ASSIGNMENT SUBMISSION MANAGEMENT SYSTEM

Submitted By:

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SRN: PES1UG20CS608
Semester: 'V'
Section: 'J'

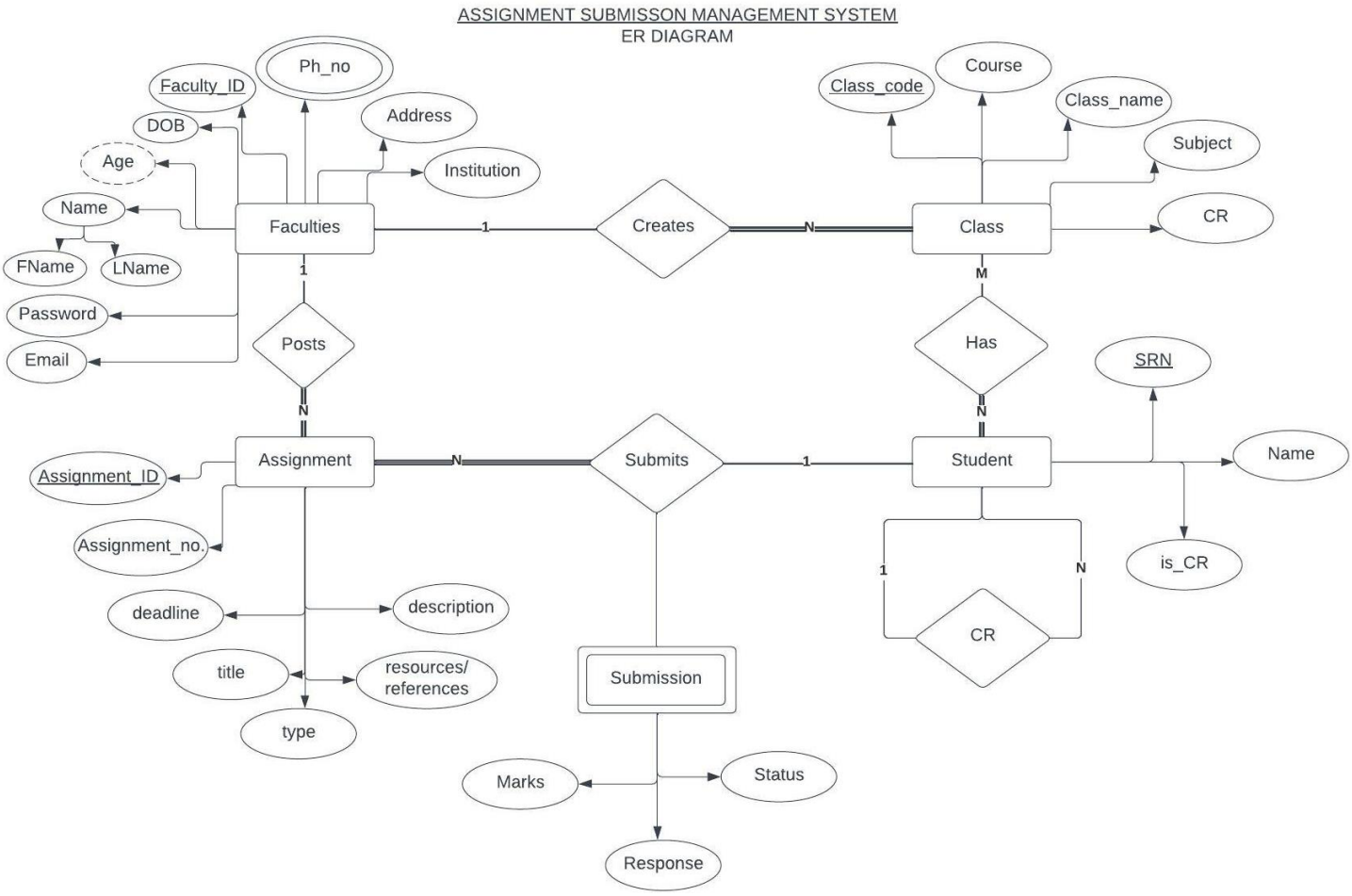
- Description:

  An assignment management system is a software that helps the teachers to schedule/post assignments and assign them to the respective students. Additionally, deadlines are provided to the students, and after the submission, they are evaluated by the teachers. All the assignments or the projects, come up with postdate and deadline. It facilitates the teachers to view the status of the posted assignment and generate reports accordingly. All the assignments and projects are assigned with a student update the task on completion. Teachers can view the status of the task and reports are being generated after evaluation. Things are made easy using this system for both teachers and students.

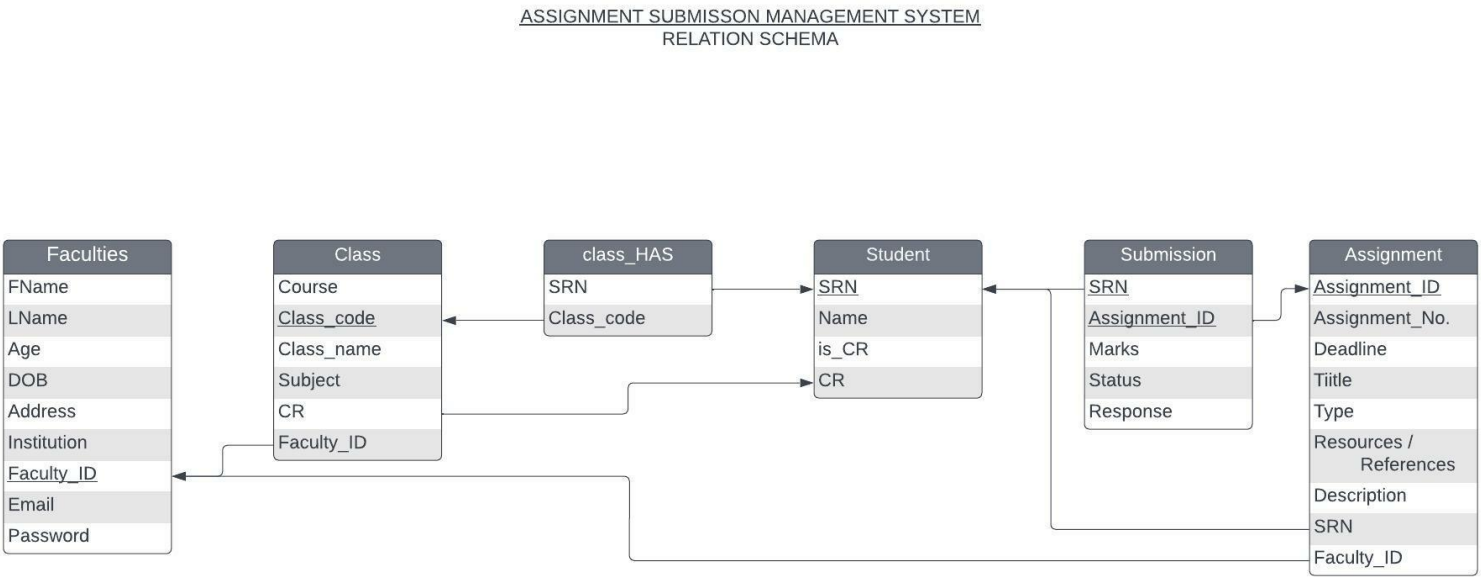
- Scope:

  The study focuses on the areas of concentration of this project i.e., the submitted assignments management. It also covers the faculty registration, course registration, department registration, students registration and assignments creation.

- ER Diagram:


ASSIGNMENT SUBMISSON MANAGEMENT SYSTEM
ER DIAGRAM
Faculty_ID
Ph_no
DOB
Address
Age
Institution
Name
Faculties
FName
LName
Password
Email
1
Creates
N
Class_code
Course
Class_name
Subject
Class
CR
M
Has
SRN
Posts
N
N
Assignment
Assignment_ID
Assignment_no.
deadline
description
title
resources/
references
type
Submits
1
Student
Name
is_CR
1
N
CR
Submission
Marks
Status
Response

- Relation Schema:



- DDL statements – Building the database:

---------- Table structure of 'faculties' ----------

```
CREATE TABLE faculties(facultyId varchar(256) NOT NULL,firstName
varchar(50) NOT NULL,lastName   varchar(50) NOT NULL,email varchar(320)
NOT NULL,DOB datetime DEFAULT NULL,age int DEFAULT NULL,address
varchar(512) DEFAULT NULL,institution varchar(512) DEFAULT NULL, contact
varchar(15) DEFAULT NULL,password varchar(50) DEFAULT NULL,PRIMARY KEY
(facultyId),UNIQUE KEY facultyId (facultyId),UNIQUE KEY email (email))
```

---------- Table structure of 'classes' ----------

```
CREATE TABLE classes(classCode varchar(40) NOT NULL,course varchar(512)
NOT NULL,subject varchar(512) NOT NULL,className varchar(512) NOT
NULL,cr varchar(20) DEFAULT NULL,facultyId varchar(256) DEFAULT
NULL,PRIMARY KEY (classCode),UNIQUE KEY classCode (classCode),FOREIGN
KEY (facultyId) REFERENCES faculties (facultyId))
```

---------- Table structure of 'students' ----------

```
CREATE TABLE students(srn varchar(20) NOT NULL,name varchar(40) NOT
NULL,cr varchar(20) DEFAULT NULL,isCr tinyint(1) DEFAULT 0,classCode
varchar(40) NOT NULL,PRIMARY KEY (srn,classCode),FOREIGN KEY (classCode)
REFERENCES classes (classCode))
```

---------- Table structure of 'assignments' ----------

```
CREATE TABLE assignments(assignmentId varchar(256) NOT
NULL,assignmentNumber int NOT NULL,title varchar(512) NOT
NULL,description varchar(2048) DEFAULT NULL,type varchar(10), resources
varchar(2048) DEFAULT NULL,deadline datetime NOT NULL,classCode
varchar(40) DEFAULT NULL,facultyId varchar(256) DEFAULT NULL,PRIMARY KEY
(assignmentId),UNIQUE KEY assignmentId (assignmentId),FOREIGN KEY
(classCode) REFERENCES classes (classCode),FOREIGN KEY (facultyId)
REFERENCES faculties (facultyId))
```

---------- Table structure of 'submissions' ----------

```
CREATE TABLE submissions(response varchar(2048) NOT NULL,status int
DEFAULT 0,marks int DEFAULT 0,srn varchar(20) NOT NULL,assignmentId
varchar(256) NOT NULL,createdAt datetime NOT NULL,PRIMARY KEY
(srn,assignmentId),FOREIGN KEY (srn) REFERENCES students (srn),FOREIGN
KEY (assignmentId) REFERENCES assignments (assignmentId) )
```

---------- Constraints ----------

```
ALTER TABLE classes
ADD CONSTRAINT test1 FOREIGN KEY (facultyId) REFERENCES
faculties(facultyId) ON DELETE CASCADE ON UPDATE CASCADE;
```

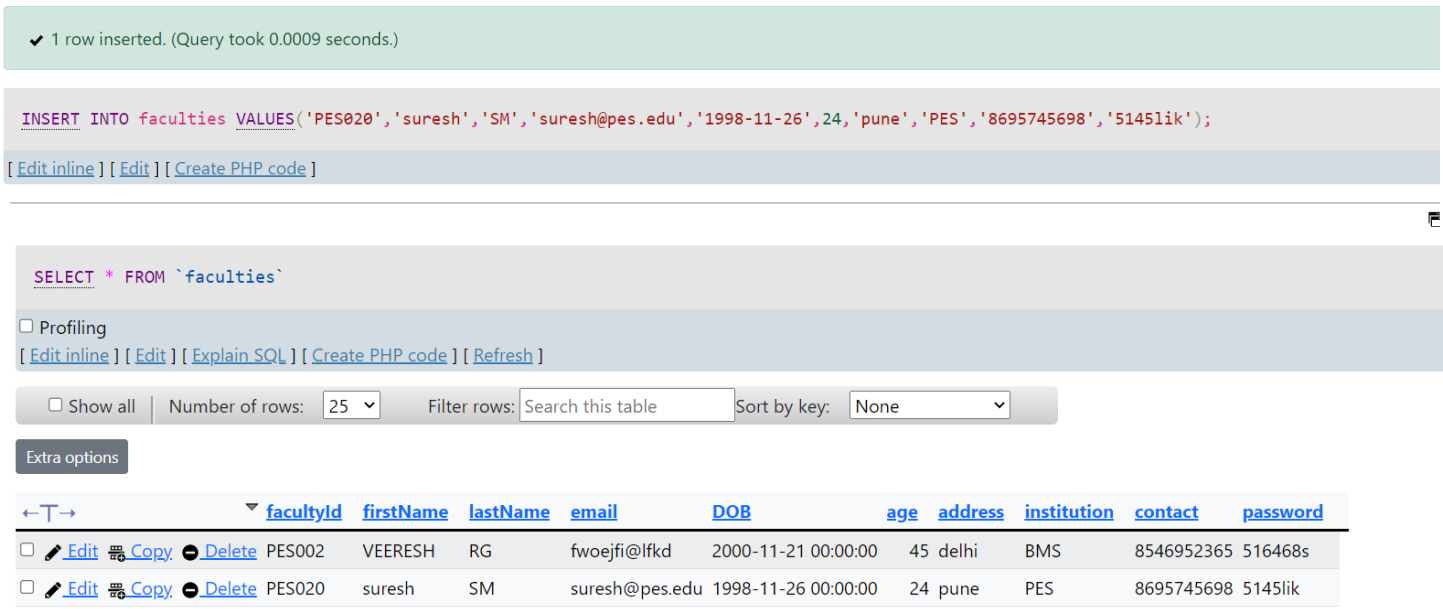
```
ALTER TABLE students
ADD CONSTRAINT test2 FOREIGN KEY (classCode) REFERENCES
classes(classCode) ON DELETE CASCADE ON UPDATE CASCADE;
```

```
ALTER TABLE assignments
ADD CONSTRAINT test3 FOREIGN KEY (classCode) REFERENCES
classes(classCode) ON DELETE CASCADE ON UPDATE CASCADE,
ADD CONSTRAINT test4 FOREIGN KEY (facultyId) REFERENCES
faculties(facultyId) ON DELETE CASCADE ON UPDATE CASCADE;
```

```
ALTER TABLE submissions
ADD CONSTRAINT test5 FOREIGN KEY (srn) REFERENCES students(srn) ON
DELETE CASCADE ON UPDATE CASCADE,
ADD CONSTRAINT test6 FOREIGN KEY (assignmentId) REFERENCES
assignments(assignmentId) ON DELETE CASCADE ON UPDATE CASCADE;
```

- Populating in the database:

INSERT INTO faculties VALUES('PES020','suresh','SM','suresh@pes.edu','1998-11-26',24,'pune','PES','8695745698','5145lik');



INSERT INTO classes VALUES('CC100','BBA','management','5J','amir','PES020');

✔ 1 row inserted. (Query took 0.0008 seconds.)

```
INSERT INTO classes VALUES('CC100','BBA','management','5J','amir','PES020');
```

[Edit inline] [Edit] [Create PHP code]

```
SELECT * FROM `classes`
```

☐ Profiling

[Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

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

Extra options

←T→	classCode	course	subject	className	cr	facultyId
☐ Edit Copy Delete	CC100	BBA	management	5J	amir	PES020

INSERT INTO students(srn,name,cr,isCr,classCode)
VALUE('PES1UG20CS608','Tushar','No',0,'CC100');

✔ 1 row inserted. (Query took 0.0007 seconds.)

```
INSERT INTO students(srn,name,cr,isCr,classCode) VALUE('PES1UG20CS608','Tushar','No',0,'CC100');
```

Edit inline] [Edit] [Create PHP code]

```
SELECT * FROM `students`
```

☐ Profiling

[Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

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

Extra options

←T→	srn	name	cr	isCr	classCode
☐ Edit Copy Delete	PES1UG20CS608	Tushar	No	0	CC100

INSERT INTO assignments VALUES('A100',01,'CNN','print only the output','.py','pdf','2022-11-28','CC100','PES020');

✔ 1 row inserted. (Query took 0.0008 seconds.)

```
INSERT INTO assignments VALUES('A100',01,'CNN','print only the output','.py','pdf','2022-11-28','CC100','PES020');
```

[Edit inline] [Edit] [Create PHP code]

✔ Showing rows 0 - 2 (3 total, Query took 0.0004 seconds.)

```
SELECT * FROM `assignments`
```

Profiling
[Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

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

Extra options

←T→	assignmentId	assignmentNumber	title	description	type	resources	deadline	classCode	facultyId
Edit Copy Delete	A100	1	CNN	print only the output	.py	pdf	2022-11-28 00:00:00	CC100	PES020

INSERT INTO submissions VALUES ('accepted',1,10,'PES1UG20CS608','A100','2022-11-26');

✔ 1 row inserted. (Query took 0.0053 seconds.)

```
INSERT INTO submissions VALUES ('accepted',1,10,'PES1UG20CS608','A100','2022-11-26');
```

[Edit inline] [Edit] [Create PHP code]

✔ Showing rows 0 - 0 (1 total, Query took 0.0004 seconds.)

```
SELECT * FROM `submissions`
```

Profiling
[Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 Filter rows: Search this table

Extra options

←T→	response	status	marks	srn	assignmentId	createdAt
Edit Copy Delete	accepted	1	10	PES1UG20CS608	A100	2022-11-26 00:00:00

Check all With selected: Edit Copy Delete Export

- JOIN queries :
    - SQL query to fetch the class details from the faculty ID.
    - Query:

```
SELECT faculties.facultyId,
faculties.firstName,faculties.lastName,faculties.email,classes.className
FROM faculties INNER JOIN classes on faculties.facultyId = "PES020";
```

```
SELECT faculties.facultyId, faculties.firstName,faculties.lastName,faculties.email,classes.className FROM faculties INNER JOIN classes on
faculties.facultyId = "PES020";
```

Profiling
[Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

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

Extra options

facultyId	firstName	lastName	email	className
PES020	suresh	SM	suresh@pes.edu	5J

    - SQL query to fetch the assignment details using class code.
    - Query:

```
SELECT classes.classCode , classes.course, classes.className ,
assignments.assignmentNumber, assignments.title, assignments.deadline
from classes INNER JOIN assignments ON classes.classCode = "CC100";
```

```
SELECT classes.classCode , classes.course, classes.className , assignments.assignmentNumber, assignments.title, assignments.deadline from
classes INNER JOIN assignments ON classes.classCode = "CC100";
```

Profiling
[Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 Filter rows: Search this table

Extra options

classCode	course	className	assignmentNumber	title	deadline
CC100	BBA	5J	1	CNN	2022-11-28 00:00:00

- SQL query to fetch assignments created by particular faculty.
- Query:

```
SELECT assignments.assignmentId , assignments.title,
assignments.deadline
,faculties.facultyId,faculties.firstName,faculties.lastName from
assignments INNER JOIN faculties ON faculties.facultyId = "PES020";
```

✔ Showing rows 0 - 0 (1 total, Query took 0.0005 seconds.)

```
SELECT assignments.assignmentId , assignments.title, assignments.deadline ,faculties.facultyId,faculties.firstName,faculties.lastName from
assignments INNER JOIN faculties ON faculties.facultyId = "PES020";
```

☐ Profiling
[Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

☐ Show all | Number of rows: 25 Filter rows: Search this table

Extra options

assignmentId	title	deadline	facultyId	firstName	lastName
A100	CNN	2022-11-28 00:00:00	PES020	suresh	SM

- SQL query to fetch submissions based on srn:
- Query:

```
SELECT
submissions.response,submissions.status,submissions.createdAt,stude
nts.srn,students.name FROM submissions INNER JOIN students ON
students.srn = "PES1UG20CS608";
```

✔ Showing rows 0 - 0 (1 total, Query took 0.0006 seconds.)

```
SELECT submissions.response,submissions.status,submissions.createdAt,students.srn,students.name FROM submissions INNER JOIN students ON
students.srn = "PES1UG20CS608";
```

☐ Profiling
[Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

☐ Show all | Number of rows: 25 Filter rows: Search this table

Extra options

response	status	createdAt	srn	name
accepted	1	2022-11-26 00:00:00	PES1UG20CS608	Tushar

- Aggregate functions:
  - Get number of students in a class using class code.
  - Query:

```
SELECT COUNT(*) FROM students WHERE classCode = "CC100" ;
```

Your SQL query has been executed successfully.

```
SELECT COUNT(*) FROM students WHERE classCode = "CC100";
```

Profiling
[Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Extra options

COUNT(*)
1

  - Get sum of marks of a student using srn:
  - Query:

```
SELECT sum(marks) FROM submissions WHERE srn="PES1UG20CS608";
```

✔ Showing rows 0 - 0 (1 total, Query took 0.0003 seconds.)

```
SELECT sum(marks) FROM submissions WHERE srn="PES1UG20CS608";
```

Profiling
[Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 Filter rows: Search this table

Extra options

sum(marks)
10

- Get the total classes created.
- Query:

```
SELECT count(classCode) FROM classes;
```

✔ Showing rows 0 - 0 (1 total, Query took 0.0003 seconds.)

```
SELECT count(classCode) FROM classes;
```

Profiling
[Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 Filter rows: Search this table

Extra options

count(classCode)
2

- Get the average marks obtained by the students for the assignments.
- Query:

```
SELECT AVG(marks) from submissions;
```

✔ Showing rows 0 - 0 (1 total, Query took 0.0002 seconds.)

```
SELECT AVG(marks) from submissions;
```

Profiling
[Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 Filter rows: Search this table

Extra options

AVG(marks)
10.0000

- SET Operations:
  - Fetch assignment details of different class using union.
  - Query:

```
SELECT * FROM assignments where classCode="CC100" UNION SELECT *
FROM assignments where classCode = "fio2934";
```

✔ Showing rows 0 - 0 (1 total, Query took 0.0028 seconds.)

```
SELECT * FROM assignments where classCode="CC100" UNION SELECT * FROM assignments where classCode = "fio2934";
```

☐ Profiling
[Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

☐ Show all | Number of rows: 25 Filter rows: Search this table

Extra options

assignmentId	assignmentNumber	title	description	type	resources	deadline	classCode	facultyId
A100	1	CNN	print only the output	.py	pdf	2022-11-28 00:00:00	CC100	PES020

  - Find the common students in 2 different classes using Intersect.
  - Query:

```
SELECT * FROM students WHERE classCode = "CC100" INTERSECT SELECT *
FROM students WHERE classCode = "fio2934";
```

✔ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0037 seconds.)

```
SELECT * FROM students WHERE classCode = "CC100" INTERSECT SELECT * FROM students WHERE classCode = "fio2934";
```

☐ Profiling
[Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

srn	name	cr	isCr	classCode

(i.e., No students are in common in both the classes…!!!)

- Get the srn of the students who haven't submitted the assignment.
- Query:

```
SELECT srn FROM students EXCEPT SELECT srn FROM submissions;
```

✔ Showing rows 0 - 0 (1 total, Query took 0.0010 seconds.)

```
SELECT srn FROM students EXCEPT SELECT srn FROM submissions;
```

Profiling
[Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 Filter rows: Search this table

Extra options

srn
pes1ug20cs609

- Name of students who have submitted the assignment.
- Query:

```
SELECT name FROM students
INTERSECT
SELECT srn FROM submissions WHERE submissions.status=1;
```

✔ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0008 seconds.)

```
SELECT name FROM students INTERSECT SELECT srn FROM submissions WHERE submissions.status=1;
```

Profiling
[Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

name

- Functions and Procedures:
  - Function:
    - Function which returns the number of students who belongs to a particular class using class code.
    - Function definition:

```
DELIMITER $$
CREATE FUNCTION getNumberOfStudents(classCode varchar(40))
RETURNS int
DETERMINISTIC
BEGIN
    DECLARE numberOfStudents int DEFAULT 0 ;
    set numberOfStudents = (SELECT COUNT(*) FROM students WHERE
students.classCode = classCode);
    return numberOfStudents;
END
$$
DELIMITER ;
```

    - Execution:

```
SELECT getNumberOfStudents('CC100');
```

Profiling
[Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 Filter rows: Search this table

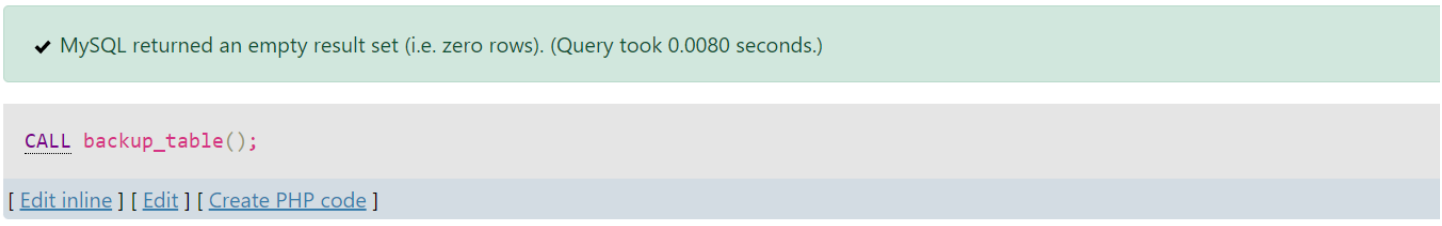
Extra options

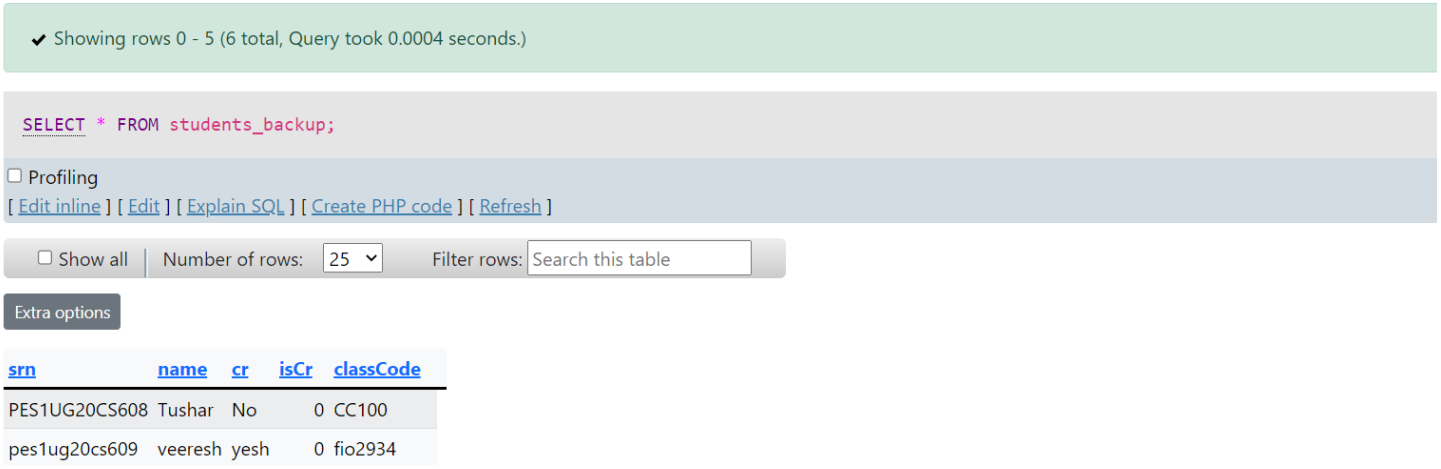
getNumberOfStudents('CC100')
1

- Procedure:
  - Procedure to create a student backup table:

```
DELIMITER $$
CREATE PROCEDURE backup_table()
 BEGIN
 DECLARE done int(11);
 DECLARE srn varchar(15);
 DECLARE name varchar(15);
 DECLARE cr varchar(10);
 DECLARE isCr int(11);
 DECLARE classCode varchar(10);
 DECLARE cur CURSOR FOR SELECT * FROM students;
 DECLARE CONTINUE HANDLER FOR NOT FOUND SET done = 1;
 OPEN cur;
 label: LOOP
 FETCH cur INTO srn,name,cr,isCr,classCode;
 CREATE TABLE IF NOT EXISTS students_backup(srn varchar(15),name
varchar(20),cr varchar(10),isCr int(10),classCode varchar(10));
 INSERT INTO students_backup VALUES(srn,name,cr,isCr,classCode);
 IF done = 1 THEN LEAVE label;
 END IF;
 END LOOP;
 CLOSE cur;
 END;$$
DELIMITER ;
```

  - Execution of procedure:





✔ Showing rows 0 - 5 (6 total, Query took 0.0004 seconds.)

```
SELECT * FROM students_backup;
```

☐ Profiling
[Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

☐ Show all | Number of rows: 25 Filter rows: Search this table

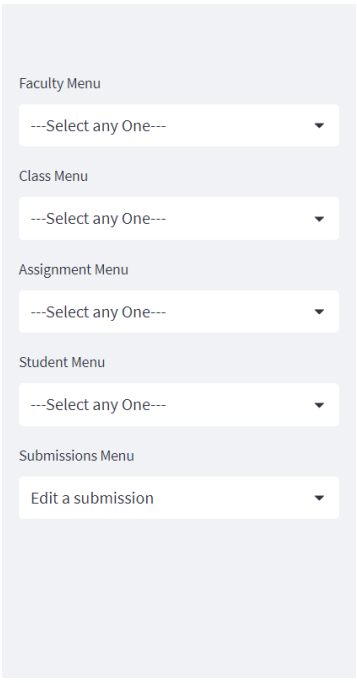
Extra options

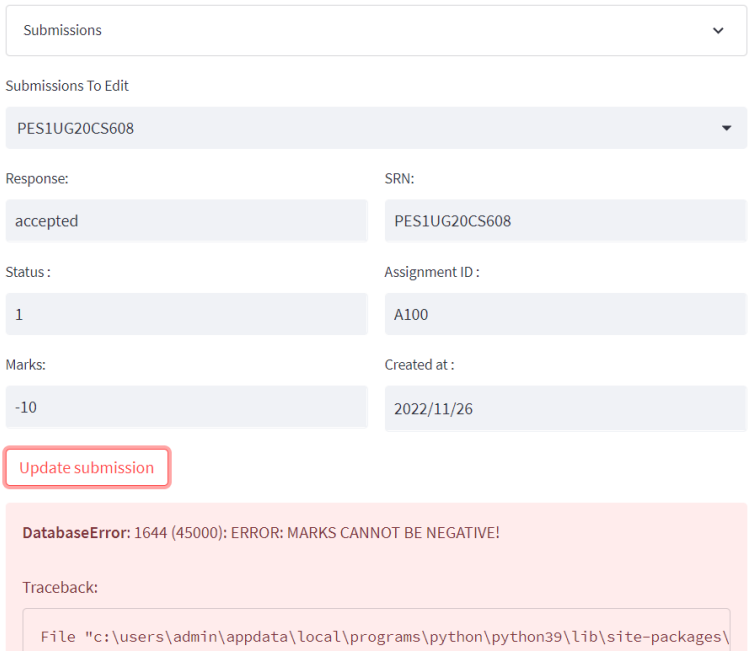
srn	name	cr	isCr	classCode
PES1UG20CS608	Tushar	No	0	CC100
pes1ug20cs609	veeresh	yesh	0	fio2934

- Triggers and Cursors:
  - Triggers:
    - Trigger to accept only valid marks (i.e., non-negative) Querry:

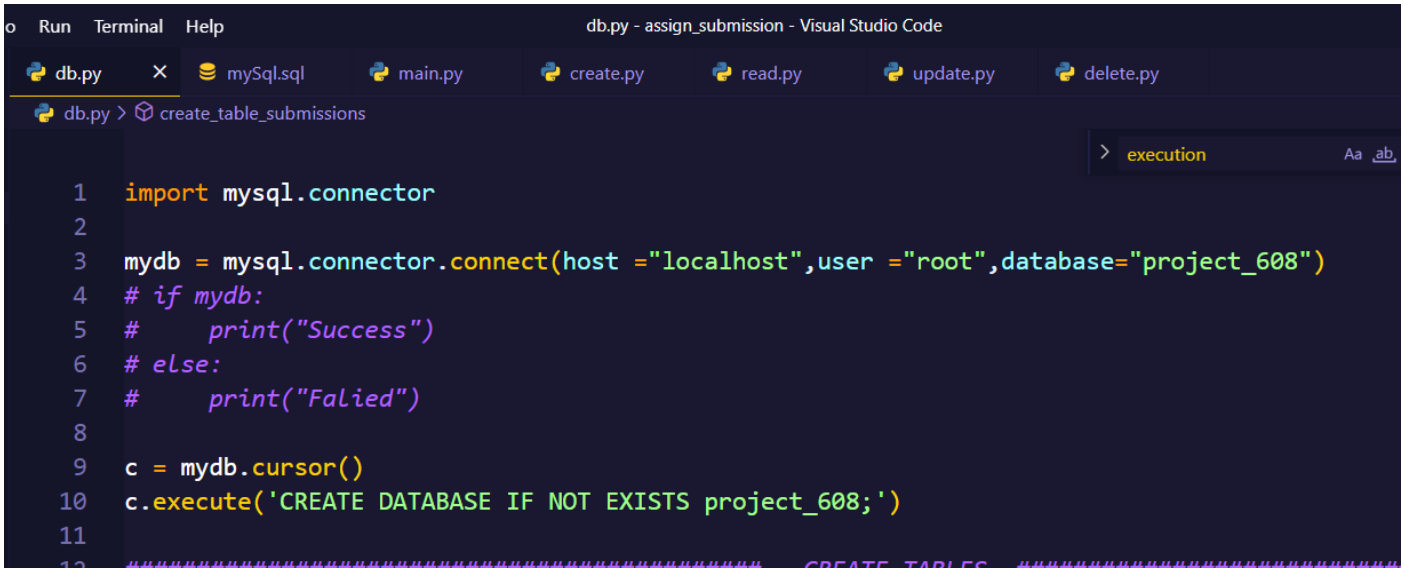
```
delimiter $$
CREATE TRIGGER  check_marks  BEFORE INSERT ON submissions
FOR EACH ROW
BEGIN
IF NEW.marks < 0 THEN
    SIGNAL SQLSTATE '45000'
    SET MESSAGE_TEXT = 'ERROR:
              MARKS CANNOT BE NEGATIVE!'
END IF;
END; $$
delimiter;;
```

```
delimiter $$
CREATE TRIGGER  check_marks  BEFORE UPDATE ON submissions
FOR EACH ROW
BEGIN
IF NEW.marks <= 0 THEN
    SIGNAL SQLSTATE '45000'
    SET MESSAGE_TEXT = 'ERROR:
            MARKS CANNOT BE NEGATIVE!';
END IF;
END; $$
delimiter ;;
```





- Cursors:
  - Cursor used in sql in frontend:



- Use of cursor in procedure to read the table from database:

```
DELIMITER $$
CREATE PROCEDURE c()
 BEGIN
 DECLARE done int(11);
 DECLARE srn varchar(15);
 DECLARE name varchar(15);
 DECLARE cr varchar(10);
 DECLARE isCr int(11);
 DECLARE classCode varchar(10);
 DECLARE cur CURSOR FOR SELECT * FROM students;
 DECLARE CONTINUE HANDLER FOR NOT FOUND SET done = 1;
 OPEN cur;
 label: LOOP
 FETCH cur INTO srn,name,cr,isCr,classCode;
 INSERT INTO students_backup VALUES(srn,name,cr,isCr,classCode);
 IF done = 1 THEN LEAVE label;
 END IF;
 END LOOP;
 CLOSE cur;
 END;$$
DELIMITER ;
```

✔ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0080 seconds.)

```
CALL backup_table();
```

[Edit inline] [Edit] [Create PHP code]

✔ Showing rows 0 - 5 (6 total, Query took 0.0004 seconds.)

```
SELECT * FROM students_backup;
```

Profiling

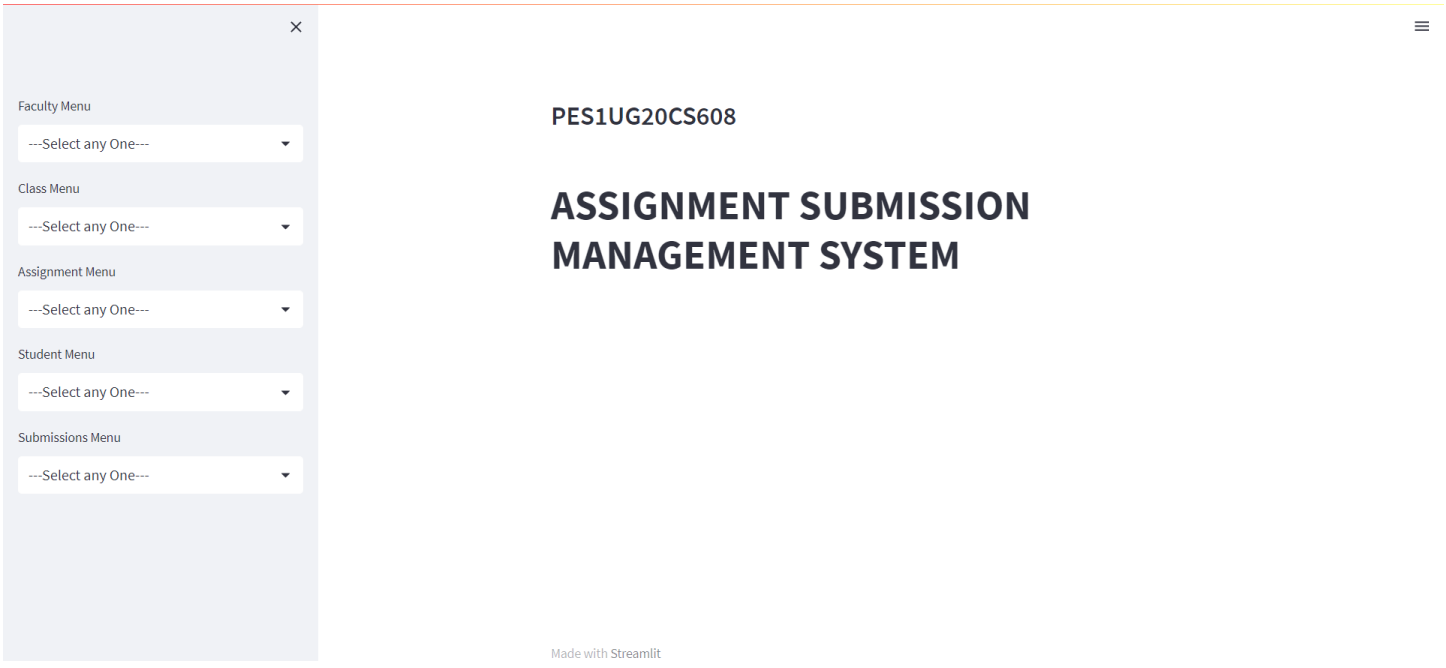
[Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

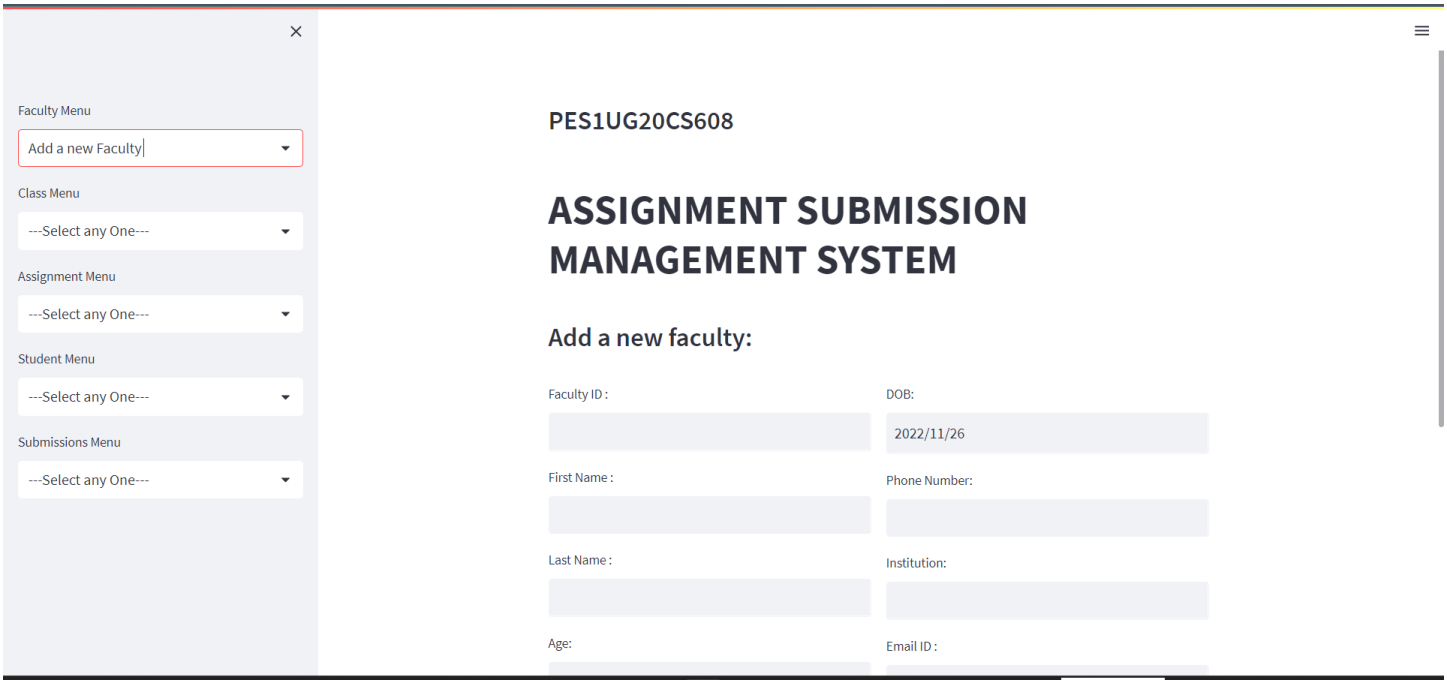
Show all | Number of rows: 25 Filter rows: Search this table

Extra options

srn	name	cr	isCr	classCode
PES1UG20CS608	Tushar	No	0	CC100
pes1ug20cs609	veeresh	yesh	0	fio2934

- Developing frontend:




Faculty Menu
Add a new Faculty
Class Menu
---Select any One---
Assignment Menu
---Select any One---
Student Menu
---Select any One---
Submissions Menu
---Select any One---
PES1UG20CS608
ASSIGNMENT SUBMISSION MANAGEMENT SYSTEM
Add a new faculty:
Faculty ID :
DOB:
2022/11/26
First Name :
Phone Number:
Last Name :
Institution:
Age:
Email ID :


Faculty Menu
Display Faculty
---Select any One---
Add a new Faculty
Display Faculty
Edit faculty details
Remove a faculty
Student Menu
---Select any One---
Submissions Menu
---Select any One---
PES1UG20CS608
ASSIGNMENT SUBMISSION MANAGEMENT SYSTEM
View all faculties:
View all faculties
facultyId firstName lastName email DOB age address institution
0 PES002 VEERESH RG fwoejfi@lfkd 2000-11-21T00:00:00 45 delhi BMS
1 PES020 suresh SM suresh@pes.edu 1998-11-26T00:00:00 24 pune PES


Faculty Menu
---Select any One---
Class Menu
List all the classes
---Select any One---
Create a new class
List all the classes
Edit a class
Delete a class
Submissions Menu
---Select any One---
PES1UG20CS608
ASSIGNMENT SUBMISSION MANAGEMENT SYSTEM
View all existing classes:
View all existing classes
classCode course subject className cr facultyId
0 CC100 BBA management 5J amir PES020
1 fio2934 bba study a section sunil <NA>


Faculty Menu
---Select any One---
Class Menu
List all the classes
Assignment Menu
---Select any One---
Student Menu
---Select any One---
---Select any One---
Add a new Student
Display all students
Edit student details
Remove a student
PES1UG20CS608
ASSIGNMENT SUBMISSION MANAGEMENT SYSTEM
View all existing classes:
View all existing classes
classCode course subject className cr facultyId
0 CC100 BBA management 5J amir PES020
1 fio2934 bba study a section sunil <NA>