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Lab Activity 2

1. Write a SQL statement to insert a record with your own value into the table countries against each columns.

Here in the following is the structure of the table countries.

Field	Type	Null	Key	Default	Extra
COUNTRY_ID	varchar(2)	YES		NULL	
COUNTRY_NAME	varchar(40)	YES		NULL	
REGION_ID	decimal(10,0)	YES		NULL	

```
mysql> create database lab_activity_2;
Query OK, 1 row affected (0.01 sec)

mysql> use lab_activity_2;
Database changed
mysql> create table tbl_country(country_id varchar(2),country_name varchar(40),region_id decimal(10,0));
Query OK, 0 rows affected (0.02 sec)

mysql> desc tbl_country;
+-----+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| country_id | varchar(2)    | YES  |     | NULL    |       |
| country_name | varchar(40)   | YES  |     | NULL    |       |
| region_id  | decimal(10,0) | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> insert into tbl_country values("C1","India",10.00);
Query OK, 1 row affected (0.01 sec)

mysql> select * from tbl_country;
+-----+-----+-----+
| country_id | country_name | region_id |
+-----+-----+-----+
| C1         | India        | 10        |
+-----+-----+-----+
1 row in set (0.00 sec)
```

2. Write a SQL statement to insert one row into the table countries against the column country_id and country_name.

Here in the following is the structure of the table countries.

Field	Type	Null	Key	Default	Extra

COUNTRY_ID	varchar(2)	YES		NULL		
COUNTRY_NAME	varchar(40)	YES		NULL		
REGION_ID	decimal(10,0)	YES		NULL		

```
mysql> insert into tbl_country values("12","America",21);
Query OK, 1 row affected (0.00 sec)

mysql> insert into tbl_country(country_id,country_name) values("34","Gayathri");
Query OK, 1 row affected (0.00 sec)

mysql> commit;
Query OK, 0 rows affected (0.00 sec)

mysql> select * from tbl_country;
+-----+-----+-----+
| country_id | country_name | region_id |
+-----+-----+-----+
| C1         | India        | 10        |
| 12         | America      | 21        |
| 34         | Gayathri     | NULL      |
+-----+-----+-----+
3 rows in set (0.00 sec)
```

3. Write a SQL statement to create duplicate of countries table named country_new with all structure and data.

Here in the following is the structure of the table countries.

Field	Type	Null	Key	Default	Extra
COUNTRY_ID	varchar(2)	YES		NULL	
COUNTRY_NAME	varchar(40)	YES		NULL	
REGION_ID	decimal(10,0)	YES		NULL	

```
mysql> create table tbl_dup_country_new as select * from tbl_country;
Query OK, 3 rows affected (0.02 sec)
Records: 3  Duplicates: 0  Warnings: 0
```

```
mysql> desc tbl_dup_country_new;
```

Field	Type	Null	Key	Default	Extra
country_id	varchar(2)	YES		NULL	
country_name	varchar(40)	YES		NULL	
region_id	decimal(10,0)	YES		NULL	

```
3 rows in set (0.00 sec)
```

```
mysql> select * from tbl_dup_country_new;
```

country_id	country_name	region_id
C1	India	10
12	America	21
34	Gayathri	NULL

```
3 rows in set (0.00 sec)
```

4. Write a SQL statement to insert NULL values against region_id column for a row of countries table.

```
mysql> insert into tbl_dup_country_new values("C2","ABC",NULL);
Query OK, 1 row affected (0.00 sec)

mysql> insert into tbl_dup_country_new values("C3","XYZ",NULL);
Query OK, 1 row affected (0.00 sec)

mysql> insert into tbl_dup_country_new values("C4","PQR",NULL);
Query OK, 1 row affected (0.00 sec)

mysql> select * from tbl_dup_country_new;
+-----+-----+-----+
| country_id | country_name | region_id |
+-----+-----+-----+
| C1         | India        | 10        |
| 12         | America      | 21        |
| 34         | Gayathri     | NULL      |
| C2         | ABC          | NULL      |
| C3         | XYZ          | NULL      |
| C4         | PQR          | NULL      |
+-----+-----+-----+
6 rows in set (0.00 sec)
```

5. Write a SQL statement to insert 3 rows by a single insert statement.

```
mysql> insert into tbl_dup_country_new(country_id,country_name,region_id) values("C5","Sakthi",NULL),("C6","Vel",NULL);
Query OK, 2 rows affected (0.00 sec)
Records: 2 Duplicates: 0 Warnings: 0

mysql> commit;
Query OK, 0 rows affected (0.00 sec)

mysql> select * from tbl_dup_country_new;
+-----+-----+-----+
| country_id | country_name | region_id |
+-----+-----+-----+
| C1         | India        | 10        |
| 12         | America      | 21        |
| 34         | Gayathri     | NULL      |
| C2         | ABC          | NULL      |
| C3         | XYZ          | NULL      |
| C4         | PQR          | NULL      |
| C5         | Sakthi       | NULL      |
| C6         | Vel          | NULL      |
+-----+-----+-----+
8 rows in set (0.00 sec)
```

6. Write a SQL statement insert rows from country_new table to countries table.

Here is the rows for country_new table. Assume that, the countries table is empty.

COUNTRY_ID	COUNTRY_NAME	REGION_ID
C0001	India	1001
C0002	USA	1007
C0003	UK	1003

```
mysql> create table tbl_country_new(country_id varchar(5),country_name varchar(5),region_id int);
Query OK, 0 rows affected (0.02 sec)

mysql> desc tbl_country_new;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| country_id | varchar(5) | YES | | NULL | |
| country_name | varchar(5) | YES | | NULL | |
| region_id | int | YES | | NULL | |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> insert into tbl_country_new (country_id,country_name,region_id) values("C0001","India",1001),("C0002","USA",1007),("C0003","UK",1003);
Query OK, 3 rows affected (0.00 sec)
Records: 3 Duplicates: 0 Warnings: 0

mysql> select * from tbl_country_new;
+-----+-----+-----+
| country_id | country_name | region_id |
+-----+-----+-----+
| C0001 | India | 1001 |
| C0002 | USA | 1007 |
| C0003 | UK | 1003 |
+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> commit;
Query OK, 0 rows affected (0.00 sec)

mysql> create table tbl_countries as select * from tbl_country_new;
Query OK, 3 rows affected (0.03 sec)
Records: 3 Duplicates: 0 Warnings: 0

mysql> select * from tbl_countries;
+-----+-----+-----+
| country_id | country_name | region_id |
+-----+-----+-----+
| C0001 | India | 1001 |
| C0002 | USA | 1007 |
| C0003 | UK | 1003 |
+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> commit;
Query OK, 0 rows affected (0.00 sec)

mysql> desc tbl_countries;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| country_id | varchar(5) | YES | | NULL | |
| country_name | varchar(5) | YES | | NULL | |
| region_id | int | YES | | NULL | |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql>
```

7. Write a SQL statement to insert one row in jobs table to ensure that no duplicate value will be entered in the job_id column.

```
mysql> create table tbl_jobs(job_id int primary key,job_title varchar(10) not null);
Query OK, 0 rows affected (0.02 sec)
```

```
mysql> insert into tbl_jobs values(101,"Java");
Query OK, 1 row affected (0.01 sec)
```

```
mysql> insert into tbl_jobs values(101,"C");
ERROR 1062 (23000): Duplicate entry '101' for key 'tbl_jobs.PRIMARY'
```

```
mysql> select * from tbl_jobs;
```

```
+-----+-----+
| job_id | job_title |
+-----+-----+
|    101 | Java      |
+-----+-----+
1 row in set (0.00 sec)
```

8. Write a SQL statement to insert one row in jobs table to ensure that no duplicate value will be entered in the job_id column.

```
mysql> create table tbl_jobs(job_id int primary key,job_title varchar(10) not null);
Query OK, 0 rows affected (0.02 sec)
```

```
mysql> insert into tbl_jobs values(101,"Java");
Query OK, 1 row affected (0.01 sec)
```

```
mysql> insert into tbl_jobs values(101,"C");
ERROR 1062 (23000): Duplicate entry '101' for key 'tbl_jobs.PRIMARY'
```

```
mysql> select * from tbl_jobs;
```

```
+-----+-----+
| job_id | job_title |
+-----+-----+
|    101 | Java      |
+-----+-----+
1 row in set (0.00 sec)
```

9. Write a SQL statement to insert a record into the table countries to ensure that, a country_id and region_id combination will be entered once in the table.

```
mysql> create table if not exists countries_tbl(country_id int NOT NULL, country_name varchar(10) NOT NULL, region_id int NOT NULL, primary key(country_id, region_id));
Query OK, 0 rows affected (0.02 sec)

mysql> desc countries_tbl;
+-----+-----+-----+-----+-----+-----+
| Field      | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| country_id | int       | NO   | PRI | NULL    |       |
| country_name | varchar(10) | NO   |     | NULL    |       |
| region_id  | int       | NO   | PRI | NULL    |       |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> insert into countries_tbl values (101,"India",1001);
Query OK, 1 row affected (0.00 sec)

mysql> insert into countries_tbl values (101,"India",1001);
ERROR 1062 (23000): Duplicate entry '101-1001' for key 'countries_tbl.PRIMARY'
mysql> select * from countries_tbl;
+-----+-----+-----+
| country_id | country_name | region_id |
+-----+-----+-----+
| 101        | India        | 1001      |
+-----+-----+-----+
1 row in set (0.00 sec)
```

10. Write a SQL statement to insert rows into the table countries in which the value of country_id column will be unique and auto incremented.

```
mysql> create table if not exists countries_tbl_2(country_id int unique not null auto_increment primary key, country_name varchar(10) NOT NULL, region_id int NOT NULL);
Query OK, 0 rows affected (0.02 sec)

mysql> desc countries_tbl_2;
+-----+-----+-----+-----+-----+-----+
| Field      | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| country_id | int       | NO   | PRI | NULL    | auto_increment |
| country_name | varchar(10) | NO   |     | NULL    |       |
| region_id  | int       | NO   |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> insert into countries_tbl_2 values(1,"India",101);
Query OK, 1 row affected (0.00 sec)

mysql> insert into countries_tbl_2 values("USA",102);
ERROR 1136 (21S01): Column count doesn't match value count at row 1
mysql> insert into countries_tbl_2 (country_name, region_id) values("USA",102);
Query OK, 1 row affected (0.00 sec)

mysql> insert into countries_tbl_2 (country_name, region_id) values("UK",103);
Query OK, 1 row affected (0.00 sec)

mysql> commit;
Query OK, 0 rows affected (0.00 sec)

mysql> select * from countries_tbl_2;
+-----+-----+-----+
| country_id | country_name | region_id |
+-----+-----+-----+
| 1          | India        | 101       |
| 2          | USA          | 102       |
| 3          | UK           | 103       |
+-----+-----+-----+
3 rows in set (0.00 sec)
```

11. Write a SQL statement to insert records into the table countries to ensure that the country_id column will not contain any duplicate data and this will be automatically incremented and the column country_name will be filled up by 'N/A' if no value assigned for that column.

```

mysql> create table if not exists countries_tbl_3(country_id int primary key auto_increment, country_name varchar(10) default 'N/A');
Query OK, 0 rows affected (0.02 sec)

mysql> desc countries_tbl_3;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| country_id | int | NO | PRI | NULL | auto_increment |
| country_name | varchar(10) | YES | | N/A | |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql> insert into countries_tbl_3 (country_id) values (1);
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near ')' at line 1
mysql> insert into countries_tbl_3 (country_id) values (1);
Query OK, 1 row affected (0.00 sec)

ERROR:
No query specified

mysql> insert into countries_tbl_3 (country_id) values (1);
ERROR 1062 (23000): Duplicate entry '1' for key 'countries_tbl_3.PRIMARY'
mysql> insert into countries_tbl_3 (country_id) values (2);
Query OK, 1 row affected (0.00 sec)

mysql> select * from countries_tbl_3;
+-----+-----+
| country_id | country_name |
+-----+-----+
| 1 | N/A |
| 2 | N/A |
+-----+-----+
2 rows in set (0.00 sec)

mysql> insert into countries_tbl_3 (country_name) values ("India");
Query OK, 1 row affected (0.00 sec)

mysql> insert into countries_tbl_3 (country_name) values ("USA");
Query OK, 1 row affected (0.01 sec)

mysql> commit;
Query OK, 0 rows affected (0.00 sec)

mysql> select * from countries_tbl_3;
+-----+-----+
| country_id | country_name |
+-----+-----+
| 1 | N/A |
| 2 | N/A |
| 3 | India |
| 4 | USA |
+-----+-----+
4 rows in set (0.00 sec)

mysql>

```

12. Write a SQL statement to insert rows in the job_history table in which one column job_id is containing those values which are exists in job_id column of jobs table.

```

mysql> create table if not exists jobs(job_id int not null unique primary key, job_title varchar(30) not null default '', min_salary decimal(6,0) default 8000, max_salary decimal(6,0) default 2000);
Query OK, 0 rows affected (0.02 sec)

mysql> insert into jobs(job_id, job_title) values(101, "Tester");
Query OK, 1 row affected (0.00 sec)

mysql> insert into jobs(job_id, job_title) values(102, "Coder");
Query OK, 1 row affected (0.00 sec)

mysql> select * from jobs;
+-----+-----+-----+-----+
| job_id | job_title | min_salary | max_salary |
+-----+-----+-----+-----+
| 101 | Tester | 8000 | 2000 |
| 102 | Coder | 8000 | 2000 |
+-----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql> create table job_history(emp_id int not null primary key, job_id int not null, department_id int default null, foreign key (job_id) references jobs(job_id));
Query OK, 0 rows affected (0.02 sec)

mysql> insert into job_history(501, 101, 1);
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near '501,101,1' at line 1
mysql> insert into job_history values(501, 101, 1);
Query OK, 1 row affected (0.01 sec)

mysql> select * from job_history;
+-----+-----+-----+
| emp_id | job_id | department_id |
+-----+-----+-----+
| 501 | 101 | 1 |
+-----+-----+-----+
1 row in set (0.00 sec)

```

13. Write a SQL statement to insert rows into the table employees in which a set of columns department_id and manager_id contains a unique value and that combined values must have exists into the table departments.


```

mysql> create table if not exists departments(department_id int not null unique, department_name varchar(30) not null, manager_id int not null, location_id int default null, primary key(department_id, manager_id));
Query OK, 0 rows affected (0.02 sec)

mysql> insert into departments values(60,"Sales",201,89);
Query OK, 1 row affected (0.00 sec)

mysql> insert into departments values(61,"Accounts",201,89);
Query OK, 1 row affected (0.00 sec)

mysql> commit;
Query OK, 0 rows affected (0.00 sec)

mysql> select * from departments;
+-----+-----+-----+-----+
| department_id | department_name | manager_id | location_id |
+-----+-----+-----+-----+
| 60 | Sales | 201 | 89 |
| 61 | Accounts | 201 | 89 |
+-----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql> create table if not exists employees(emp_id int not null primary key, first_name varchar(10) default null, last_name varchar(10) not null, job_id varchar(10) not null, salary decimal(8,2) default null, manager_id int default null, department_id int default null, foreign key(department_id, manager_id) references departments(department_id, manager_id));
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'default null, manager_id int default null, department_id int default null, foreign key(department_id, manager_id) references departments(department_id, manager_id);' at line 1

mysql> create table if not exists employees(emp_id int not null primary key, first_name varchar(10) default null, last_name varchar(10) not null, job_id varchar(10) not null, salary decimal(8,2) default null, manager_id int default null, department_id int default null, foreign key(department_id, manager_id) references departments(department_id, manager_id));
Query OK, 0 rows affected (0.02 sec)

mysql> insert into employees values(510,"Alex","Hanes","Clerk",18000,201,60);
Query OK, 1 row affected (0.00 sec)

mysql> select * from employees;
-> select * from employees;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'select * from employees' at line 2

mysql> select * from employees;
+-----+-----+-----+-----+-----+-----+
| emp_id | first_name | last_name | job_id | salary | manager_id | department_id |
+-----+-----+-----+-----+-----+-----+
| 510 | Alex | Hanes | Clerk | 18000.00 | 201 | 60 |
+-----+-----+-----+-----+-----+-----+
1 row in set (0.00 sec)

mysql>

```

14. Write a SQL statement to insert rows into the table employees in which a set of columns department_id and job_id contains the values which must have exists into the table departments and jobs.

```

mysql> create table departments (
-> department_id integer NOT NULL UNIQUE,
-> department_name varchar(30) NOT NULL,
-> manager_id integer default null,
-> location_id integer default NULL,
-> primary key (department_id))
-> engine=InnoDB;
Query OK, 0 rows affected (0.02 sec)

```

```
mysql> insert into departments values (10,'Sales',101,100);
Query OK, 1 row affected (0.01 sec)

mysql> insert into departments values (50,'SaleManagers',102,103);
Query OK, 1 row affected (0.01 sec)

mysql> select * from departments;
```

department_id	department_name	manager_id	location_id
10	Sales	101	100
50	SaleManagers	102	103

```
2 rows in set (0.00 sec)
```

```
mysql> CREATE TABLE IF NOT EXISTS jobs (
  -> JOB_ID integer NOT NULL UNIQUE PRIMARY KEY,
  -> JOB_TITLE varchar(35) NOT NULL DEFAULT ' ',
  -> MIN_SALARY decimal(6,0) DEFAULT 8000,
  -> MAX_SALARY decimal(6,0) DEFAULT 20000
  -> )ENGINE=InnoDB;
Query OK, 0 rows affected, 1 warning (0.01 sec)

mysql> insert into jobs(job_id,job_title) values (1001,'Sales');
Query OK, 1 row affected (0.01 sec)

mysql> insert into jobs(job_id,job_title) values (10041,'Saliesa');
Query OK, 1 row affected (0.00 sec)

mysql> select * from jobs;
```

job_id	job_title	min_salary	max_salary
1001	Sales	NULL	NULL
10041	Saliesa	NULL	NULL

```
2 rows in set (0.00 sec)
```

```

mysql> CREATE TABLE IF NOT EXISTS tbl_employees (
-> EMPLOYEE_ID integer NOT NULL PRIMARY KEY,
-> FIRST_NAME varchar(20) DEFAULT NULL,
-> LAST_NAME varchar(25) NOT NULL,
-> DEPARTMENT_ID integer DEFAULT NULL,
-> FOREIGN KEY(DEPARTMENT_ID)
-> REFERENCES departments(DEPARTMENT_ID),
-> JOB_ID integer NOT NULL,
-> FOREIGN KEY(JOB_ID)
-> REFERENCES jobs(JOB_ID),
-> SALARY decimal(8,2) DEFAULT NULL
-> )ENGINE=InnoDB;
Query OK, 0 rows affected (0.03 sec)

mysql> insert into tbl_employees values (1000,'Surya','Mohans',108,1000,18000);
ERROR 1452 (23000): Cannot add or update a child row: a foreign key constraint fails (`s`.`tbl_employees`, CONSTRAINT `tbl_employees_ibfk_1` FOREIGN KEY (`DEPARTMENT_ID`) REFERENCES `departments` (`department_id`))
mysql> desc tbl_employees;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| EMPLOYEE_ID | int | NO | PRI | NULL | |
| FIRST_NAME | varchar(20) | YES | | NULL | |
| LAST_NAME | varchar(25) | NO | | NULL | |
| DEPARTMENT_ID | int | YES | MUL | NULL | |
| JOB_ID | int | NO | MUL | NULL | |
| SALARY | decimal(8,2) | YES | | NULL | |
+-----+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)

```