COACHING INSTITUTE MANAGEMENT SYSTEM

Database Management System

B.Tech Information and Communication Technology

Team Members:

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Mentored by :- Shefali Naik

Maulik Mehta

Description

In this database of Coaching Institute, we have considered an IIT-JEE coaching institute example where there are only three subjects taught(Physics, Chemistry and Maths) and there are 2 standards 11th and 12th. Faculty can teach only one subject in many batches.

There are three roles: Student, Faculty, and Admin. Any non-student who wants to be a student at the institute has to first fill-up the form and pay the fees. Then, the data of this form will be added in the record of Students. Admin has the main authority over Faculty and Students.

The functionality of Admin is as follows:-

- Add/Delete the records of Faculty and Student.
- View the faculty and student details.
- See total income year-wise from the number of students in that year.
- Create and set marks of Exams.
- Take attendance of date given.

Student has the following functionality from these system :-

- View Results.
- View Attendance.
- View Timings.
- View his/her batch's faculty details.

ER Diagram

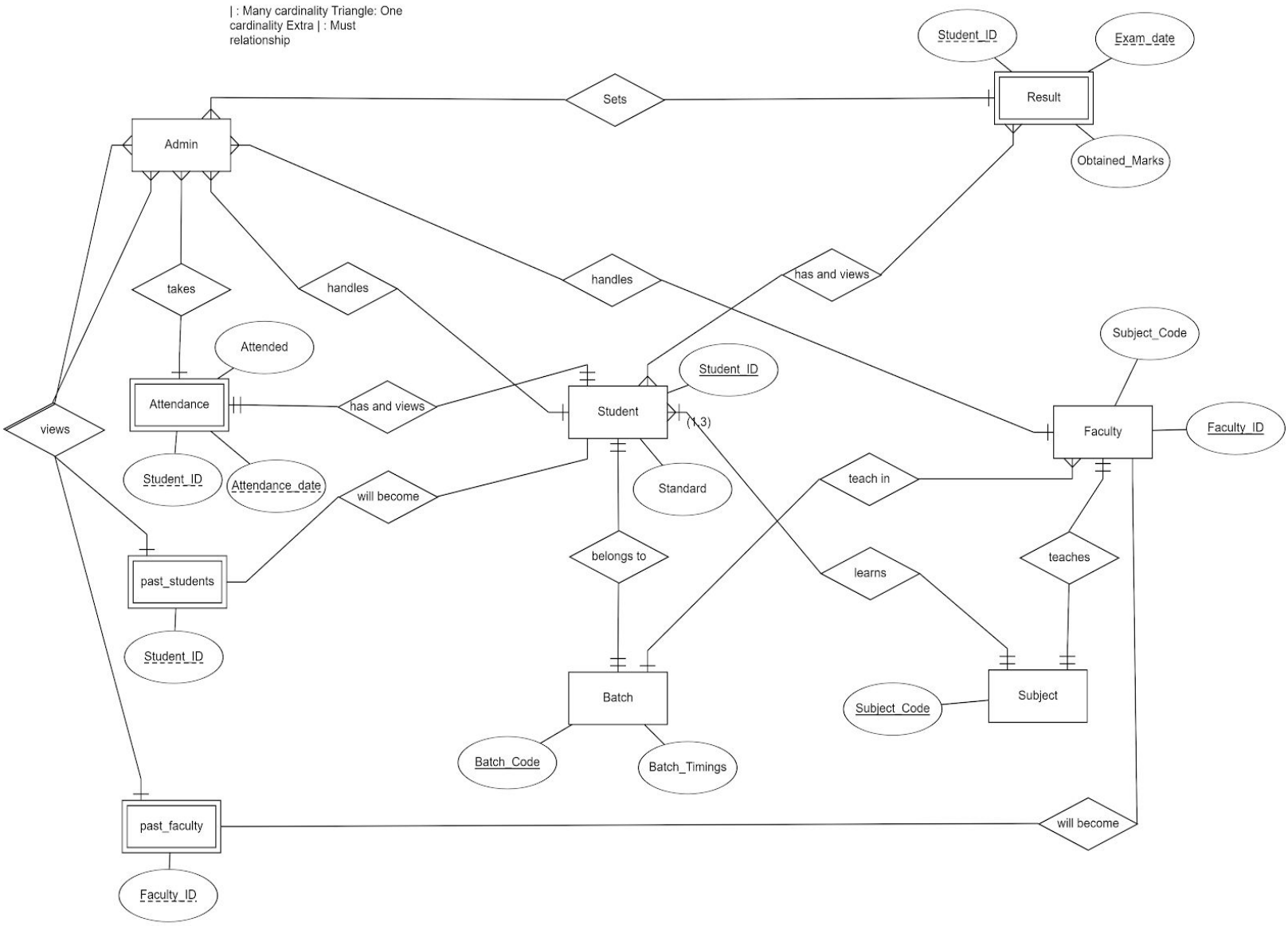

| : Many cardinality Triangle: One cardinality Extra | : Must relationship
Student_ID
Exam_date
Sets
Result
Admin
Obtained_Marks
takes
handles
handles
has and views
Subject_Code
Attended
Student_ID
Attendance
has and views
Student
(1,3)
Faculty
Faculty_ID
views
Student_ID
Attendance_date
will become
Standard
teach in
belongs to
learns
teaches
past_students
Student_ID
Batch
Subject_Code
Subject
Batch_Code
Batch_Timings
past_faculty
will become
Faculty_ID

Table Design (Data Dictionary)

batch(Batch_ID, Batch_capacity, Batch_Code, Batch_Timings, Batch_Days)

attendance(Student_ID, Attendance_date, Attendance)

faculty(Faculty_ID, Faculty_fname, Faculty_lname, Faculty_Mobile_No, Faculty_Email, Faculty_Address, Faculty_subject_code, Date_of_join)

result(Maths, Physics, Chemistry, Obtained_Marks, Maximum_Marks, Exam_Date, Student_ID)

student(Student_ID, Student_Firstname, Student_Lastname, Date_of_Birth, Age, Mobile_Number, Email_ID, Address, Father_name, Mother_name, Father_mobile_no, School_name, Board, Standard, Joining_Date, Gender, Batch_ID, Batch_Timings)

subject(Sub_ID, Subject_Code, Subject_Name)

past_faculty_records(Past_ID, Faculty_ID, Faculty_fname, Faculty_lname, Faculty_Mobile_No, Faculty_Email, Faculty_Address, Faculty_subject_code, Date_of_join, Date_of_leaving)

past_student_record(Student_ID, Student_fname, Student_lname, Student_Mobile_No, Email, Address, Batch_ID, Date_of_join, Date_of_leaving)

batch_faculty(Faculty_ID, Branch_Code, Sub_ID)

Stored Procedures, Functions and Triggers

PROCEDURES

---

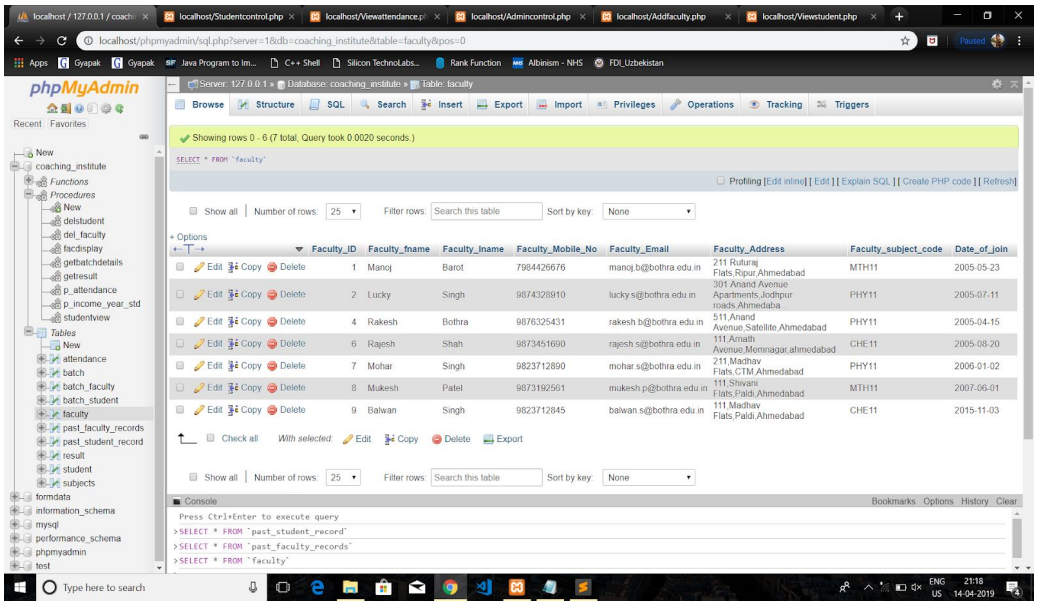
1)

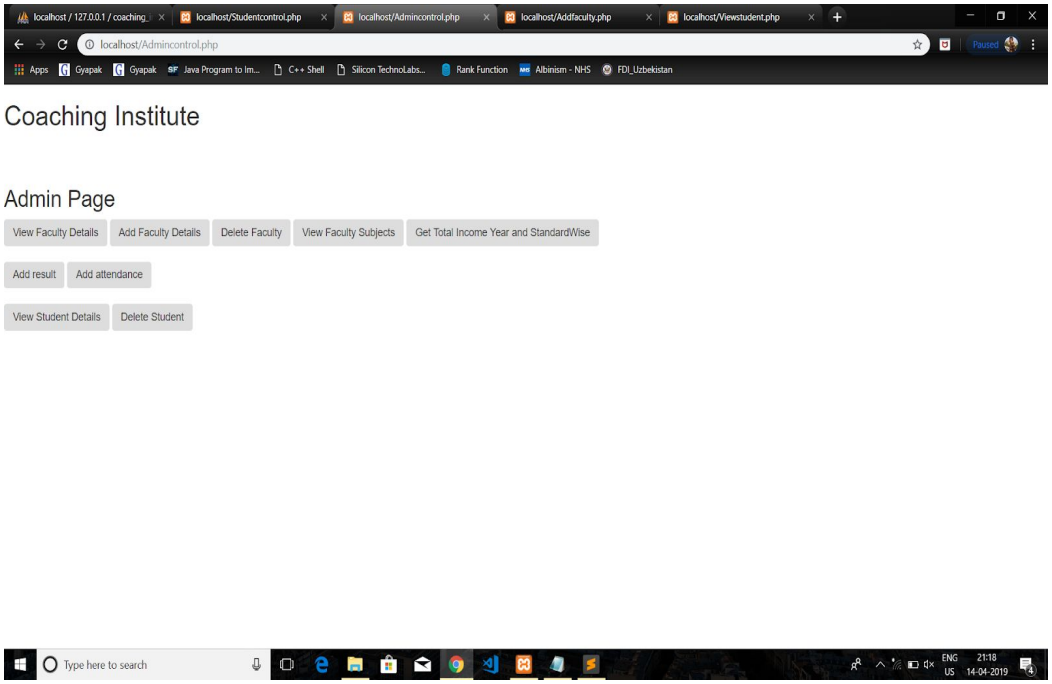
```
DELIMITER $$

CREATE PROCEDURE del_faculty(IN id INT (7))

BEGIN

INSERT INTO
past_faculty_records(Faculty_ID,Faculty_fname,Faculty_lname,Faculty_Mobile_No,Faculty_Email,Faculty_Address,Faculty_subject_code,Date_of_join)

SELECT
Faculty_ID,Faculty_fname,faculty_lname,Faculty_Mobile_No,Faculty_Email,Faculty_Address,Faculty_subject_code,Date_of_join FROM faculty WHERE Faculty_ID = id;

DELETE FROM faculty WHERE Faculty_ID = id;

DELETE FROM batch_faculty WHERE Faculty_ID = id;

END $$

DELIMITER ;
```

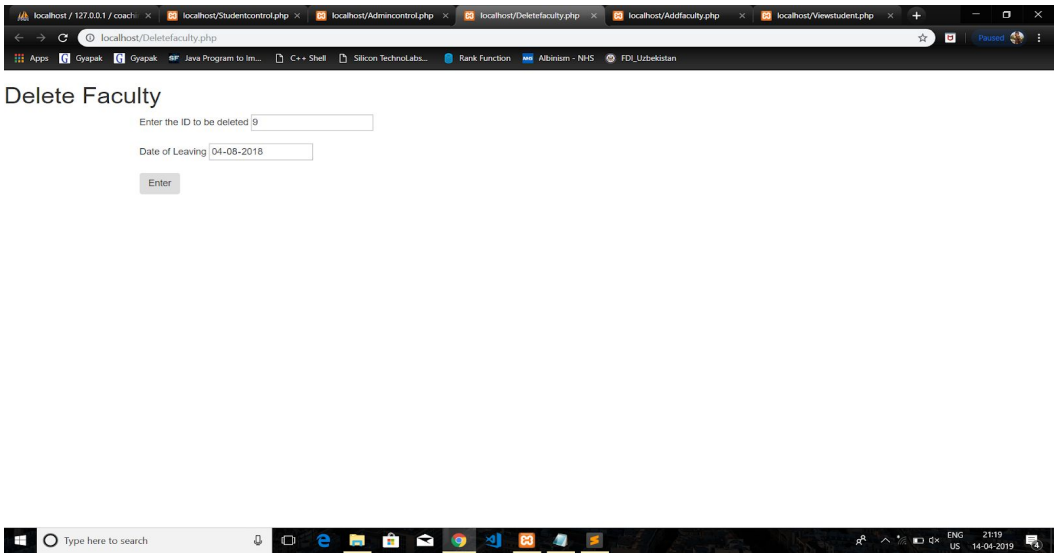
Calling the Procedure:-

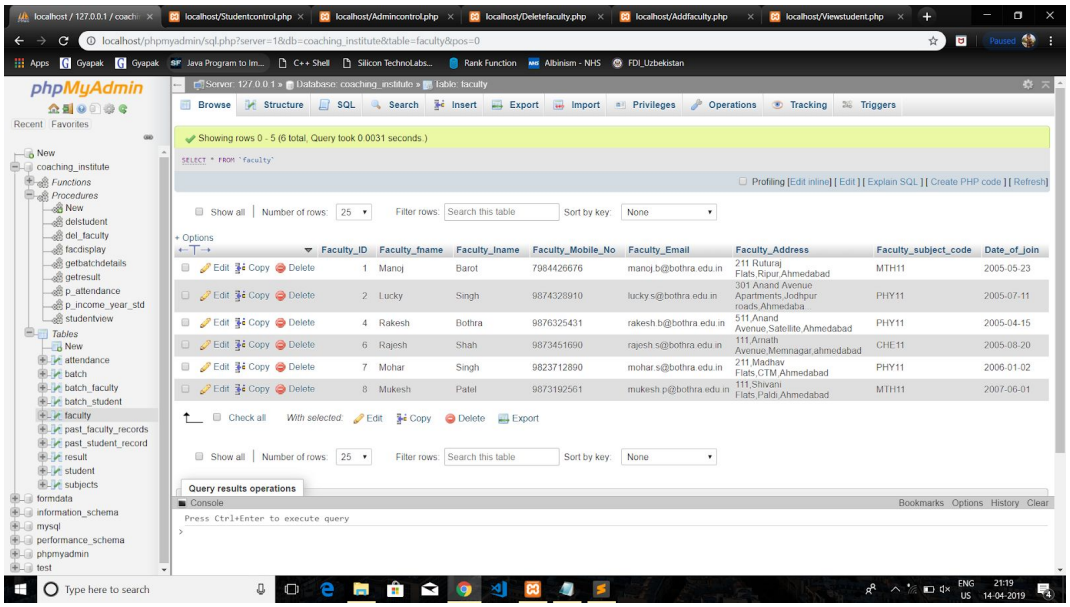
'CALL del_faculty(3)';

Screenshot of Result:-


localhost/Studentcontrol.php
localhost/Viewattendance.p
localhost/Admincontrol.php
localhost/Addfaculty.php
localhost/Viewstudent.php
localhost/phpmyadmin/sql.php?server=1&db=coaching_institute&table=faculty&pos=0
phpMyAdmin
Server: 127.0.0.1 » Database: coaching_institute » Table: faculty
Browse
Structure
SQL
Search
Insert
Export
Import
Privileges
Operations
Tracking
Triggers
Showing rows 0 - 6 (7 total, Query took 0.0020 seconds.)
SELECT * FROM `faculty`
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
+ Options
Faculty_ID Faculty_fname Faculty_lname Faculty_Mobile_No Faculty_Email Faculty_Address Faculty_subject_code Date_of_join
1 Manoj Barot 7984426676 manoj.b@bothra.edu.in 211 Ruturaj Flats,Ripur,Ahmedabad MTH11 2005-05-23
2 Lucky Singh 9874328910 lucky.s@bothra.edu.in 301 Anand Avenue Apartments,Jodhpur roads,Ahmedaba PHY11 2005-07-11
4 Rakesh Bothra 9876325431 rakesh.b@bothra.edu.in 511,Anand Avenue,Satellite,Ahmedabad PHY11 2005-04-15
6 Rajesh Shah 9873451690 rajesh.s@bothra.edu.in 111,Amalti Avenue,Memnagar,ahmedabad CHE11 2005-08-20
7 Mohar Singh 9823712890 mohar.s@bothra.edu.in 211,Madhav Flats,CTM,Ahmedabad PHY11 2006-01-02
8 Mukesh Patel 9873192561 mukesh.p@bothra.edu.in 111,Shivani Flats,Paldi,Ahmedabad MTH11 2007-06-01
9 Balwan Singh 9823712845 balwan.s@bothra.edu.in 111,Madhav Flats,Paldi,Ahmedabad CHE11 2015-11-03
Check all With selected: Edit Copy Delete Export
Console
Press Ctrl+Enter to execute query
>SELECT * FROM `past_student_record`
>SELECT * FROM `past_faculty_records`
>SELECT * FROM `faculty`


localhost/Studentcontrol.php
localhost/Admincontrol.php
localhost/Addfaculty.php
localhost/Viewstudent.php
localhost/Admincontrol.php
Coaching Institute
Admin Page
View Faculty Details
Add Faculty Details
Delete Faculty
View Faculty Subjects
Get Total Income Year and StandardWise
Add result
Add attendance
View Student Details
Delete Student


localhost/Deletefaculty.php
Delete Faculty
Enter the ID to be deleted 9
Date of Leaving 04-08-2018
Enter


localhost/phpmyadmin/sql.php?server=1&db=coaching_institute&table=faculty&pos=0
phpMyAdmin
Browse
Structure
SQL
Search
Insert
Export
Import
Privileges
Operations
Tracking
Triggers
Showing rows 0 - 5 (6 total, Query took 0.0031 seconds.)
SELECT * FROM `faculty`
Faculty_ID
Faculty_fname
Faculty_lname
Faculty_Mobile_No
Faculty_Email
Faculty_Address
Faculty_subject_code
Date_of_join
1 Manoj Barot 7984426676 manoj.b@bothra.edu.in 211,Ruturaj Flats,Ripur,Ahmedabad MTH11 2005-05-23
2 Lucky Singh 9874328910 lucky.s@bothra.edu.in 301,Anand Avenue Apartments,Jodhpur roads,Ahmedabad PHY11 2005-07-11
4 Rakesh Bothra 9876325431 rakesh.b@bothra.edu.in 511,Anand Avenue,Satellite,Ahmedabad PHY11 2005-04-15
6 Rajesh Shah 9873451690 rajesh.s@bothra.edu.in 111,Anath Avenue,Memnagar,ahmedabad CHE11 2005-08-20
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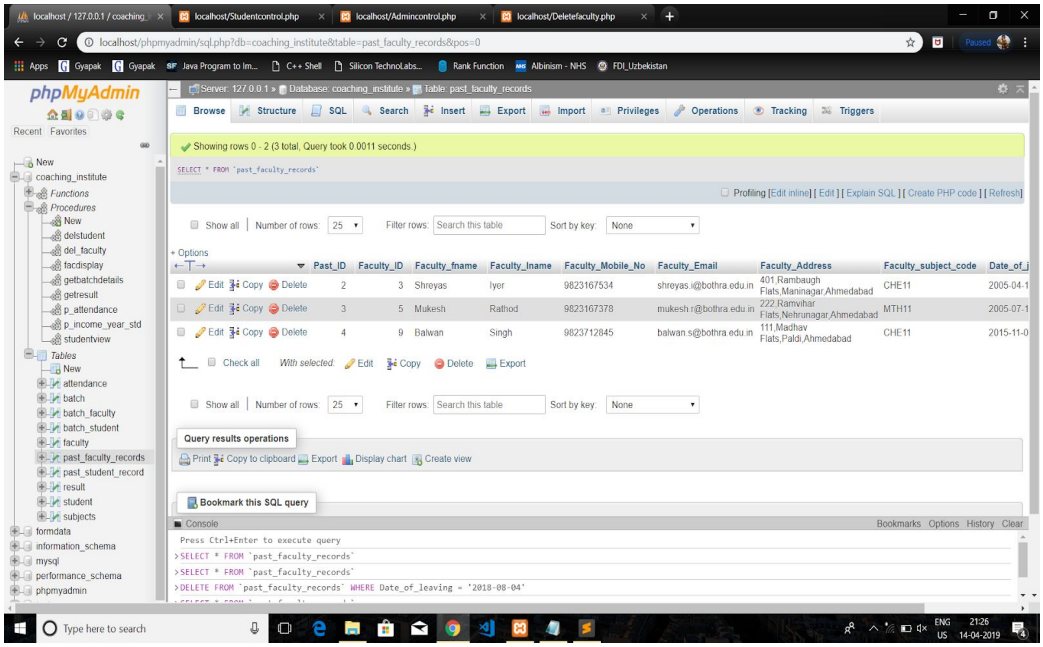
8 Mukesh Patel 9873192561 mukesh.p@bothra.edu.in 111,Shivani Flats,Paldi,Ahmedabad MTH11 2007-06-01
Query results operations
Console
Press Ctrl+Enter to execute query



Description:-

In the above procedure the admin can delete the faculty by clicking on delete faculty button and he will enter the ID of faculty so that faculty will be removed from **faculty** table.And as the faculty will be removed from faculty table that record will pass to another table called **past_faculty_record** which will have details of past faculties present in the institute.

---

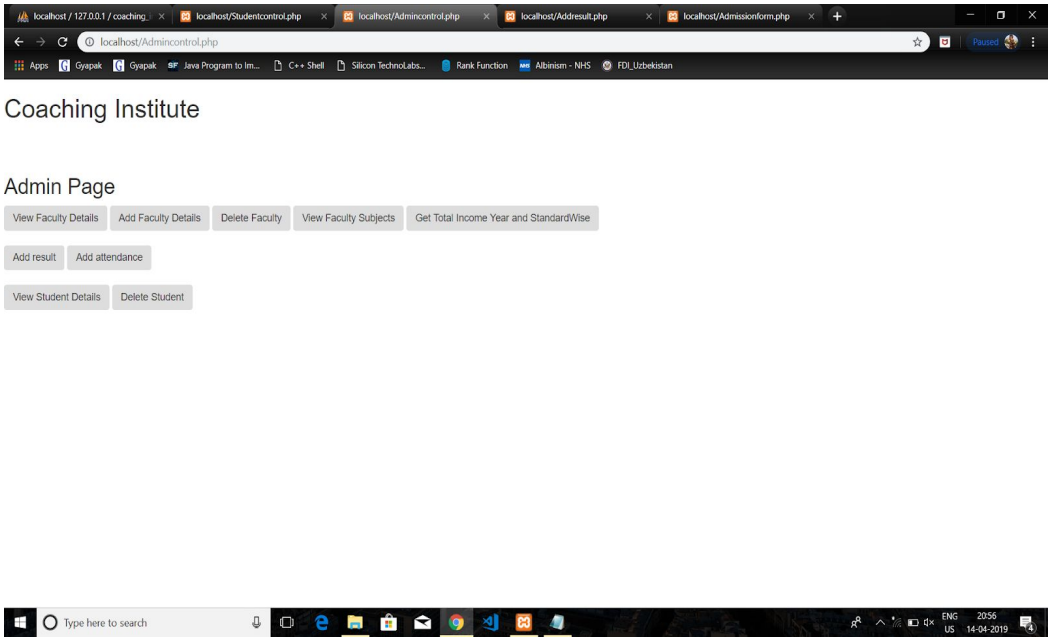
2)

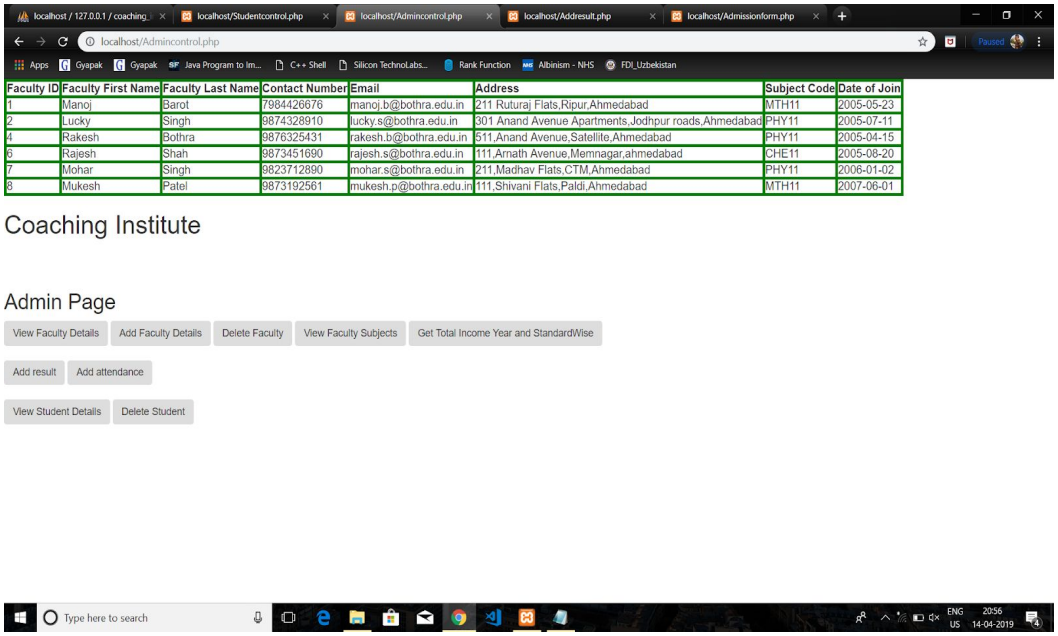
```
DELIMITER $$
CREATE PROCEDURE facdisplay()
BEGIN
SELECT Faculty_fname,Faculty_lname,Subject_Name from faculty,subjects
WHERE faculty.Faculty_subject_code = subjects.Subject_Code;
END $$
DELIMITER;
```

Calling the Procedure:-

'CALL facdisplay()';

Screenshot of Result:-





Faculty ID	Faculty First Name	Faculty Last Name	Contact Number	Email	Address	Subject Code	Date of Join
1	Manoj	Barot	7984426676	manoj.b@bothra.edu.in	211 Ruturaj Flats,Ripur,Ahmedabad	MTH11	2005-05-23
2	Lucky	Singh	9874328910	lucky.s@bothra.edu.in	301 Anand Avenue Apartments,Jodhpur roads,Ahmedabad	PHY11	2005-07-11
4	Rakesh	Bothra	9876325431	rakesh.b@bothra.edu.in	511,Anand Avenue,Satellite,Ahmedabad	PHY11	2005-04-15
6	Rajesh	Shah	9873451690	rajesh.s@bothra.edu.in	111,Arnath Avenue,Memnagar,ahmedabad	CHE11	2005-08-20
7	Mohar	Singh	9823712890	mohar.s@bothra.edu.in	211,Madhav Flats,CTM,Ahmedabad	PHY11	2006-01-02
8	Mukesh	Patel	9873192561	mukesh.p@bothra.edu.in	111,Shivani Flats,Paldi,Ahmedabad	MTH11	2007-06-01

Description:-

In the above procedure if admin clicks on View Faculty Details button then he would get the details of all faculties from **faculty** table.

---

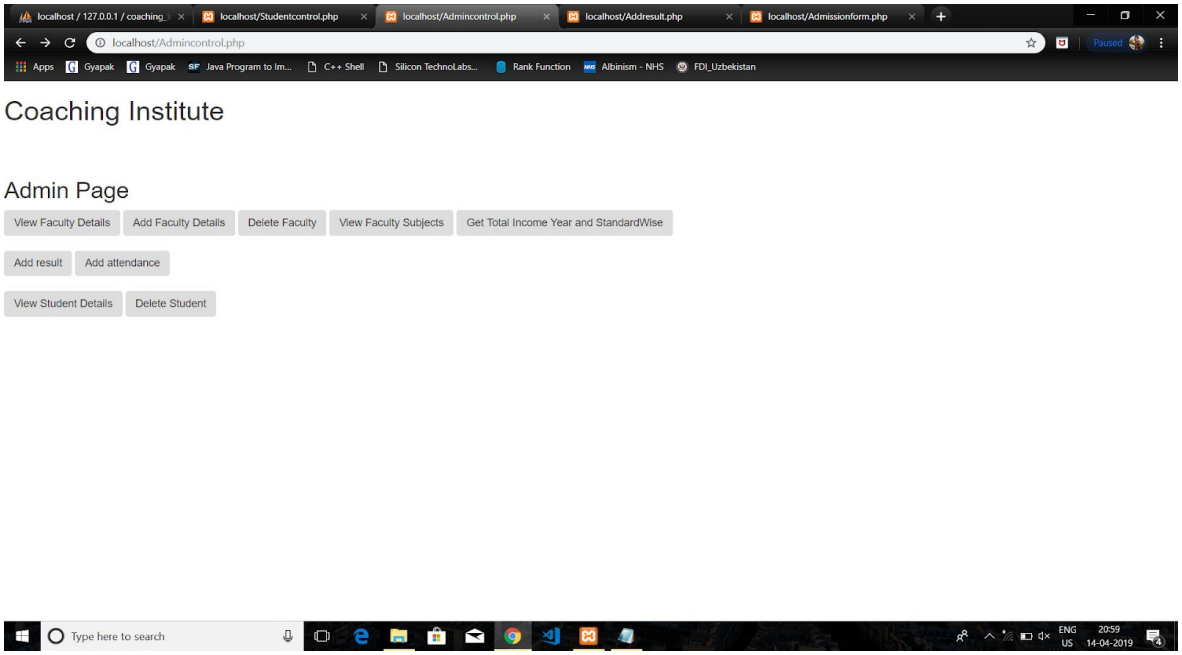
3)

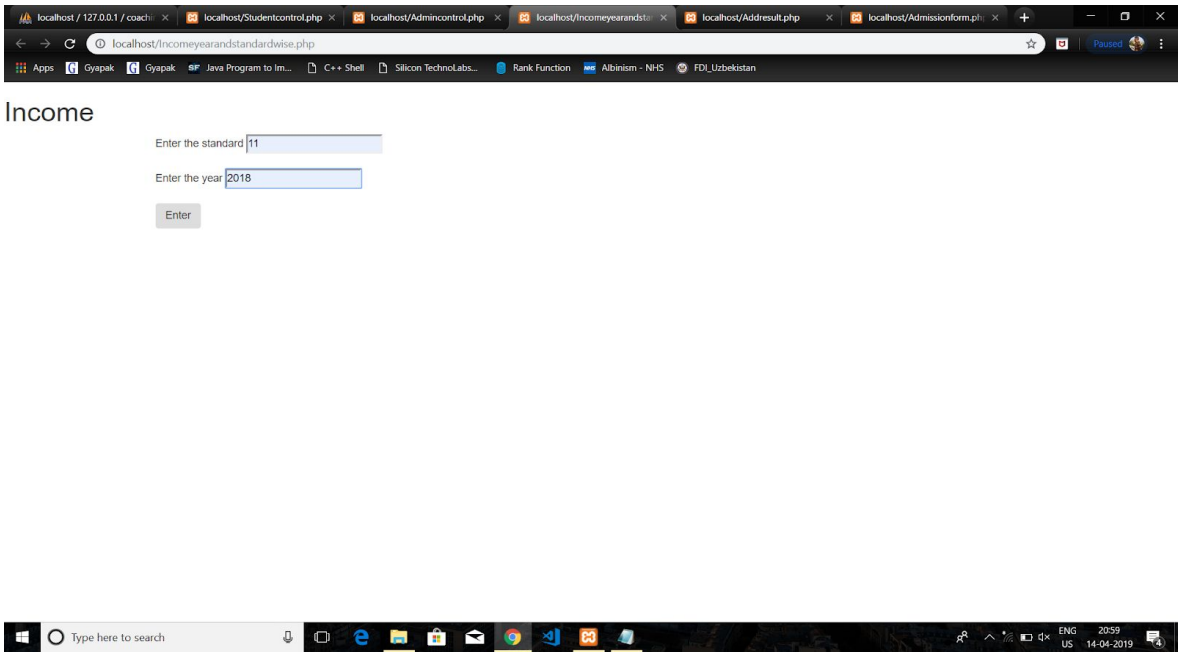
```
 DELIMITER $$
CREATE PROCEDURE p_income_year_std(IN year VARCHAR(5),IN std INT(5))
BEGIN
        SELECT SUM(Fees) FROM student WHERE YEAR(Joining_Date) = year AND Standard=std;
END $$
DELIMITER ;
```

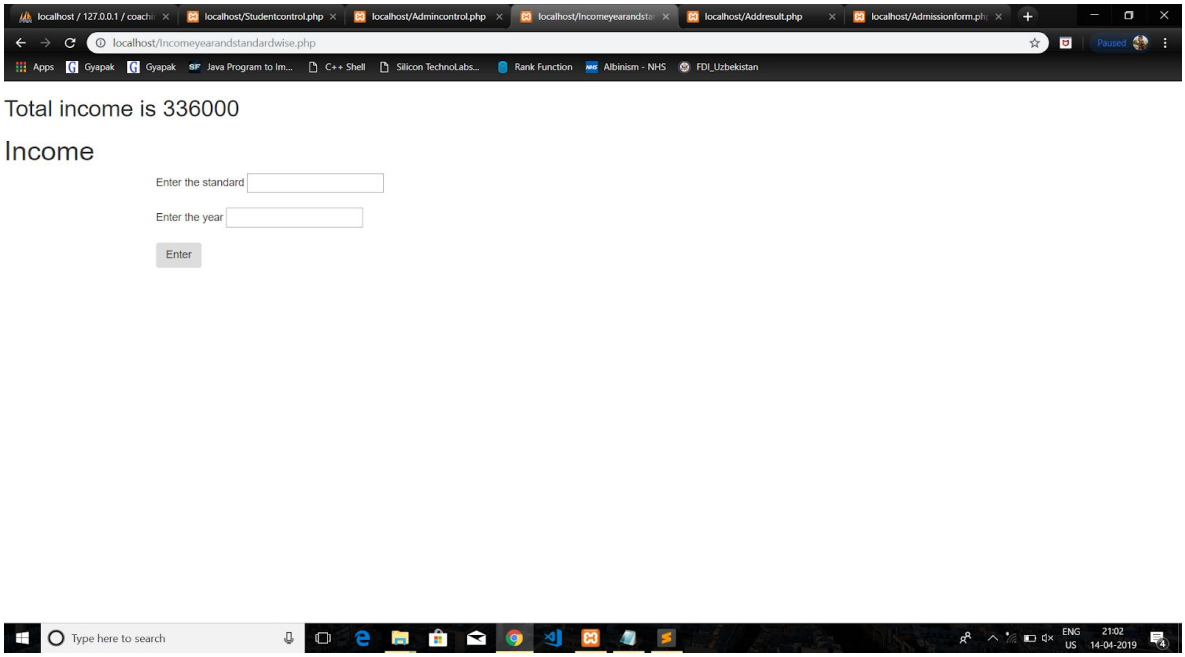
Calling the Procedure:-

'CALL p_income_year_std(2018,11)';

Screenshot of Result:-


localhost / 127.0.0.1 / coaching
localhost/Studentcontrol.php
localhost/Admincontrol.php
localhost/Addresult.php
localhost/Admissionform.php
localhost/Admincontrol.php
Coaching Institute
Admin Page
View Faculty Details
Add Faculty Details
Delete Faculty
View Faculty Subjects
Get Total Income Year and StandardWise
Add result
Add attendance
View Student Details
Delete Student
Type here to search


localhost / 127.0.0.1 / coach
localhost/Studentcontrol.php
localhost/Admincontrol.php
localhost/Incomeyearandsta
localhost/Addresult.php
localhost/Admissionform.ph
localhost/Incomeyearandstandardwise.php
Income
Enter the standard 11
Enter the year 2018
Enter
Type here to search



Description:-

The above procedure is used to calculate income of the **coaching institute** by taking input as standard and year. So the income of only 11 standard will be displayed in year 2018 for the above figures.Also if user inputs standard 12 and any other year income than also income of that particular standard and year will be displayed.

---

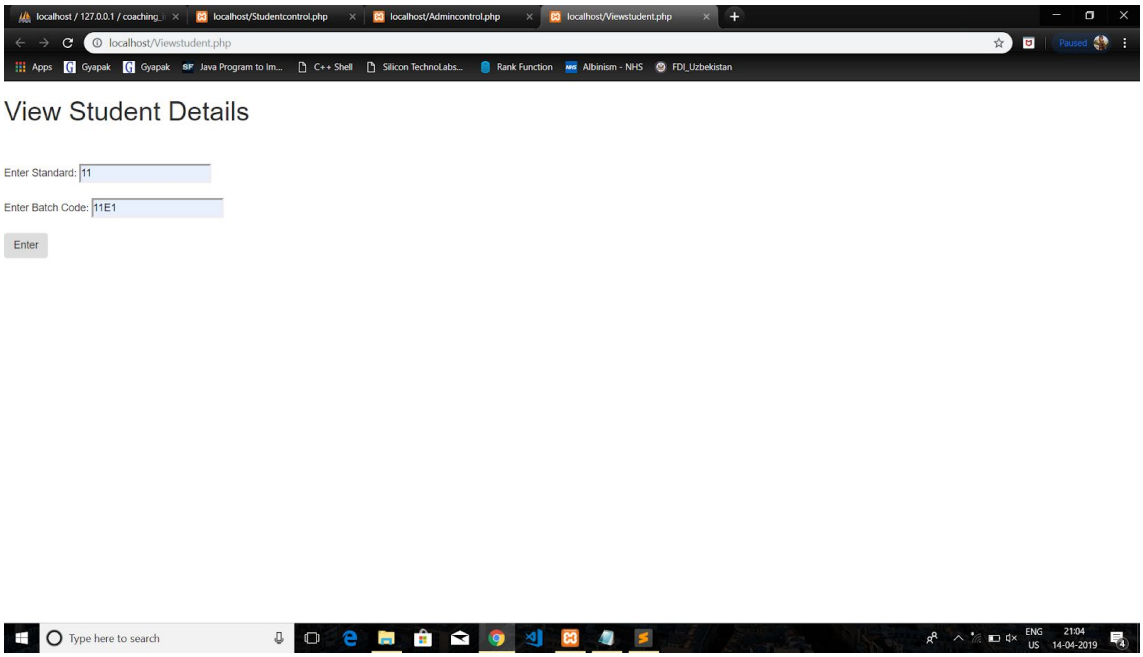
4)

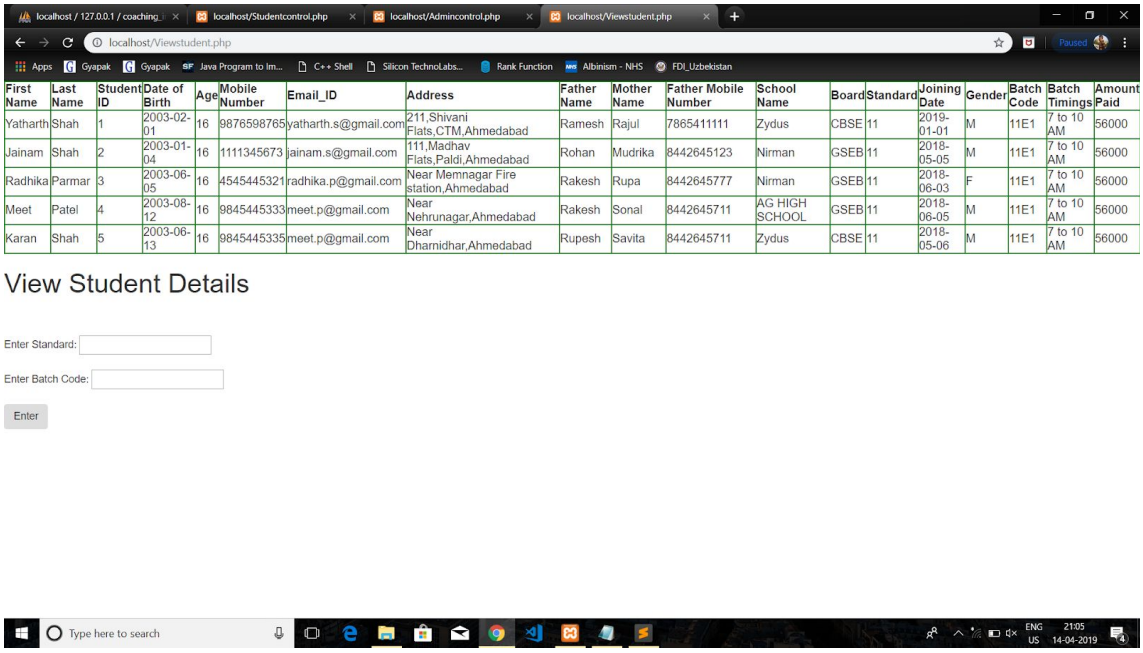
```
DELIMITER $$
CREATE PROCEDURE studentview(IN stand VARCHAR(5),IN batch_code VARCHAR(10))
BEGIN
        SELECT * FROM student
        WHERE Batch_ID = batch_code AND Standard = stand;
END $$
DELIMITER ;
```

Calling the Procedure:-

'CALL studentview('11','11E1')';

Screenshot of Result:-





First Name	Last Name	Student ID	Date of Birth	Age	Mobile Number	Email_ID	Address	Father Name	Mother Name	Father Mobile Number	School Name	Board	Standard	Joining Date	Gender	Batch Code	Batch Timings	Amount Paid
Yatharth	Shah	1	2003-02-01	16	9876598765	yatharth.s@gmail.com	211,Shivani Flats,CTM,Ahmedabad	Ramesh	Rajul	7865411111	Zydus	CBSE	11	2019-01-01	M	11E1	7 to 10 AM	56000
Jainam	Shah	2	2003-01-04	16	1111345673	jainam.s@gmail.com	111,Madhav Flats,Paldi,Ahmedabad	Rohan	Mudrika	8442645123	Nirman	GSEB	11	2018-05-05	M	11E1	7 to 10 AM	56000
Radhika	Parmar	3	2003-06-05	16	4545445321	radhika.p@gmail.com	Near Memnagar Fire station,Ahmedabad	Rakesh	Rupa	8442645777	Nirman	GSEB	11	2018-06-03	F	11E1	7 to 10 AM	56000
Meet	Patel	4	2003-08-12	16	9845445333	meet.p@gmail.com	Near Nehrunagar,Ahmedabad	Rakesh	Sonal	8442645711	AG HIGH SCHOOL	GSEB	11	2018-06-05	M	11E1	7 to 10 AM	56000
Karan	Shah	5	2003-06-13	16	9845445335	meet.p@gmail.com	Near Dharnidhar,Ahmedabad	Rupesh	Savita	8442645711	Zydus	CBSE	11	2018-05-06	M	11E1	7 to 10 AM	56000

Description:-

In the above procedure if admin wants to see the details of student batch-wise and standard then he will have to give that as an input and so the result of students of that particular batch will be displayed.

---

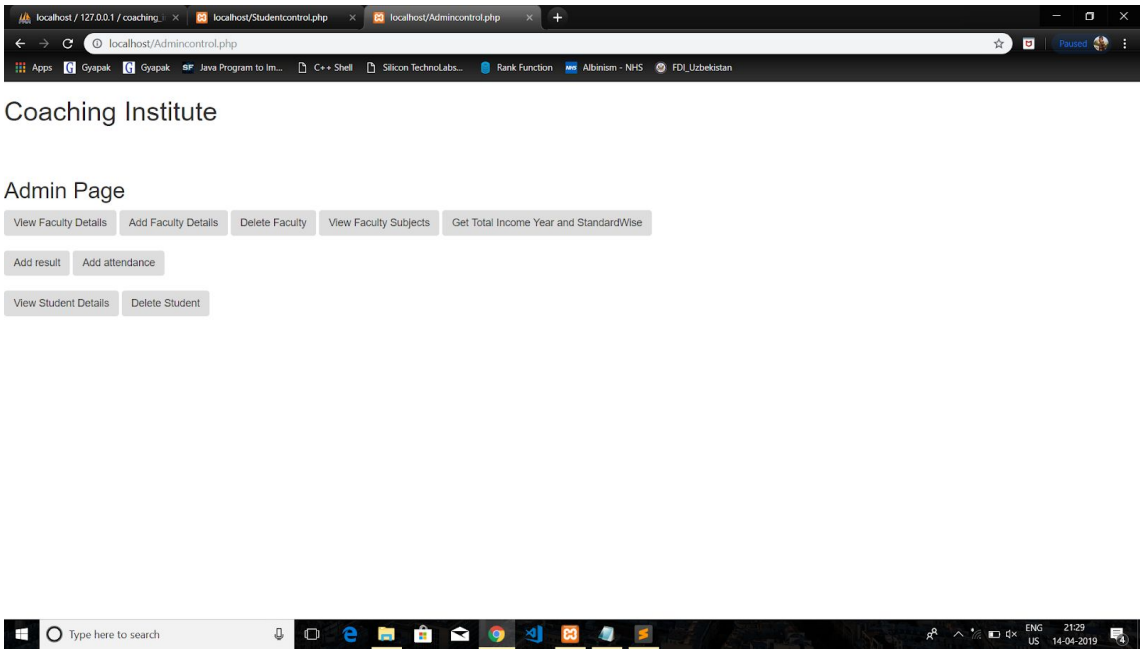
5)

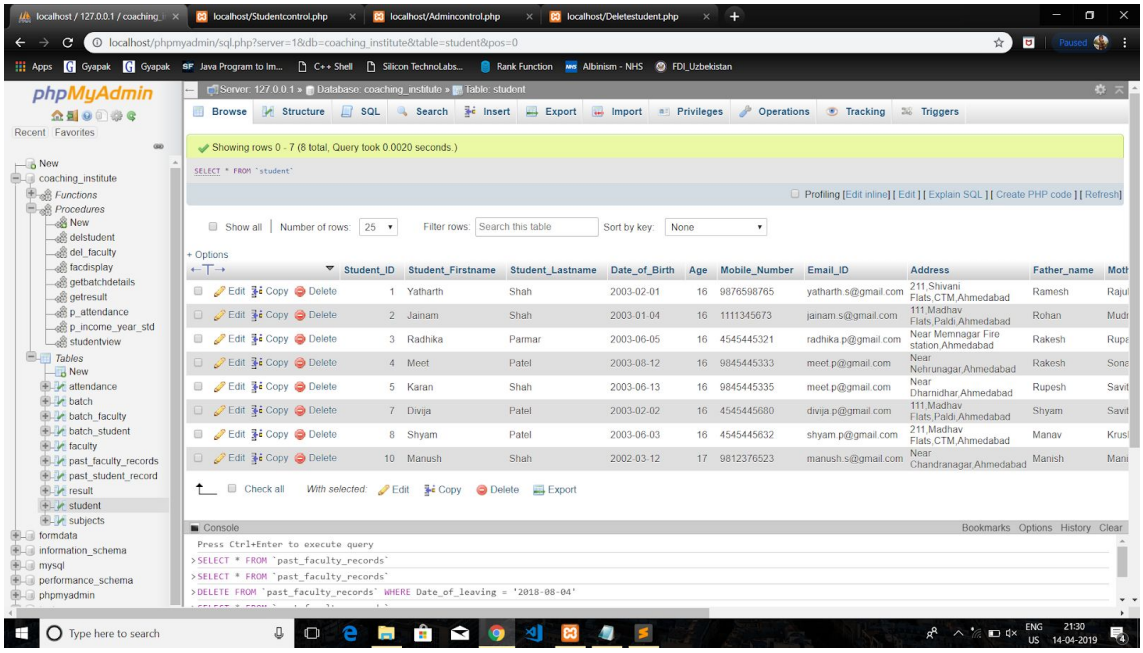
```
DELIMITER $$

CREATE PROCEDURE delstudent(IN id TINYINT(10),IN dateofleave DATE)

BEGIN

INSERT INTO
past_student_record(Student_ID,Student_fname,Student_lname,Student_Mobile_No,Email,Address,Batch_ID,Date_of_join)

SELECT
Student_ID,Student_Firstname,Student_Lastname,Mobile_Number,Email_ID,Address,Batch_ID,Joining_Date FROM student WHERE Student_ID = id;

DELETE FROM student WHERE Student_ID = id;

END $$

DELIMITER ;
```

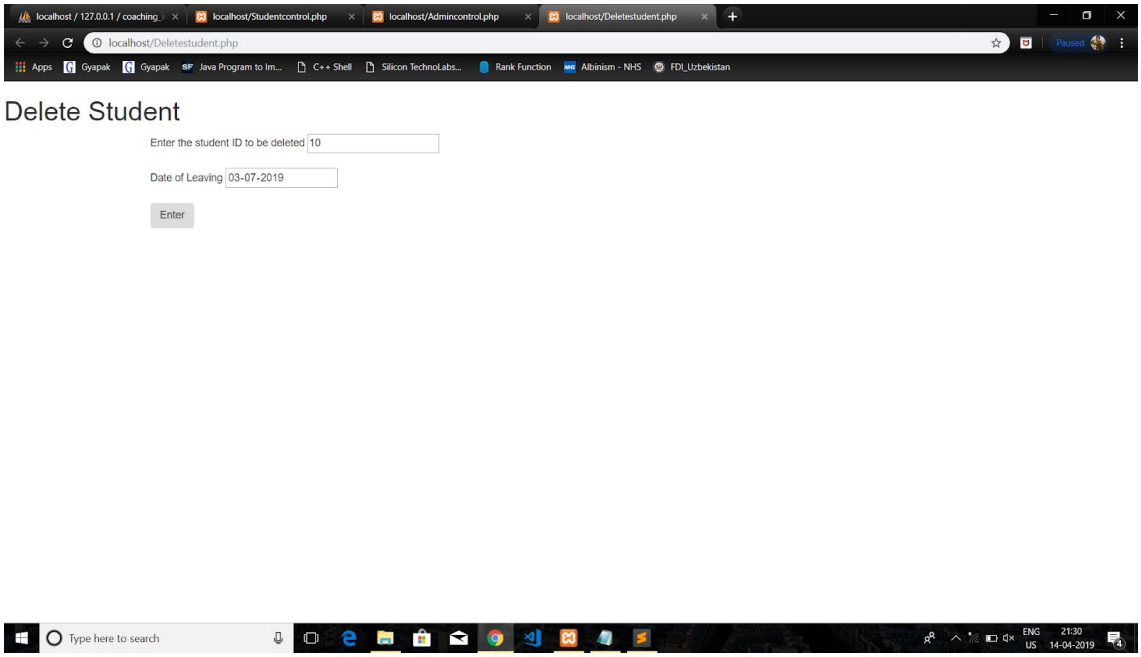
Calling the Procedure:-

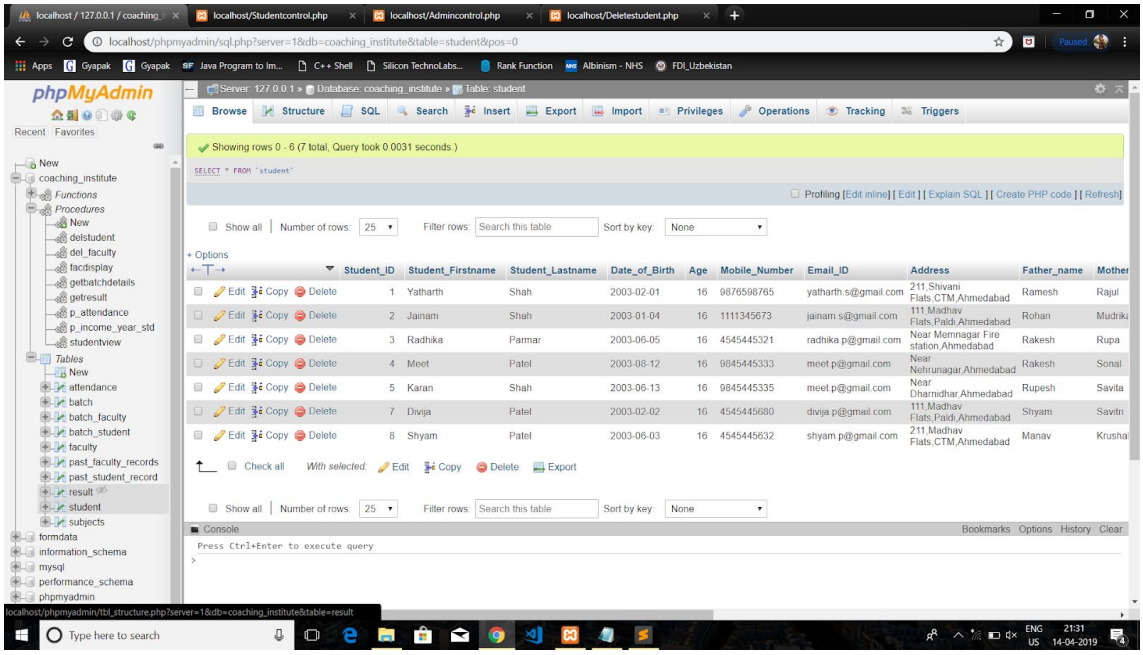
'CALL delstudent(8,'2018-02-01')';

Screenshot of Result:-


localhost/Admincontrol.php
Coaching Institute
Admin Page
View Faculty Details
Add Faculty Details
Delete Faculty
View Faculty Subjects
Get Total Income Year and StandardWise
Add result
Add attendance
View Student Details
Delete Student


localhost/phpmyadmin/sql.php?server=1&db=coaching_institute&table=student&pos=0
phpMyAdmin
Server: 127.0.0.1 » Database: coaching_institute » Table: student
Browse
Structure
SQL
Search
Insert
Export
Import
Privileges
Operations
Tracking
Triggers
Showing rows 0 - 7 (8 total, Query took 0.0020 seconds.)
SELECT * FROM `student`
Student_ID
Student_Firstname
Student_Lastname
Date_of_Birth
Age
Mobile_Number
Email_ID
Address
Father_name
Console





Description:-

In the above procedure if the admin wants to delete the student from **student** table than he will have to enter the student id so that student will be deleted and also that record will be saved in **past_student_record.**

---

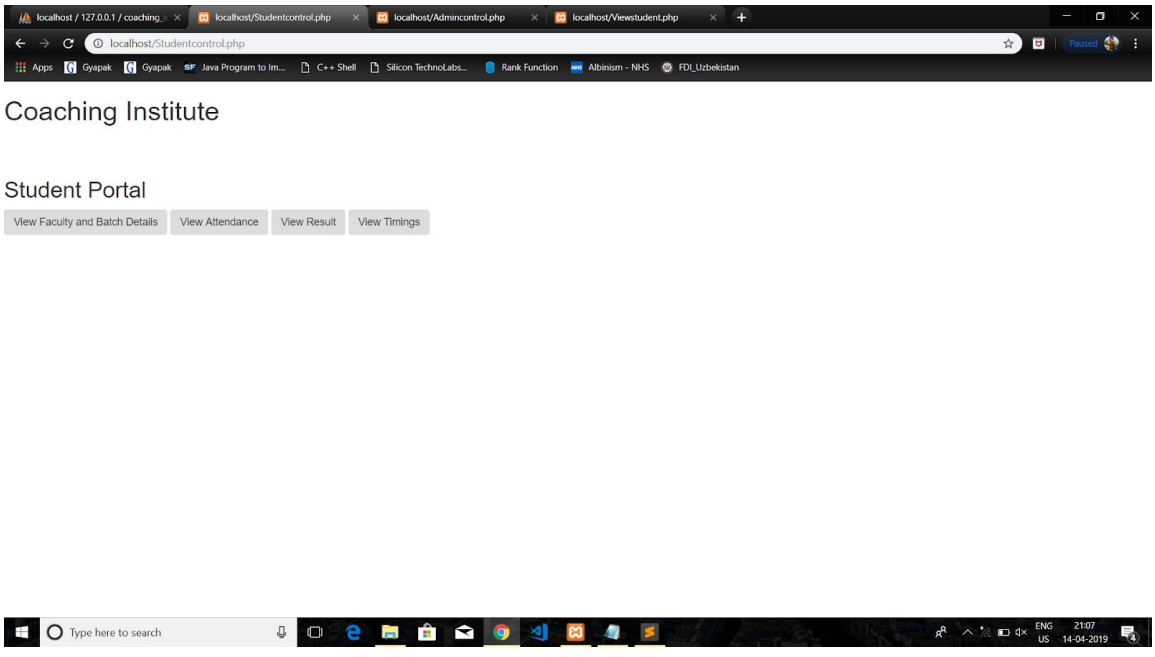
6)

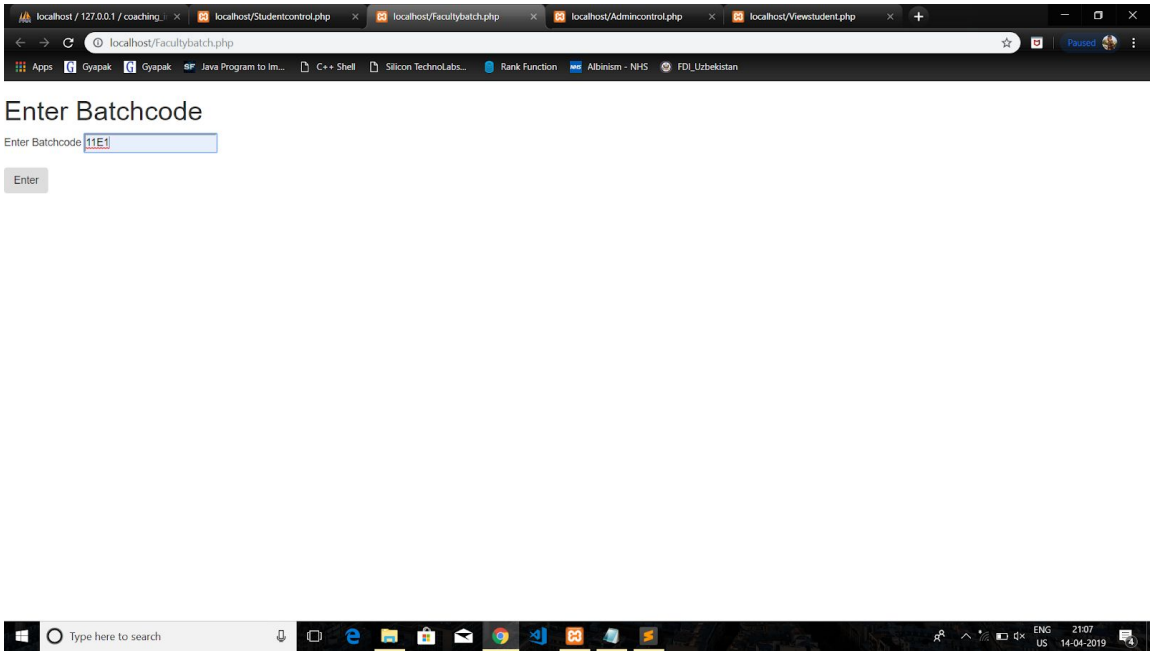
```
DELIMITER $$
CREATE PROCEDURE getbatchdetails(IN batchcode VARCHAR(10))
BEGIN

SELECT
faculty.Faculty_fname,faculty.Faculty_lname,faculty.Faculty_subject_code,faculty.Faculty_ID,batch_faculty.Batch_Code,subjects.Subject_Name
FROM faculty,batch_faculty,subjects
 WHERE batch_faculty.Faculty_ID = faculty.Faculty_ID AND
batch_faculty.Batch_Code = batchcode AND
faculty.Faculty_subject_code = subjects.Subject_Code;
END $$
DELIMITER;
```

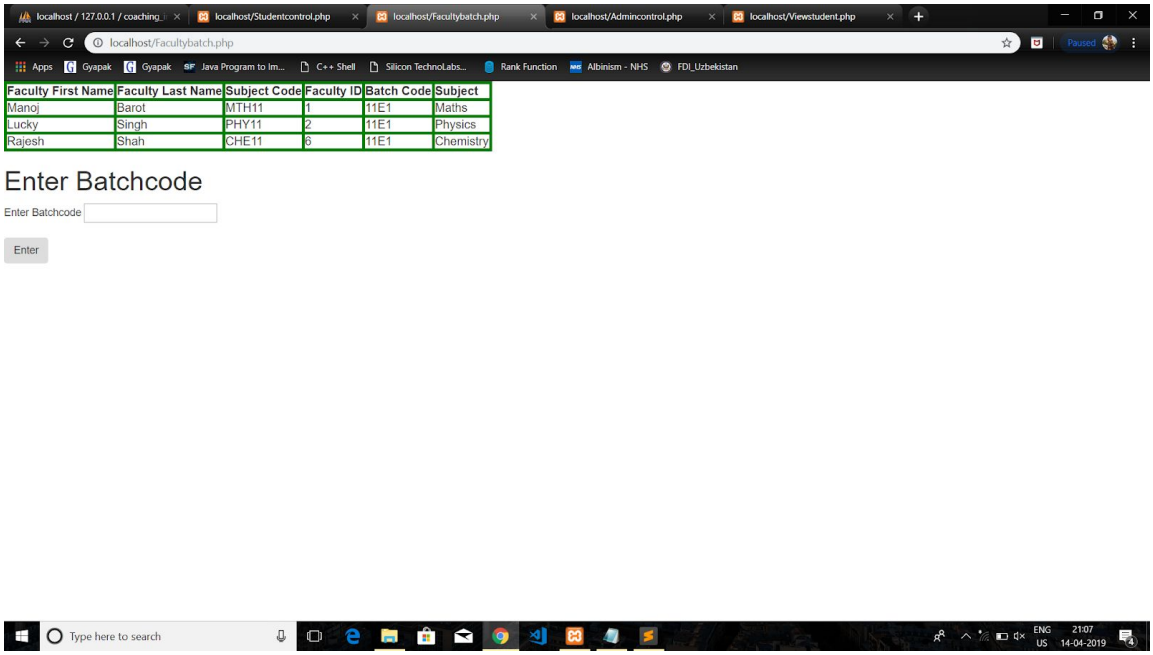
Calling the Procedure:-

'CALL getbatchdetails('11E1')';

Screenshot of Result:-


localhost / 127.0.0.1 / coaching
localhost/Studentcontrol.php
localhost/Admincontrol.php
localhost/Viewstudent.php
localhost/Studentcontrol.php
Coaching Institute
Student Portal
View Faculty and Batch Details
View Attendance
View Result
View Timings


localhost / 127.0.0.1 / coaching
localhost/Studentcontrol.php
localhost/Facultybatch.php
localhost/Admincontrol.php
localhost/Viewstudent.php
localhost/Facultybatch.php
Enter Batchcode
Enter Batchcode
11E1
Enter



Description:-

If student wants to know which faculty takes which subject in particular batch then above procedure is used to take batch-code as input from student.

---

7)

```
DELIMITER $$
CREATE PROCEDURE p_attendane(IN s_id TINYINT(10))
BEGIN
        SET @x=f_totalWorking(s_id);
        SET @y=f_present(s_id);
        SELECT (@y/@x)*100 AS Attendance;
END $$
DELIMITER ;
```

Function for above procedure:-

```
DELIMITER $$
CREATE FUNCTION f_totalWorking(sid TINYINT(10))
BEGIN
	RETURN(SELECT COUNT(*) FROM attendance WHERE Student_ID=s_id AND
Attendance='P');
END $$
DELIMITER ;
```

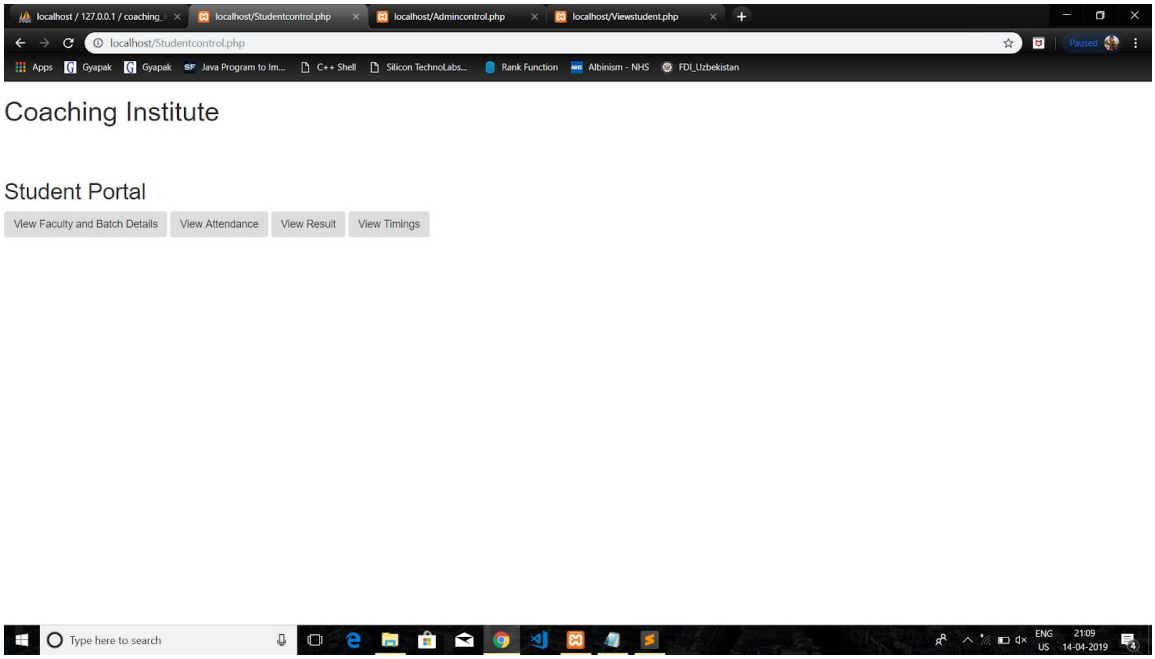
Function for above procedure:-

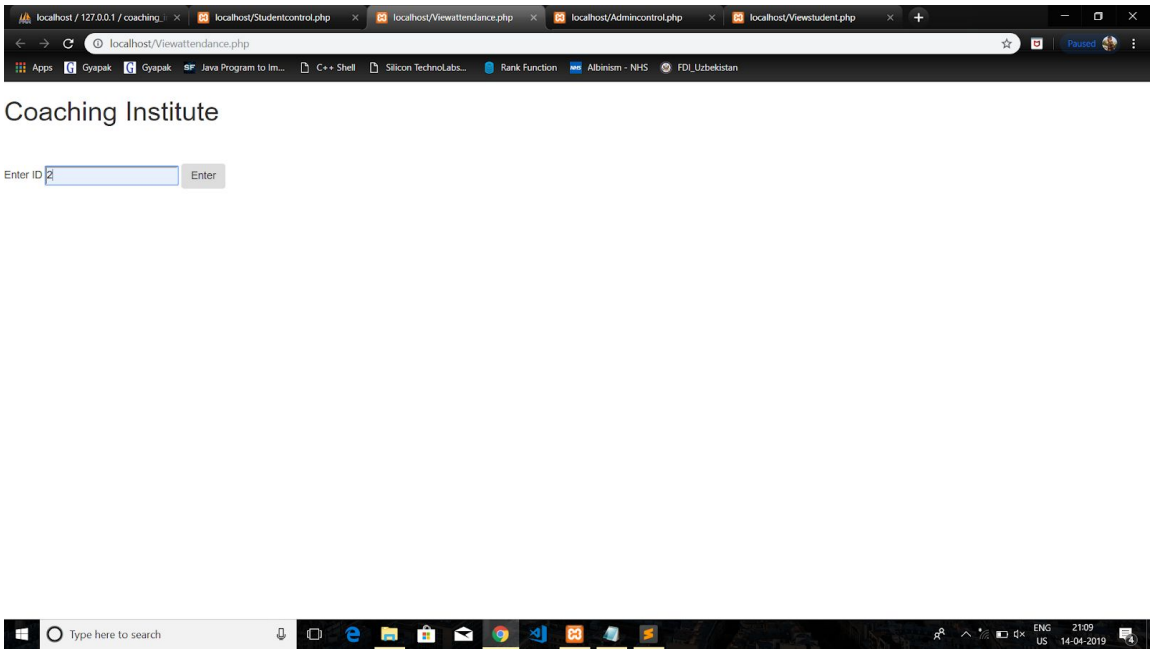
```
DELIMITER $$
CREATE FUNCTION f_present(sid TINYINT(10))
BEGIN
	RETURN(SELECT COUNT(*) FROM attendance WHERE Student_ID=s_id);
END $$
DELIMITER ;
```

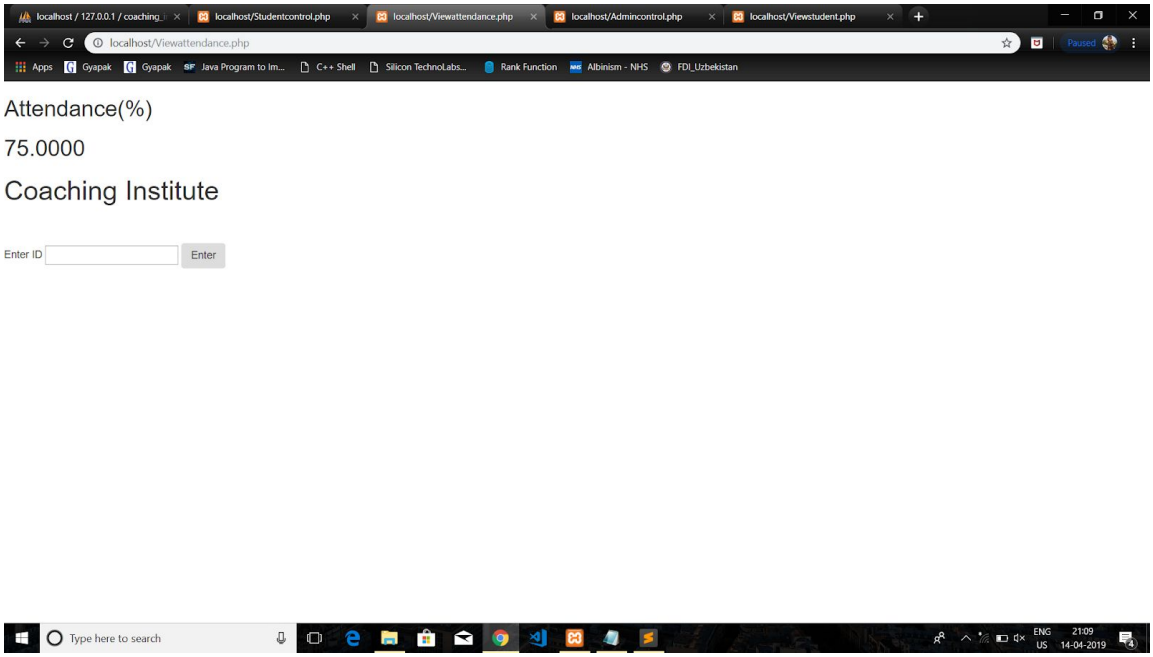
Calling the Procedure:-

'CALL p_attendane(2)';

Screenshot of Result:-


localhost / 127.0.0.1 / coaching
localhost/Studentcontrol.php
localhost/Admincontrol.php
localhost/Viewstudent.php
localhost/Studentcontrol.php
Coaching Institute
Student Portal
View Faculty and Batch Details
View Attendance
View Result
View Timings
Type here to search


localhost / 127.0.0.1 / coaching
localhost/Studentcontrol.php
localhost/Viewattendance.php
localhost/Admincontrol.php
localhost/Viewstudent.php
localhost/Viewattendance.php
Coaching Institute
Enter ID 2
Enter
Type here to search



Description:-

If the student wants to know his attendance then above procedure is used.Above procedure will take student-id as input and will calculate the attendance in percentage.Count of attendance of the particular student id will be checked from **attendance** table and then percentage will be calculated by dividing it with total working days and hence attendance will be calculated in percentage.

---

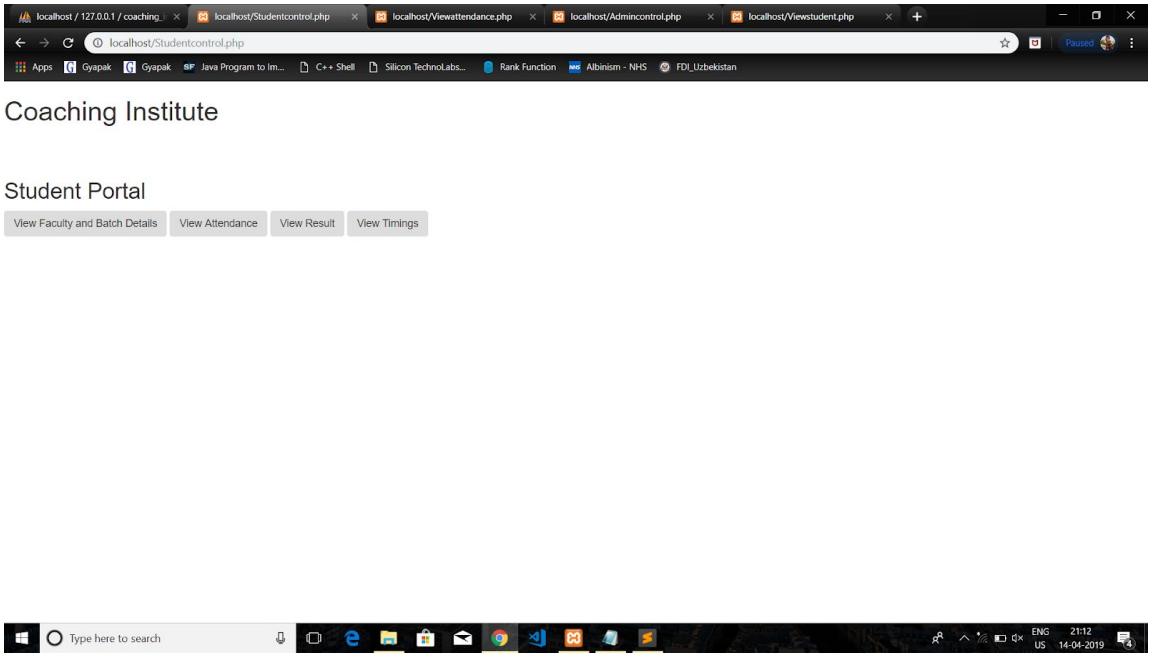
8)

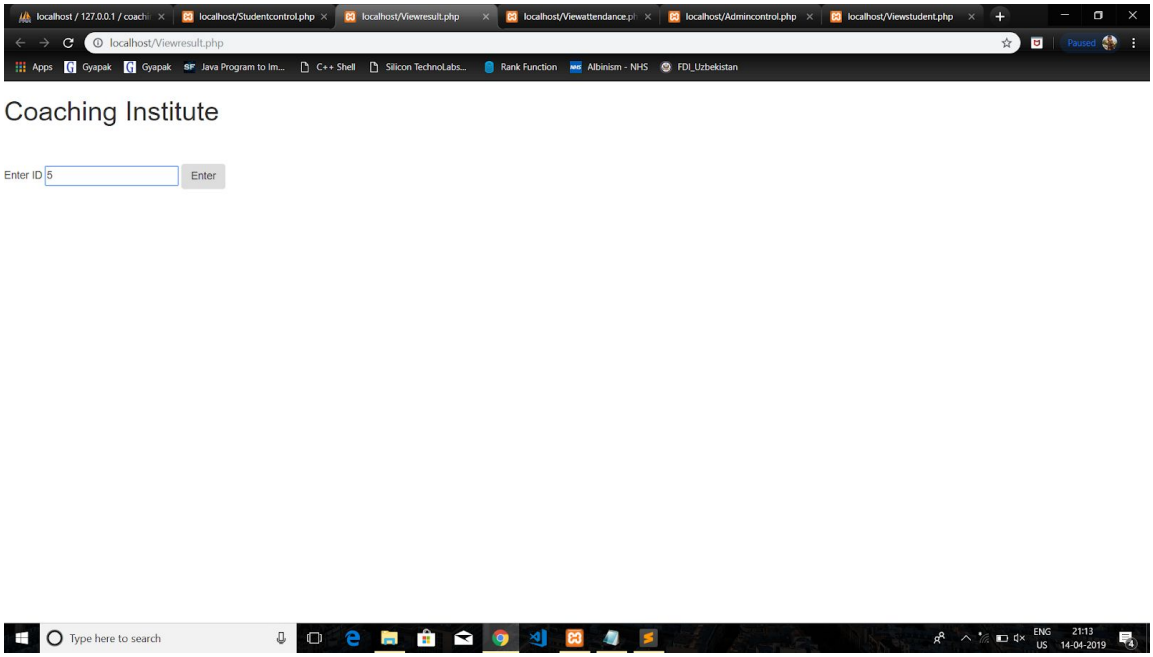
```
DELIMITER $$

CREATE PROCEDURE getresult(IN sid TINYINT(10))

BEGIN

SELECT Maths,Physics,Chemistry,Obtained_Marks,Maximum_Marks,Exam_Date FROM result
WHERE Student_ID = sid;

END $$

DELIMITER ;
```

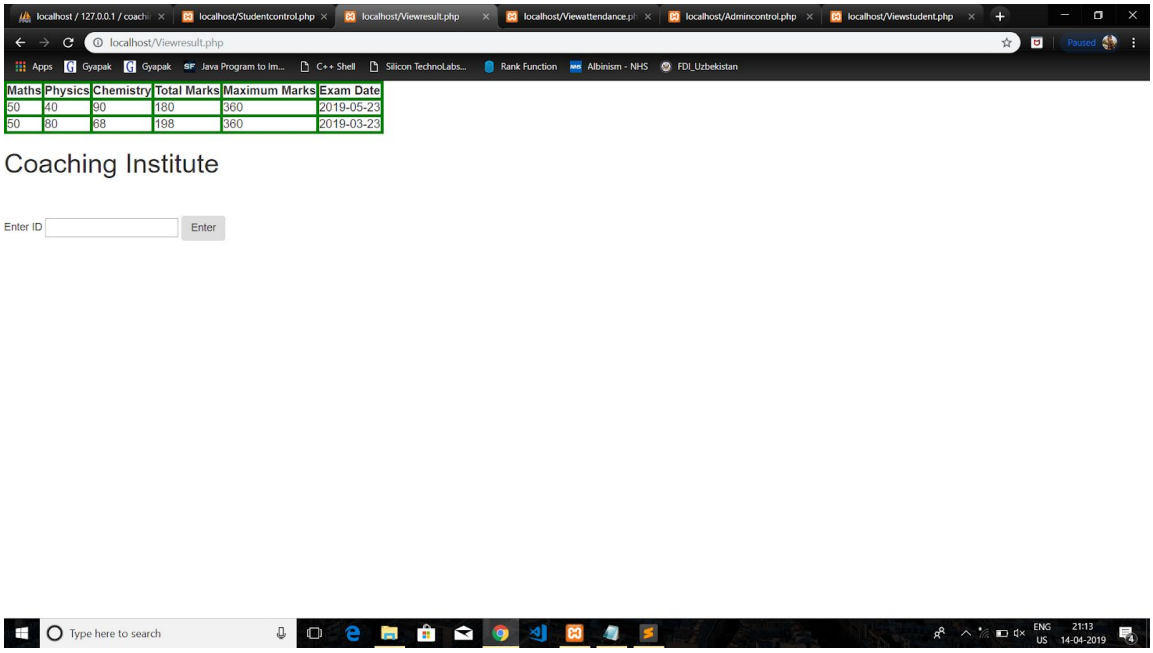
Calling the Procedure:-

'CALL getresult(4)';

Screenshot of Result:-







Description:-

If the student wants to know his result of the tests given than he will click on View Result button and the marks of three different subjects ,his total marks and date of exam will be displayed.The above procedure occurs by taking input as student id.

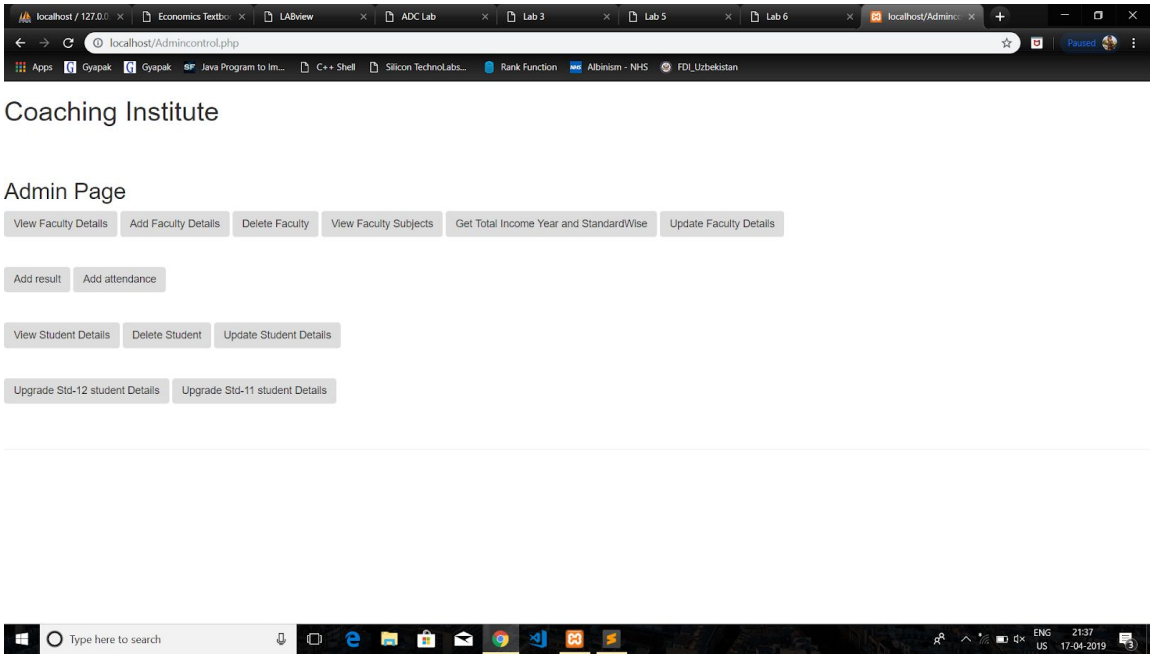
9)

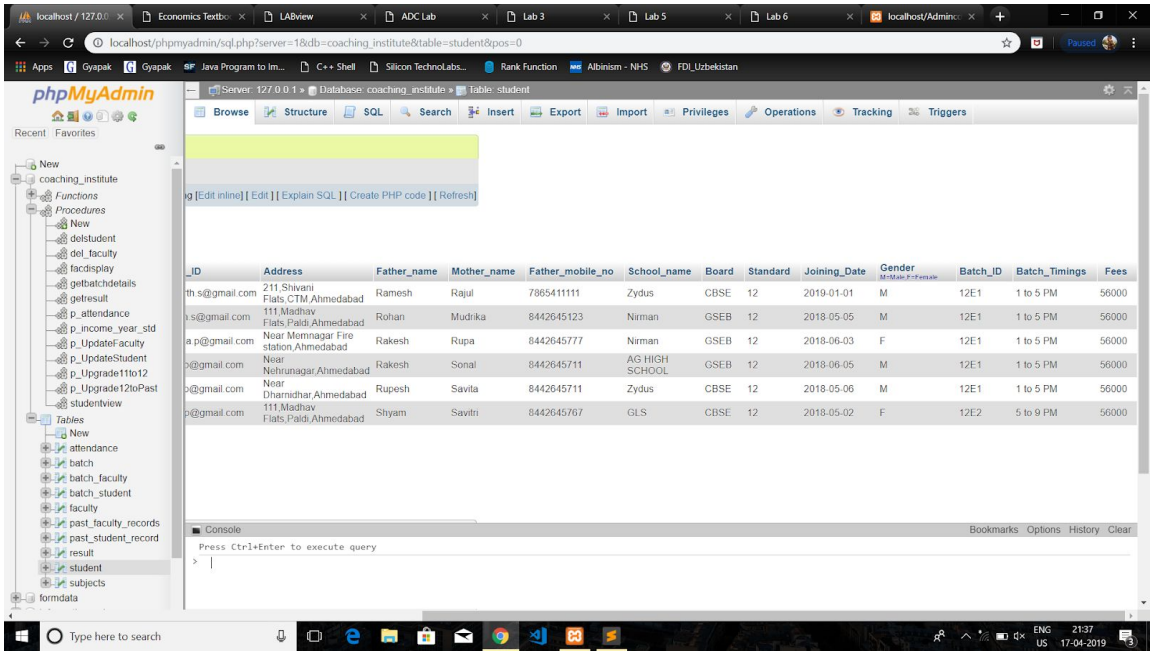
```
DELIMITER $$
CREATE PROCEDURE p_Upgrade11to12()
BEGIN
        UPDATE student SET Batch_ID='12E1',Batch_Timings = '1 to 5 PM',Standard = 12 WHERE Batch_ID='11E1';
        UPDATE student SET Batch_ID='12E2',Batch_Timings = '5 to 9 PM',Standard = 12 WHERE Batch_ID='11E2';
END$$
DELIMITER ;
```

Calling the procedure:-

'CALL p_Upgrade11to12()';

Screenshot of Result :-





Description:-

When the first year of 11 standard students will be completed and if they continue their admission then admin will click on Upgrade standard 11 student details and all the details like their batch code,batch timings and faculties would change.

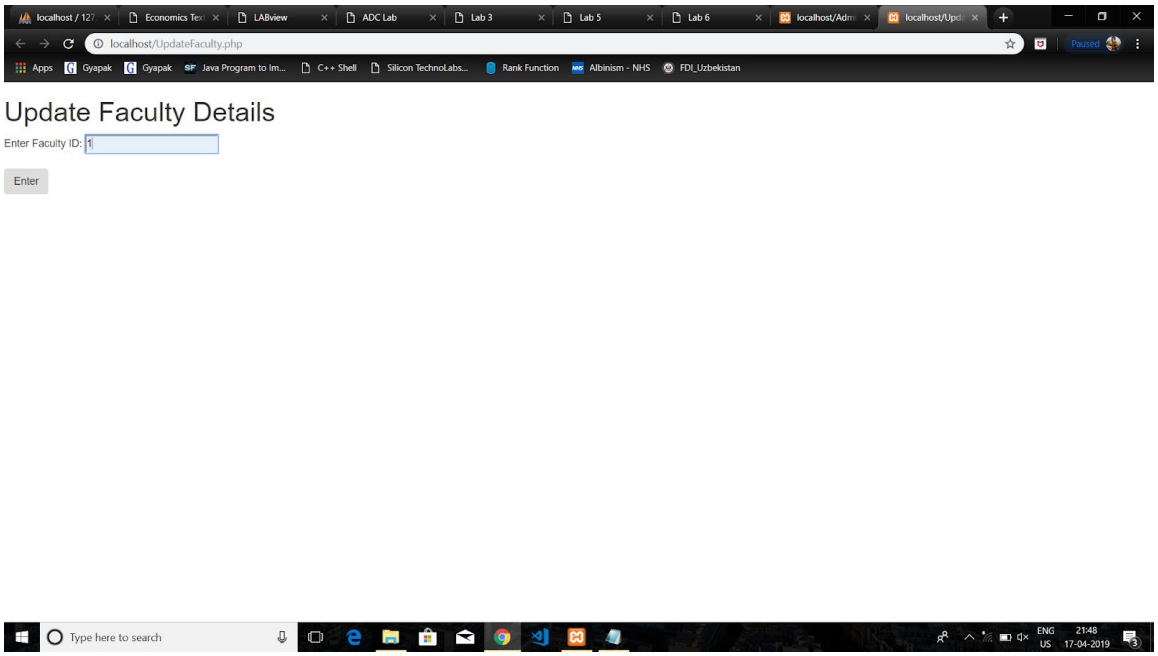
10)

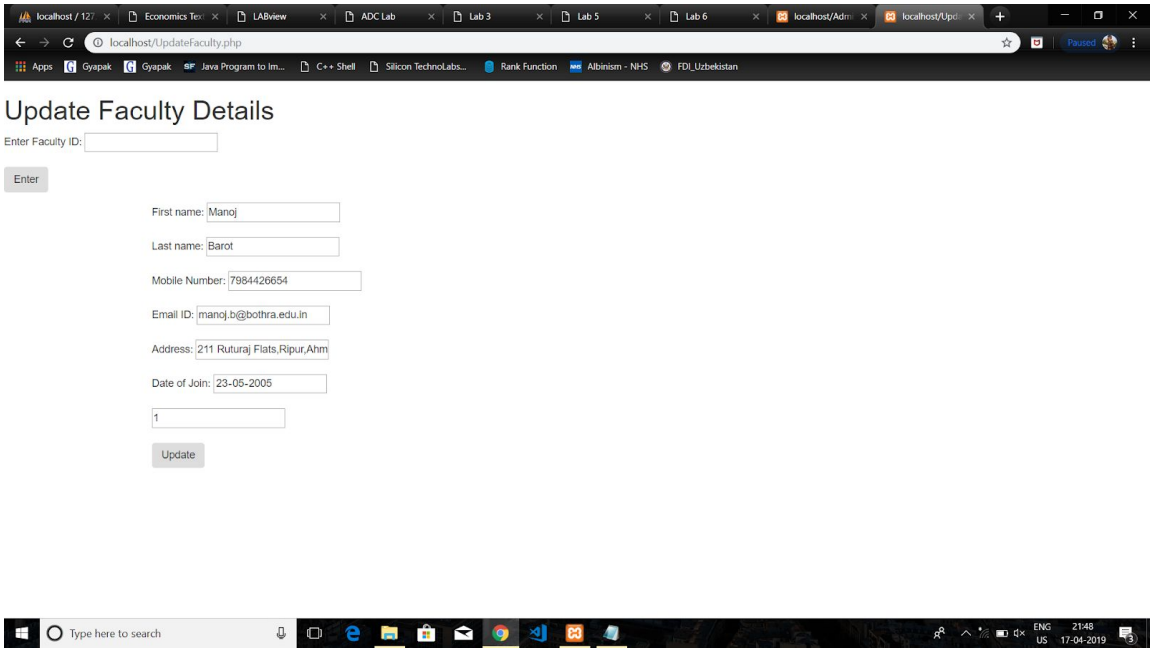
```
DELIMITER $$

CREATE PROCEDURE p_UpdateFaculty(IN fid INT,IN ffn VARCHAR(25),IN fln VARCHAR(25),IN fmn VARCHAR(15),IN fe VARCHAR(60),IN fa VARCHAR(255),IN fdoj DATE)

BEGIN

        UPDATE faculty SET Faculty_fname = ffn, Faculty_lname = fln, Faculty_Mobile_No = fmn, Faculty_Email = fe, Faculty_Address = fa, Date_of_join = fdoj

        WHERE Faculty_ID = fid;

END $$

DELIMITER ;
```

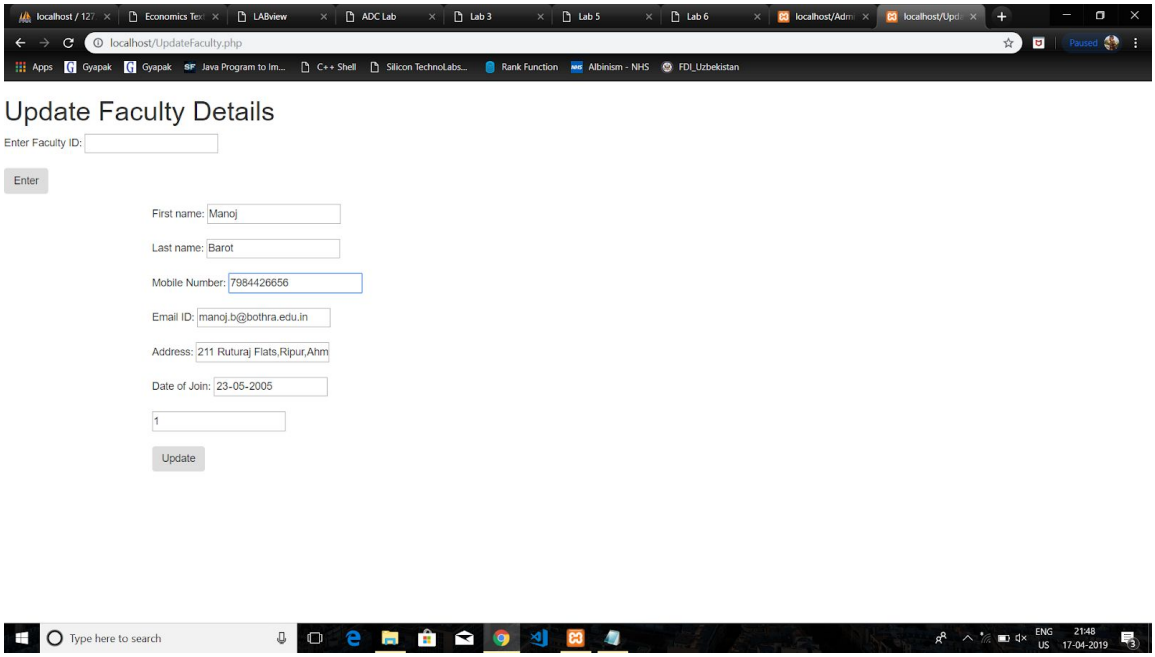
Calling the procedure:-

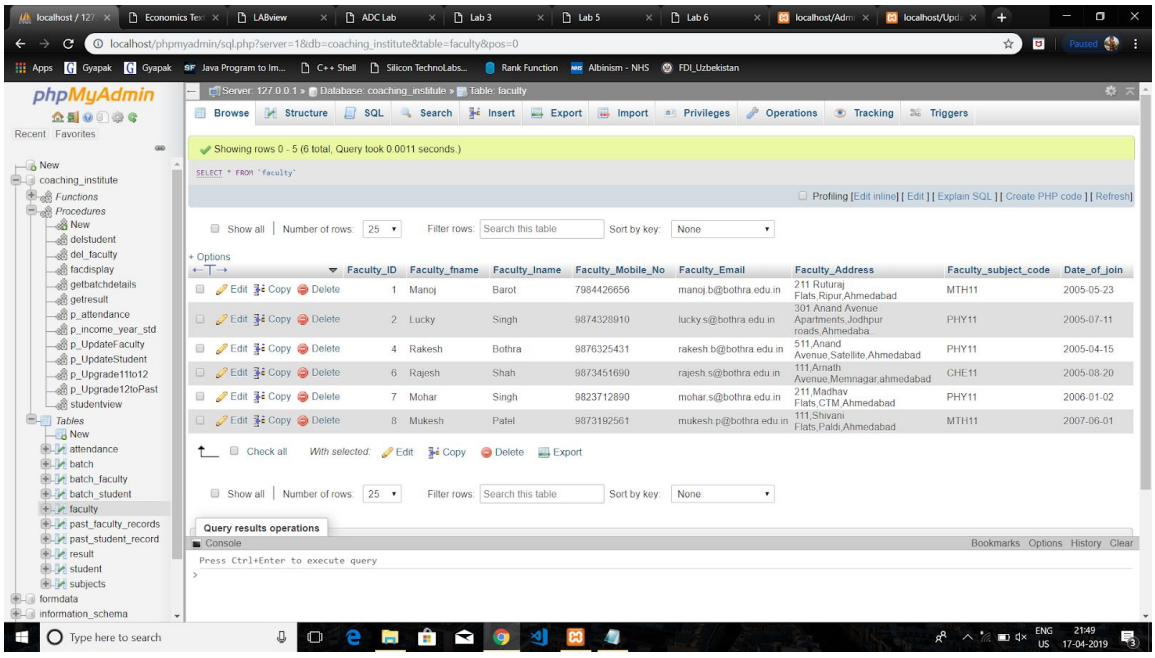
'CALL p_UpdateFaculty('1','Manoj','Barot','7984426656','manoj.b@bothra.edu.in','211 Ruturaj Flats,Ripur,Ahmedabad','2005-05-23')';

Screenshot of Result:-









Description:-

If there is any change in faculty details then admin will click on update faculty details button and then he would enter the ID of the faculty of which he want to update.Then he will update the details like mobile number or email-id or address of the faculty.

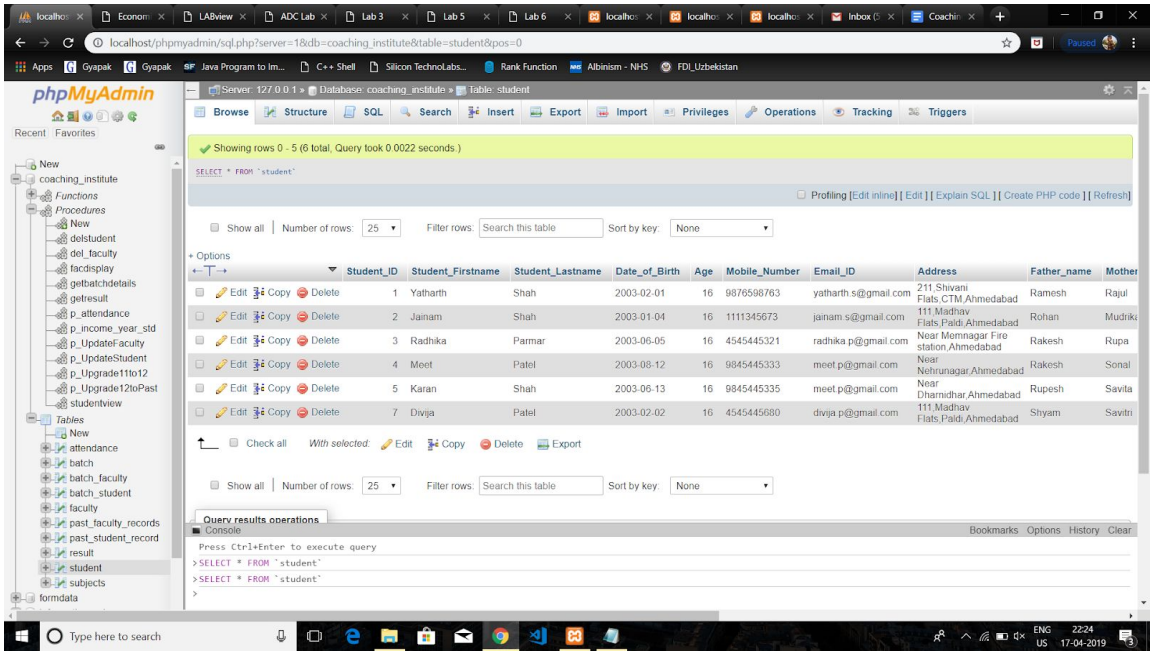
11)

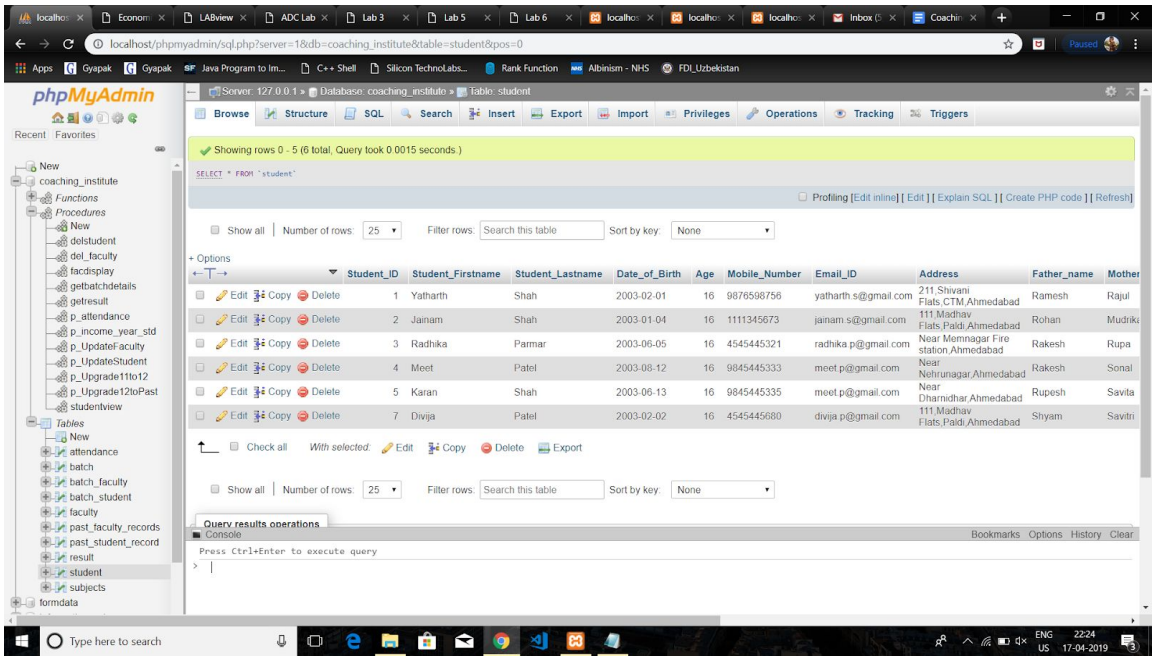
```
DELIMITER $$

CREATE PROCEDURE p_UpdateStudent(IN sid INT,IN sfn VARCHAR(25),IN sln VARCHAR(25),IN smn VARCHAR(15),IN se VARCHAR(60),IN sa VARCHAR(255),IN dob DATE,IN age INT(2),IN fn VARCHAR(25),IN mn VARCHAR(25),IN fmn VARCHAR(15),IN ss VARCHAR(40),IN brd VARCHAR(15),IN sdoj DATE)

BEGIN

	UPDATE student SET Student_Firstname = sfn, Student_Lastname = sln, Date_of_Birth = dob, Age = age, Mobile_Number = smn, Email_ID = se, Address = sa, Father_name = fn, Mother_name = mn, Father_mobile_no = fmn, School_name = ss, Board = brd, Joining_Date = sdoj

	WHERE Student_ID = sid;

END $$

DELIMITER ;
```

Calling the procedure:-

```
'CALL
p_UpdateStudent('1','Yatharth','Shah','2003-02-01','17','9876598763','yatharth.s@gmail.com

','211,Shivani
Flats,CTM,Ahmedabad','Ramesh','Rajul','7865411111','Zydus','CBSE','2019-01-01')';
```

Screenshot of Result:-





Description:-

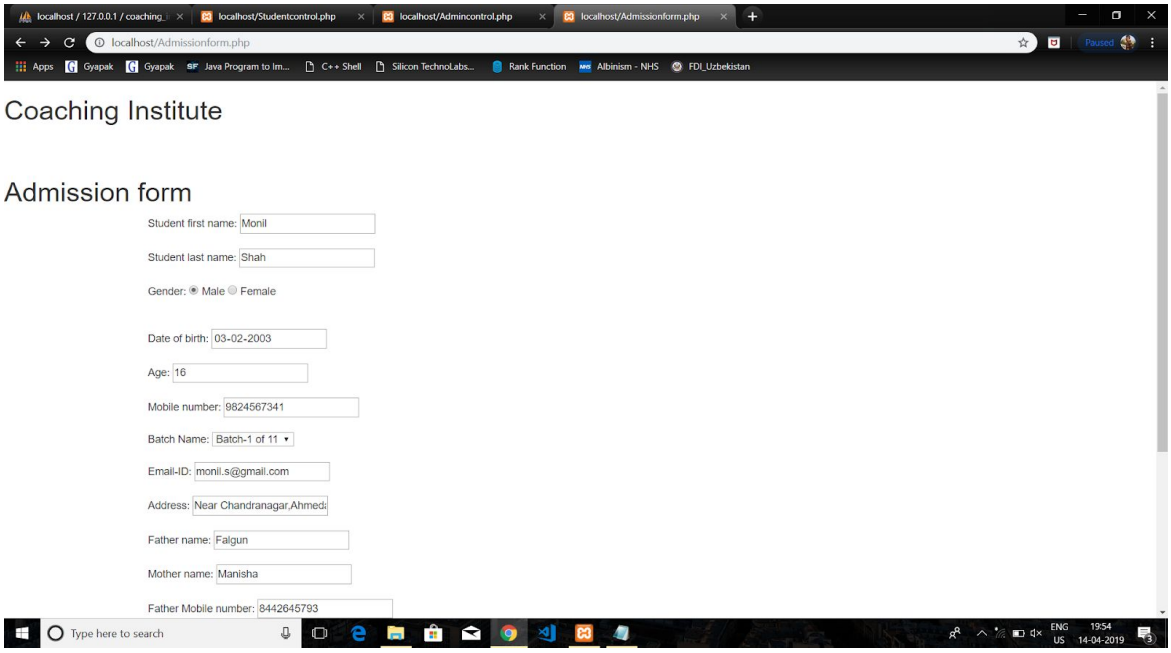
Here in the above procedure admin can update the details of student by entering the student Id of that student of which he want to update.He can update details like changing his mobile number,email-id or address.

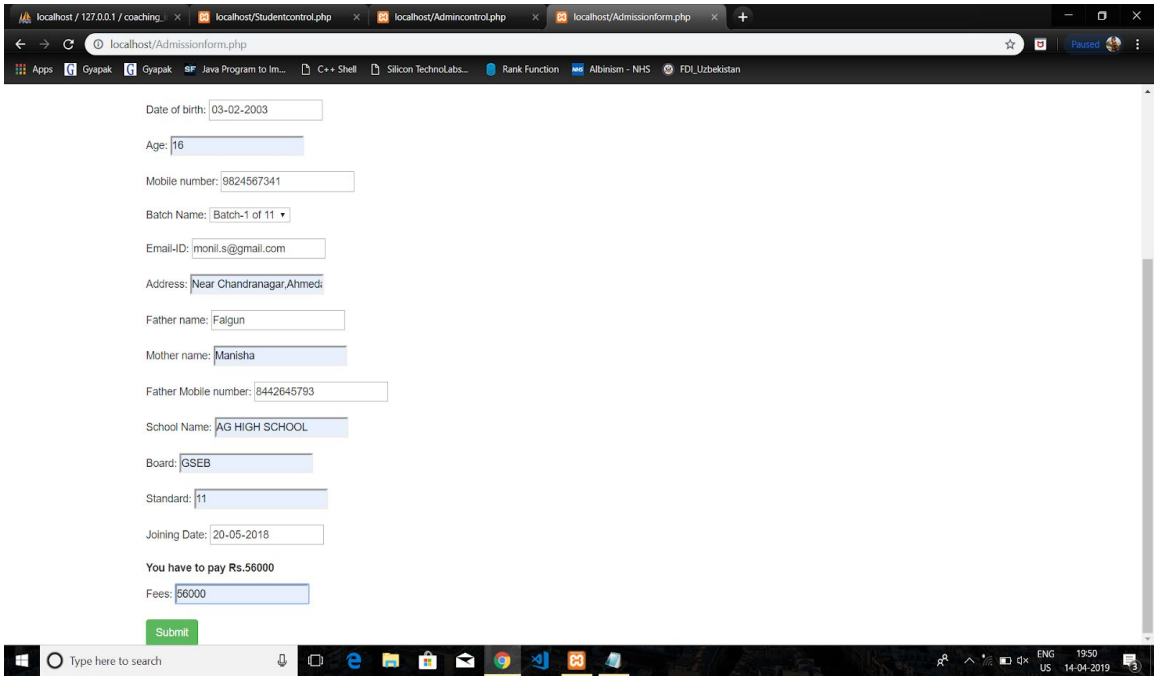
TRIGGERS

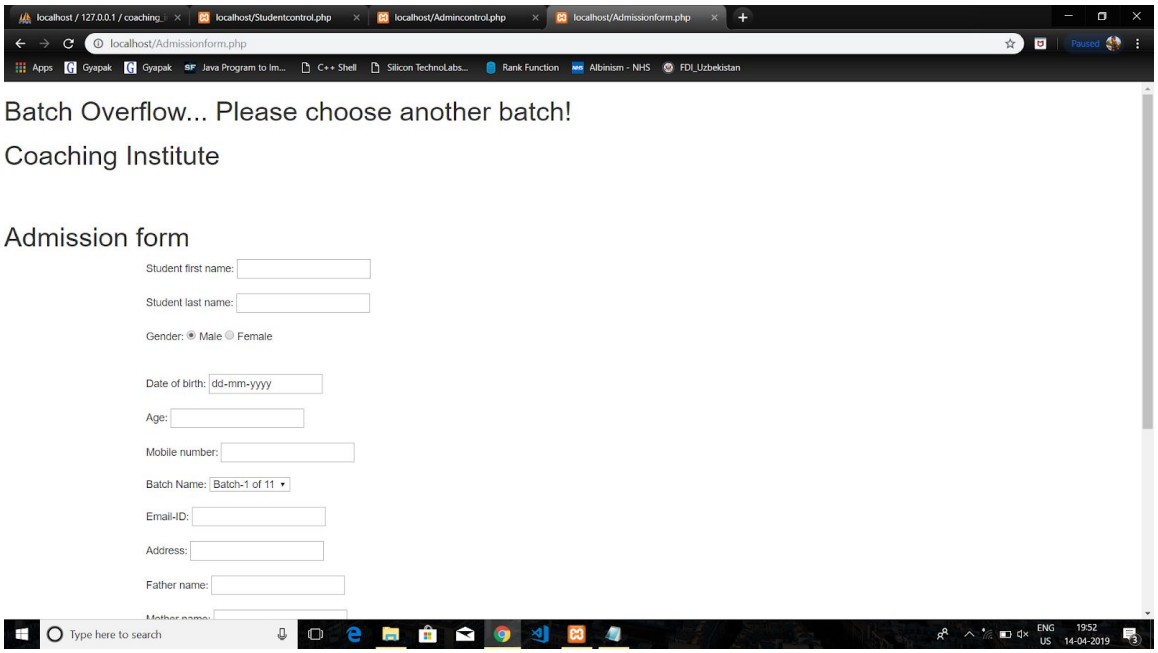
1)

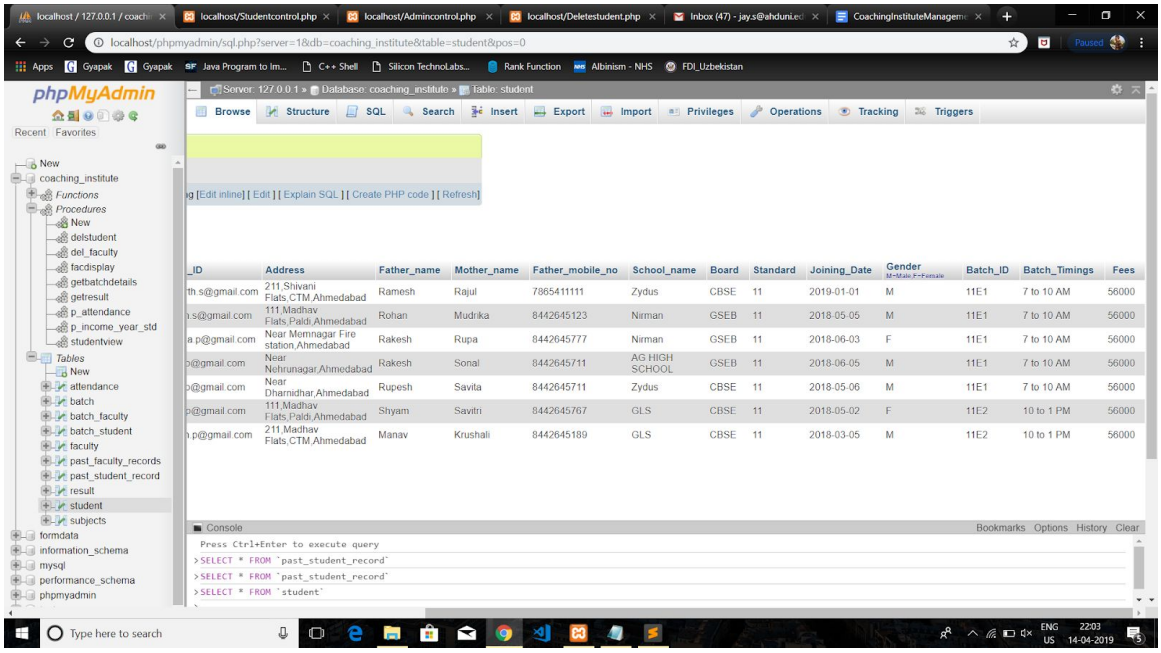
```
DELIMITER $$
CREATE TRIGGER t_chkcap BEFORE INSERT ON student
FOR EACH ROW
BEGIN
	DECLARE total_cnt,total_cap,cnt,cap INT;
	DECLARE msg VARCHAR(50);

	SET cnt = (SELECT COUNT(*) FROM student WHERE Batch_ID = new.Batch_ID);
	SET cap = (SELECT Batch_capacity FROM batch WHERE Batch_Code = new.Batch_ID);
	SET total_cnt = (SELECT COUNT(*) FROM student);
	SET total_cap = (SELECT SUM(Batch_capacity) FROM batch);
	IF total_cnt >= total_cap THEN
		SET msg='All batches are FULL!';
		signal sqlstate '45001' set message_text = msg;
	ELSEIF cnt >= cap THEN
		SET msg='Batch Overflow... Please choose another batch!';
		signal sqlstate '45001' set message_text = msg;
	ELSE
		SET new.Batch_Timings = (SELECT (Batch_Timings) from batch WHERE
Batch_Code=new.Batch_ID);
	END IF;
END $$
DELIMITER ;
```

Screenshot of Result:-









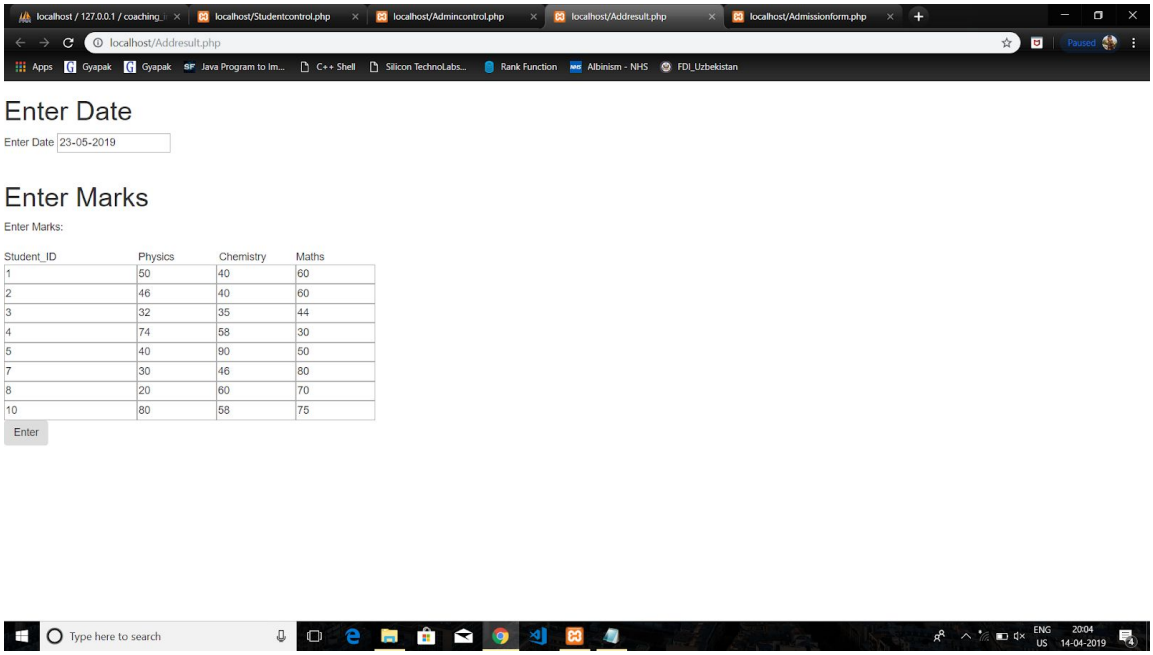
Description:-

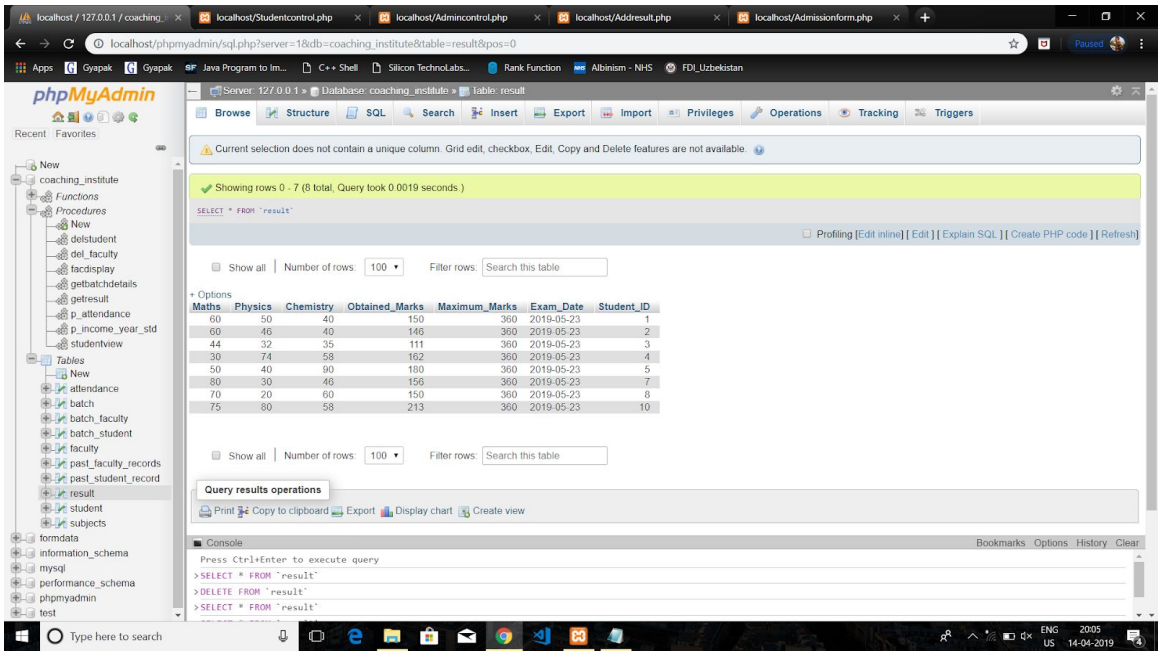
In the above trigger if the batch capacity is full then student will have to select the another batch.If the another batch is also full then student won't get admission.From above figure you could see that student wants Batch-11E1 but the batch capacity is 5 so the trigger is violated and message batch overflow is displayed on front-end so he needs to select another batch.Also if there is vacant space in any batch and if student fills the form and get allocated than batch_timings column will also be filled automatically.

---

2)

```
DELIMITER $$
CREATE TRIGGER t_autoCalculateMarks BEFORE INSERT ON result
for each row
BEGIN
	DECLARE msg VARCHAR(50);
	IF new.Physics>120 OR new.Maths>120 OR new.Chemistry>120 then
		SET msg = 'Marks cannot be greater than 120...!'
	ELSE
		new.Obtained_Marks=new.Physics+new.Chemistry+new.Maths;
		new.Maximum_Marks=360;
	END IF;
END$$
DELIMITER ;
```





Description:-

In the above trigger when the admin will enter the marks of student in result table than the marks of three subjects will be auto-calculated in **Obtained_Marks** column