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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> INSERT INTO countries VALUES('C1','India',1001);
Query OK, 1 row affected (0.00 sec)
```

```
mysql> SELECT * FROM countries;
```

COUNTRY_ID	COUNTRY_NAME	REGION_ID
C1	India	1001

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> CREATE TABLE countries3 ( COUNTRY_ID varchar(2) NOT NULL UNIQUE PRIMARY KEY,COUNTRY_NAME varchar(40) NOT NULL);
Query OK, 0 rows affected (0.03 sec)

mysql> INSERT INTO countries3 (country_id,country_name) VALUES('C2','US');
Query OK, 1 row affected (0.01 sec)

mysql> select * from countries3;
+-----+-----+
| COUNTRY_ID | COUNTRY_NAME |
+-----+-----+
| C2        | US          |
+-----+-----+
```

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 country_new AS SELECT * FROM countries;
Query OK, 1 row affected (0.02 sec)
Records: 1 Duplicates: 0 Warnings: 0

mysql> select * from country_new;
+-----+-----+-----+
| COUNTRY_ID | COUNTRY_NAME | REGION_ID |
+-----+-----+-----+
| C1        | India        | 1001      |
+-----+-----+-----+
1 row 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> CREATE TABLE countries4 ( COUNTRY_ID varchar(2) NOT NULL UNIQUE PRIMARY KEY,COUNTRY_NAME varchar(40) NOT NULL, region_id decimal (10,2));
Query OK, 0 rows affected (0.02 sec)

mysql> INSERT INTO countries4 (country_id,country_name) VALUES('C1','INDIA',NULL);
ERROR 1136 (21S01): Column count doesn't match value count at row 1
mysql> INSERT INTO countries4 VALUES('C1','INDIA',NULL);
Query OK, 1 row affected (0.00 sec)

mysql> select * from countries4;
+-----+-----+-----+
| COUNTRY_ID | COUNTRY_NAME | region_id |
+-----+-----+-----+
| C1        | INDIA        | NULL      |
+-----+-----+-----+
1 row in set (0.00 sec)
```

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

```
mysql> CREATE TABLE countries5 ( COUNTRY_ID varchar(5) NOT NULL,COUNTRY_NAME varchar(40) NOT NULL,REGION_ID integer NOT NULL,PRIMARY KEY (COUNTRY_ID,REGION_ID));
Query OK, 0 rows affected (0.02 sec)

mysql> INSERT INTO countries5 VALUES('C0001','India',1001),('C0002','USA',1007),('C0003','UK',1003);
Query OK, 3 rows affected (0.01 sec)
Records: 3 Duplicates: 0 Warnings: 0

mysql> select * from countries5;
+-----+-----+-----+
| COUNTRY_ID | COUNTRY_NAME | REGION_ID |
+-----+-----+-----+
| C0001      | India        | 1001      |
| C0002      | USA          | 1007      |
| C0003      | UK           | 1003      |
+-----+-----+-----+
3 rows in set (0.00 sec)
```

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

```
mysql> CREATE TABLE countries6(COUNTRY_ID varchar(5),COUNTRY_NAME varchar(40),REGION_ID decimal(10,0));
Query OK, 0 rows affected (0.02 sec)

mysql> insert into countries6 select * from country_new;
Query OK, 3 rows affected (0.02 sec)
Records: 3 Duplicates: 0 Warnings: 0

mysql> select * from countries6;
+-----+-----+-----+
| COUNTRY_ID | COUNTRY_NAME | REGION_ID |
+-----+-----+-----+
| C1         | India        | 1001      |
| C2         | USA          | 1007      |
| C3         | UK           | 1003      |
+-----+-----+-----+
3 rows in set (0.00 sec)
```

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      |
+-----+-----+-----+
```

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> insert into jobs values(1001,'OFFICER',8000,9000);
Query OK, 1 row affected (0.00 sec)

mysql> insert into jobs values(1001,'OFFICER',8000,9000);
ERROR 1062 (23000): Duplicate entry '1001' for key 'jobs.PRIMARY'
```

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> insert into jobs values(1001,'OFFICER',8000,9000);
Query OK, 1 row affected (0.00 sec)

mysql> insert into jobs values(1001,'OFFICER',8000,9000);
ERROR 1062 (23000): Duplicate entry '1001' for key 'jobs.PRIMARY'
mysql>
```

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> INSERT INTO countries2 VALUES(50,'Italy',18);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO countries2 VALUES(50,'Italy',18);
ERROR 1062 (23000): Duplicate entry '50-18' for key 'countries2.country_id'
mysql>
```

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 countries8(COUNTRY_ID int primary key auto_increment,COUNTRY_NAME varchar(40),REGION_ID decimal(10,0));
Query OK, 0 rows affected (0.02 sec)

mysql> INSERT INTO countries8(COUNTRY_NAME,REGION_ID) VALUES('India',185);
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO countries8(COUNTRY_NAME,REGION_ID) VALUES('Japan',102);
Query OK, 1 row affected (0.02 sec)

mysql> select * from countries8;
+-----+-----+-----+
| COUNTRY_ID | COUNTRY_NAME | REGION_ID |
+-----+-----+-----+
|          1 | India        |         185 |
|          2 | Japan        |         102 |
+-----+-----+-----+
2 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 countries8 (COUNTRY_ID integer NOT NULL AUTO_INCREMENT PRIMARY KEY, COUNTRY_NAME varchar(40) NOT NULL DEFAULT 'N/A', REGION_ID integer NOT NULL);
Query OK, 0 rows affected (0.03 sec)

mysql> INSERT INTO countries8 VALUES(501,'India',102);
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO countries8(region_id) VALUES(109);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO countries8(country_name,region_id) VALUES('Australia',121);
Query OK, 1 row affected (0.00 sec)

mysql> select * from countries8;
+-----+-----+-----+
| COUNTRY_ID | COUNTRY_NAME | REGION_ID |
+-----+-----+-----+
|          501 | India        |         102 |
|          502 | N/A          |         109 |
|          503 | Australia    |         121 |
+-----+-----+-----+
3 rows in set (0.00 sec)
```

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 jobs4 ( 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);
Query OK, 0 rows affected (0.02 sec)

mysql> INSERT INTO jobs4(JOB_ID,JOB_TITLE) VALUES((1001,'OFFICER'),(1002,'CLERK'));
ERROR 1241 (21000): Operand should contain 1 column(s)

mysql> INSERT INTO jobs4(JOB_ID,JOB_TITLE) VALUES(1001,'OFFICER');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO jobs4(JOB_ID,JOB_TITLE) VALUES(1002,'CLERK');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> CREATE TABLE job_history4 (EMPLOYEE_ID integer NOT NULL PRIMARY KEY, JOB_ID integer NOT NULL, DEPARTMENT_ID
integer DEFAULT NULL, FOREIGN KEY (job_id) REFERENCES jobs4(job_id));
Query OK, 0 rows affected (0.03 sec)

mysql> INSERT INTO job_history4 VALUES(501,1001,60);
Query OK, 1 row affected (0.01 sec)

mysql> SELECT * FROM job_history4;
+-----+-----+-----+
| EMPLOYEE_ID | JOB_ID | DEPARTMENT_ID |
+-----+-----+-----+
|          501 |    1001 |             60 |
+-----+-----+-----+
1 row in set (0.00 sec)

mysql> INSERT INTO job_history4 VALUES(502,1003,80);
ERROR 1452 (23000): Cannot add or update a child row: a foreign key constraint fails (`day2`.`job_history4`, CONSTRAINT `job_history4_ibfk_1` FOREIGN KEY (`JOB_ID`) REFERENCES `jobs4` (`JOB_ID`))
mysql>
```

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 departments ( DEPARTMENT_ID integer NOT NULL UNIQUE, DEPARTMENT_NAME varchar(30) NOT NULL, MANA
GER_ID integer , LOCATION_ID integer 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> INSERT INTO departments VALUES(80,'FINANCE',211,90);
Query OK, 1 row affected (0.00 sec)

mysql> SELECT * FROM departments;
+-----+-----+-----+-----+
| DEPARTMENT_ID | DEPARTMENT_NAME | MANAGER_ID | LOCATION_ID |
+-----+-----+-----+-----+
|          60 | SALES           |         201 |          89 |
|          61 | ACCOUNTS        |         201 |          89 |
|          80 | FINANCE         |         211 |          90 |
+-----+-----+-----+-----+
3 rows in set (0.00 sec)
```

```
mysql> CREATE TABLE employees3 ( EMPLOYEE_ID integer NOT NULL PRIMARY KEY, FIRST_NAME varchar(20) DEFAULT NULL, LAST_NAME varchar(25) NOT NULL, JOB_ID varchar(10) NOT NULL, SALARY decimal(8,2) DEFAULT NULL, MANAGER_ID integer NOT NULL, DEPARTMENT_ID integer NOT NULL, FOREIGN KEY(DEPARTMENT_ID,MANAGER_ID) REFERENCES departments(DEPARTMENT_ID,MANAGER_ID));
Query OK, 0 rows affected (0.02 sec)

mysql> INSERT INTO employees3 VALUES(510,'Alex','Hanes','CLERK',18000,201,60);
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO employees3 VALUES(511,'Kim','Leon','CLERK',18000,211,80);
Query OK, 1 row affected (0.00 sec)

mysql> SELECT * FROM employees3;
```

EMPLOYEE_ID	FIRST_NAME	LAST_NAME	JOB_ID	SALARY	MANAGER_ID	DEPARTMENT_ID
510	Alex	Hanes	CLERK	18000.00	201	60
511	Kim	Leon	CLERK	18000.00	211	80

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

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 if not exists departs (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));
Query OK, 0 rows affected (0.03 sec)

mysql> insert into departments values(60,'Sales',201,80);
ERROR 1366 (HY000): Incorrect decimal value: 'Sales' for column 'department_name' at row 1
mysql> insert into departs values(60,'Sales',201,89);
Query OK, 1 row affected (0.01 sec)

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

mysql> select * from departs;
```

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 job( 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);
Query OK, 0 rows affected (0.02 sec)

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

mysql> insert into job (job_id,job_title)values(1002,'Clerk');
Query OK, 1 row affected (0.00 sec)

mysql> select * from job;
```

job_id	job_title	min_salary	max_salary
1001	Officer	8000	20000
1002	Clerk	8000	20000

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