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Employee Id: 11950

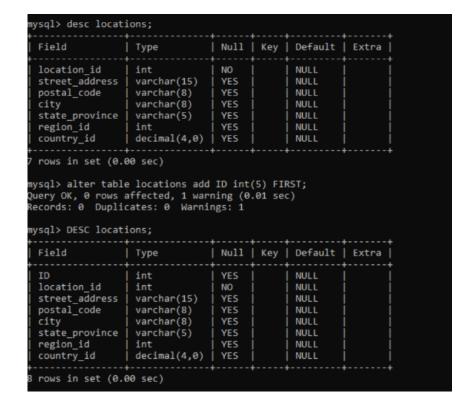
1. Write a SQL statement to rename the table countries to country_new.

```
mysql> use lab_1;
Database changed
mysql> show tables;
 Tables_in_lab_1
  -----+
 countries
 countries1
 countries2
 countries3
 countries4
 departments
 departs
 job
 job_history
 job_history1
 jobs
 jobs1
 tbl_countries
 tbl_dup_countries
14 rows in set (0.01 sec)
mysql> alter table countries rename to country_new;
Query OK, 0 rows affected (0.01 sec)
mysql> show tables;
 Tables_in_lab_1
 countries1
 countries2
 countries3
 countries4
 country_new
 departments
 departs
 job
 job_history
  job_history1
 jobs
 jobs1
 tbl_countries
 tbl_dup_countries
14 rows in set (0.00 sec)
```

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

/sql> desc locat:		+	+			
Field	Type	Null	Key	Default	Extra	
location id	int	l NO		NULL		
street address	varchar(15)	YES	i i	NULL		
postal_code	varchar(8)	YES	i i	NULL		
city	varchar(8)	YES	j i	NULL		
state_province	varchar(5)	YES	j i	NULL		
country_id	decimal(4,0)	YES		NULL		
rows in set (0.0 /sql> alter table /sql> 0K, 0 rows a ecords: 0 Dupli /sql> desc locat:	e locations add affected, 1 ward cates: 0 Warni	ning (0			state_p	rovince;
/sql> alter table Jery OK, 0 rows a ecords: 0 Dupli	e locations add affected, 1 ward cates: 0 Warni	ning (0 ngs: 1	.02 sec			rovince;
ysql> alter table pery OK, 0 rows a ecords: 0 Duplio ysql> desc locat:	e locations add affected, 1 warn cates: 0 Warni ions;	ning (0 ngs: 1 + Null +	.02 sec	Default		rovince;
ysql> alter table pery OK, 0 rows a ecords: 0 Dupli psql> desc locat:	e locations add affected, 1 warn cates: 0 Warni ions; Type	ning (0 ngs: 1 + Null +	.02 sec	Default		rovince;
/sql> alter table /sql> desc locat: /sql> desc locat: Field location_id street_address	e locations add affected, 1 war cates: 0 Warni ions; Type int varchar(15)	ning (0 ngs: 1	.02 sec	Default NULL NULL		rovince;
/sql> alter table lery OK, 0 rows a ecords: 0 Duplic /sql> desc locat: Field location_id street_address postal_code	e locations add affected, 1 wark cates: 0 Warnin ions; Type int varchar(15) varchar(8)	ning (0 ngs: 1 Null NO YES YES	.02 sec	Default NULL NULL NULL		rovince;
/sql> alter table very OK, 0 rows a ecords: 0 Duplic /sql> desc locat: Field location_id street_address postal_code city	e locations add affected, 1 wark cates: 0 Warnin ions; Type int varchar(15) varchar(8) varchar(8)	ning (0 ngs: 1	.02 sec	Default NULL NULL NULL NULL NULL		rovince;
/sql> alter table lery OK, 0 rows a ecords: 0 Duplic /sql> desc locat: Field location_id street_address postal_code	e locations add affected, 1 wark cates: 0 Warnin ions; Type int varchar(15) varchar(8)	ning (0 ngs: 1 Null NO YES YES	.02 sec	Default NULL NULL NULL		rovince;

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



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

Field	Type	Null	Key	Default	Extra
location id	int	NO		NULL	
street_address	varchar(15)	YES	j i	NULL	İ
postal_code	varchar(8)	YES		NULL	
city	varchar(8)	YES		NULL	
state_province	varchar(5)	YES		NULL	
country_id	decimal(4,0)	YES		NULL	
sql> alter tabler of the server of the serve	e locations add affected, 1 warn cates: 0 Warni	ning (0			state_pr
sql> alter table ery OK, 0 rows a cords: 0 Dupli sql> desc locat	e locations add affected, 1 warn cates: 0 Warni	ning (0 ngs: 1	.02 sec		
sql> alter tablery OK, 0 rows cords: 0 Dupli sql> desc locat	e locations add affected, 1 warr cates: 0 Warnin ions;	ning (0 ngs: 1	.02 sec	:)	
sql> alter table ery OK, 0 rows a cords: 0 Dupli sql> desc locat eield	e locations add affected, 1 wark cates: 0 Warnin ions;	ning (0 ngs: 1 + Null +	.02 sec	Default	
ery OK, 0 rows a cords: 0 Dupli sql> desc locat 	e locations add affected, 1 wark cates: 0 Warnin ions;	ning (0 ngs: 1 + Null NO	.02 sec	Default	
sql> alter tablery OK, 0 rows a cords: 0 Dupli sql> desc location. Field location_id street_address postal_code city	e locations add affected, 1 wark cates: 0 Warnin ions;	ning (0 ngs: 1	.02 sec	Default NULL NULL NULL NULL	
sql> alter table ery OK, 0 rows cords: 0 Dupli sql> desc locat field location_id street_address ocstal_code city state_province	e locations add affected, 1 wark cates: 0 Warnin ions;	ning (0 ngs: 1	.02 sec	Default NULL NULL NULL NULL NULL NULL NULL	
sql> alter table ery OK, 0 rows cords: 0 Dupli sql> desc locat Field location_id street_address postal_code	e locations add affected, 1 wark cates: 0 Warnin ions;	ning (0 ngs: 1	.02 sec	Default NULL NULL NULL NULL	

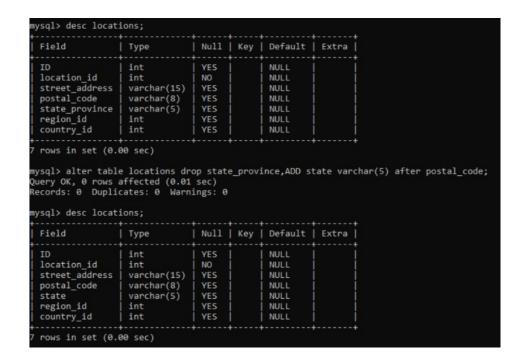
5. Write a SQL statement change the data type of the column country_id to integer in the table locations.

Field	Type	Null	Key	Default	Extra
ID	int	YES	i	NULL	1
location_id	int	NO		NULL	
street_address	varchar(15)	YES		NULL	
postal_code	varchar(8)	YES		NULL	
city	varchar(8)	YES		NULL	
state_province	varchar(5)	YES		NULL	
region_id	int	YES		NULL	
country_id	decimal(4,0)	YES		NULL	
sql> alter table ery OK, 0 rows cords: 0 Dupli	e locations mod affected, 1 wan cates: 0 Warn:	ning (0			
sql> alter table ery OK, 0 rows cords: 0 Duplicsql> desc locat	e locations mod affected, 1 wan cates: 0 Warn: ions;	rning (0 ings: 1	.05 se		+ Extra
ysql> alter table ery OK, 0 rows ecords: 0 Dupli ysql> desc locat	e locations mod affected, 1 war cates: 0 Warn: ions; 	rning (0 ings: 1 + Null	.05 se	c) Default	Extra
ysql> alter table dery OK, 0 rows ecords: 0 Dupli ysql> desc locat	e locations mod affected, 1 ward cates: 0 Warn: ions; 	rning (0 ings: 1 Null	.05 se	c) Default NULL	Extra
ID location_id	e locations mode affected, 1 ward cates: 0 Warns ions; 	rning (0 ings: 1 + Null	.05 se	c) Default	Extra
/sql> alter table very OK, 0 rows seconds: 0 Dupli vsql> desc locat Field ID location id street_address	e locations moderaffected, 1 was cates: 0 Warns ions; Type Int Int Int Int Int Int Int	rning (0 ings: 1+ Null + YES	.05 se	Default	Extra
/sql> alter table vsql> alter table vsql> 0K, 0 rows vsql> 0 Duplic vsql> desc locat. Field ID location id street_address	e locations mod affected, 1 wai cates: 0 Warn: ions; Type int int varchar(15) varchar(8)	rning (0 ings: 1 Null + YES NO	.05 se	Default NULL NULL NULL	Extra
/sql> alter table /sql> desc locat /sql> desc locat Field ID location_id street_address postal_code	e locations mod affected, 1 wan cates: 0 Warn: ions; Type int int varchar(15) varchar(8)	rning (0 ings: 1 Null YES NO YES	.05 se	Default NULL NULL NULL NULL	Extra
ysql> alter table pery OK, 0 rows a perords: 0 Dupli perords: 10 D	e locations mon affected, 1 wan cates: 0 Warn: ions;	rning (0 ings: 1 Null	.05 se	Default NULL NULL NULL NULL NULL NULL NULL	Extra

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

Field	Туре	Null	Key	Default	Extra
ID	int	YES		NULL	
location_id	int	NO	į į	NULL	
street_address	varchar(15)	YES		NULL	
postal_code	varchar(8)	YES		NULL	
city	varchar(8)	YES		NULL	
state_province	varchar(5)	YES		NULL	
region_id	int	YES		NULL	
country_id	int	YES		NULL	
rows in set (0.0 sql> alter table ery OK, 0 rows ecords: 0 Dupli	e locations dro affected (0.01	sec)			
rsql> alter table dery OK, 0 rows a	e locations dro affected (0.01 cates: 0 Warn	sec)	;		
sql> alter table ery OK, 0 rows a cords: 0 Dupli	e locations dro affected (0.01 cates: 0 Warn	sec) ings: 0		Default	Extra
rsql> alter table lery OK, 0 rows a cords: 0 Duplic	e locations dro affected (0.01 cates: 0 Warn: ions;	sec) ings: 0		Default NULL	Extra
rsql> alter table records: 0 Duplic rsql> desc locat: Field Location_id	e locations droaffected (0.01 cates: 0 Warn: ions; Type int int	sec) ings: 0			Extra
rsql> alter table ry OK, 0 rows a cords: 0 Duplic rsql> desc locat: Field ID location_id street_address	e locations droaffected (0.01 cates: 0 Warn: ions; Type int int varchar(15)	sec) ings: 0 Null YES NO YES		NULL NULL NULL	Extra
rsql> alter table rsql> desc locat: rsql> desc locat: rsql> desc locat: rsql> location_id street_address postal_code	e locations droaffected (0.01 cates: 0 Warns ions; Type int int varchar(15) varchar(8)	sec) ings: 0 Null YES NO YES YES		NULL NULL NULL NULL	Extra
rsql> alter table records: 0 Duplie rsql> desc locat: Field location_id street_address postal_code state_province	e locations dreaffected (0.01 cates: 0 Warn: ions; Type int int varchar(15) varchar(5)	sec) ings: 0 Null YES NO YES YES YES YES		NULL NULL NULL NULL NULL	Extra
rsql> alter table rsql> desc locat: rsql> desc locat: rsql> desc locat: rsql> location_id street_address postal_code	e locations droaffected (0.01 cates: 0 Warns ions; Type int int varchar(15) varchar(8)	sec) ings: 0 Null YES NO YES YES		NULL NULL NULL NULL	Extra

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



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> desc locations;
                                     Null | Key | Default | Extra
  Field
                     Type
  ID
                     int
                                                     NULL
  location id
                      int
                                      NO
                                                     NULL
  street_address
                     varchar(15)
                                                     NULL
  postal_code
                     varchar(8)
                                                     NULL
                      varchar(5)
  state
                                                     NULL
  region_id
                      int
                                      YES
                                                     NULL
  country_id
                     int
                                                     NULL
 rows in set (0.00 sec)
mysql> alter table locations add primary key(location_id);
Query OK, 0 rows affected (0.05 sec)
Records: 0 Duplicates: 0 Warnings: 0
ysql> desc locations;
 Field
                     Type
                                     Null | Key | Default | Extra
 ID
                     int
                                                     NULL
  location_id
                                              PRI
                      int
 street_address
postal_code
                     varchar(15)
varchar(8)
varchar(5)
                                                     NULL
                                                     NULL
  state
                                                     NULL
  region_id
                      int
                                                     NULL
  country_id
                      int
                                      YES
                                                     NULL
  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> desc locations;
  Field
                     | Type
                                      | Null | Key | Default | Extra
  location_id
                       int
                                                         NULL
                       varchar(15)
varchar(8)
 street_address
postal_code
                                                         NULL
                                                         NULL
                       varchar(5)
  state
  region_id
  country_id
 rows in set (0.00 sec)
mysql> alter table locations add primary key(location_id,country_id);
Query OK, 0 rows affected (0.17 sec)
Records: 0 Duplicates: 0 Warnings: 0
mysql> desc locations;
 Field
                       Type
                                       | Null | Key | Default | Extra |
  ID
                       int
                                                         NULL
  location_id
                                                  PRI
                                         NO
                                                         NULL
 street_address
postal_code
                       varchar(15)
                       varchar(8)
  state
                       varchar(5)
                                                         NULL
  region_id
                                                         NULL
  country_id
                                         NO
                                                 PRI
                                                         NULL
  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> desc locations;
                                 Null | Key | Default | Extra
 Field
                   Type
 ID
                   int
                                 YES
                                               NULL
                                         PRI
 location_id
                   int
                                 NO
                                               NULL
 street_address
                   varchar(15)
                                               NULL
                   varchar(8)
 postal_code
                                  YES
                                               NULL
 state
                   varchar(5)
                                               NULL
 region_id
                   int
                                 YES
                                               NULL
 country_id
                   int
                                 NO
                                         PRI
                                               NULL
 rows in set (0.00 sec)
mysql> alter table locations drop primary key;
Query OK, 0 rows affected (0.06 sec)
Records: 0 Duplicates: 0 Warnings: 0
mysql> desc locations;
 Field
                                 Null | Key | Default | Extra
                   Type
 ID
                   int
                                 YES
                                               NULL
 location_id
                   int
                                 NO
                                               NULL
 street_address
                   varchar(15)
                                 YES
                                               NULL
 postal_code
                   varchar(8)
                                 YES
                                               NULL
                   varchar(5)
 state
                                               NULL
 region_id
                   int
                                  YES
                                               NULL
 country_id
                   int
                                 NO
                                               NULL
 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.

```
ysql> desc job_history
                         Type | Null | Key | Default | Extra
 employee_id
start_date
hire_date
job_id
                         int
date
date
int
int
                                   NO
YES
YES
NO
NO
                                                       NULL
                                                       NULL
  department id
                                                       NULL
  rows in set (0.00 sec)
 ysql> desc jobs;
                  Type
                                          | Null | Key | Default | Extra
  job_id
job_title
min_salary
                                           NO
                  varchar(35)
decimal(6,0)
decimal(6,0)
                                                              NULL
NULL
                                           NO
YES
  max_salary
                                         YES
  rows in set (0.00 sec)
mysql> alter table job_history add foreign key(job_id) REFERENCES jobs(job_id);
Query OK, 0 rows affected (0.07 sec)
Records: 0 Duplicates: 0 Warnings: 0
mysql> desc job_history;
                      | Type | Null | Key | Default | Extra |
                                   NO
YES
YES
NO
NO
 employee_id
start_date
hire_date
job_id
                         int
date
                                                       NULL
                         date
int
                                                       NULL
  department_id
  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.

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.



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

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

mysql> show index from job_history;				+						
Table Non_unique Key_name Mon_unique Key_name Omment Visible Expression	Seq_in_index	Column_name	Collation	Cardinality	Sub_part	Packed	Null	Index_type	Comment	Index_c
job_history 1 index_job_id YES NULL job_history 1 index_job_id_primary_key YES NULL YES NULL YES YE		job_id job_id	A A		NULL	NULL		BTREE	 	l I
2 rows in set (0.01 sec) mysql> alter table job_history drop index index_job_io Query OK, 0 rows affected (0.01 sec) Records: 0 Duplicates: 0 Warnings: 0 mysql> show index from job_history;				*						
Table Non_unique Key_name Mon_unique Key_name Omment Visible Expression	Seq_in_index		Collation	Cardinality	Sub_part	Packed	Null	Index_type		
job_history 1 index_job_id_primary_key YES NULL		job_id	A		NULL	NULL		BTREE	I	ı
1 row in set (0.00 sec)	-+	+	+	+	+	++		+	+	+