MySQL Create Table [20 exercises with solution]

1. Write a SQL statement to create a simple table of countries including columns country_id,country_name and region_id.

Query:

mysql> create table tbl_country (country_id int(5) primary key, country_name varchar(20) not null, region_id int(10) not null);

Output:

Query OK, 0 rows affected, 2 warnings (0.03 sec)

Query:

mysql> desc tbl_country;

Output:

```
+--------------+-------------+------+-----+---------+-------+
| Field        | Type        | Null | Key | Default | Extra |
+--------------+-------------+------+-----+---------+-------+
| country_id   | int         | NO   | PRI | NULL    |       |
| country_name | varchar(20) | NO   |     | NULL    |       |
| region_id    | int         | NO   |     | NULL    |       |
+--------------+-------------+------+-----+---------+-------+
3 rows in set (0.00 sec)
```

2. Write a SQL statement to create a simple table of countries including columns country_id,country_name and region_id which already exists.

Query:

mysql> create table tbl_country (country_id int(5) primary key, country_name varchar(20) not null, region_id int(10) not null);

Output:

ERROR 1050 (42S01): Table 'tbl_country' already exists.

3. Write a SQL statement to create the structure of a table dup_countries similar to countries.

Query

mysql> create table dup_country (country_id int(5) primary key, country_name varchar(20) not null, region_id int(10) not null);

Output:

Query OK, 0 rows affected, 2 warnings (0.02 sec)

Query:

mysql> show tables;

Output:

```
+--------------------+
| Tables_in_jeyandhan |
+--------------------+
| dup_country        |
| employee           |
| tbl_country        |
| tbl_employee       |
+--------------------+
4 rows in set (0.00 sec)
```

4. Write a SQL statement to create a duplicate copy of countries table including structure and data by name dup_countries.

Query:

mysql> desc dup_country;

Output:

```
+--------------+-------------+------+-----+---------+-------+
| Field        | Type        | Null | Key | Default | Extra |
+--------------+-------------+------+-----+---------+-------+
| country_id   | int         | NO   | PRI | NULL    |       |
| country_name | varchar(20) | NO   |     | NULL    |       |
| region_id    | int         | NO   |     | NULL    |       |
+--------------+-------------+------+-----+---------+-------+
3 rows in set (0.00 sec)
```

5. Write a SQL statement to create a table where countries set a constraint NULL.

Query:

mysql> create table tbl_country (country_id int(5) primary key, country_name varchar(20) null, region_id int(10) null);

Output:

Query OK, 0 rows affected, 2 warnings (0.01 sec)

Query:

mysql> desc tbl_country;

Output:

```
mysql> desc tbl_country;
+--------------+-------------+------+-----+---------+-------+
| Field        | Type        | Null | Key | Default | Extra |
+--------------+-------------+------+-----+---------+-------+
| country_id   | int         | NO   | PRI | NULL    |       |
| country_name | varchar(20) | YES  |     | NULL    |       |
| region_id    | int         | YES  |     | NULL    |       |
+--------------+-------------+------+-----+---------+-------+
3 rows in set (0.00 sec)
```

6. Write a SQL statement to create a table named jobs including columns job_id, job_title, min_salary, max_salary and check whether the max_salary amount exceeds the upper limit 25000.

Query:

mysql> create table tbl_jobs(job_id int, job_title varchar(15), min_salary int, max_salary int, check(max_salary > 25000));

Output:

Query OK, 0 rows affected (0.02 sec)

Query:

```
mysql> desc tbl_jobs;
```

Output:

```
+------------+-------------+------+-----+---------+-------+
| Field      | Type        | Null | Key | Default | Extra |
+------------+-------------+------+-----+---------+-------+
| job_id     | int         | YES  |     | NULL    |       |
| job_title  | varchar(15) | YES  |     | NULL    |       |
| min_salary | int         | YES  |     | NULL    |       |
| max_salary | int         | YES  |     | NULL    |       |
+------------+-------------+------+-----+---------+-------+
4 rows in set (0.00 sec)
```

7. Write a SQL statement to create a table named countries including columns country_id, country_name and region_id and make sure that no countries except Italy, India and China will be entered in the table.

Query:

```
mysql> create table tbl_country (country_id int(5) primary key, country_name varchar(20) null, region_id int(10), check(country_name in ('Italy', 'India', 'China')));
```

Output:

```
Query OK, 0 rows affected, 2 warnings (0.02 sec)
```

Query:

```
mysql> desc tbl_country;
```

Output:

```
+--------------+-------------+------+-----+---------+-------+
| Field        | Type        | Null | Key | Default | Extra |
+--------------+-------------+------+-----+---------+-------+
| country_id   | int         | NO   | PRI | NULL    |       |
| country_name | varchar(20) | YES  |     | NULL    |       |
| region_id    | int         | YES  |     | NULL    |       |
+--------------+-------------+------+-----+---------+-------+
3 rows in set (0.00 sec)
```

8. Write a SQL statement to create a table named job_histry including columns employee_id, start_date, end_date, job_id and department_id and make sure that the value against column end_date will be entered at the time of insertion to the format like '--/--/----'.

Query:

```
mysql> create table tbl_histry (employee_id int, start_date date, end_date date,department_id int, check(end_date like '--/--/----'));
```

Output:

```
Query OK, 0 rows affected (0.02 sec)
```

Query:

```
mysql> desc tbl_histry;
```

Output:

```
+---------------+------+------+-----+---------+-------+
| Field         | Type | Null | Key | Default | Extra |
+---------------+------+------+-----+---------+-------+
| employee_id   | int  | YES  |     | NULL    |       |
| start_date    | date | YES  |     | NULL    |       |
| end_date      | date | YES  |     | NULL    |       |
| department_id | int  | YES  |     | NULL    |       |
+---------------+------+------+-----+---------+-------+
4 rows in set (0.00 sec)
```

9. Write a SQL statement to create a table named countries including columns country_id,country_name and region_id and make sure that no duplicate data against column country_id will be allowed at the time of insertion.

Query:

```
mysql> create table tbl_country (country_id int(5) unique, country_name varchar(20) null, region_id int(10));
```

Output:

```
Query OK, 0 rows affected, 2 warnings (0.02 sec)
```

Query:

```
mysql> desc tbl_country;
```

Output:

```
+--------------+-------------+------+-----+---------+-------+
| Field        | Type        | Null | Key | Default | Extra |
+--------------+-------------+------+-----+---------+-------+
| country_id   | int         | YES  | UNI | NULL    |       |
| country_name | varchar(20) | YES  |     | NULL    |       |
| region_id    | int         | YES  |     | NULL    |       |
+--------------+-------------+------+-----+---------+-------+
3 rows in set (0.00 sec)
```

10. Write a SQL statement to create a table named jobs including columns job_id, job_title, min_salary and max_salary, and make sure that, the default value for job_title is blank and min_salary is 8000 and max_salary is NULL will be entered automatically at the time of insertion if no value assigned for the specified columns.

Query:

```
mysql> create table tbl_jobs(job_id int, job_title varchar(15) default ' ', min_salary int default 8000, max_salary int default Null);
```

Output:

```
Query OK, 0 rows affected (0.01 sec)
```

Query:

```
mysql> desc tbl_jobs;
```

Output:

```
+------------+-------------+------+-----+---------+-------+
| Field      | Type        | Null |     Key     | Default | Extra |
+------------+-------------+------+-----+---------+-------+
| job_id     | int         | YES  |     | NULL    |       |
| job_title  | varchar(15) | YES  |     |         |       |
| min_salary | int         | YES  |     | 8000    |       |
| max_salary | int         | YES  |     | NULL    |       |
+------------+-------------+------+-----+---------+-------+
4 rows in set (0.00 sec)
```

11. Write a SQL statement to create a table named countries including columns country_id, country_name and region_id and make sure that the country_id column will be a key field which will not contain any duplicate data at the time of insertion.

Query:

```
mysql> create table tbl_country (country_id int(5) primary key, country_name varchar(20) not null, region_id int(10) not null);
```

Output:

```
Query OK, 0 rows affected, 2 warnings (0.03 sec)
```

Query:

```
mysql> desc tbl_country;
```

Output:

```
+--------------+-------------+------+-----+---------+-------+
| Field        | Type        | Null | Key | Default | Extra |
+--------------+-------------+------+-----+---------+-------+
| country_id   | int         | NO   | PRI | NULL    |       |
| country_name | varchar(20) | NO   |     | NULL    |       |
| region_id    | int         | NO   |     | NULL    |       |
+--------------+-------------+------+-----+---------+-------+
3 rows in set (0.00 sec)
```

12. Write a SQL statement to create a table of countries including columns country_id, country_name and region_id and make sure that the column country_id will be unique and store an auto incremented value.

Query:

```
mysql> alter table tbl_country modify country_id int unique auto_increment;
```

Output:

```
Query OK, 0 rows affected, 1 warning (0.08 sec)
Records: 0  Duplicates: 0  Warnings: 1
```

Query:

```
mysql> desc tbl_country;
```

Output:

```
+--------------+-------------+------+-----+---------+----------------+
| Field        | Type        | Null | Key | Default | Extra          |
+--------------+-------------+------+-----+---------+----------------+
| country_id   | int         | NO   | PRI | NULL    | auto_increment |
| country_name | varchar(20) | YES  |     | NULL    |                |
| region_id    | int         | YES  |     | NULL    |                |
+--------------+-------------+------+-----+---------+----------------+
3 rows in set (0.00 sec)
```

13. Write a SQL statement to create a table of countries including columns country_id, country_name and region_id and make sure that the combination of columns country_id and region_id will be unique.

Query:

```
mysql> create table tbl_country (country_id int(5) unique not null, country_name varchar(20) null, region_id int(10) unique not null);
```

Output:

```
Query OK, 0 rows affected, 2 warnings (0.02 sec)
```

Query:

```
mysql> desc tbl_country;
```

Output:

```
+--------------+-------------+------+-----+---------+-------+
| Field        | Type        | Null | Key | Default | Extra |
+--------------+-------------+------+-----+---------+-------+
| country_id   | int         | NO   | PRI | NULL    |       |
| country_name | varchar(20) | YES  |     | NULL    |       |
| region_id    | int         | NO   | UNI | NULL    |       |
+--------------+-------------+------+-----+---------+-------+
3 rows in set (0.00 sec)
```

14. Write a SQL statement to create a table job_history including columns employee_id, start_date, end_date, job_id and department_id and make sure that, the employee_id column does not contain any duplicate value at the time of insertion and the foreign key column job_id contain only those values which are exists in the jobs table.

Here is the structure of the table jobs;

```
+------------+--------------+------+-----+---------+-------+
| Field      | Type         | Null | Key | Default | Extra |
+------------+--------------+------+-----+---------+-------+
| JOB_ID     | varchar(10)  | NO   | PRI |         |       |
| JOB_TITLE  | varchar(35)  | NO   |     | NULL    |       |
| MIN_SALARY | decimal(6,0) | YES  |     | NULL    |       |
| MAX_SALARY | decimal(6,0) | YES  |     | NULL    |       |
+------------+--------------+------+-----+---------+-------+
```

Query:

mysql> create table tbl_histry (employee_id varchar(10) primary key default '',job_title varchar(35),min_salary decimal(6,0), max_salary decimal(6,0));

Output:

Query OK, 0 rows affected (0.02 sec)

Query:

mysql> desc tbl_histry;

Output:

```
+-------------+--------------+------+-----+---------+-------+
| Field       | Type         | Null | Key | Default | Extra |
+-------------+--------------+------+-----+---------+-------+
| employee_id | varchar(10)  | NO   | PRI |         |       |
| job_title   | varchar(35)  | YES  |     | NULL    |       |
| min_salary  | decimal(6,0) | YES  |     | NULL    |       |
| max_salary  | decimal(6,0) | YES  |     | NULL    |       |
+-------------+--------------+------+-----+---------+-------+
4 rows in set (0.00 sec)
```