'Console' tab is visible at the bottom.

id	username	password	creationDate	updationDate
1	admin	e807f1fc82d132f9bb018ca6738a19f	2022-01-31 21:51:18	0000-00-00 00:00:00

➤ Course

```
MariaDB [onlinecourse]> select * from course;
```

id	courseCode	courseName	courseUnit	noofSeats	creationDate	updationDate
1	UE20CS312	UE20CS312: Data Analytics	5	200	2022-11-19 15:14:41	NULL
2	UE20CS311	UE20CS311: Advanced Algorithms	5	200	2022-11-19 15:15:37	NULL
3	UE20CS314	UE20CS314: Applied Cryptography	5	200	2022-11-19 15:16:59	NULL
4	UE20CS313	UE20CS313: Internet Of Things	5	200	2022-11-19 15:18:02	NULL
5	UE20CS315	UE20CS315: Fundamentals Of AVR	5	200	2022-11-19 15:18:54	NULL
6	UE20CS316	UE20CS316: Human Computer Interaction	5	200	2022-11-19 15:20:16	NULL
7	UE20CS322	UE20CS322: Big Data	5	200	2022-11-19 15:21:45	NULL
8	UE20CS323	UE20CS323: Graph Theory and its Applications	5	200	2022-11-19 15:23:19	NULL
9	UE20CS326	UE20CS326: CNS	5	200	2022-11-19 15:24:05	NULL

➤ Department

```
MariaDB [onlinecourse]> select * from department;
```

id	department	creationDate
1	CSE	2022-11-19 15:33:14

1 row in set (0.001 sec)

➤ Session

```
MariaDB [onlinecourse]> select * from session;
```

id	session	creationDate
1	2022	2022-02-10 22:40:59

1 row in set (0.001 sec)

➤ Semester

```
MariaDB [onlinecourse]> select * from semester;
```

id	semester	creationDate	updateDate
1	1	2022-02-10 22:52:55	NULL
2	2	2022-02-11 06:21:43	NULL
3	3	2022-11-19 12:04:11	NULL
4	4	2022-11-19 12:04:16	NULL
5	5	2022-11-19 12:41:26	NULL

5 rows in set (0.001 sec)

➤ Students

61 rows

StudentRegno date	studentPhoto updateDate	password	studentName	pincode	session	department	semester	cgpa	creation
PES2UG20CS065	NULL	7baac218ae2e12f5c3d1803cad807908	ARIHAN AWASTHI	406608	NULL	NULL	NULL	NULL	2022-11-19 14:36:59
PES2UG20CS066	NULL	eccec4867731ffc7ef8e5e1ed230e949e	ARPIT PANDEY	844980	NULL	NULL	NULL	NULL	2022-11-19 14:56:20
PES2UG20CS067	NULL	7513546a61b5bd1efde633ffe752b6d5	ARSHAN LAWRENCE RODRIGUES	686971	NULL	NULL	NULL	NULL	2022-11-19 14:37:20
PES2UG20CS068	NULL	3c46c0c904ad6c93e28812a3c3c3fa36	ARUNVENKAT C A	987234	NULL	NULL	NULL	NULL	2022-11-19 14:58:51
PES2UG20CS069	NULL	e009c8940943dff622efff4d4faed173e	ARYAN KAPOOR	835608	NULL	NULL	NULL	NULL	2022-11-19 15:03:20
PES2UG20CS070	NULL	d0e9818def140b653bd8009b54adbc71	ARYANSH GARG	285856	NULL	NULL	NULL	NULL	2022-11-19 14:57:41
PES2UG20CS071	NULL	02127a4eec1564ff46b7fa5f46becb9f	ASHUTOSH	318659	NULL	NULL	NULL	NULL	2022-11-19 14:38:00
PES2UG20CS072	NULL	b2c611f4ffdd24131e1d5b1f54acd66	ASHUTOSH ROURAY	146695	NULL	NULL	NULL	NULL	2022-11-19 14:59:07
PES2UG20CS074	NULL	ac134d0779637502faa9107632b453cb	ATHARV ANANT ATHAVALE	770693	NULL	NULL	NULL	NULL	2022-11-19 15:03:36
PES2UG20CS075	NULL	51f57285811c1b1d821a2d402eed3a3	ATHARVA ANIL CHANDA	162971	NULL	NULL	NULL	NULL	2022-11-19 14:38:19
PES2UG20CS076	NULL	9c237f62084e2eb8ccdd1ecfabca881f1	ATUL KRISHNAN	978761	NULL	NULL	NULL	NULL	2022-11-19 14:38:39
PES2UG20CS077	NULL	cec363dfd5074cd589754f39f29e93ea	AVANI JAIN	525398	NULL	NULL	NULL	NULL	2022-11-19 14:59:22
PES2UG20CS078	NULL	98242bb19b8948b38cce80006b7b53d6	AVIJIT PANDA	732841	NULL	NULL	NULL	NULL	2022-11-19 15:03:52
PES2UG20CS079	NULL	52db28808b57c9abd87266ed726587c0	AYAN AGGARWAL	622979	NULL	NULL	NULL	NULL	2022-11-19 15:04:11
PES2UG20CS080	NULL	4668c8b6eacbc5c1d13629bb7068b20d0	AYUSH SINGH	129933	NULL	NULL	NULL	NULL	2022-11-19 14:59:38
PES2UG20CS081	NULL	405eb4e88b9c58bc49d1fb8a0ae2073e	AYUSH SINGH	524045	NULL	NULL	NULL	NULL	2022-11-19 14:39:01
PES2UG20CS082	NULL	5baf13afa8813b75b8a567476048644e	AYUSHMAAN KAUSHIK	483556	NULL	NULL	NULL	NULL	2022-11-19 14:39:38

➤ Userlog

```
MariaDB [onlinecourse]> select * from userlog;
```

id	studentRegno	userip	loginTime	logout	status
1	10806121	::1	2022-02-11 06:25:07	NULL	1
2	10806121	::1	2022-02-11 06:27:00	NULL	1
3	10806121	::1	2022-02-11 06:27:22	11-02-2022 06:31:26 AM	1
4	PES2UG20CS065	::1	2022-11-19 15:30:07	19-11-2022 03:31:22 PM	1
5	PES2UG20CS065	::1	2022-11-19 15:32:34	19-11-2022 03:32:56 PM	1
6	PES2UG20CS065	::1	2022-11-19 15:34:22	19-11-2022 03:36:38 PM	1
7	PES2UG20CS066	::1	2022-11-19 15:36:52	19-11-2022 03:37:16 PM	1
8	PES2UG20CS066	::1	2022-11-19 15:38:08	19-11-2022 03:39:45 PM	1
9	PES2UG20CS067	::1	2022-11-19 15:40:02	19-11-2022 03:41:54 PM	1
10	PES2UG20CS068	::1	2022-11-19 15:42:46	19-11-2022 03:44:35 PM	1
11	PES2UG20CS069	::1	2022-11-19 15:45:04	19-11-2022 03:46:50 PM	1
12	PES2UG20CS087	::1	2022-11-19 15:47:08	19-11-2022 03:49:02 PM	1
13	PES2UG20CS086	::1	2022-11-19 15:49:17	19-11-2022 03:51:05 PM	1
14	PES2UG20CS127	::1	2022-11-19 15:51:29	19-11-2022 03:53:05 PM	1
15	PES2UG20CS066	::1	2022-11-19 15:53:56	19-11-2022 03:54:50 PM	1
16	PES2UG20CS104	::1	2022-11-19 15:56:31	19-11-2022 03:58:19 PM	1
17	PES2UG20CS110	::1	2022-11-19 15:58:33	19-11-2022 03:59:43 PM	1
18	PES2UG20CS113	::1	2022-11-19 15:59:54	19-11-2022 04:01:14 PM	1
19	PES2UG20CS120	::1	2022-11-19 16:01:34	19-11-2022 04:02:54 PM	1
20	PES2UG20CS122	::1	2022-11-19 16:03:11	19-11-2022 04:04:18 PM	1
21	PES2UG20CS069	::1	2022-11-19 16:05:11	19-11-2022 04:05:16 PM	1
22	PES2UG20CS074	::1	2022-11-19 16:05:28	19-11-2022 04:06:43 PM	1
23	PES2UG20CS078	::1	2022-11-19 16:06:53	19-11-2022 04:08:01 PM	1
24	PES2UG20CS079	::1	2022-11-19 16:08:11	19-11-2022 04:11:34 PM	1
25	PES2UG20CS102	::1	2022-11-19 16:12:05	19-11-2022 04:13:27 PM	1
26	PES2UG20CS116	::1	2022-11-19 16:13:54	19-11-2022 04:15:07 PM	1
27	PES2UG20CS126	::1	2022-11-19 16:15:24	19-11-2022 04:16:25 PM	1
28	PES2UG20CS086	::1	2022-11-19 16:17:11	19-11-2022 04:17:16 PM	1
29	PES2UG20CS104	::1	2022-11-19 16:17:44	19-11-2022 04:17:49 PM	1
30	PES2UG20CS113	::1	2022-11-19 16:18:11	19-11-2022 04:18:21 PM	1
31	PES2UG20CS122	::1	2022-11-19 16:18:39	19-11-2022 04:18:48 PM	1
32	PES2UG20CS127	::1	2022-11-19 16:18:59	19-11-2022 04:19:09 PM	1
33	PES2UG20CS068	::1	2022-11-19 16:19:31	19-11-2022 04:19:39 PM	1
34	PES2UG20CS070	::1	2022-11-19 16:19:50	19-11-2022 04:21:04 PM	1

Join Queries

Showcase at least 4 join queries

Write the query in English Language, Show the equivalent SQL statement and also a screenshot of the query and the result

1. Implement a Query to get a list of all students and how many courses each student is enrolled in.

```
SELECT s.studentRegno,s.studentName,COUNT(ce.pincode) AS course_count
FROM students s LEFT JOIN courseenrolls ce
ON s.studentRegno=ce.StudentRegno
GROUP BY s.studentRegno, s.studentName;
```

```
MariaDB [onlinecourse]> SELECT s.studentRegno,s.studentName,COUNT(ce.pincode) AS course_count
-> FROM students s LEFT JOIN courseenrolls ce
-> ON s.studentRegno=ce.StudentRegno
-> GROUP BY
-> s.studentRegno, s.studentName;
```

studentRegno	studentName	course_count
PES2UG20CS065	ARIHAN AWASTHI	2
PES2UG20CS066	ARPIT PANDEY	3
PES2UG20CS067	ARSHAN LAWRENCE RODRIGUES	2
PES2UG20CS068	ARUNVENKAT C A	2
PES2UG20CS069	ARYAN KAPOOR	2
PES2UG20CS070	ARYANSH GARG	2
PES2UG20CS071	ASHUTOSH	2
PES2UG20CS072	ASHUTOSH ROUTRAY	2
PES2UG20CS074	ATHARV ANANT ATHAVALE	2
PES2UG20CS075	ATHARVA ANIL CHANDA	2
PES2UG20CS076	ATUL KRISHNAN	2
PES2UG20CS077	AVANI JAIN	2
PES2UG20CS078	AVIJIT PANDA	2
PES2UG20CS079	AYAN AGGARWAL	2
PES2UG20CS080	AYUSH SINGH	2
PES2UG20CS081	AYUSH SINGH	0
PES2UG20CS082	AYUSHMAAN KAUSHIK	0
PES2UG20CS083	B V MURALI SAI	0
PES2UG20CS084	BANDI MONICA SREE VALLI	0
PES2UG20CS085	BATHINI VENKATA PRANAY	0
PES2UG20CS086	BHARATH D H	2
PES2UG20CS087	BHARGAV HEGDE	2
PES2UG20CS088	BHAVINI MADHURANATH	0
PES2UG20CS089	BHAVYA NALLAMILLI	0
PES2UG20CS090	BOLLU SAI LIKHITHA	2
PES2UG20CS091	BRAHMADEVARA UDIT	2
PES2UG20CS092	CHAKKA RANGA TAGORE	2
PES2UG20CS093	CHANDAN B S	2
PES2UG20CS094	CHANDAN M S	2
PES2UG20CS095	CHANDANA N	0
PES2UG20CS096	CHINNAOBULAI AHGARI VENKATA ESWAR SAI REDDY	0
PES2UG20CS097	CLAUDIUS D SOUZA	0

61 rows in set(0.002 sec)

2. Write a query to get a list of students enrolled in a course

```
SELECT ce.studentRegno, c.courseName
FROM courseenrolls AS ce
RIGHT JOIN course AS c
ON ce.course = c.id
ORDER BY ce.studentRegno;
```

The screenshot shows the phpMyAdmin interface with the following components:

- Left Sidebar:** A tree view of databases and tables. The 'onlinecourse' database is selected, showing tables like 'admin', 'course', 'courseenrolls', 'department', 'level', 'news', 'semester', 'session', 'students', 'userlog', 'online_ordering', 'performance_schema', 'phpmyadmin', 'railway_reservation', and 'test'.
- Top Bar:** Navigation tabs for Structure, SQL, Search, Query, Export, Import, Operations, Privileges, Routines, and Events. The 'SQL' tab is active.
- Query Area:** A text box containing the SQL query: `SELECT ce.studentRegno, c.courseName FROM courseenrolls AS ce RIGHT JOIN course AS c ON ce.course = c.id ORDER BY ce.studentRegno;`. Below the query are buttons for Profiling, Edit inline, Edit, Explain SQL, Create PHP code, and Refresh.
- Results Area:** A table with two columns: 'studentRegno' and 'courseName'. It displays 25 rows of data, showing student IDs and course names like 'UE20CS312: Data Analytics', 'UE20CS322: Big Data', and 'UE20CS313: Internet Of Things'.
- Footer:** A 'Console' tab at the bottom left of the results area.

studentRegno	courseName
PES2UG20CS065	UE20CS312: Data Analytics
PES2UG20CS065	UE20CS322: Big Data
PES2UG20CS066	UE20CS313: Internet Of Things
PES2UG20CS066	UE20CS322: Big Data
PES2UG20CS066	UE20CS313: Internet Of Things
PES2UG20CS067	UE20CS312: Data Analytics
PES2UG20CS067	UE20CS322: Big Data
PES2UG20CS068	UE20CS315: Fundamentals Of AVR
PES2UG20CS068	UE20CS323: Graph Theory and its Applications
PES2UG20CS069	UE20CS316: Human Computer Interaction
PES2UG20CS069	UE20CS322: Big Data
PES2UG20CS070	UE20CS323: Graph Theory and its Applications
PES2UG20CS070	UE20CS312: Data Analytics
PES2UG20CS071	UE20CS312: Data Analytics
PES2UG20CS071	UE20CS322: Big Data
PES2UG20CS072	UE20CS323: Graph Theory and its Applications
PES2UG20CS072	UE20CS315: Fundamentals Of AVR
PES2UG20CS074	UE20CS316: Human Computer Interaction
PES2UG20CS074	UE20CS322: Big Data
PES2UG20CS075	UE20CS312: Data Analytics

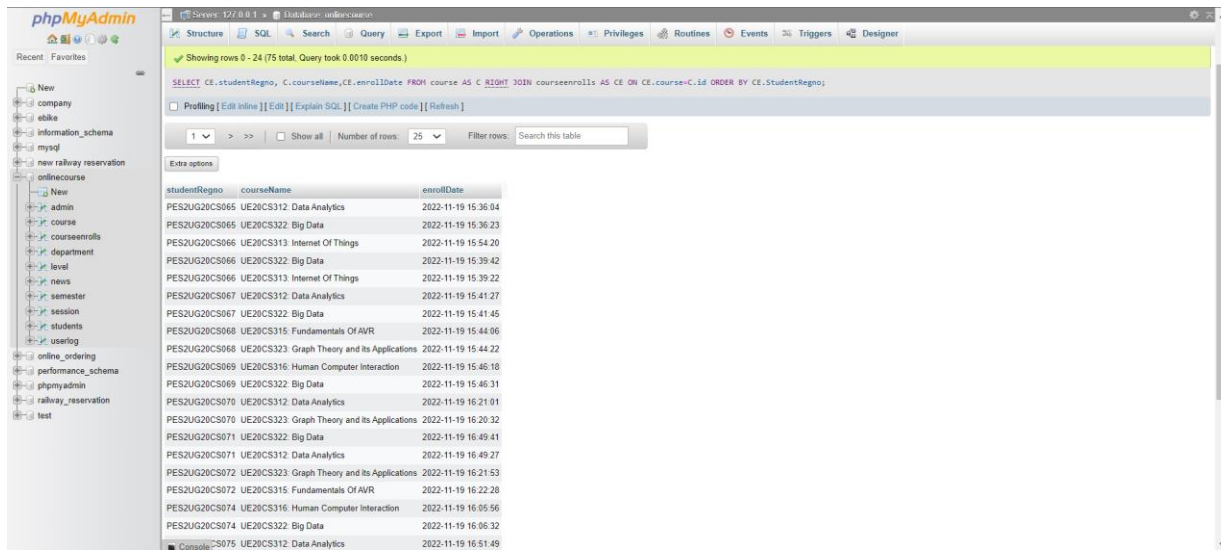
3. Write a query to get list of students enrolled date

SELECT CE.studentRegno, C.courseName,CE.enrollDate

FROM course AS C

RIGHT JOIN courseenrolls AS CE ON CE.course=C.id

ORDER BY CE.StudentRegno;



The screenshot shows the phpMyAdmin interface with a SQL query entered in the query editor. The query is: `SELECT CE.studentRegno, C.courseName,CE.enrollDate FROM course AS C RIGHT JOIN courseenrolls AS CE ON CE.course=C.id ORDER BY CE.StudentRegno;` The results are displayed in a table with 3 columns: studentRegno, courseName, and enrollDate. The table contains 24 rows of data.

studentRegno	courseName	enrollDate
PES2UG20CS065	UE20CS312: Data Analytics	2022-11-19 15:36:04
PES2UG20CS065	UE20CS322: Big Data	2022-11-19 15:36:23
PES2UG20CS066	UE20CS313: Internet Of Things	2022-11-19 15:54:20
PES2UG20CS066	UE20CS322: Big Data	2022-11-19 15:39:42
PES2UG20CS066	UE20CS313: Internet Of Things	2022-11-19 15:39:22
PES2UG20CS067	UE20CS312: Data Analytics	2022-11-19 15:41:27
PES2UG20CS067	UE20CS322: Big Data	2022-11-19 15:41:45
PES2UG20CS068	UE20CS315: Fundamentals Of AVR	2022-11-19 15:44:06
PES2UG20CS068	UE20CS323: Graph Theory and its Applications	2022-11-19 15:44:22
PES2UG20CS069	UE20CS316: Human Computer Interaction	2022-11-19 15:46:18
PES2UG20CS069	UE20CS322: Big Data	2022-11-19 15:46:31
PES2UG20CS070	UE20CS312: Data Analytics	2022-11-19 16:21:01
PES2UG20CS070	UE20CS323: Graph Theory and its Applications	2022-11-19 16:20:32
PES2UG20CS071	UE20CS322: Big Data	2022-11-19 16:49:41
PES2UG20CS071	UE20CS312: Data Analytics	2022-11-19 16:49:27
PES2UG20CS072	UE20CS323: Graph Theory and its Applications	2022-11-19 16:21:53
PES2UG20CS072	UE20CS315: Fundamentals Of AVR	2022-11-19 16:22:28
PES2UG20CS074	UE20CS316: Human Computer Interaction	2022-11-19 16:05:56
PES2UG20CS074	UE20CS322: Big Data	2022-11-19 16:06:32
PES2UG20CS075	UE20CS312: Data Analytics	2022-11-19 16:51:49

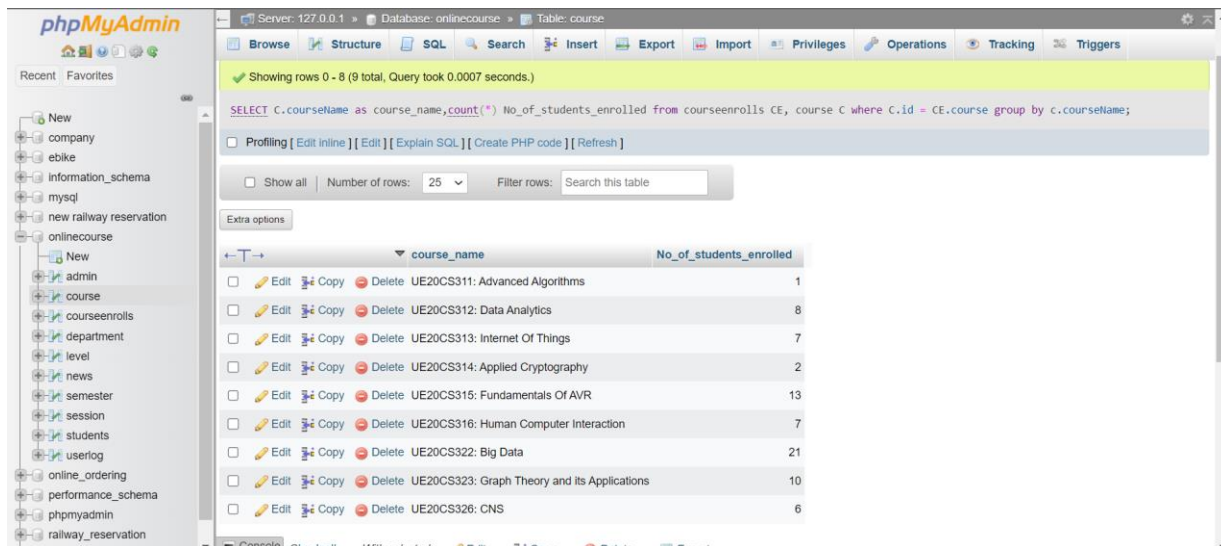
Aggregate Functions

Showcase at least 4 Aggregate function queries

Write the query in English Language, Show the equivalent SQL statement and also a screenshot of the query and the results

1. Write a query No of students enrolled in a particular course

SELECT C.courseName as course_name,count(*) No_of_students_enrolled
from courseenrolls CE, course C
where C.id = CE.course
group by c.courseName;

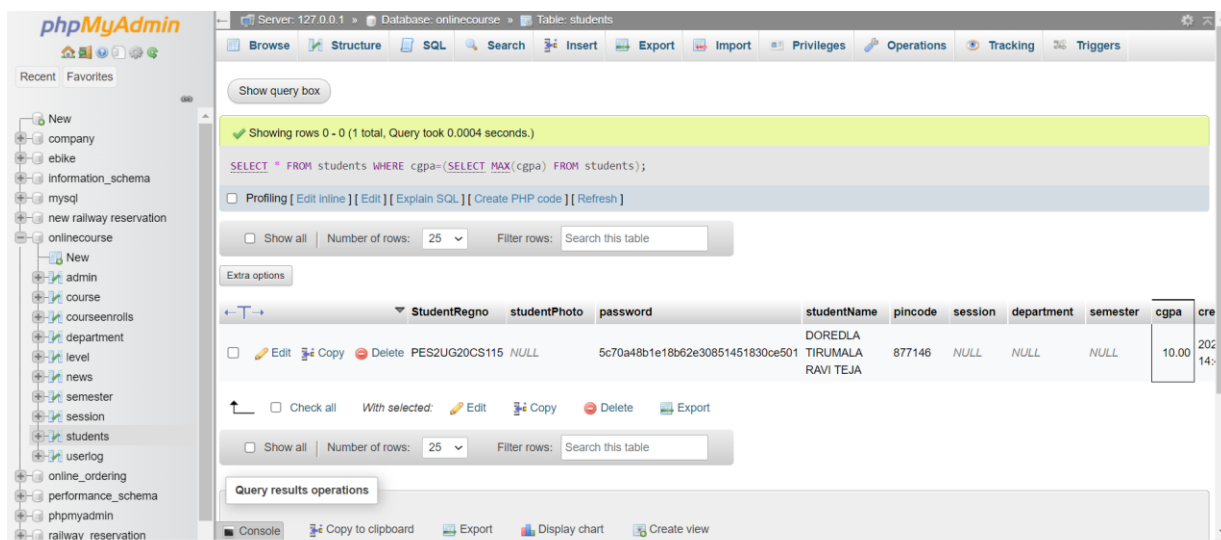


The screenshot shows the phpMyAdmin interface with a SQL query executed. The query is: `SELECT C.courseName as course_name,count(*) No_of_students_enrolled from courseenrolls CE, course C where C.id = CE.course group by c.courseName;` The results are displayed in a table with two columns: `course_name` and `No_of_students_enrolled`.

course_name	No_of_students_enrolled
UE20CS311: Advanced Algorithms	1
UE20CS312: Data Analytics	8
UE20CS313: Internet Of Things	7
UE20CS314: Applied Cryptography	2
UE20CS315: Fundamentals Of AVR	13
UE20CS316: Human Computer Interaction	7
UE20CS322: Big Data	21
UE20CS323: Graph Theory and its Applications	10
UE20CS326: CNS	6

2. Finding maximum CGPA in class

SELECT * FROM students WHERE cgpa=(SELECT MAX(cgpa) FROM students);



The screenshot shows the phpMyAdmin interface with a SQL query executed. The query is: `SELECT * FROM students WHERE cgpa=(SELECT MAX(cgpa) FROM students);` The results are displayed in a table with columns: `StudentRegno`, `studentPhoto`, `password`, `studentName`, `pincode`, `session`, `department`, `semester`, `cgpa`, and `cre`.

StudentRegno	studentPhoto	password	studentName	pincode	session	department	semester	cgpa	cre
PES2UG20CS115	NULL	5c70a48b1e18b62e30851451830ce501	DOREDLA TIRUMALA RAVI TEJA	877146	NULL	NULL	NULL	10.00	2021-14

Set Operations

Showcase at least 4 Set Operations queries

Write the query in English Language, Show the equivalent SQL statement and also a screenshot of the query and the results

1. Increment the id value, when the middle tuple is deleted

```
SET @autoid :=0;
```

```
UPDATE news SET id=@autoid :=(@autoid+1);
```

```
ALTER TABLE news AUTO_INCREMENT=1;
```

Functions and Procedures

Create a Function and Procedure. State the objective of the function / Procedure. Run and display the results.

Procedure:

DELIMITER \$\$

CREATE PROCEDURE Update_status(IN cgpa1 float)

BEGIN

DECLARE t float;

SET t=cgpa1;

IF t>4 THEN

UPDATE students SET Status='Pass' WHERE cgpa=t;

ELSE

UPDATE students SET Status='Fail' WHERE cgpa=t;

END IF;

END \$\$

DELIMITER ;

The screenshot shows the phpMyAdmin interface for a database named 'onlinecourse'. The 'Routines' tab is selected, displaying a table of database routines. The table has columns for 'Name', 'Type', and 'Returns'. One routine, 'Update_status', is listed with the type 'PROCEDURE'. Below the table, there are buttons for 'Edit', 'Execute', 'Export', and 'Drop'. The left sidebar shows the database structure, with 'Procedures' and 'Tables' expanded. The 'Tables' section lists various tables including 'admin', 'course', 'courseenrolls', 'department', 'level', 'news', 'semester', 'session', 'students', and 'userlog'.

Name	Type	Returns
Update_status	PROCEDURE	

FUNCTION

DELIMITER \$\$

CREATE FUNCTION f_employee_count(course INTEGER) RETURNS INTEGER

BEGIN

 DECLARE v_emp_count INTEGER;

 SELECT COUNT(*)

 INTO v_emp_count

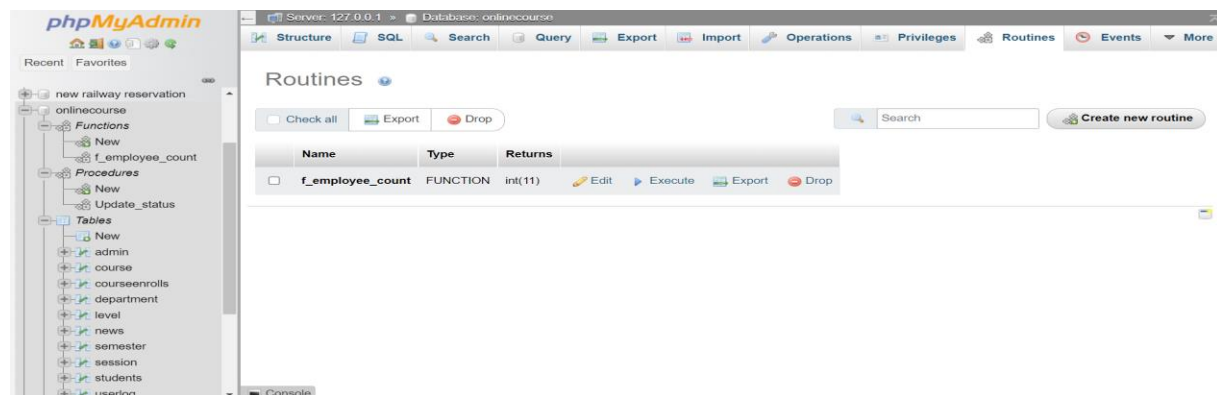
 FROM courseenrolls CE

 WHERE CE.course = id

 GROUP BY id;

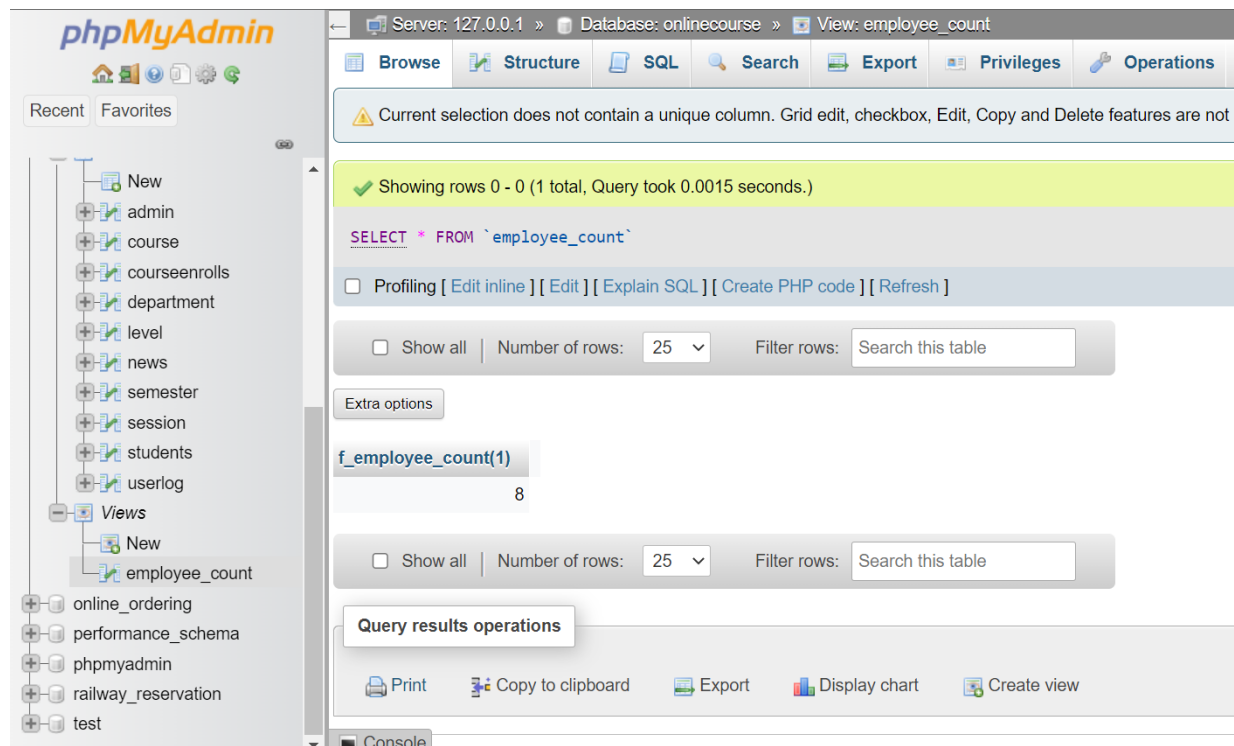
 RETURN v_emp_count;

END



SELECT * FROM `employee_count`

ORDER BY `f_employee_count(1)` ASC



Triggers and Cursors

Create a Trigger and a Cursor. State the objective. Run and display the results.

TRIGGER

begin

DECLARE error_msg varchar(255);

set error_msg = (" no.of seats exceeded is more than 200");

if NEW.noofstudents > 200

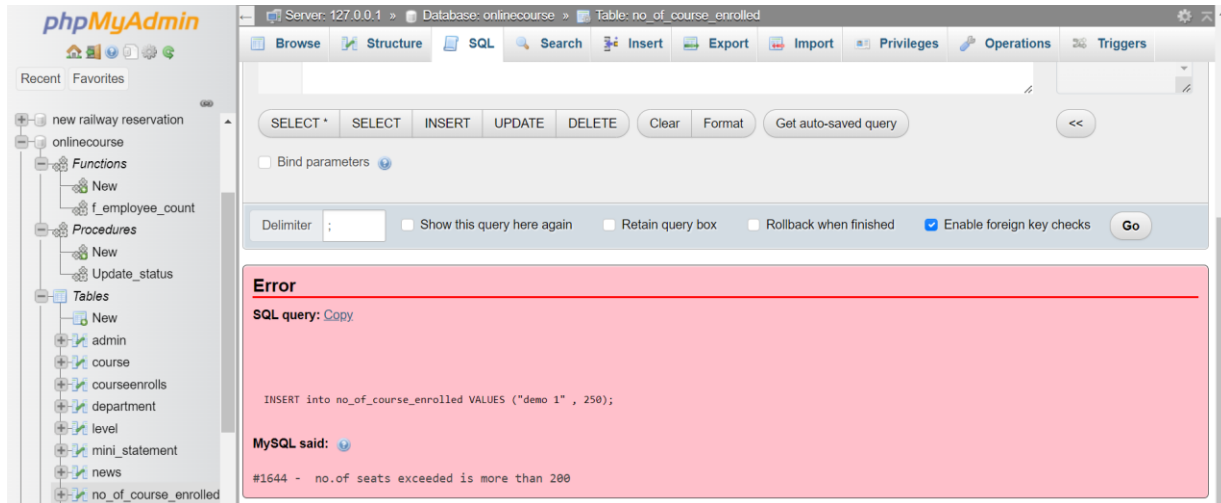
then SIGNAL SQLSTATE "45000"

set MESSAGE_TEXT = error_msg;

end if;

end

The image displays two screenshots of the phpMyAdmin web interface. The top screenshot shows the 'Triggers' tab for the 'no_of_course_enrolled' table. It lists a trigger named 'seats_aval' that is set to fire 'BEFORE' an 'INSERT' event. The bottom screenshot shows the 'SQL' tab where a query is being executed: `INSERT into no_of_course_enrolled VALUES ("demo 1" , 250);`. The interface includes a sidebar with a database structure tree, a top navigation bar with tabs like 'Browse', 'Structure', 'SQL', 'Search', 'Insert', 'Export', 'Import', 'Privileges', 'Operations', and 'Triggers', and a main content area for the selected table.



Cursor:

DELIMITER //

CREATE PROCEDURE CUR_PROC()

BEGIN

DECLARE done INT DEFAULT 0;

DECLARE noofstudents INTEGER;

DECLARE courseName VARCHAR(20);

DECLARE cur CURSOR FOR SELECT * FROM no_of_course_enrolled;

DECLARE CONTINUE HANDLER FOR NOT FOUND SET done = 1;

DELETE from no_of_course_enrolled_backup;

OPEN cur;

label: LOOP

FETCH cur INTO courseName, noofstudents;

INSERT INTO cars_backup VALUES(courseName, noofstudents);

IF done = 1 THEN LEAVE label;

END IF;

END LOOP;

CLOSE cur;

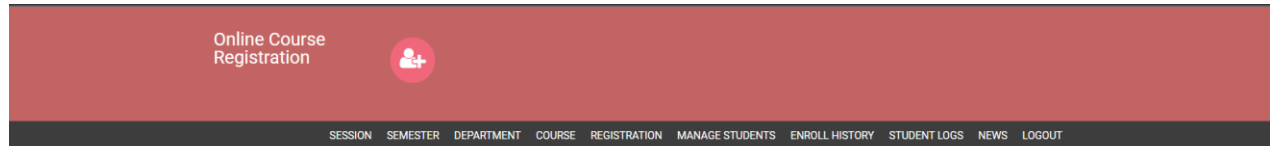
END//

Developing a Frontend

The frontend should support

1. Addition, Modification and Deletion of records from any chosen table
2. There should be an window to accept and run any SQL statement and display the result

Admin Portal



SEMESTER

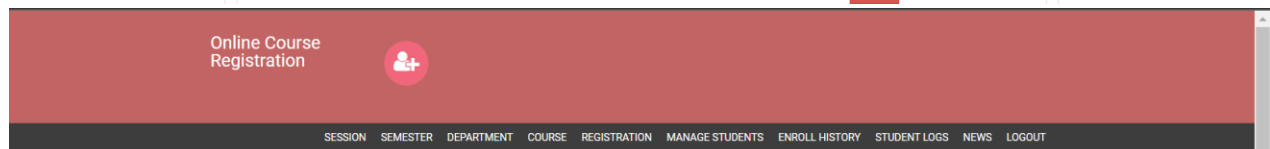
Semester

Add Semester

Submit

Manage Semester

#	Semester	Creation Date	Action
1	1	2022-02-10 22:52:55	Delete
2	2	2022-02-11 06:21:43	Delete



DEPARTMENT

Department

Add Department

Submit

Manage Session

#	department	Creation Date	Action
1	CSE	2022-11-19 15:33:14	Delete



STUDENT REGISTRATION

Student Registration

Student Name

Student Reg No

Password



COURSE

Manage Course						
#	Reg No	Student Name	Pincode	Reg Date	Action	
1	PES2UG20CS065	ARIHAN AWASTHI	406608	2022-11-19 14:36:59	Edit	Delete Reset Password
2	PES2UG20CS066	ARPIT PANDEY	844980	2022-11-19 14:56:20	Edit	Delete Reset Password
3	PES2UG20CS067	ARSHAN LAWRENCE RODRIGUES	686971	2022-11-19 14:37:20	Edit	Delete Reset Password
4	PES2UG20CS068	ARUNVENKAT C A	987234	2022-11-19 14:58:51	Edit	Delete Reset Password
5	PES2UG20CS069	ARYAN KAPOOR	835608	2022-11-19 15:03:20	Edit	Delete Reset Password
6	PES2UG20CS070	ARYANSH GARG	285856	2022-11-19 14:37:41	Edit	Delete Reset Password



ENROLL HISTORY

Enroll History							
#	Student Name	Student Reg no	Course Name	Session	Semester	Enrollment Date	Action
1	ARIHAN AWASTHI	PES2UG20CS065	UE20CS312: Data Analytics	CSE	5	2022-11-19 15:36:04	Print
2	ARIHAN AWASTHI	PES2UG20CS065	UE20CS322: Big Data	CSE	5	2022-11-19 15:36:23	Print
3	ARPIT PANDEY	PES2UG20CS066	UE20CS313: Internet Of Things	CSE	5	2022-11-19 15:39:22	Print
4	ARPIT PANDEY	PES2UG20CS066	UE20CS322: Big Data	CSE	5	2022-11-19 15:39:42	Print
5	ARSHAN LAWRENCE RODRIGUES	PES2UG20CS067	UE20CS312: Data Analytics	CSE	5	2022-11-19 15:41:27	Print
6	ARSHAN LAWRENCE RODRIGUES	PES2UG20CS067	UE20CS322: Big Data	CSE	5	2022-11-19 15:41:45	Print



ENROLL HISTORY

Enroll History

#	Student Reg no	IP	Login Time	Logout Time	Status
1	10806121	::1	2022-02-11 06:25:07		1
2	10806121	::1	2022-02-11 06:27:00		1
3	10806121	::1	2022-02-11 06:27:22	11-02-2022 06:31:26 AM	1
4	PES2UG20CS065	::1	2022-11-19 15:30:07	19-11-2022 03:31:22 PM	1
5	PES2UG20CS065	::1	2022-11-19 15:32:34	19-11-2022 03:32:56 PM	1
6	PES2UG20CS065	::1	2022-11-19 15:34:22	19-11-2022 03:36:38 PM	1
7	PES2UG20CS066	::1	2022-11-19 15:36:52	19-11-2022 03:37:16 PM	1
8	PES2UG20CS066	::1	2022-11-19 15:38:08	19-11-2022 03:39:45 PM	1

NEWS

News

News Title

News description

Manage Session

#	News Title	News Description	Creation Date	Action
1	Test News	This is for testing. This is for testing. This is for testing. This is for testing. This is for testing. This is for testing. This is for testing. This is for testing. This is for testing.	2022-02-10 23:06:50	<input type="button" value="Delete"/>
2	New Course Started C#	This is sample text for testing.	2022-02-11 06:24:38	<input type="button" value="Delete"/>
3	DBMS: Mini Project	Mini project submission on 21-11-2022	2022-11-19 15:25:57	<input type="button" value="Delete"/>

User Portal

Welcome: DOREDLA TIRUMALA RAVI TEJA Last Login: at



STUDENT CHANGE PASSWORD

Change Password

Current Password

New Password

Confirm Password

STUDENT PINCODE VERIFICATION

Pincode Verification

Enter Pincode

Verify

COURSE ENROLL

Course Enroll

Student Name

DOREDLA TIRUMALA RAVI TEJA

Student Reg No

PES2UG20CS115

Pincode

877146

My Profile

Student Registration

Student Name

DOREDLA TIRUMALA RAVI TEJA

Student Reg No

PES2UG20CS115


Pincode

877146

CGPA

10.00

Student Photo


NO IMAGE AVAILABLE

Upload New Photo

Choose File

No file chosen

Registered Paper



NO IMAGE
AVAILABLE

Reg No: PES2UG20CS115
Student Name: DOREDLA TIRUMALA RAVI TEJA
Student Reg Date: 2022-11-19 14:49:52
Student Course Enroll Date: 2022-11-24 10:36:49

Course Details	
Course Code	UE20CS312
Course Name	UE20CS312: Data Analytics
Course unit	5
Other Details	
Session	2022
Department	CSE
Level	3
CGPA	10.00
Semester	5