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);**

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| *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)*** |
|  | *DROP FUNCTION IF EXISTS DELIMITER //*  *CREATE FUNCTION countStudents ( student\_id int(11))*  *RETURNS INT*  *BEGIN*  *DECLARE numStudents INT(11);*    *SELECT COUNT(\*) INTO numStudents*  *FROM students\_courses*  *WHERE course\_id = course\_Id*  *AND grade < 80;*    *RETURN numStudents;*  *END //*  *SELECT countStudents (1);* |
| *2* | ***Create stored procedure to display the names of the absence students of a certain courses.(Absent means has no grades)*** |
|  | *DELIMITER //*  *CREATE PROCEDURE absen\_Students(student\_id INT(11))*  *BEGIN*  *SELECT s.first\_name*  *FROM students s*  *JOIN students\_courses sc ON s.student\_id = sc.student\_id*  *WHERE s.student\_id = student\_Id*  *AND sc.grade IS NULL;*  *END //*  *DELIMITER ;*  *CALL bsen\_Students(1);* |
| *3* | ***Create stored procedure to calculate the average grades for certain course.*** |
|  | *DELIMITER //*  *CREATE PROCEDURE AverageGrade(course\_Id INT)*  *BEGIN*  *SELECT AVG(grade)*  *FROM students\_courses*  *WHERE course\_id = course\_Id;*  *END //*  *DELIMITER ;* |
| *4* | ***Create trigger to keep track the changes(updates) of the grades in the studnets\_courses table***  ***( create changes table with the following fields:***  ***id int primary key ,***  ***user varchar(30),***  ***action varchar(40),***  ***old\_grade int,***  ***new\_grade int,***  ***change\_date date).***  ***Test the trigger by updating grade int the “Students\_courses” table***  ***Confirm that the row is added in the” change\_table”*** |
|  | **create table changes\_table(id int PRIMARY KEY , user CHAR(30), action char(40) , old\_grade int , new\_grade int , change\_date date );**  **DELIMITER //**  **CREATE TRIGGER UpdateTrigger**  **AFTER UPDATE ON students\_courses**  **FOR EACH ROW**  **BEGIN**  **Insert into changes\_table (id, action , old\_grade , new\_grade, change\_date)VALUES(OLDSTUDENT\_ID , USER() , ‘UPDATE , OLD\_GRADE , NEW\_GRADE Now()) ;**  **END //**  **DELIMITER ;** |
| *5* | ***Create event to delete the changes tables every 5 minute*** |
|  | CREATE EVENT deleteChanges  ON SCHEDULE EVERY 5 MINUTE  DO  DELETE FROM changes\_table; |
| ***6*** | **Create a user with your name and give him the privilege to access the grades database** |
|  | create user alaa2 identified by 'alaa123';  GRANT ALL ON grades.\* TO ‘alaa2; |
| ***7*** | **Connect to mysql using the user you created and try to insert one record in the courses table.** |
|  | mysql -u alaa2 -p |
| ***8*** | **Change your password.** |
|  | set password =password('alaa1234');  mysql -u alaa2 -p |
| ***9*** | **Show your privileges.** |
|  | Show grants; |