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LAB activity 3

1. Write a SQL statement to rename the table countries to country_new.

```
mysql> alter table tbl_countries rename country_new;
Query OK, 0 rows affected (0.01 sec)

mysql> select * from tbl_countries;
ERROR 1146 (42S02): Table 'lab_activity_2.tbl_countries' doesn't exist
mysql> select * from country_new;
+------------+--------------+-----------+
| country_id | country_name | region_id |
+------------+--------------+-----------+
| C0001      | India        |      1001 |
| C0003      | UK           |      1003 |
| C0002      | USA          |      1007 |
+------------+--------------+-----------+
3 rows in set (0.00 sec)
```

2. Write a SQL statement to add a column region_id to the table locations.

```
mysql> create table tbl_location(location_id int,street varchar(10));
Query OK, 0 rows affected (0.02 sec)

mysql> desc tbl_location;
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| location_id | int         | YES  |     | NULL    |       |
| street      | varchar(10) | YES  |     | NULL    |       |
+-------------+-------------+------+-----+---------+-------+
2 rows in set (0.00 sec)

mysql> alter table tbl_location add region_id int;
Query OK, 0 rows affected (0.01 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> desc tbl_location;
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| location_id | int         | YES  |     | NULL    |       |
| street      | varchar(10) | YES  |     | NULL    |       |
| region_id   | int         | YES  |     | NULL    |       |
+-------------+-------------+------+-----+---------+-------+
3 rows in set (0.00 sec)
```

3. Write a SQL statement to add a columns ID as the first column of the table locations.

```
mysql> alter table tbl_location add id int first;
Query OK, 0 rows affected (0.01 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> desc tbl_location;
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| id          | int         | YES  |     | NULL    |       |
| location_id | int         | YES  |     | NULL    |       |
| street      | varchar(10) | YES  |     | NULL    |       |
| region_id   | int         | YES  |     | NULL    |       |
+-------------+-------------+------+-----+---------+-------+
4 rows in set (0.00 sec)
```

4. Write a SQL statement to add a column region_id after state_province to the table locations.

```
mysql> desc tbl_location;
+---------------+-------------+------+-----+---------+-------+
| Field         | Type        | Null | Key | Default | Extra |
+---------------+-------------+------+-----+---------+-------+
| id            | int         | YES  |     | NULL    |       |
| location_id   | int         | YES  |     | NULL    |       |
| state_provice | varchar(5)  | YES  |     | NULL    |       |
| street        | varchar(10) | YES  |     | NULL    |       |
+---------------+-------------+------+-----+---------+-------+
4 rows in set (0.00 sec)

mysql> alter table tbl_location add region_id int  after state_provice;
Query OK, 0 rows affected (0.01 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> desc tbl_location;
+---------------+-------------+------+-----+---------+-------+
| Field         | Type        | Null | Key | Default | Extra |
+---------------+-------------+------+-----+---------+-------+
| id            | int         | YES  |     | NULL    |       |
| location_id   | int         | YES  |     | NULL    |       |
| state_provice | varchar(5)  | YES  |     | NULL    |       |
| region_id     | int         | YES  |     | NULL    |       |
| street        | varchar(10) | YES  |     | NULL    |       |
+---------------+-------------+------+-----+---------+-------+
5 rows in set (0.00 sec)
```

5. Write a SQL statement change the data type of the column country_id to integer in the table locations.

```
mysql> alter table tbl_location add country_id decimal(10,0);
Query OK, 0 rows affected (0.01 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> desc tbl_location;
+---------------+---------------+------+-----+---------+-------+
| Field         | Type          | Null | Key | Default | Extra |
+---------------+---------------+------+-----+---------+-------+
| id            | int           | YES  |     | NULL    |       |
| location_id   | int           | YES  |     | NULL    |       |
| state_provice | varchar(5)    | YES  |     | NULL    |       |
| region_id     | int           | YES  |     | NULL    |       |
| street        | varchar(10)   | YES  |     | NULL    |       |
| country_id    | decimal(10,0) | YES  |     | NULL    |       |
+---------------+---------------+------+-----+---------+-------+
6 rows in set (0.00 sec)

mysql> alter table tbl_location modify country_id int;
Query OK, 0 rows affected (0.03 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> desc tbl_location;
+---------------+-------------+------+-----+---------+-------+
| Field         | Type        | Null | Key | Default | Extra |
+---------------+-------------+------+-----+---------+-------+
| id            | int         | YES  |     | NULL    |       |
| location_id   | int         | YES  |     | NULL    |       |
| state_provice | varchar(5)  | YES  |     | NULL    |       |
| region_id     | int         | YES  |     | NULL    |       |
| street        | varchar(10) | YES  |     | NULL    |       |
| country_id    | int         | YES  |     | NULL    |       |
+---------------+-------------+------+-----+---------+-------+
6 rows in set (0.00 sec)
```

6. Write a SQL statement to drop the column city from the table locations.

```
mysql> alter table tbl_location add city varchar(10);l
Query OK, 0 rows affected (0.01 sec)
Records: 0  Duplicates: 0  Warnings: 0

   ->
   -> ;
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 'l' at line 1
mysql> desc tbl_location;
+--------------+-------------+------+-----+---------+-------+
| Field        | Type        | Null | Key | Default | Extra |
+--------------+-------------+------+-----+---------+-------+
| id           | int         | YES  |     | NULL    |       |
| location_id  | int         | YES  |     | NULL    |       |
| state_provice| varchar(5)  | YES  |     | NULL    |       |
| region_id    | int         | YES  |     | NULL    |       |
| street       | varchar(10) | YES  |     | NULL    |       |
| country_id   | int         | YES  |     | NULL    |       |
| city         | varchar(10) | YES  |     | NULL    |       |
+--------------+-------------+------+-----+---------+-------+
7 rows in set (0.00 sec)

mysql> alter table tbl_location drop column city;
Query OK, 0 rows affected (0.01 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> desc tbl_location;
+--------------+-------------+------+-----+---------+-------+
| Field        | Type        | Null | Key | Default | Extra |
+--------------+-------------+------+-----+---------+-------+
| id           | int         | YES  |     | NULL    |       |
| location_id  | int         | YES  |     | NULL    |       |
| state_provice| varchar(5)  | YES  |     | NULL    |       |
| region_id    | int         | YES  |     | NULL    |       |
| street       | varchar(10) | YES  |     | NULL    |       |
| country_id   | int         | YES  |     | NULL    |       |
+--------------+-------------+------+-----+---------+-------+
6 rows in set (0.00 sec)
```

7. Write a SQL statement to change the name of the column state_province to state, keeping the data type and size same.

```
mysql> alter table tbl_location rename column state_provice to state;
Query OK, 0 rows affected (0.01 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> desc tbl_location;
+--------------+-------------+------+-----+---------+-------+
| Field        | Type        | Null | Key | Default | Extra |
+--------------+-------------+------+-----+---------+-------+
| id           | int         | YES  |     | NULL    |       |
| location_id  | int         | YES  |     | NULL    |       |
| state        | varchar(5)  | YES  |     | NULL    |       |
| region_id    | int         | YES  |     | NULL    |       |
| street       | varchar(10) | YES  |     | NULL    |       |
| country_id   | int         | YES  |     | NULL    |       |
+--------------+-------------+------+-----+---------+-------+
6 rows in set (0.00 sec)
```

8. Write a SQL statement to add a primary key for the columns location_id in the locations table.

Here is the sample table employees.

Sample table: employees

```
mysql> alter table tbl_location modify location_id int primary key;
Query OK, 0 rows affected (0.03 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> desc tbl_location;
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| id          | int         | YES  |     | NULL    |       |
| location_id | int         | NO   | PRI | NULL    |       |
| state       | varchar(5)  | YES  |     | NULL    |       |
| region_id   | int         | YES  |     | NULL    |       |
| street      | varchar(10) | YES  |     | NULL    |       |
| country_id  | int         | YES  |     | NULL    |       |
+-------------+-------------+------+-----+---------+-------+
6 rows in set (0.00 sec)
```

9. Write a SQL statement to add a primary key for a combination of columns location_id and country_id.

```
mysql> create table if not exists location_tbl(id int,location_id int,state varchar(10),region_id int,street varchar(10),country_id int);
Query OK, 0 rows affected (0.02 sec)

mysql> alter table location_tbl add primary key(country_id,location_id);
Query OK, 0 rows affected (0.03 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> desc location_tbl;
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| id          | int         | YES  |     | NULL    |       |
| location_id | int         | NO   | PRI | NULL    |       |
| state       | varchar(10) | YES  |     | NULL    |       |
| region_id   | int         | YES  |     | NULL    |       |
| street      | varchar(10) | YES  |     | NULL    |       |
| country_id  | int         | NO   | PRI | NULL    |       |
+-------------+-------------+------+-----+---------+-------+
6 rows in set (0.00 sec)
```

10. Write a SQL statement to drop the existing primary from the table locations on a combination of columns location_id and country_id.

```
mysql> alter table location_tbl drop primary key;
Query OK, 0 rows affected (0.03 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> desc location_tbl;
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| id          | int         | YES  |     | NULL    |       |
| location_id | int         | NO   |     | NULL    |       |
| state       | varchar(10) | YES  |     | NULL    |       |
| region_id   | int         | YES  |     | NULL    |       |
| street      | varchar(10) | YES  |     | NULL    |       |
| country_id  | int         | NO   |     | NULL    |       |
+-------------+-------------+------+-----+---------+-------+
6 rows in set (0.00 sec)
```

11. Write a SQL statement to add a foreign key on job_id column of job_history table referencing to the primary key job_id of jobs table.

```
mysql> create table tbl_jobs(job_id int primary key,job_title varchar(10));
ERROR 1050 (42S01): Table 'tbl_jobs' already exists
mysql> desc tbl_jobs;
+-----------+-------------+------+-----+---------+-------+
| Field     | Type        | Null | Key | Default | Extra |
+-----------+-------------+------+-----+---------+-------+
| job_id    | int         | NO   | PRI | NULL    |       |
| job_title | varchar(10) | NO   |     | NULL    |       |
+-----------+-------------+------+-----+---------+-------+
2 rows in set (0.00 sec)

mysql> desc tbl_job_history;
ERROR 1146 (42S02): Table 'lab_activity_2.tbl_job_history' doesn't exist
mysql> create table tbl_job_history(job_id int,job_location varchar(10),foreign key(job_id) references tbl_jobs(job_id));
Query OK, 0 rows affected (0.03 sec)

mysql> desc tbl_job_history;
+--------------+-------------+------+-----+---------+-------+
| Field        | Type        | Null | Key | Default | Extra |
+--------------+-------------+------+-----+---------+-------+
| job_id       | int         | YES  | MUL | NULL    |       |
| job_location | varchar(10) | YES  |     | NULL    |       |
+--------------+-------------+------+-----+---------+-------+
2 rows in set (0.00 sec)
```

12. Write a SQL statement to add a foreign key constraint named fk_job_id on job_id column of job_history table referencing to the primary key job_id of jobs table.

```
mysql> alter table tbl_job_history add constraint fk_job_id foreign key(job_id) references tbl_jobs(job_id);
Query OK, 0 rows affected (0.04 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> desc tbl_job_history;
+--------------+-------------+------+-----+---------+-------+
| Field        | Type        | Null | Key | Default | Extra |
+--------------+-------------+------+-----+---------+-------+
| job_id       | int         | YES  | MUL | NULL    |       |
| job_location | varchar(10) | YES  |     | NULL    |       |
+--------------+-------------+------+-----+---------+-------+
2 rows in set (0.00 sec)

mysql> show index from tbl_job_history;
+----------------+------------+-----------+--------------+-------------+-----------+-------------+----------+--------+------+------------+---------+---------------+-------+
| Table          | Non_unique | Key_name  | Seq_in_index | Column_name | Collation | Cardinality | Sub_part | Packed | Null | Index_type | Comment | Index_comment | Visib
e | Expression |
+----------------+------------+-----------+--------------+-------------+-----------+-------------+----------+--------+------+------------+---------+---------------+-------+
| tbl_job_history |          1 | fk_job_id |            1 | job_id      | A         |           0 |     NULL |   NULL | YES  | BTREE      |         |               | YES
  | NULL       |
+----------------+------------+-----------+--------------+-------------+-----------+-------------+----------+--------+------+------------+---------+---------------+-------+
1 row in set (0.01 sec)
```

13. Write a SQL statement to drop the existing foreign key fk_job_id from job_history table on job_id column which is referencing to the job_id of jobs table.

```
mysql> alter table tbl_job_history drop foreign key fk_job_id;
Query OK, 0 rows affected (0.01 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> show index from tbl_job_history;
+----------------+------------+-----------+--------------+-------------+-----------+-------------+----------+--------+------+------------+---------+---------------+-------+
| Table          | Non_unique | Key_name  | Seq_in_index | Column_name | Collation | Cardinality | Sub_part | Packed | Null | Index_type | Comment | Index_comment | Visibl
e | Expression |
+----------------+------------+-----------+--------------+-------------+-----------+-------------+----------+--------+------+------------+---------+---------------+-------+
| tbl_job_history |          1 | fk_job_id |            1 | job_id      | A         |           0 |     NULL |   NULL | YES  | BTREE      |         |               | YES
  | NULL       |
+----------------+------------+-----------+--------------+-------------+-----------+-------------+----------+--------+------+------------+---------+---------------+-------+
1 row in set (0.00 sec)
```

14. Write a SQL statement to add an index named indx_job_id on job_id column in the table job_history.

```
mysql> alter table tbl_job_history add index index_job_id(job_id);
Query OK, 0 rows affected (0.01 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> desc tbl_job_history;
+--------------+-------------+------+-----+---------+-------+
| Field        | Type        | Null | Key | Default | Extra |
+--------------+-------------+------+-----+---------+-------+
| job_id       | int         | YES  | MUL | NULL    |       |
| job_location | varchar(10) | YES  |     | NULL    |       |
+--------------+-------------+------+-----+---------+-------+
2 rows in set (0.00 sec)

mysql> show index from tbl_job_history;
+----------------+------------+--------------+--------------+-------------+-----------+-------------+----------+--------+------+------------+---------+---------------+-----+
| Table          | Non_unique | Key_name     | Seq_in_index | Column_name | Collation | Cardinality | Sub_part | Packed | Null | Index_type | Comment | Index_comment | Vis
ible | Expression |
+----------------+------------+--------------+--------------+-------------+-----------+-------------+----------+--------+------+------------+---------+---------------+-----+
| tbl_job_history |          1 | index_job_id |            1 | job_id      | A         |           0 |     NULL |   NULL | YES  | BTREE      |         |               | YES
  | NULL       |
+----------------+------------+--------------+--------------+-------------+-----------+-------------+----------+--------+------+------------+---------+---------------+-----+
1 row in set (0.00 sec)
```

15. Write a SQL statement to drop the index indx_job_id from job_history table.

```
mysql> alter table tbl_job_history drop index index_job_id;
ERROR 1553 (HY000): Cannot drop index 'index_job_id': needed in a foreign key constraint
mysql> commit;
Query OK, 0 rows affected (0.00 sec)
```