Employee Name: Jeban Ignesh.J

Employee Id: 11963

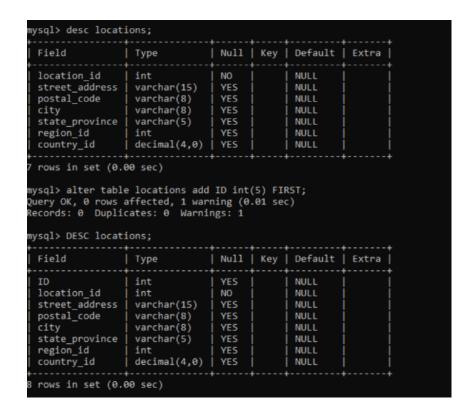
1. Write a SQL statement to rename the table countries to country new.

```
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.

Field	Type	Null	Key	Default	Extra
location_id street_address postal_code city state_province country_id	int varchar(15) varchar(8) varchar(8) varchar(5) decimal(4,0)	NO YES YES YES YES YES		NULL NULL NULL NULL NULL	
		region	_id int	(5) after	state_pr
rows in set (0.0 sql> alter table sery OK, 0 rows seconds: 0 Duplicated to the second services of the second servi	e locations add affected, 1 war cates: 0 Warni ions;	ning (0 ngs: 1	.02 sec	.)	
ysql> alter table dery OK, 0 rows a ecords: 0 Dupli	e locations add affected, 1 ward cates: 0 Warni	ning (0 ngs: 1	.02 sec		
rsql> alter tabler tabl	e locations add affected, 1 ward cates: 0 Warnid ions;	ning (0 ngs: 1 + Null +	.02 sec	Default NULL	
/sql> alter tabler tabl	e locations add affected, 1 wark cates: 0 Warnin ions;	ning (0 ngs: 1 + Null + NO YES	.02 sec	Default NULL NULL	
rsql> alter tabler tabler yoK, 0 rows accords: 0 Duplic rsql> desc locat. Field location_id street_address postal_code	e locations add affected, 1 war cates: 0 Warni ions; Type int varchar(15) varchar(8)	ning (0 ngs: 1 Null NO YES YES	.02 sec	Default NULL NULL NULL	
/sql> alter tabler tabler yok, 0 rows seconds: 0 Dupliersql> desc location_id street_address postal_code city	e locations add affected, 1 war cates: 0 Warni ions; Type int varchar(15) varchar(8) varchar(8)	ning (0 ngs: 1 + Null + NO YES	.02 sec	Default NULL NULL	
rsql> alter tabler tabler yoK, 0 rows accords: 0 Duplic rsql> desc locat. Field location_id street_address postal_code	e locations add affected, 1 war cates: 0 Warni ions; Type int varchar(15) varchar(8)	ning (0 ngs: 1 Null No YES YES YES	.02 sec	Default NULL NULL NULL NULL NULL	

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 location_id street_address postal_code city	Type int varchar(15)	Null +	Key	Default	Evtna
street_address postal_code			h		Extra
postal_code	varchar(15)	NO		NULL	
	var char (13)	YES		NULL	l I
city	varchar(8)	YES		NULL	
	varchar(8)	YES		NULL	
state_province	varchar(5)	YES		NULL	
country_id	decimal(4,0)	YES		NULL	l I
uery OK, 0 rows a ecords: 0 Duplio ysql> desc locat	cates: 0 Warnin		.02 sec	-)	
Field	Type	Null	Key	Default	Extra
Field location_id	Type + int	Null + NO	Key + 	Default NULL	Extra
	int		Key + 		Extra
location_id	int varchar(15) varchar(8)	NO	Key 	NULL	Extra
location_id street_address postal_code city	int varchar(15) varchar(8) varchar(8)	NO YES YES YES	Key 	NULL NULL NULL NULL	Extra
location_id street_address postal_code city state_province	int varchar(15) varchar(8) varchar(8) varchar(5)	NO YES YES YES YES	Key 	NULL NULL NULL NULL	Extra
location_id street_address postal_code city	int varchar(15) varchar(8) varchar(8)	NO YES YES YES	Key 	NULL NULL NULL NULL	Extra

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	 	NULL	·+
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	
uery OK, 0 rows a ecords: 0 Dupli	e locations mod affected, 1 war cates: 0 Warni	ning (0			
rows in set (0.0) ysql> alter tablouery OK, 0 rows of coords: 0 Dupliousysql> desc locations. Field	e locations mod affected, 1 war cates: 0 Warni ions;	rning (0 ings: 1	.05 se		Extra
ysql> alter table uery OK, 0 rows a ecords: 0 Dupli ysql> desc locat	e locations mod affected, 1 war cates: 0 Warni ions; 	rning (0 ings: 1 + Null	.05 se	Default	Extra
ysql> alter table uery OK, 0 rows a ecords: 0 Dupli ysql> desc locat	e locations mod affected, 1 war cates: 0 Warni ions;	rning (0 ings: 1	.05 se	c)	Extra
ysql> alter table uery OK, 0 rows a ecords: 0 Dupli ysql> desc locat Field	e locations mod affected, 1 war cates: 0 Warns ions; 	ning (0 ings: 1 Null	.05 se	Default	Extra
ysql> alter table uery OK, 0 rows a ecords: 0 Dupli ysql> desc locat Field ID location_id	e locations mode affected, 1 war cates: 0 Warns ions; Type I int I int I varchar(15)	rning (0 ings: 1 + Null + YES	.05 se	Default	Extra
ysql> alter table uery OK, 0 rows a ecords: 0 Dupli ysql> desc locat Field ID location_id street_address postal_code city	e locations mod affected, 1 war cates: 0 Warni ions;	ning (0 ings: 1 Null Null	.05 se	Default NULL NULL NULL NULL NULL NULL NULL NULL	Extra
ysql> alter table uery OK, 0 rows a ecords: 0 Dupli ysql> desc locat Field ID location_id street_address postal_code city state_province	e locations modaffected, 1 warcates: 0 Warns ions;	ning (0 ings: 1 Null YES YES YES YES YES YES YES	.05 se	Default NULL NULL NULL NULL NULL NULL NULL NULL NULL	Extra
ysql> alter table uery OK, 0 rows a ecords: 0 Dupli ysql> desc locat Field ID location_id street_address postal_code city	e locations mod affected, 1 war cates: 0 Warni ions;	ning (0 ings: 1 Null Null	.05 se	Default NULL NULL NULL NULL NULL NULL NULL NULL	Extra

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

Field	Type	Null	Key	Default	Extra
ID	int	YES		NULL	
location id	int	NO		NULL	i i
street_address	varchar(15)	YES		NULL	i i
postal_code	varchar(8)	YES		NULL	i i
city	varchar(8)	YES		NULL	
state_province	varchar(5)	YES		NULL	
region_id	int	YES		NULL	
country_id	int	YES		NULL	
sql> alter table ery OK, 0 rows a cords: 0 Duplid	e locations dr affected (0.01 cates: 0 Warn	sec)	;		
rows in set (0.6 sql> alter table ery OK, 0 rows a cords: 0 Duplic sql> desc locat:	e locations draffected (0.01 cates: 0 Warn ions;	sec) ings: 0	+	 Default	Extra
sql> alter table ery OK, 0 rows a cords: 0 Duplic sql> desc locat:	e locations dra affected (0.01 cates: 0 Warn ions; 	sec) ings: 0 Null	+		Extra
sql> alter table ery OK, 0 rows a cords: 0 Duplic sql> desc locat:	e locations dra affected (0.01 cates: 0 Warn ions;	sec) ings: 0 + Null +	+	NULL	Extra
sql> alter table ery OK, 0 rows a cords: 0 Duplic sql> desc locat:	e locations dra affected (0.01 cates: 0 Warn ions; Type int int	sec) ings: 0 Null YES NO	+	NULL NULL	Extra
sql> alter table ery OK, 0 rows a cords: 0 Duplic sql> desc locat:	e locations dra affected (0.01 cates: 0 Warn ions; Type int int varchar(15)	sec) ings: 0 Null YES NO YES	+	NULL NULL NULL	Extra
sql> alter table ery OK, 0 rows a cords: 0 Duplic sql> desc locat: Field ID location_id street_address postal_code	e locations draffected (0.01 cates: 0 Warn lons; Type Int int long large	sec) ings: 0 Null YES NO YES YES	+	NULL NULL NULL NULL	Extra
sql> alter table ery OK, 0 rows a cords: 0 Duplic sql> desc locat:	e locations dra affected (0.01 cates: 0 Warn ions; Type int int varchar(15) varchar(5)	sec) ings: 0 Null YES NO YES YES YES	+	NULL NULL NULL NULL NULL	Extra
sql> alter table ery OK, 0 rows a cords: 0 Duplic sql> desc locat:	e locations draffected (0.01 cates: 0 Warn lons; Type Int int long large	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.

```
mysql> desc locations;
                                              | Null | Key | Default | Extra |
 Field
                           Type
 ID
                           int
                                                                   NULL
 location_id
street_address
postal_code
state_province
                           int
                           varchar(15)
varchar(8)
varchar(5)
                                               YES
YES
YES
 region_id
 country_id
                                                                   NULL
 rows in set (0.00 sec)
mysql> alter table locations drop state_province,ADD state varchar(5) after postal_code;
Query OK, 0 rows affected (0.01 sec)
Records: 0 Duplicates: 0 Warnings: 0
ysql> desc locations;
 Field
                                              | Null | Key | Default | Extra |
                           Type
                           int
                                               NO
YES
YES
YES
YES
  location_id
                                                                   NULL
                           int
 street_address
postal_code
                           varchar(15)
varchar(8)
varchar(5)
                                                                   NULL
 state
region_id
  country_id
  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

Field	Туре	Null	Key	Default	Extra
ID	int	YES		NULL	
location_id	int	NO	İ	NULL	ĺ
street_address		YES		NULL	ļ
postal_code	varchar(8)	YES	!	NULL	!
state	varchar(5)	YES		NULL	
region_id country id	int int	YES YES		NULL NULL	
Lountry_1u	I IIIC	153		NOLL	!
sql> alter tabl ery OK, 0 rows cords: 0 Dupli	e locations ad affected (0.05 cates: 0 Warn	sec)	ry key	(location_	id);
rows in set (0. sql> alter tabl ery OK, 0 rows cords: 0 Dupli sql> desc locat	e locations ad affected (0.05 cates: 0 Warn ions;	sec) ings: 0			+
sql> alter tabl ery OK, 0 rows cords: 0 Dupli	e locations ad affected (0.05 cates: 0 Warn	sec)		(location_ Default	+
sql> alter tabl ery OK, 0 rows cords: 0 Dupli sql> desc locat	e locations ad affected (0.05 cates: 0 Warn ions; +	sec) ings: 0 Null YES	Key	Default NULL	+
sql> alter tabl ery OK, 0 rows cords: 0 Dupli sql> desc locat Field ID location_id	e locations ad affected (0.05 cates: 0 Warn ions; 	sec) ings: 0 Null YES NO		Default NULL NULL	+
sql> alter tabl ery OK, 0 rows cords: 0 Dupli sql> desc locat Field ID location_id street_address	e locations ad affected (0.05 cates: 0 Warn ions;	sec) ings: 0 Null YES NO YES	Key	Default NULL NULL NULL	+
sql> alter tabl ery OK, 0 rows cords: 0 Dupli sql> desc locat Field location_id street_address postal_code	e locations ad affected (0.05 cates: 0 Warn ions;	sec) ings: 0 Null YES NO YES YES	Key	Default NULL NULL NULL NULL	+
sql> alter tabl ery OK, 0 rows cords: 0 Dupli sql> desc locat Field ID location_id street_address	e locations ad affected (0.05 cates: 0 Warn ions;	sec) ings: 0 Null YES NO YES	Key	Default NULL NULL NULL	+

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

```
nysql> desc locations;
 Field
                                   Null | Key | Default | Extra |
                    Type
                    int
 location_id
                    int
                                                  NULL
 street_address
postal_code
                    varchar(15)
                                                  NULL
                    varchar(8)
                                                  NULL
                    varchar(5)
 state
                                    YES
                                                  NULL
 region_id
                    int
 country_id
 rows in set (0.00 sec)
ysql> 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
                                    YES
                    int
                                                  NULL
 location_id
                    int
                                            PRI
                                    NO
                                                  NULL
 street_address
                    varchar(15)
                                                  NULL
 postal_code
                    varchar(8)
 state
                    varchar(5)
 region_id
                                                  NULL
                    int
 country_id
                    int
                                    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;
 Field
                                    Null | Key
                                                  Default | Extra
                    Type
 ID
                                    YES
                    int
                                                   NULL
 location id
                                            PRI
                    int
                                    NO
                                                   NULL
 street_address
                    varchar(15)
                                                   NULL
 postal_code
                    varchar(8)
                                    YES
                                                   NULL
                    varchar(5)
 state
                                    YES
                                                   NULL
  region_id
                    int
                                                   NULL
                    int
                                                  NULL
 country_id
                                            PRI
                                    NO
 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;
                                   | Null | Key | Default | Extra |
 Field
                    Type
 ID
                    int
                                    YES
                                                   NULL
  location_id
                    int
                                                   NULL
 street_address
                    varchar(15)
                                                   NULL
 postal_code
                    varchar(8)
                                    YES
                                                   NULL
 state
                    varchar(5)
                                    YES
                                                   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.

Field	Type	Null	Key	Defa	ult	Extr	ra
employee_id start_date hire_date job_id department_i	int date date int d int	NO YES YES NO NO	 	NULI NULI NULI NULI			
rows in set	(0.00 sec)		*			
ysql> desc jo	bs;						
Field	Туре	i	Null	Key	Defa	ult	Ext
job_id job_title min_salary max_salary		35) 5,0)	NO NO YES YES	PRI	NULI NULI NULI NULI		
rows in set	able job_	nistory			key	job_i	id)
	ws attect						
uery OK, 0 ro							
uery OK, 0 ro ecords: 0 Du	plicates:	:					
Query OK, 0 ro Records: 0 Du	plicates: b_history	+	+ Kev	+ Defa	ult	Extr	+ ra
	plicates: b_history + Type +	Null	+ Key +			Extr	+ ra
Query OK, 0 ro Records: 0 Du nysql> desc jo	plicates: b_history	+	+ Key + 	+ Defa + NULL		Extr	ra
Query OK, 0 ro Records: 0 Du nysql> desc jo Field employee_id	plicates: b_history+ Type+	Null NO	 	NULL	-	Extr	ra

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.

nysql> alter tab Query OK, 0 rows Records: 0 Dupl:	affecte	ed (0.0	7 sec)		fk_job_i	d foreign key(job_id) REFE	RENCES jobs(jo	b_id) ON UP	DATE REST	RICT ON	DELETE CASCA	DE;		
mysql> desc job_l															
Field	Type	Null	Key	Default	Extra	i									
employee_id start_date hire_date job_id department_id	int date date int	NO YES	 MUL	NULL NULL NULL											
rows in set (0	x from j	job_his				+	+	+	+	+	+		+		+
E Expression														Index_comment	
+			k_job_i	id		job_id		0	NULL	NULL		BTREE			YES
l row in set (0.0		,				,		,	,		,				

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.

mysql> show index				+		+	+							+	+	+
Table New Table Table	Non_uniq	que Ke	ey_name	le Seq_:	in_index	Column_name	Collation	Cardinality	Sub_pa	oart 1	Packed	Null	Index_type	Comment	Index_comment	Visibl
job_history NULL		1 f	k_job_i	id		job_id			NI	VULL	NULL		BTREE			YES
1 row in set (0.6 mysql> alter tabl Query OK, 0 rows Records: 0 Dupli mysql> desc job_	00 sec) le job_h affecte icates: history;	nistory ed (0.02 0 Warr	add in 2 sec) nings:	ndex inde:	ex_job_id(job_id);										
Field	Type	Null	Key	Default												
employee_id start_date hire_date job_id department_id	int date date int	NO YES YES NO NO	MUL	NULL NULL NULL NULL NULL												
5 rows in set (0.	x from j	job_hist	tory;													
	+ Non_uniq n	que Ke	ey_name	ie Si	eq_in_inde	ex Column_na	me Collati	ion Cardinali	ity Sub	ub_part	Packe				ent Index_comme	nt Vis
job_history NULL				ob_id		1 job_id		ı	0		. NUL		BTREE	İ	İ	YES
1 row in set (0 (

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

mysql> show index from job_hi	story;		+								
Table Non_unique Omment Visible Expression	Key_name	Seq_in_index		Collation	Cardinality	Sub_part	Packed	Null	Index_type	Comment	Index_c
job_history 1 1 1 1 1 1 1 1 1	-+ index_job_id index_job_id_primary_key 		job_id	A A		NULL	NULL		BTREE		
2 rows in set (0.01 sec) mysql> alter table job_histor Query OK, 0 rows affected (0.00) Records: 0 Duplicates: 0 Wa mysql> show index from job_hi	y drop index index_job_id 01 sec) rnings: 0 story;										
Table Non_unique Tame	-+ Key_name 	Seq_in_index	Column_name	Collation		Sub_part	Packed	Null	Index_type	Comment	Index_c
		1	job_id	A	0	NULL	NULL		BTREE	I I	
1 row in set (0.00 sec)		***************************************	*******	*	*	*	,			,	