**MySQL Labs**

**MySQL (Day2):**

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|  | **Create a database called grades** |
|  | **# mysql -u root**  **create database grades;**  **MariaDB [(none)]> use grades;** |
|  | **Create the following tables in the grades database:**  ***courses***  ***course\_id*** *int pk*  *course\_name varchar(100) not null*  *credit\_hour int*  ***students\_courses***  ***course\_id*** *int*  ***student\_id*** *int*  *grade int*  *reg\_date date*  ***students***  ***student\_id*** *int pk*  *student\_name varchar (100) not null*  *email varchar (50)*  *tel varchar (20)* |
|  | **///students///**  **MariaDB [grades]> create table students**  **-> (student\_id integer primary key ,**  **-> student\_name varchar(100) not null ,**  **-> email varchar(50) ,**  **-> Tel varchar(20) );**  **///cources///**  **MariaDB [grades]> create table courses**  **-> (course\_id integer primary key ,**  **-> course\_name varchar(100) not null ,**  **-> credit\_hour integer);**  **///students\_cources///**  **MariaDB [grades]> create table students\_courses**  **-> (course\_id integer references courses(course\_id),**  **-> student\_id integer references students(student\_id),**  **-> grade integer ,**  **-> reg\_date date ,**  **-> primary key (course\_id,student\_id) );** |
| **3** | **Modify the students table to allow for longer Student names (150 char)**  **Confirm your modification.** |
|  | **Alter table `students` modify `student\_name` char(150);** |
| **4** | **Add constraint to force unique email for each student** |
|  | **alter table students**  **-> ADD UNIQUE (email);** |
| **5** | **Get Time, Date, Current user, MySQL Version using prompt?** |
|  | SELECT CURTIME();  SELECT CURDATE();  SELECT CURRENT\_USER();  SELECT VERSION(); |
| **6** | **Add gender column for the students table. It holds two value (male or female)** |
|  | **Alter table students**  **-> Add column gender char;**  **Alter table students**  **-> modify gender VARCHAR(6) NOT NULL CHECK (gender IN ('Male', 'Female'));** |
| **7** | **Add birth\_date column for the students table.** |
|  | **Alter table students**  **-> Add column birth\_date date;** |
| **8** | **Drop the student\_name column and replace it with first name and last name.** |
|  | **Alter table students**  **-> Drop column student\_name;**  **Alter table students**  **-> add column first\_name char not null;**  **Alter table students**  **-> add column last\_name char not null;** |
| **9** | **Insert your friend’s data into the table students.** |
|  | **insert into students (student\_id,first\_name,last\_name,email,tel,gender,birth\_date)**  **-> values(**  **1,'Asmaa','Ahmed','asmaamakkey81@gmail.com','01004864149','female','1995-9-1');**  **insert into students (student\_id,first\_name,last\_name,email,tel,gender,birth\_date)**  **-> values( 2,'Abdelrahman','Ahmed','abdelrahmanmakkey703@gmail.com','01005259203','male','1993-3-21');** |
| **10** | **Create a new table (male\_students) based on students table and fill it with the data of male students** |
|  | **create table male\_students like students;**  **insert into male\_students**  **-> values( 1,'abdelrahmanmakkey703@gmail.com','01005259203','male','1993-3-21','Abdelrahman','Ahmed');** |

**Part II**

**Create another database “CMS\_Alex”**

**# mysql -u root**

**create database CMS\_Alex;**

**Use CMS\_Alex**

**use CMS\_Alex;**

**Run Lab Script then answer the following**

|  |  |
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| **1** | **Display all students’ information.** |
|  | **select\***  **-> from students;** |
| **2** | **Display male students only.** |
|  | **select\* from students**  **-> where gender = 'male';** |
| **3** | **Display the number of female students.** |
|  | **select count(gender) from students**  **-> where gender = 'female';** |
| **4** | **Display the students’ data for the students who are born before 1992-10-01.** |
|  | **select\***  **-> from students**  **-> where birth\_date < '1992-10-01';** |
| **5** | **Display the students’ data for the students who are born before 1991-10-01.** |
|  | **select\***  **-> from students**  **-> where birth\_date < '1991-10-01';** |
| **6** | **Display course\_id and their grades sorted by grades.** |
|  | **select course\_id, grade from students\_courses**  **-> order by grade;** |
| **7** | **Display students’ names that begin with A.** |
|  | **select first\_name, last\_name from students**  **-> where first\_name like 'a%';** |
| **8** | **Display the gender, number of males and females.** |
|  | **SELECT gender, COUNT(student\_id) AS count**  **-> from students**  **-> group by gender;** |
| **9** | **Display the repeated first names and their counts if higher than 2.** |
|  | **select first\_name, COUNT(first\_name)**  **-> from students**  **-> group by first\_name**  **-> HAVING COUNT(first\_name)>2;** |
| **10** | **Display the subject with highest grade** |
|  | **select course\_id, MAX(grade)**  **-> from students\_courses;** |