Databases and Information Systems
Lab Assignment 3

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September 3rd, 2021

Q1

```
mysql> create user 'lab3'@'localhost' identified by 'Root@lab3';
Query OK, 0 rows affected (0.07 sec)

mysql>
mysql> use lab3;
Database changed
mysql> grant all privileges on lab3.* to 'lab3'@'localhost';
Query OK, 0 rows affected (0.06 sec)

mysql>
karthik@karthikubuntu:~$ mysql -u lab3 -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 14
Server version: 8.0.26-0ubuntu0.20.04.2 (Ubuntu)

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql>
```

```
mysql> create database lab3;
Query OK, 1 row affected (0.01 sec)
```

Q2

```
mysql> create table part (part_no int, part_name varchar(20), colour varchar(10)
, weight numeric(4,2), primary key(part_no));
Query OK, 0 rows affected (0.10 sec)

mysql> create table supplier (supplier_no int, sup_name varchar(20), city varcha
r(10), bank varchar(20), primary key(supplier_no));
Query OK, 0 rows affected (0.20 sec)

mysql> create table shipment (shipment_no int, part_no int, supplier_no int, dat
e date, quantity int, price numeric(4,2), primary key(shipment_no), foreign key(
part_no) references part(part_no), foreign key(supplier_no) references supplier
(supplier_no));
Query OK, 0 rows affected (0.19 sec)
```

```
mysql> describe part;
+-----------+--------------+------+-----+---------+-------+
| Field     | Type         | Null | Key | Default | Extra |
+-----------+--------------+------+-----+---------+-------+
| part_no   | int          | NO   | PRI | NULL    |       |
| part_name | varchar(20)  | YES  |     | NULL    |       |
| colour    | varchar(10)  | YES  |     | NULL    |       |
| weight    | decimal(4,2) | YES  |     | NULL    |       |
+-----------+--------------+------+-----+---------+-------+
4 rows in set (0.05 sec)

mysql> describe supplier;
+-------------+--------------+------+-----+---------+-------+
| Field       | Type         | Null | Key | Default | Extra |
+-------------+--------------+------+-----+---------+-------+
| supplier_no | int          | NO   | PRI | NULL    |       |
| sup_name    | varchar(20)  | YES  |     | NULL    |       |
| city        | varchar(10)  | YES  |     | NULL    |       |
| bank        | varchar(20)  | YES  |     | NULL    |       |
+-------------+--------------+------+-----+---------+-------+
4 rows in set (0.00 sec)

mysql> describe shipment;
+-------------+--------------+------+-----+---------+-------+
| Field       | Type         | Null | Key | Default | Extra |
+-------------+--------------+------+-----+---------+-------+
| shipment_no | int          | NO   | PRI | NULL    |       |
| part_no     | int          | YES  | MUL | NULL    |       |
| supplier_no | int          | YES  | MUL | NULL    |       |
| date        | date         | YES  |     | NULL    |       |
| quantity    | int          | YES  |     | NULL    |       |
| price       | decimal(4,2) | YES  |     | NULL    |       |
+-------------+--------------+------+-----+---------+-------+
6 rows in set (0.01 sec)
```

Q3

```
mysql> insert into part values (1,'part 1','white',11.24);
Query OK, 1 row affected (0.03 sec)

mysql> select * from part;
+---------+-----------+--------+--------+
| part_no | part_name | colour | weight |
+---------+-----------+--------+--------+
|       1 | part 1    | white  |  11.24 |
+---------+-----------+--------+--------+
1 row in set (0.03 sec)
```

```
mysql> insert into shipment values('1','1','1','2021-09-25',20,20.20);
Query OK, 1 row affected (0.02 sec)

mysql> select * from shipment;
+-------------+---------+-------------+------------+----------+-------+
| shipment_no | part_no | supplier_no | date       | quantity | price |
+-------------+---------+-------------+------------+----------+-------+
|           1 |       1 |           1 | 2021-09-25 |       20 | 20.20 |
+-------------+---------+-------------+------------+----------+-------+
1 row in set (0.00 sec)
```

```
mysql> insert into supplier values (1,'supplier 1','dharwad','sbi');
Query OK, 1 row affected (0.05 sec)

mysql> select * from supplier;
+-------------+------------+---------+------+
| supplier_no | sup_name   | city    | bank |
+-------------+------------+---------+------+
|           1 | supplier 1 | dharwad | sbi  |
+-------------+------------+---------+------+
1 row in set (0.00 sec)
```

Q4

```
load_data.sql  ×

load_data.sql
 1    INSERT INTO part VALUES (2,'part 2','red',23.34);
 2    INSERT INTO part VALUES (3,'part 3','orange',12.24);
 3    INSERT INTO supplier VALUES (2,'supplier 2','hubli','swiss');
 4    INSERT INTO shipment VALUES (2,1,1,'2021-09-03',40,43.00);
 5    INSERT INTO shipment VALUES (3,1,2,'2021-09-04',15,23.20);
 6    INSERT INTO shipment VALUES (4,1,2,'2021-09-05',11,13.26);
 7    INSERT INTO shipment VALUES (5,2,1,'2021-09-06',12,11.26);
 8    INSERT INTO shipment VALUES (6,2,1,'2021-09-07',14,13.08);
 9    INSERT INTO shipment VALUES (7,2,2,'2021-09-08',19,33.30);
10    INSERT INTO shipment VALUES (8,2,2,'2021-09-09',23,19.46);
11    INSERT INTO shipment VALUES (9,3,1,'2021-09-10',22,12.56);
12    INSERT INTO shipment VALUES (10,3,1,'2021-09-11',44,43.28);
13    INSERT INTO shipment VALUES (11,3,2,'2021-09-12',29,16.35);
14    INSERT INTO shipment VALUES (12,3,2,'2021-09-13',13,29.40);
```

```
Database changed
mysql> source load_data.sql
Query OK, 1 row affected (0.01 sec)

Query OK, 1 row affected (0.02 sec)

Query OK, 1 row affected (0.00 sec)

Query OK, 1 row affected (0.02 sec)

Query OK, 1 row affected (0.01 sec)

Query OK, 1 row affected (0.01 sec)

Query OK, 1 row affected (0.01 sec)

Query OK, 1 row affected (0.01 sec)

Query OK, 1 row affected (0.01 sec)

Query OK, 1 row affected (0.02 sec)

Query OK, 1 row affected (0.01 sec)
```

```
mysql> select * from part;
+---------+-----------+--------+--------+
| part_no | part_name | colour | weight |
+---------+-----------+--------+--------+
|       1 | part 1    | white  |  11.24 |
|       2 | part 2    | red    |  23.34 |
|       3 | part 3    | orange |  12.24 |
+---------+-----------+--------+--------+
3 rows in set (0.01 sec)

mysql> select * from supplier;
+-------------+------------+---------+-------+
| supplier_no | sup_name   | city    | bank  |
+-------------+------------+---------+-------+
|           1 | supplier 1 | dharwad | sbi   |
|           2 | supplier 2 | hubli   | swiss |
+-------------+------------+---------+-------+
2 rows in set (0.00 sec)
```

```
mysql> select * from shipment;
+-------------+---------+-------------+------------+----------+-------+
| shipment_no | part_no | supplier_no | date       | quantity | price |
+-------------+---------+-------------+------------+----------+-------+
|           1 |       1 |           1 | 2021-09-25 |       20 | 20.20 |
|           2 |       1 |           1 | 2021-09-03 |       40 | 43.00 |
|           3 |       1 |           2 | 2021-09-04 |       15 | 23.20 |
|           4 |       1 |           2 | 2021-09-05 |       11 | 13.26 |
|           5 |       2 |           1 | 2021-09-06 |       12 | 11.26 |
|           6 |       2 |           1 | 2021-09-07 |       14 | 13.08 |
|           7 |       2 |           2 | 2021-09-08 |       19 | 33.30 |
|           8 |       2 |           2 | 2021-09-09 |       23 | 19.46 |
|           9 |       3 |           1 | 2021-09-10 |       22 | 12.56 |
|          10 |       3 |           1 | 2021-09-11 |       44 | 43.28 |
|          11 |       3 |           2 | 2021-09-12 |       29 | 16.35 |
|          12 |       3 |           2 | 2021-09-13 |       13 | 29.40 |
+-------------+---------+-------------+------------+----------+-------+
12 rows in set (0.00 sec)
```

Q5

a. select distinct(supplier_no), sup_name, city, bank from part natural join
   supplier natural join shipment where colour='red';

```
mysql> select distinct(supplier_no), sup_name, city, bank from part natural join supplier natural join shipment where colou
r='red';
+-------------+----------+---------+-------+
| supplier_no | sup_name | city    | bank  |
+-------------+----------+---------+-------+
|           1 | supplier 1 | dharwad | sbi   |
|           2 | supplier 2 | hubli   | swiss |
+-------------+----------+---------+-------+
2 rows in set (0.00 sec)
```

b. select distinct(supplier_no), sup_name, city, bank from part natural join
   supplier natural join shipment where colour='red';

```
mysql> select supplier_no, sup_name, sum(quantity*price) as total_cost from supplier natural join shipment group by supplie
r_no;
+-------------+----------+------------+
| supplier_no | sup_name | total_cost |
+-------------+----------+------------+
|           1 | supplier 1 |    4622.88 |
|           2 | supplier 2 |    2430.49 |
+-------------+----------+------------+
2 rows in set (0.00 sec)
```

c. select distinct(supplier_no), sup_name, city, bank from part natural join
   supplier natural join shipment where colour='red';

```
mysql> select supplier_no from supplier natural join shipment group by supplier_no having count(distinct(part_no))=(select
count(*) from part);
+-------------+
| supplier_no |
+-------------+
|           1 |
|           2 |
+-------------+
2 rows in set (0.04 sec)
```