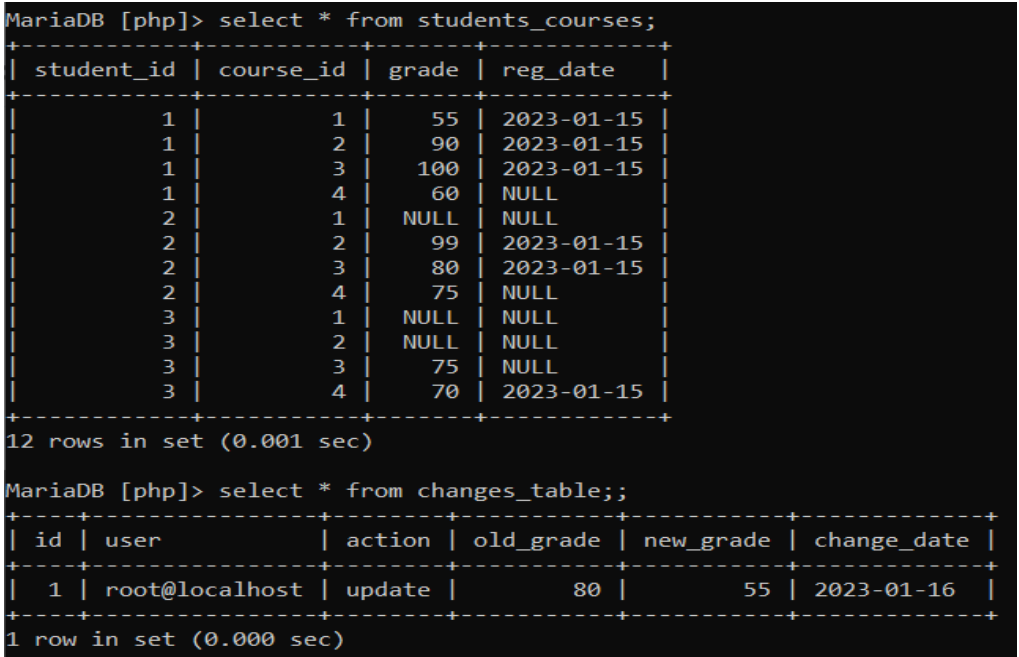


MySQL Labs

MySQL (Day3):

```
insert into students_courses
values
(1,4,60,NULL),
(2,1,NULL,NULL),
(2,4,75,NULL),
(3,1,NULL,NULL),
(3,2,NULL,NULL),
(3,3,75,NULL);
```

1	Create function to calculate the number of students who get grade less than 80 in a certain exam (course id will be sent as a parameter)
	<pre>delimiter \$ create function count_students_less_80(p_id integer) returns int(11) begin declare v_count_students int(11); set v_count_students = (select count(grade) as count from students_courses where course_id = p_id and grade < 80); return v_count_students; end\$ delimiter ;</pre>
2	Create stored procedure to display the names of the absence students of a certain courses.(Absent means has no grades)
	<pre>delimiter\$ create procedure display_absent_students_numbers() begin select s.first_name , s.last_name , c.course_name from students s, courses c, students_courses sc where s.student_id = sc.student_id and c.course_id = sc.course_id and sc.grade is NULL; end\$ delimiter ;</pre>
3	Create stored procedure to calculate the average grades for certain course.
	<pre>delimiter \$ create procedure count_course_average_grade(p_course_id integer) begin select sum(grade) , count(student_id) , sum(grade)/count(student_id) as average_grade</pre>

	from students_courses where p_course_id = course_id; end\$ delimiter ;
4	<p>Create trigger to keep track the changes(updates) of the grades in the studnets_courses table (create <u>changes table</u> with the following fields: id int primary key , user varchar(30), action varchar(40), old_grade int, new_grade int, change_date date).</p> <p>Test the trigger by updating grade int the “Students_courses” table</p> <p>Confirm that the row is added in the” change_table”</p>
	<pre> CREATE TRIGGER updated_grades_log AFTER UPDATE ON students_courses FOR EACH ROW INSERT INTO changes_table values(default, current_user(), 'update', old.grade, new.grade, current_date()); update students_courses set grade = 55 where student_id=1 and course_id =1; </pre>  <pre> MariaDB [php]> select * from students_courses; +-----+-----+-----+-----+ student_id course_id grade reg_date +-----+-----+-----+-----+ 1 1 55 2023-01-15 1 2 90 2023-01-15 1 3 100 2023-01-15 1 4 60 NULL 2 1 NULL NULL 2 2 99 2023-01-15 2 3 80 2023-01-15 2 4 75 NULL 3 1 NULL NULL 3 2 NULL NULL 3 3 75 NULL 3 4 70 2023-01-15 +-----+-----+-----+-----+ 12 rows in set (0.001 sec) MariaDB [php]> select * from changes_table;; +-----+-----+-----+-----+-----+-----+ id user action old_grade new_grade change_date +-----+-----+-----+-----+-----+-----+ 1 root@localhost update 80 55 2023-01-16 +-----+-----+-----+-----+-----+-----+ 1 row in set (0.000 sec) </pre>

5	<i>Create event to delete the changes tables every 5 minute</i>
	Create event delete_changes On schedule every 5 minute Do Delete from changes_table;