**MySQL Labs**

**MySQL (Day2):**

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| ***1*** | ***Update students courses table, set the registration date value to “Today”;*** |
|  | **UPDATE** students\_courses  **SET** reg\_date = **CURDATE**(); |
| ***2*** | ***Display the registration date in the following format:***  ***Day, month/ year*** |
|  | **SELECT** **DATE\_FORMAT**(reg\_date,'%d,%m/%Y')  **AS** 'Registration Date'  **FROM** students\_courses; |
| ***3*** | ***Display the full name (first, last) of the student with his grade.***  ***if his garde is greater than 85% Excellent, from 75% to 85% Very good, from 65% to 75% Good and from 55% to 65% pass otherwise will be graded as failed.*** |
|  | **SELECT** **CONCAT\_WS**(' ', s.first\_name, s.last\_name) **AS** 'full\_name', sc.grade, (  **CASE**  **WHEN** (sc.grade > 85) **THEN** 'Excellent'  **WHEN** (sc.grade >= 75 && sc.grade <= 85) **THEN** 'Very Good'  **WHEN** (sc.grade >=65 && sc.grade < 75) **THEN** 'Good'  **WHEN** (sc.grade >= 55 && sc.grade < 65) **THEN** 'Pass'  **ELSE** 'Failed'  **END**  ) student\_grade  **FROM** students s, students\_courses sc  **WHERE** s.student\_id = sc.student\_id;  --------------OR---------------  **SELECT** **CONCAT\_WS**(' ', s.first\_name, s.last\_name) **AS** 'full\_name', sc.grade, (  **CASE**  **WHEN** (sc.grade > 85) **THEN** 'Excellent'  **WHEN** (sc.grade **BETWEEN** 75 **AND** 85) **THEN** 'Very Good'  **WHEN** (sc.grade **BETWEEN** 65 **AND** 75) **THEN** 'Good'  **WHEN** (sc.grade **BETWEEN** 55 **AND** 65) **THEN** 'Pass'  **ELSE** 'Failed'  **END**  ) student\_grade  **FROM** students s, students\_courses sc  **WHERE** s.student\_id = sc.student\_id; |
| ***4*** | ***Display the capitalized last name , and the grade , if he has no grade display the keyword absent. [using ifNULL function]*** |
|  | **SELECT** **UPPER**(s.last\_name) **as** 'Last Name', **IFNULL**(sc.grade, 'Absent') **as** 'Grade'  **FROM** students s, students\_courses sc  **WHERE** s.student\_id = sc.student\_id; |
| ***5*** | ***Display students' names, course name along with their grades.*** |
|  | **SELECT** **CONCAT\_WS**(' ', s.first\_name, s.last\_name) **as** 'Full Name', c.course\_name, sc.grade  **FROM** students s, courses c, students\_courses sc  **WHERE** s.student\_id = sc.student\_id  **AND** c.course\_id = sc.course\_id ; |
| ***6*** | ***For each course, display the course name, min grade, max grade, average grade, number of attended students.*** |
|  | **SELECT** c.course\_name, **MIN**(sc.grade), **MAX**(sc.grade), **AVG**(sc.grade), **COUNT**(sc.student\_id)  **FROM** students\_courses sc, courses c  **WHERE** c.course\_id = sc.course\_id **AND** sc.grade != 'NULL'  **GROUP** **BY** c.course\_name |
| ***7*** | ***Use subquery to display the names of the students who were born before student no 1.*** |
|  | **SELECT** **CONCAT\_WS**(' ',first\_name, last\_name) **AS** 'Student Name'  **FROM** students  **WHERE** birth\_date < (  **SELECT** birth\_date  **FROM** students  **WHERE** student\_id = 1  ); |
| ***8*** | ***Use subquery to display the data of all the courses with a credit hour similar to MySQL's credit hours*** |
|  | **SELECT** \*  **FROM** courses  **WHERE** credit\_hour = (  **SELECT** credit\_hour  **FROM** courses  **WHERE** course\_name = 'MYSQL'  )  **AND** course\_name != 'MYSQL';    ***-----------------------OR---------------------------------***  **SELECT** \*  **FROM** courses  **WHERE** credit\_hour = (  **SELECT** credit\_hour  **FROM** courses  **WHERE** course\_name = 'MYSQL'  ); |
| ***10*** | ***Create a view called female\_students\_vu to display all the female students*** |
|  | **CREATE** **VIEW** female\_students\_vu  **AS** (  **SELECT** \*  **FROM** students  **WHERE** gender = 'female'  ); |
| ***11*** | ***Try to insert a male student through your view*** |
|  | **INSERT** **INTO** female\_students\_vu(student\_id, first\_name, last\_name, gender, birth\_date)  **VALUES** (10, "Ahmed","Samio","male","1995-07-06"); |
| ***12*** | ***Select all the data from your view and then from the students table*** |
|  | **SELECT** \* **FROM** students;  **SELECT** \* **FROM** female\_students\_vu; |
| ***13*** | ***Prevent the ability to insert another male student through you view*** |
|  | **CREATE** **OR** **REPLACE** **VIEW** female\_students\_vu  **AS** (  **SELECT** \*  **FROM** students  **WHERE** gender = 'female'  )  **WITH** **CHECK** **OPTION**;  **INSERT** **INTO** female\_students\_vu(student\_id, first\_name, last\_name, gender, birth\_date)  **VALUES** (10, "Sameh","Ahmed","male","1992-06-06"); |
| ***14*** | ***Use the information schema to display the table name , schema and the updatability of the female\_students\_vu view*** |
|  | **USE** information\_schema;  **SELECT** TABLE\_NAME, TABLE\_SCHEMA,IS\_UPDATABLE  **FROM** VIEWS  **WHERE** TABLE\_NAME = 'female\_students\_vu'; |
| ***15*** | ***Use the information schema to display the create time, table\_rows, auto\_increment, and the comments on the students table.*** |
|  | **SELECT** CREATE\_TIME, TABLE\_ROWS, **AUTO\_INCREMENT**, TABLE\_COMMENT  **FROM** TABLES  **WHERE** TABLE\_NAME = 'students' |
| ***16*** | ***Create a nonunique index on the foreign key column (COURSE\_ID) in the students\_courses table.*** |
|  | **CREATE** **INDEX** course\_id\_index  **ON** students\_courses(course\_id); |
| ***17*** | ***Create a user with your name and give him the privilege to access the grades database***  **CREATE** **USER** **IF** **NOT** **EXISTS** 'mostafa\_iti'@'localhost' IDENTIFIED **BY** 'Mostafa\_123456';    **GRANT** **ALL** **PRIVILEGES**  **ON** grade.\*  **TO** 'mostafa\_iti'@'localhost'; |
|  |  |
| ***18*** | ***Connect to mysql using the user you created and try to insert one record in the courses table.*** |
|  |  |
| ***19*** | ***Change your password.*** |
|  | **ALTER** **USER** 'mostafa\_iti'@'localhost' IDENTIFIED **BY** 'new\_pass123456'; |
| ***20*** | ***Show your privileges.*** |
|  | **SHOW** GRANTS **FOR** 'mostafa\_iti'@'localhost'; |