Intoduction to Databases

Q 1) Create Database

Q 2) Design Schema
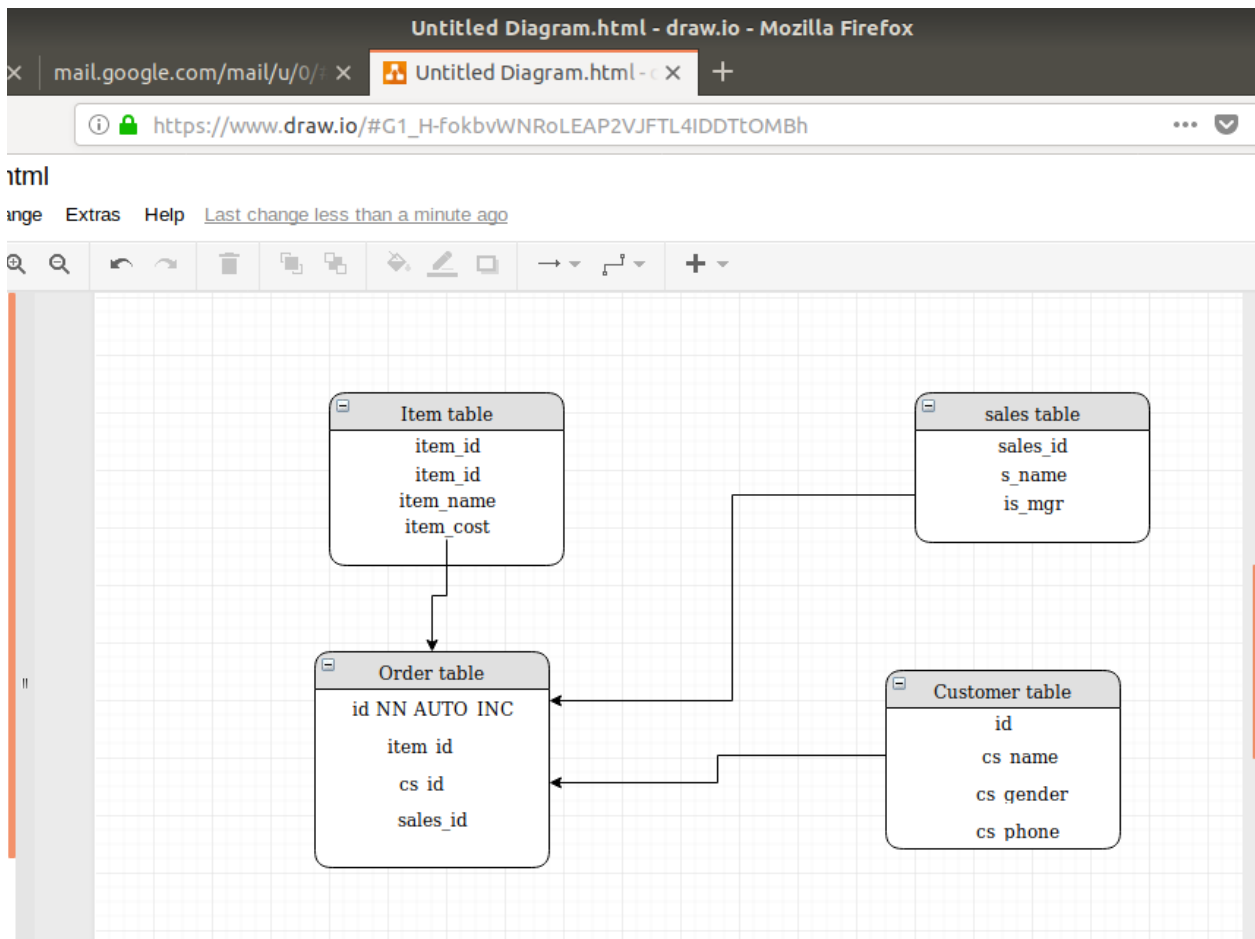
Q 3) Create tables
- SALE Table-
  create table sale(sale_id bigint(5) NOT NULL,sale_name varchar(20) NOT NULL,is_mgr bit(1) NOT NULL,primary key(sale_id));

```
mysql> create table sale(sale_id bigint(5) NOT NULL,sale_name varchar(20) NOT NULL,is_
Query OK, 0 rows affected (0.27 sec)

mysql> desc sale;
+-----------+-------------+------+-----+---------+-------+
| Field     | Type        | Null | Key | Default | Extra |
+-----------+-------------+------+-----+---------+-------+
| sale_id   | bigint(5)   | NO   | PRI | NULL    |       |
| sale_name | varchar(20) | NO   |     | NULL    |       |
| is_mgr    | bit(1)      | NO   |     | NULL    |       |
+-----------+-------------+------+-----+---------+-------+
3 rows in set (0.00 sec)

mysql>
```

- ITEM TABLE-
  create table item1(item_id bigint(5) NOT NULL,item_name varchar(20) NOT NULL,item_cost int(7) NOT NULL,primary key(item_id));

```
mysql> create table item1(item_id bigint(5) NOT NULL,item_name varchar(20) NOT NULL,item_cost int(7) NOT NULL,primary key(item_id));
Query OK, 0 rows affected (0.29 sec)

mysql> desc item1;
+-----------+-------------+------+-----+---------+-------+
| Field     | Type        | Null | Key | Default | Extra |
+-----------+-------------+------+-----+---------+-------+
| item_id   | bigint(5)   | NO   | PRI | NULL    |       |
| item_name | varchar(20) | NO   |     | NULL    |       |
| item_cost | int(7)      | NO   |     | NULL    |       |
+-----------+-------------+------+-----+---------+-------+
3 rows in set (0.00 sec)

mysql>
```

- CUSTOMER TABLE-
  create table customer(cs_id bigint(5) NOT NULL,cs_name varchar(20) NOT NULL,cs_gender enum("Male","Female","other")NOT NULL,cs_phone int(11),primary key(cs_id));

```
mysql> create table customer(cs_id bigint(5) NOT NULL,cs_name varchar(20) NOT NULL,cs_gender enum("Male","Female","other")NOT NULL,cs_phone in
t(11),primary key(cs_id));
Query OK, 0 rows affected (0.25 sec)

mysql> desc customer;
+-----------+------------------------------+------+-----+---------+-------+
| Field     | Type                         | Null | Key | Default | Extra |
+-----------+------------------------------+------+-----+---------+-------+
| cs_id     | bigint(5)                    | NO   | PRI | NULL    |       |
| cs_name   | varchar(20)                  | NO   |     | NULL    |       |
| cs_gender | enum('Male','Female','other')| NO   |     | NULL    |       |
| cs_phone  | int(11)                      | YES  |     | NULL    |       |
+-----------+------------------------------+------+-----+---------+-------+
4 rows in set (0.00 sec)

mysql>
```

- ORDER TABLE-

create table order_tb(id bigint(5) NOT NULL AUTO_INCREMENT,cs_id bigint(5) NOT NULL,sale_id bigint(5) NOT NULL,item_id bigint(5) NOT NULL,primary key(id));

```
mysql> create table order_tb(id bigint(5) NOT NULL AUTO_INCREMENT,cs_id bigint(5) NOT NULL,sale_id bigint(5) NOT NULL,item_id bigint(5) NOT NU
LL,primary key(id));
Query OK, 0 rows affected (0.40 sec)

mysql> desc order_tb;
+---------+-----------+------+-----+---------+----------------+
| Field   | Type      | Null | Key | Default | Extra          |
+---------+-----------+------+-----+---------+----------------+
| id      | bigint(5) | NO   | PRI | NULL    | auto_increment |
| cs_id   | bigint(5) | NO   |     | NULL    |                |
| sale_id | bigint(5) | NO   |     | NULL    |                |
| item_id | bigint(5) | NO   |     | NULL    |                |
+---------+-----------+------+-----+---------+----------------+
4 rows in set (0.01 sec)

mysql>
```

Q 4) Insert sample data -

- Inserting into Sale Table-   insert into sale(sale_id,sale_name,is_mgr)values(1,'Pawan',1);

```
^C
mysql> insert into sale(sale_id,sale_name,ig_mgr)values(1,'Pawan',1);
ERROR 1054 (42S22): Unknown column 'ig_mgr' in 'field list'
mysql> insert into sale(sale_id,sale_name,is_mgr)values(1,'Pawan',1);
Query OK, 1 row affected (0.05 sec)

mysql> insert into sale(sale_id,sale_name,is_mgr)values(2,'Ravi',0);
Query OK, 1 row affected (0.03 sec)

mysql> insert into sale(sale_id,sale_name,is_mgr)values(3,'Rahul',0);
Query OK, 1 row affected (0.04 sec)

mysql> desc sale;
+-----------+-------------+------+-----+---------+-------+
| Field     | Type        | Null | Key | Default | Extra |
+-----------+-------------+------+-----+---------+-------+
| sale_id   | bigint(5)   | NO   | PRI | NULL    |       |
| sale_name | varchar(20) | NO   |     | NULL    |       |
| is_mgr    | bit(1)      | NO   |     | NULL    |       |
+-----------+-------------+------+-----+---------+-------+
3 rows in set (0.00 sec)

mysql> select* from sale;
+---------+-----------+--------+
| sale_id | sale_name | is_mgr |
+---------+-----------+--------+
|       1 | Pawan     |        |
|       2 | Ravi      |        |
|       3 | Rahul     |        |
+---------+-----------+--------+
3 rows in set (0.00 sec)

mysql>
```

- Inserting into Item table-
  insert into item1(item_id,item_name,item_cost)values(1,'Fridge',10000);

```
mysql> insert into item1(item_id,item_name,item_cost)values(1,'Fridge',10000);
Query OK, 1 row affected (0.04 sec)

mysql> insert into item1(item_id,item_name,item_cost)values(3,'TV',15000);
Query OK, 1 row affected (0.05 sec)

mysql> insert into item1(item_id,item_name,item_cost)values(2,'Oven',5000);
Query OK, 1 row affected (0.05 sec)

mysql> select* from item1;
+---------+-----------+-----------+
| item_id | item_name | item_cost |
+---------+-----------+-----------+
|       1 | Fridge    |     10000 |
|       2 | Oven      |      5000 |
|       3 | TV        |     15000 |
+---------+-----------+-----------+
3 rows in set (0.00 sec)

mysql>
```

- Inserting into Customer table-
  insert into customer (cs_id,cs_name,cs_gender,cs_phone)
  values(1,'Rita',"Female",989866886);

```
mysql> insert into customer(cs_id,cs_name,cs_gender,cs_phone)values(1,'Rita',"Female",989866886);;
Query OK, 1 row affected (0.05 sec)

ERROR:
No query specified

mysql> insert into customer(cs_id,cs_name,cs_gender,cs_phone)values(2,'Sita',"Female",965866886);;
Query OK, 1 row affected (0.04 sec)

ERROR:
No query specified

mysql> select * from customer;
+-------+---------+-----------+-----------+
| cs_id | cs_name | cs_gender | cs_phone  |
+-------+---------+-----------+-----------+
|     1 | Rita    | Female    | 989866886 |
|     2 | Sita    | Female    | 965866886 |
+-------+---------+-----------+-----------+
2 rows in set (0.00 sec)

mysql>
```

- Inserting in Order table-
  insert into order_tb(id,cs_id,sale_id,item_id)values(1,1,2,2);

```
mysql> insert into order_tb(id,cs_id,sale_id,item_id)values(1,1,2,2);;
Query OK, 1 row affected (0.05 sec)

ERROR:
No query specified

mysql> insert into order_tb(id,cs_id,sale_id,item_id)values(1,1,2,1);
ERROR 1062 (23000): Duplicate entry '1' for key 'PRIMARY'
mysql> insert into order_tb(id,cs_id,sale_id,item_id)values(2,1,2,1);
Query OK, 1 row affected (0.04 sec)

mysql> insert into order_tb(id,cs_id,sale_id,item_id)values(3,2,2,1);
Query OK, 1 row affected (0.02 sec)

mysql> insert into order_tb(id,cs_id,sale_id,item_id)values(4,1,1,1);
Query OK, 1 row affected (0.05 sec)

mysql> insert into order_tb(id,cs_id,sale_id,item_id)values(5,2,3,3);
Query OK, 1 row affected (0.02 sec)

mysql> select * from order_tb;
+----+-------+---------+---------+
| id | cs_id | sale_id | item_id |
+----+-------+---------+---------+
|  1 |     1 |       2 |       2 |
|  2 |     1 |       2 |       1 |
|  3 |     2 |       2 |       1 |
|  4 |     1 |       1 |       1 |
|  5 |     2 |       3 |       3 |
+----+-------+---------+---------+
5 rows in set (0.00 sec)

mysql>
```

Q 5) Find the sales person have multiple orders.

mysql>
select sale_name,sale_id from sale where sale_id in(select sale_id from order_tb group by sale_id
having count(sale_id)>1);

```
mysql> select sale_name,sale_id from sale where sale_id in(select sale_id from order_tb group by sale_id having count(sale_id)>1);
+-----------+---------+
| sale_name | sale_id |
+-----------+---------+
| Ravi      |       2 |
+-----------+---------+
1 row in set (0.00 sec)

mysql>
```

Q 6) Find the all sales person details along with order details

mysql> select sale.sale_id,A.item_id,A.item_name,A.item_cost,sale.sale_name from sale join (select item1.item_name,item1.item_cost,order_tb.* from order_tb join item1 on order_tb.item_id=item1.item_id) A on sale.sale_id=A.sale_id;

```
mysql> select sale.sale_id,A.item_id,A.item_name,A.item_cost,sale.sale_name from sale join (select item1.item_name,item1.item_cost,order_tb.*
from order_tb join item1 on order_tb.item_id=item1.item_id) A on sale.sale_id=A.sale_id;
+---------+---------+-----------+-----------+-----------+
| sale_id | item_id | item_name | item_cost | sale_name |
+---------+---------+-----------+-----------+-----------+
|       2 |       2 | Oven      |      5000 | Ravi      |
|       2 |       1 | Fridge    |     10000 | Ravi      |
|       2 |       1 | Fridge    |     10000 | Ravi      |
|       1 |       1 | Fridge    |     10000 | Pawan     |
|       3 |       3 | TV        |     15000 | Rahul     |
+---------+---------+-----------+-----------+-----------+
5 rows in set (0.00 sec)

mysql>
```

Q7)Create index-

create index idz on sale(sale_id,sale_name,is_mgr);

```
mysql> create index idx on sale(sale_id,sale_name,is_mgr);
Query OK, 0 rows affected (0.37 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> create index id1 on item1(item1_id,item1_name,item1_cost);
ERROR 1072 (42000): Key column 'item1_id' doesn't exist in table
mysql> create index id1 on item1(item_id,item_name,item_cost);
Query OK, 0 rows affected (0.34 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql>
```

Q 8) Show index

```
mysql> show index from dsb3.sale;
+-------+------------+----------+--------------+-------------+-----------+-------------+----------+--------+------+------------+---------+----
-----------+
| Table | Non_unique | Key_name | Seq_in_index | Column_name | Collation | Cardinality | Sub_part | Packed | Null | Index_type | Comment | Ind
ex_comment |
+-------+------------+----------+--------------+-------------+-----------+-------------+----------+--------+------+------------+---------+----
-----------+
| sale  |          0 | PRIMARY  |            1 | sale_id     | A         |           2 |     NULL | NULL   |      | BTREE      |         |
           |
| sale  |          1 | idx      |            1 | sale_id     | A         |           3 |     NULL | NULL   |      | BTREE      |         |
           |
| sale  |          1 | idx      |            2 | sale_name   | A         |           3 |     NULL | NULL   |      | BTREE      |         |
           |
| sale  |          1 | idx      |            3 | is_mgr      | A         |           3 |     NULL | NULL   |      | BTREE      |         |
           |
+-------+------------+----------+--------------+-------------+-----------+-------------+----------+--------+------+------------+---------+----
-----------+
4 rows in set (0.00 sec)

mysql>
```

Q 9) Find the order number, sale person name, along with the customer to whom that order belongs to-

```
mysql>
mysql> select order_tb.id,sale.sale_name,customer.cs_name from sale join order_tb on sale.sale_id=order_tb.sale_id join customer on order_tb.c
s_id=customer.cs_id join item1 on order_tb.item_id=item1.item_id;
+----+-----------+---------+
| id | sale_name | cs_name |
+----+-----------+---------+
|  1 | Ravi      | Rita    |
|  2 | Ravi      | Rita    |
|  3 | Ravi      | Sita    |
|  4 | Pawan     | Rita    |
|  5 | Rahul     | Sita    |
+----+-----------+---------+
5 rows in set (0.00 sec)

mysql>
```