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I confirm that I understand my coursework needs to be submitted online via Google Classroom under the relevant module page before the deadline in order for my assignment to be accepted and marked. I am fully aware that late submissions will be treated as non-submission and a marks of zero will be awarded.

Table of Contents

List of Figures

List of Tables

1. INTRODUCTION

1.1 Database

Definition: A database is a logically organized collection of structured data kept electronically in a computer system (Orcale Cloud Infrastructure, 2022). A database management system is usually in charge of a database (DBMS).Database is required to manage the data, easy to research the data with in a less time, secure the data, easy to update the data with proper correction. The main purpose of database is to make it possible for end users (through UI) or other higher-level apps to consume data (via APIs). A database application can be used for data storage and retrieval, transaction processing, and machine learning calculation. For example, when users connect into their Facebook accounts, Facebook uses a user database to authenticate them. Facebook, on the other hand, allows other application to utilize their user database. This is accomplished to utilize their user database. This is accomplished through a secure API that Facebook makes available, and you can undoubtedly find it in many of today's platform's authentication techniques. Another example is Mongo DB Atlas, a Data-as-a-Service platform. Atlas clusters offer a range of data consumption options, such as via a driver. (OCI, 2022)

1.2 Description of Organization

The organization I've decided to start revolves around a restaurant called 'Wendies' which is located in a Palpa. Staff, services, customer, order and item are all components of this restaurant. In this, restaurant food and drinks are prepared and served to customers. Although most meals are served and consumed on the premises, a provide take-out and food delivery services are also provided. In this restaurants, there ranges from low cost fast-food eateries and cafeterias to mid-priced family restaurants to high-priced luxury venues in terms of appearance and products. It also included other services like drinks and rooms for a customer from lower to middle range family.

1.3 Description of project

A restaurant sells a variety of things and offers a variety of services to its clients. Many clients order and take many products in a restaurant. Many services are offered to all consumers by many employees. As a result, the restaurant requires database management to keep track of all client record as well as the names of employees that provides services to a customers, as well as their names, address, and other information. A record of the service that was provided to a customer is also required. It also includes products that are served to a customer or items that are purchased by customers. This information is essential so that the administrator can simply filter data and retrieve the information required.

1.3.1 Goals and Objectives

- To store the organization large scale of data and information in a proper way.
- To make easy to filter the data and retrieve the information required.
- To make the latest modification to the data base available immediately.
- To save time, money and resources of the organization.
- To protect the data from physical harm.
- To make shopping easier for the customer in a proper time and scheduled.

2. DATABASE MODEL

Database model determines the logical structure of a database and fundamentally determines in which manner data can be stored, organized and manipulated. Furthermore, it also shows the relationship among the data elements. (learntek, 2018)

2.1 Business rules

A business rule is a statement that imposes some form of a constraint on a specific aspect of the database, such as the elements within a field specification for a particular field or the characteristics of a given relationship. (O'Reilly Media, Inc., 2022)

Business rules of an organization are as follows:

- A customer must have one or more contact number.
- A customer can order many items only which is present in a menu.
- A customer must treat the staff respectfully.
- A customer has to accept the terms and condition.
- A customer can pay after getting all the items.
- If possible customer are humbly requested not to waste their food.
- A customer can pack the food if it is unable to finish instead of wasting their food.
- A customer are request to sanitize and maintain social distance before entering.
- A customer must not make the noises and disturbance.
- A customer can ask if there is a problem.

2.2 Entity Relationship Diagram (ERD)

An entity relationship diagram (ERD), also known as an entity relationship model, is a graphical representation that depicts relationships among people, objects, places, concepts or events within an information technology (IT) systems. An ERD uses data modelling techniques that can help define business processes and serve as the foundation for a relational database. (Biscobing, 2019)

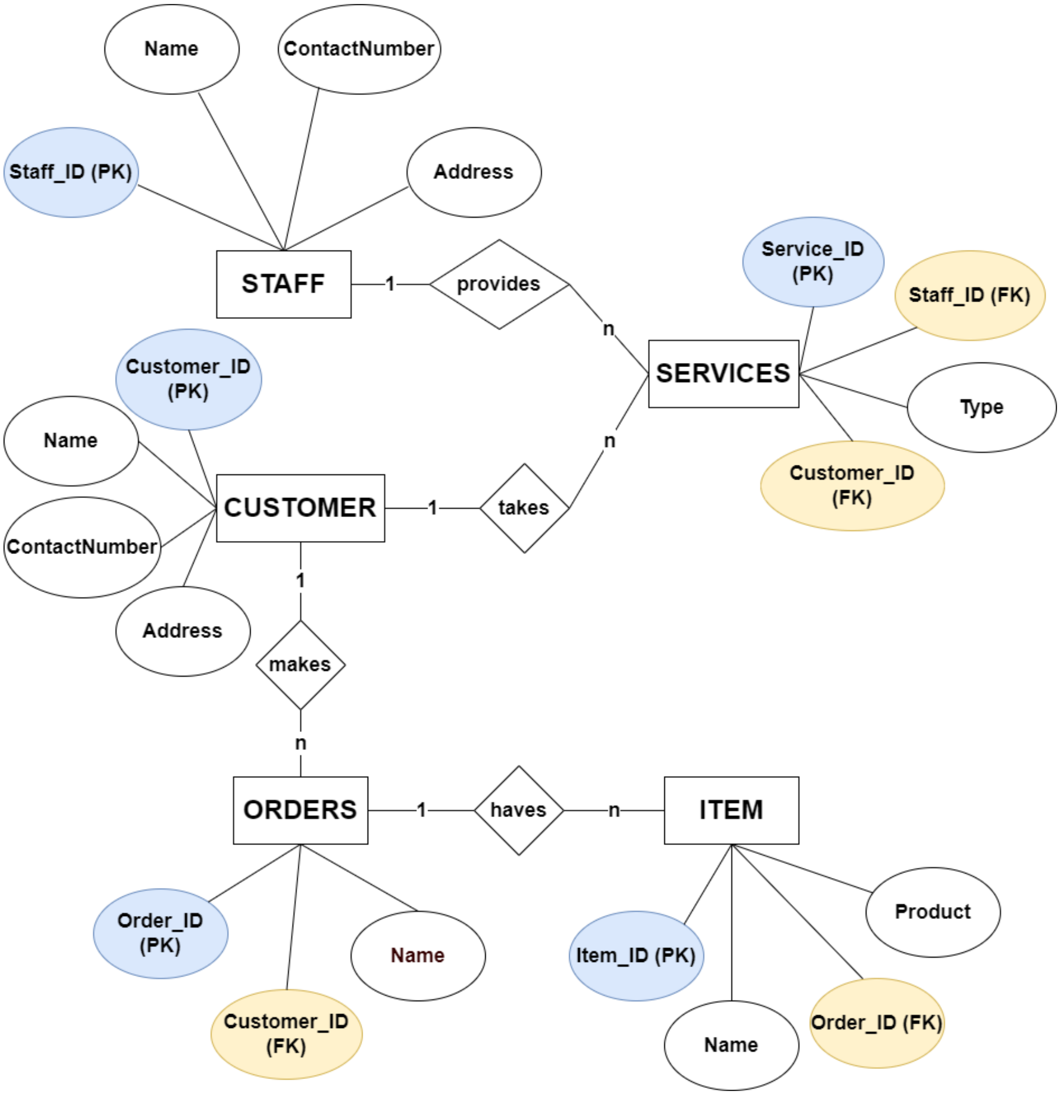


Figure 1 ERD diagram of restaurant

2.3 Relational diagram

Relational diagram represents how data is stored in relational database in the form of relations tables. After designing the conceptual model of database using ER diagram, we need to convert the conception in relational diagram which can be implemented by using any RDBMS languages like Oracle SQL, MySQL etc. (GeeksforGeeks, 2021)

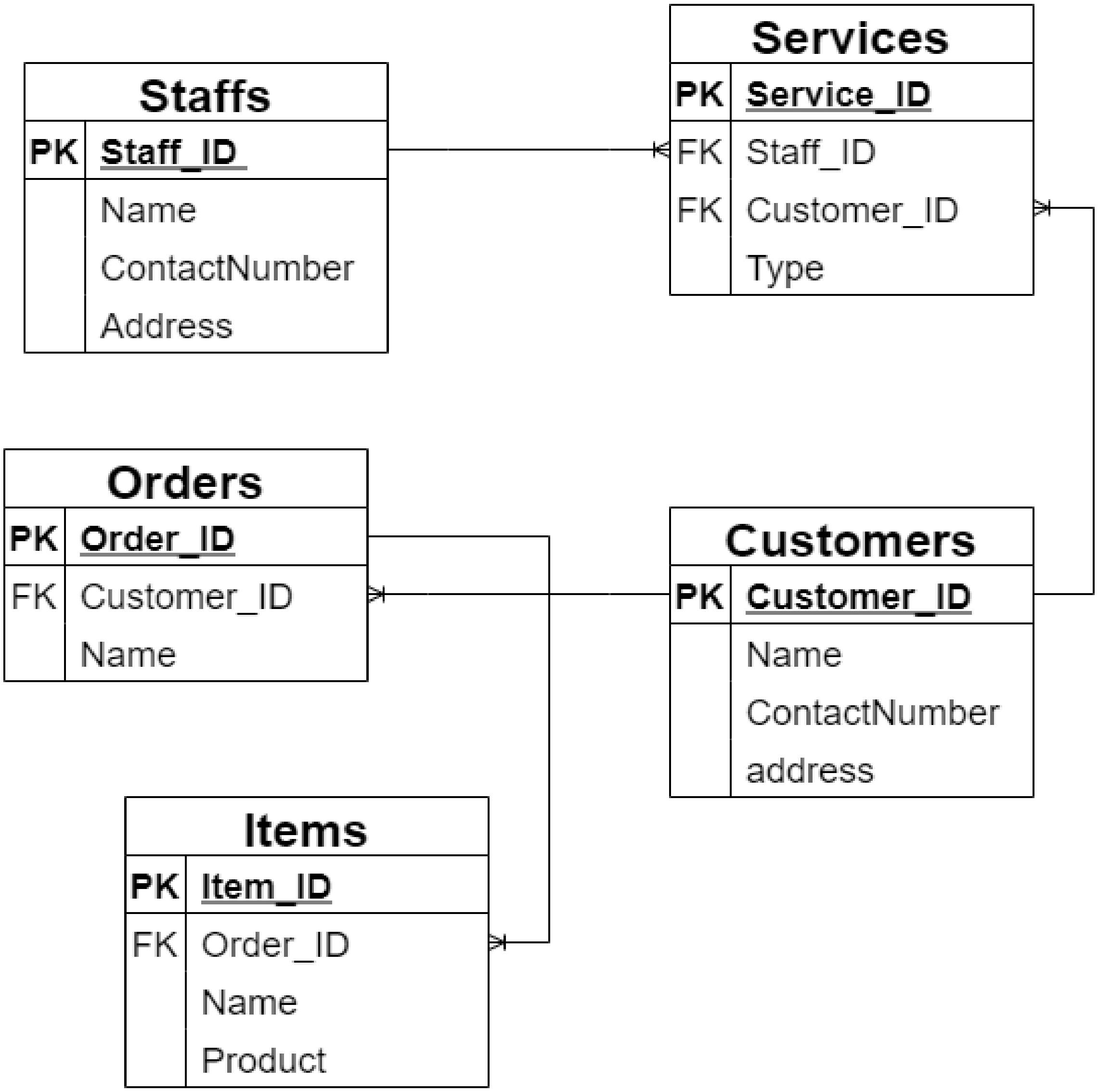


Figure 2 Relational diagram of restaurant

2.4 Tables

i. Staff

When customer enters a restaurant, multiple staffs are held to meet the customer's demands and to provide a variety of services to the customer. Each staff provides a customer with a variety of a services. The four attributes of a staff are staffID, name, contactnumber, and address.so to keep the records table is needed and It only has one primary key: staffID.

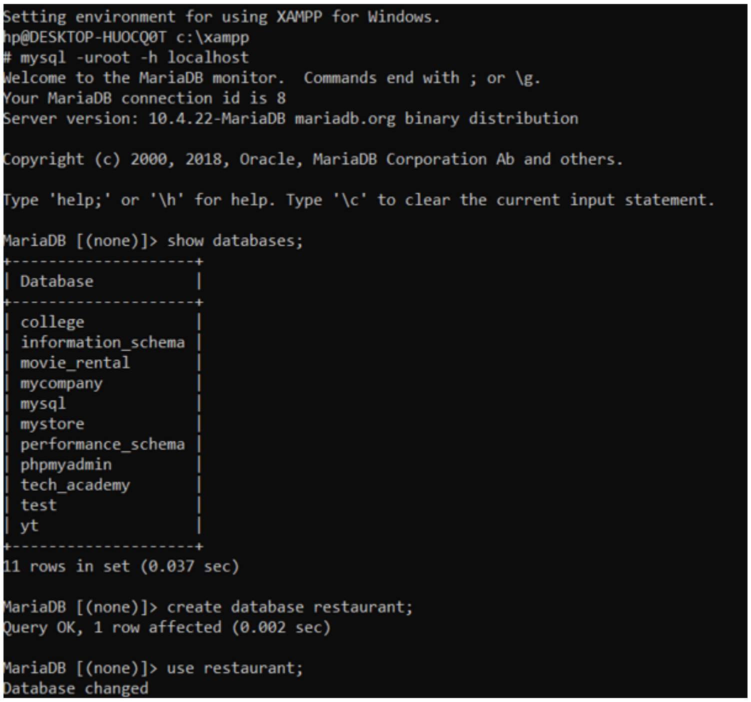
- staffID

  Staff ID represent the unique ID of staffs who are in a restaurant.
- name

  The name of the staff working in a restaurant.
- address

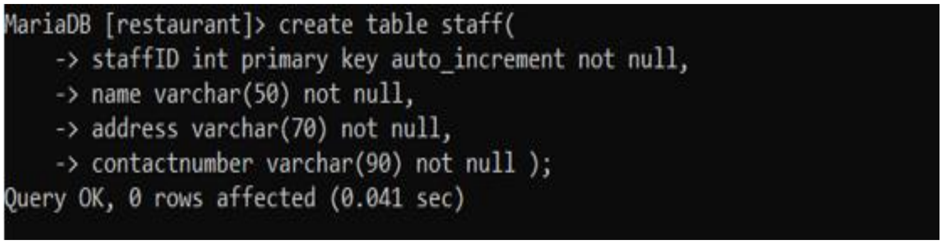
  It indicates the address of the staffs where they lived.
- contactnumber

  It indicates the contact number of a specific staffs.



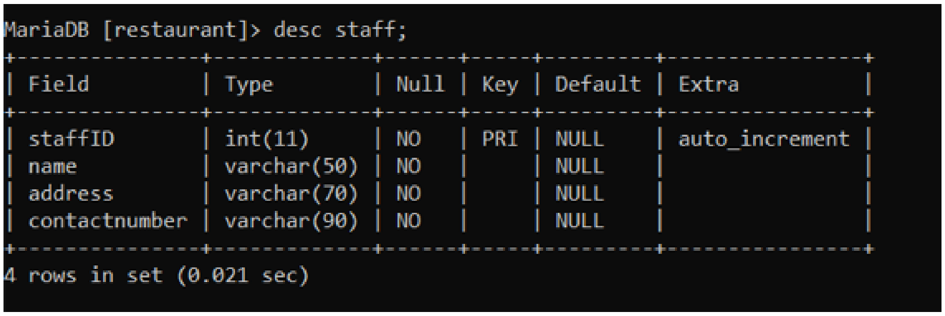
```
Setting environment for using XAMPP for Windows.
hp@DESKTOP-HUOCQ0T c:\xampp
# mysql -uroot -h localhost
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 8
Server version: 10.4.22-MariaDB mariadb.org binary distribution

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

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

MariaDB [(none)]> show databases;
+--------------------+
| Database           |
+--------------------+
| college            |
| information_schema |
| movie_rental       |
| mycompany          |
| mysql              |
| mystore            |
| performance_schema |
| phpmyadmin         |
| tech_academy       |
| test               |
| yt                 |
+--------------------+
11 rows in set (0.037 sec)

MariaDB [(none)]> create database restaurant;
Query OK, 1 row affected (0.002 sec)

MariaDB [(none)]> use restaurant;
Database changed
```

Figure 3 creation of database



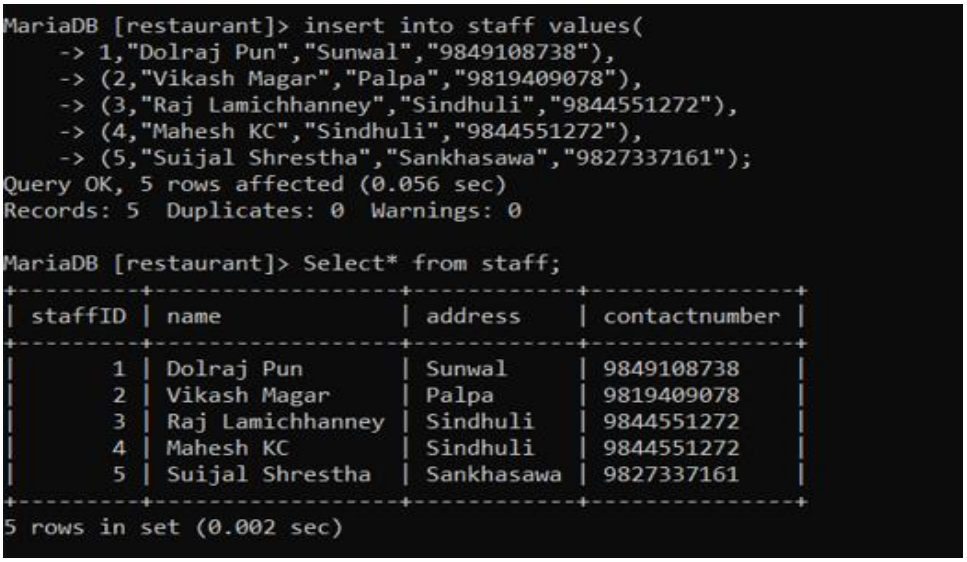
```
MariaDB [restaurant]> create table staff(
    -> staffID int primary key auto_increment not null,
    -> name varchar(50) not null,
    -> address varchar(70) not null,
    -> contactnumber varchar(90) not null );
Query OK, 0 rows affected (0.041 sec)
```

Figure 4 creation of table staff



```
MariaDB [restaurant]> desc staff;
+---------------+-------------+------+-----+---------+----------------+
| Field         | Type        | Null | Key | Default | Extra          |
+---------------+-------------+------+-----+---------+----------------+
| staffID       | int(11)     | NO   | PRI | NULL    | auto_increment |
| name          | varchar(50) | NO   |     | NULL    |                |
| address       | varchar(70) | NO   |     | NULL    |                |
| contactnumber | varchar(90) | NO   |     | NULL    |                |
+---------------+-------------+------+-----+---------+----------------+
4 rows in set (0.021 sec)
```

Figure 5 description of table staff



```
MariaDB [restaurant]> insert into staff values(
    -> 1,"Dolraj Pun","Sunwal","9849108738"),
    -> (2,"Vikash Magar","Palpa","9819409078"),
    -> (3,"Raj Lamichhanney","Sindhuli","9844551272"),
    -> (4,"Mahesh KC","Sindhuli","9844551272"),
    -> (5,"Suijal Shrestha","Sankhasawa","9827337161");
Query OK, 5 rows affected (0.056 sec)
Records: 5  Duplicates: 0  Warnings: 0

MariaDB [restaurant]> Select* from staff;
+---------+------------------+------------+---------------+
| staffID | name             | address    | contactnumber |
+---------+------------------+------------+---------------+
|       1 | Dolraj Pun       | Sunwal     | 9849108738    |
|       2 | Vikash Magar     | Palpa      | 9819409078    |
|       3 | Raj Lamichhanney | Sindhuli   | 9844551272    |
|       4 | Mahesh KC        | Sindhuli   | 9844551272    |
|       5 | Suijal Shrestha  | Sankhasawa | 9827337161    |
+---------+------------------+------------+---------------+
5 rows in set (0.002 sec)
```

Figure 6 insertion and selection of data of staff table

ii. Customer

A customers comes into a restaurant to buy an item. Many customers comes in a restaurant to buy item and taking the services. So, to keep the record of a customer coming in the restaurant table is needed and in this table customer mainly consists of attributes: customerID , name, contact number and address where customerID is a primary key.

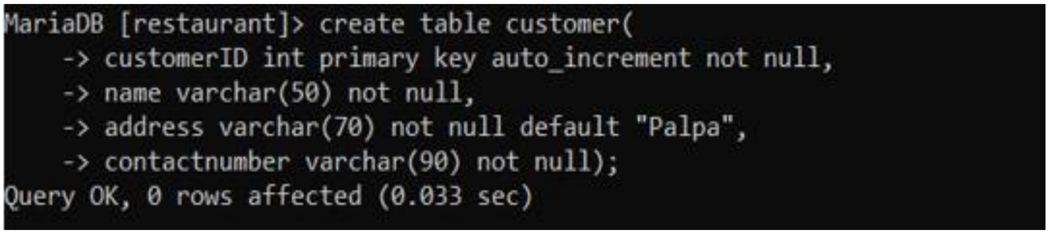
- customerID

  customerID is a unique identify ID of a customer coming in the restaurant.
- name

  It is a name of a customer present in a restaurant.
- Address

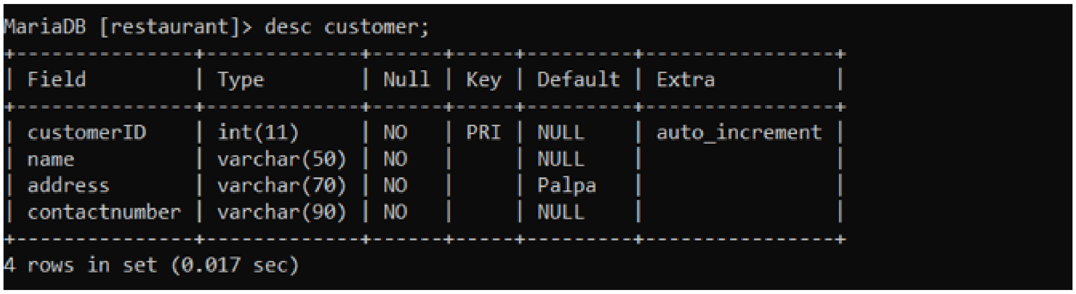
  It indicates the address of the customer where they lived.
- contactnumber

  It indicates the contact number of a specific customer.



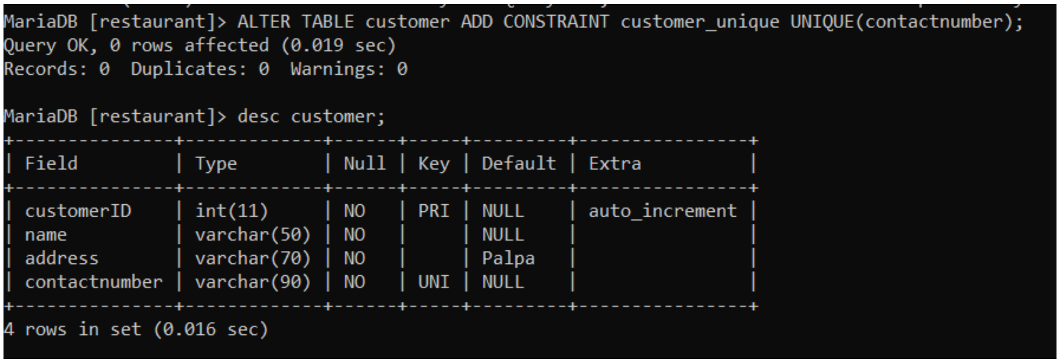
```
MariaDB [restaurant]> create table customer(
    -> customerID int primary key auto_increment not null,
    -> name varchar(50) not null,
    -> address varchar(70) not null default "Palpa",
    -> contactnumber varchar(90) not null);
Query OK, 0 rows affected (0.033 sec)
```

Figure 7 creation of table customer



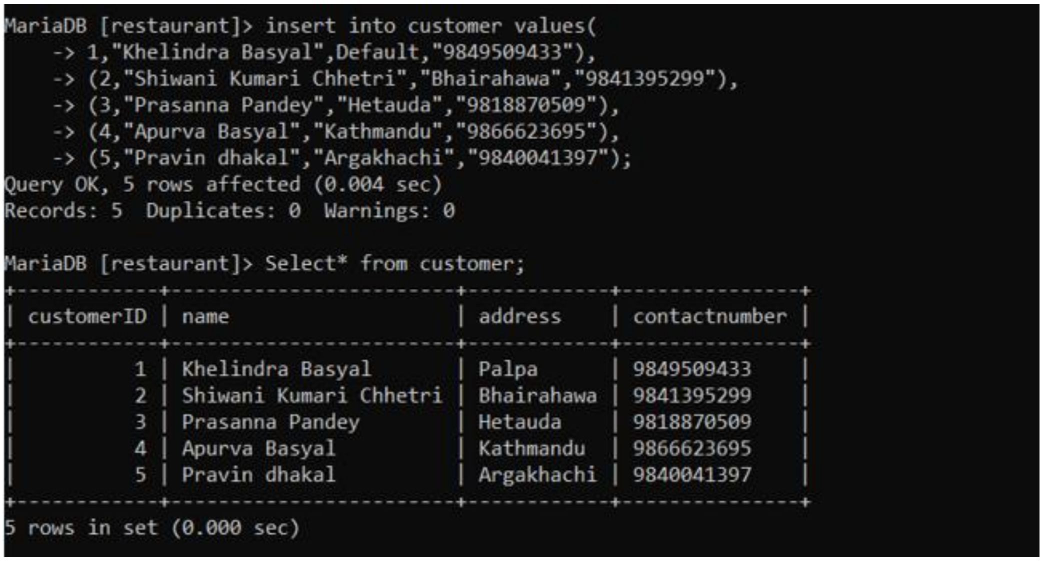
```
MariaDB [restaurant]> desc customer;
+---------------+-------------+------+-----+---------+----------------+
| Field         | Type        | Null | Key | Default | Extra          |
+---------------+-------------+------+-----+---------+----------------+
| customerID    | int(11)     | NO   | PRI | NULL    | auto_increment |
| name          | varchar(50) | NO   |     | NULL    |                |
| address       | varchar(70) | NO   |     | Palpa   |                |
| contactnumber | varchar(90) | NO   |     | NULL    |                |
+---------------+-------------+------+-----+---------+----------------+
4 rows in set (0.017 sec)
```

Figure 8 description of table customer



```
MariaDB [restaurant]> ALTER TABLE customer ADD CONSTRAINT customer_unique UNIQUE(contactnumber);
Query OK, 0 rows affected (0.019 sec)
Records: 0  Duplicates: 0  Warnings: 0

MariaDB [restaurant]> desc customer;
+---------------+-------------+------+-----+---------+----------------+
| Field         | Type        | Null | Key | Default | Extra          |
+---------------+-------------+------+-----+---------+----------------+
| customerID    | int(11)     | NO   | PRI | NULL    | auto_increment |
| name          | varchar(50) | NO   |     | NULL    |                |
| address       | varchar(70) | NO   |     | Palpa   |                |
| contactnumber | varchar(90) | NO   | UNI | NULL    |                |
+---------------+-------------+------+-----+---------+----------------+
4 rows in set (0.016 sec)
```

Figure 9 description of customer table by adding unique key



```
MariaDB [restaurant]> insert into customer values(
    -> 1,"Khelindra Basyal",Default,"9849509433"),
    -> (2,"Shiwani Kumari Chhetri","Bhairahawa","9841395299"),
    -> (3,"Prasanna Pandey","Hetauda","9818870509"),
    -> (4,"Apurva Basyal","Kathmandu","9866623695"),
    -> (5,"Pravin dhakal","Argakhachi","9840041397");
Query OK, 5 rows affected (0.004 sec)
Records: 5  Duplicates: 0  Warnings: 0

MariaDB [restaurant]> Select* from customer;
+------------+------------------------+------------+---------------+
| customerID | name                   | address    | contactnumber |
+------------+------------------------+------------+---------------+
|          1 | Khelindra Basyal       | Palpa      | 9849509433    |
|          2 | Shiwani Kumari Chhetri | Bhairahawa | 9841395299    |
|          3 | Prasanna Pandey        | Hetauda    | 9818870509    |
|          4 | Apurva Basyal          | Kathmandu  | 9866623695    |
|          5 | Pravin dhakal          | Argakhachi | 9840041397    |
+------------+------------------------+------------+---------------+
5 rows in set (0.000 sec)
```

Figure 10 insertion and selection of data of customer table

iii. Services

Cleaning, room service, and other services are provided by the staff to the customers. A service table is required to maintain track of customers that get services, and it comprises the following attributes: serviceID, type, staff_ID, and customer_ID, with serviceID serving as a primary key. A foreign key exists between customer_ID and staff_ID.

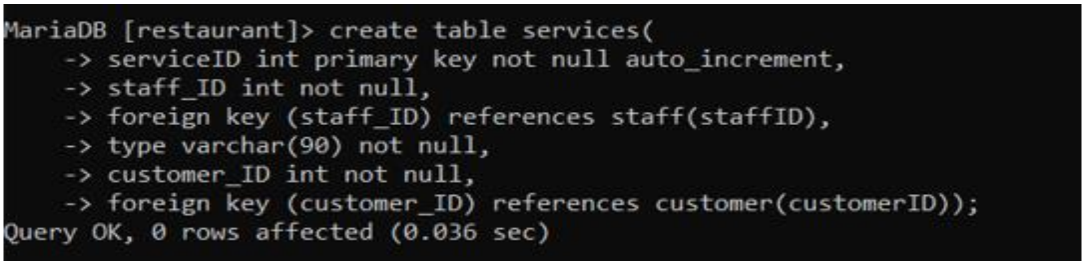
- serviceID

  serviceID uniquely identifies the service provided by a staff to a customer.
- staff_ID

  staff_ID is a foreign key which describes the staff who provided services.
- type

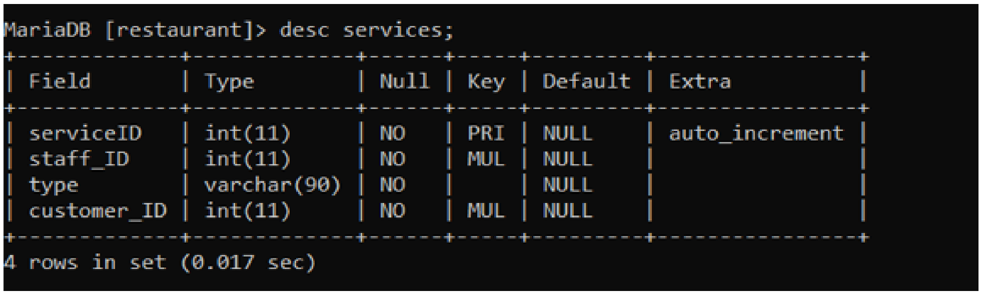
  It indicates the type of services which is taken by a customer like cleaning, room service and so on.
- customer_ID

  customer_ID is a foreign key which describes the services taken by a customer.



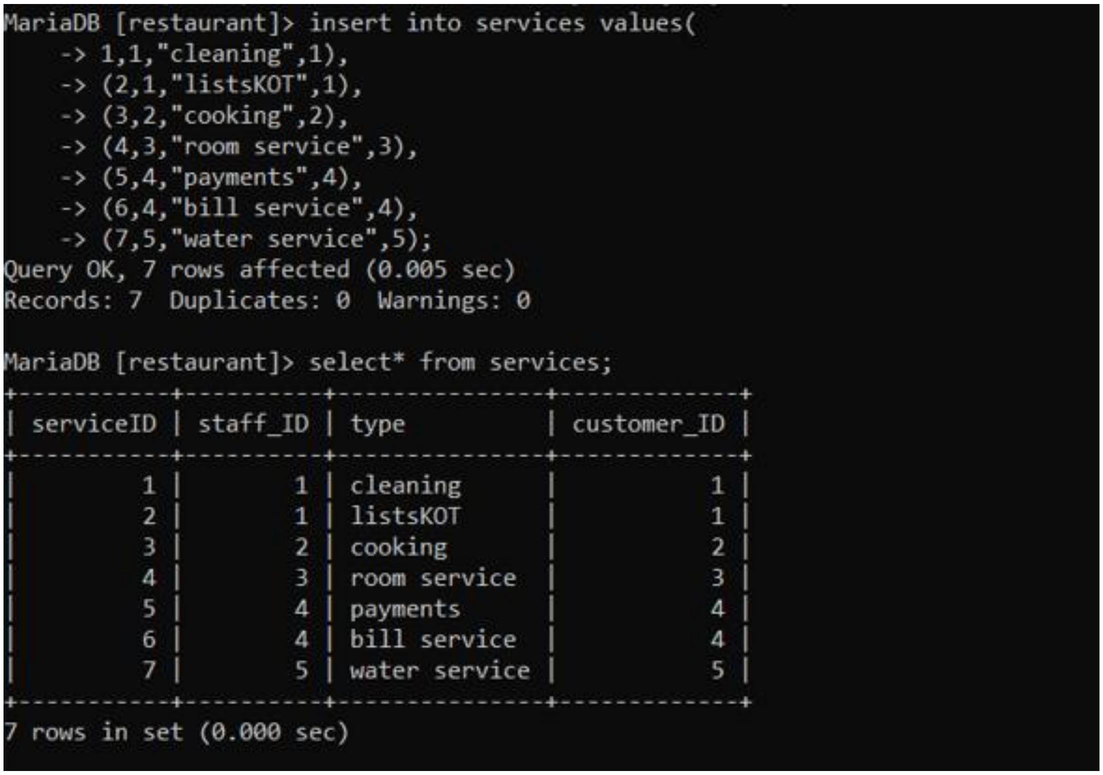
```
MariaDB [restaurant]> create table services(
    -> serviceID int primary key not null auto_increment,
    -> staff_ID int not null,
    -> foreign key (staff_ID) references staff(staffID),
    -> type varchar(90) not null,
    -> customer_ID int not null,
    -> foreign key (customer_ID) references customer(customerID));
Query OK, 0 rows affected (0.036 sec)
```

Figure 11 creation of table services



```
MariaDB [restaurant]> desc services;
+-------------+-------------+------+-----+---------+----------------+
| Field       | Type        | Null | Key | Default | Extra          |
+-------------+-------------+------+-----+---------+----------------+
| serviceID   | int(11)     | NO   | PRI | NULL    | auto_increment |
| staff_ID    | int(11)     | NO   | MUL | NULL    |                |
| type        | varchar(90) | NO   |     | NULL    |                |
| customer_ID | int(11)     | NO   | MUL | NULL    |                |
+-------------+-------------+------+-----+---------+----------------+
4 rows in set (0.017 sec)
```

Figure 12 description of table services



```
MariaDB [restaurant]> insert into services values(
    -> 1,1,"cleaning",1),
    -> (2,1,"listsKOT",1),
    -> (3,2,"cooking",2),
    -> (4,3,"room service",3),
    -> (5,4,"payments",4),
    -> (6,4,"bill service",4),
    -> (7,5,"water service",5);
Query OK, 7 rows affected (0.005 sec)
Records: 7  Duplicates: 0  Warnings: 0

MariaDB [restaurant]> select* from services;
+-----------+----------+---------------+-------------+
| serviceID | staff_ID | type          | customer_ID |
+-----------+----------+---------------+-------------+
|         1 |        1 | cleaning      |           1 |
|         2 |        1 | listsKOT      |           1 |
|         3 |        2 | cooking       |           2 |
|         4 |        3 | room service  |           3 |
|         5 |        4 | payments      |           4 |
|         6 |        4 | bill service  |           4 |
|         7 |        5 | water service |           5 |
+-----------+----------+---------------+-------------+
7 rows in set (0.000 sec)
```

Figure 13 insertion and selection of data of services table

iv. Orders

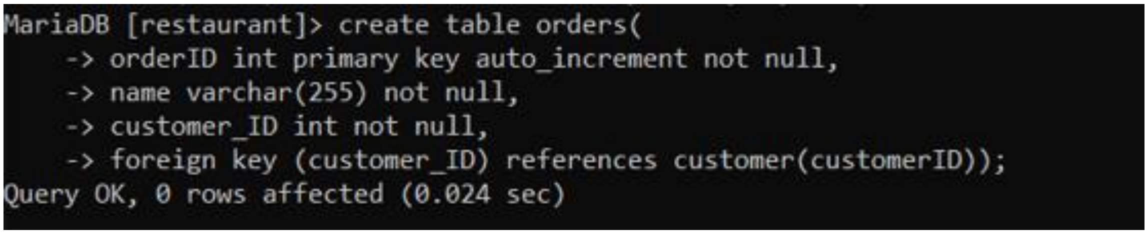
Order represent the order made by a customer where it contains a lot of stuffs like food, drinks, and so on. A customer makes many orders so to be listed table is made of each customer making many order. Order consists of attributes like orderID, customerID and name where orderID is a primary key and customer_ID is a foreign key.

- orderID

  It is a primary key which uniquely identifies order.
- name

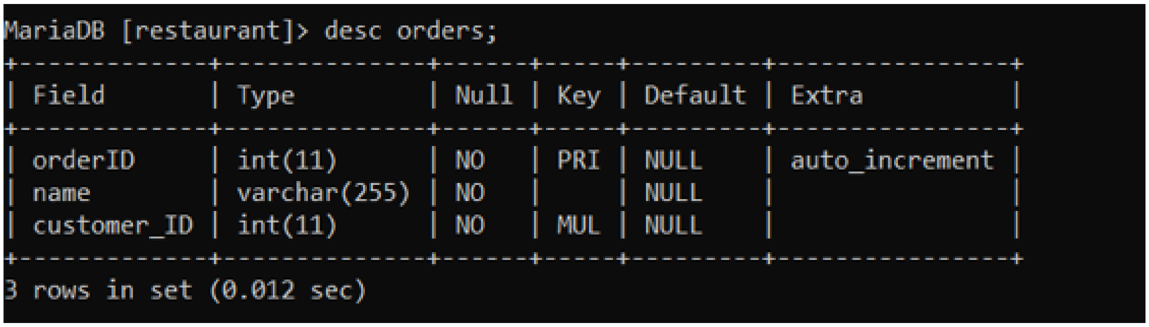
  It is a name of order which is places by a customer.
- customer_ID

  It is a foreign key which describes customer who makes order.



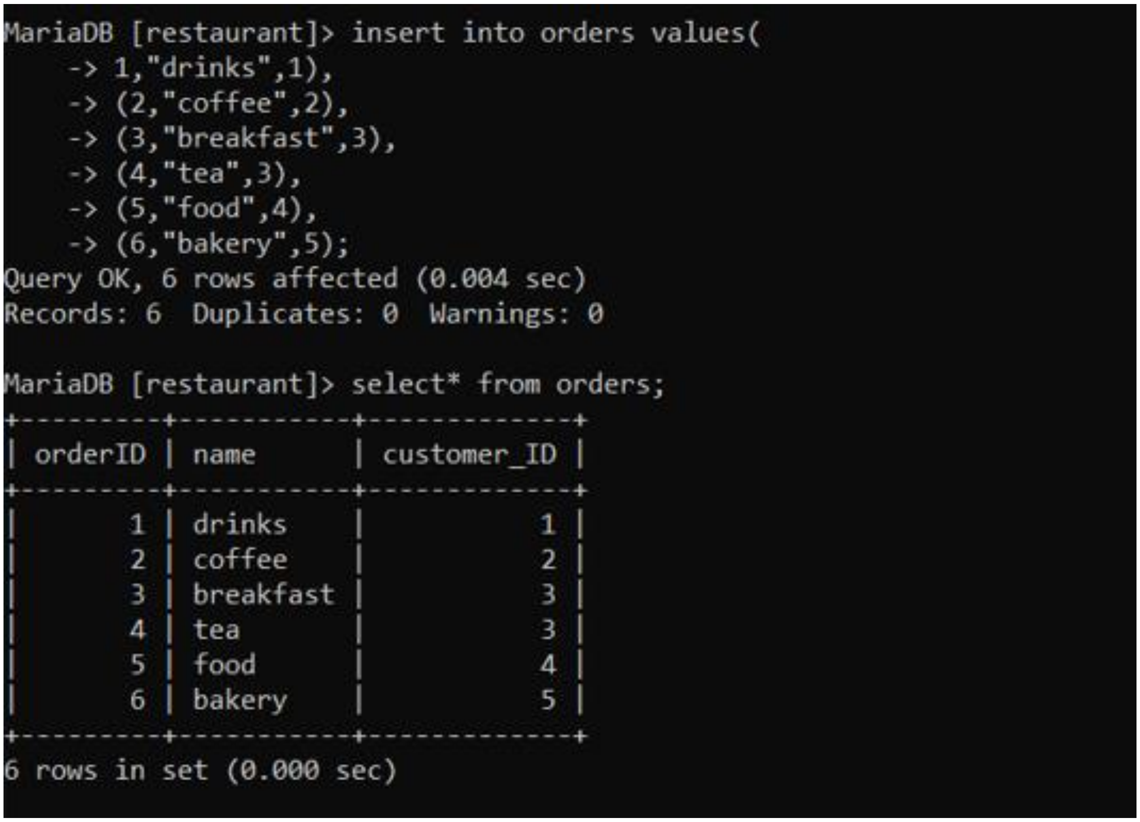
```
MariaDB [restaurant]> create table orders(
    -> orderID int primary key auto_increment not null,
    -> name varchar(255) not null,
    -> customer_ID int not null,
    -> foreign key (customer_ID) references customer(customerID));
Query OK, 0 rows affected (0.024 sec)
```

Figure 14 creation of table orders



```
MariaDB [restaurant]> desc orders;
+-------------+--------------+------+-----+---------+----------------+
| Field       | Type         | Null | Key | Default | Extra          |
+-------------+--------------+------+-----+---------+----------------+
| orderID     | int(11)      | NO   | PRI | NULL    | auto_increment |
| name        | varchar(255) | NO   |     | NULL    |                |
| customer_ID | int(11)      | NO   | MUL | NULL    |                |
+-------------+--------------+------+-----+---------+----------------+
3 rows in set (0.012 sec)
```

Figure 15 description of table orders



```
MariaDB [restaurant]> insert into orders values(
    -> 1,"drinks",1),
    -> (2,"coffee",2),
    -> (3,"breakfast",3),
    -> (4,"tea",3),
    -> (5,"food",4),
    -> (6,"bakery",5);
Query OK, 6 rows affected (0.004 sec)
Records: 6  Duplicates: 0  Warnings: 0

MariaDB [restaurant]> select* from orders;
+---------+-----------+-------------+
| orderID | name      | customer_ID |
+---------+-----------+-------------+
|       1 | drinks    |           1 |
|       2 | coffee    |           2 |
|       3 | breakfast |           3 |
|       4 | tea       |           3 |
|       5 | food      |           4 |
|       6 | bakery    |           5 |
+---------+-----------+-------------+
6 rows in set (0.000 sec)
```

Figure 16 insertion and selection of data of orders table

v. Item

In a restaurant it consists of many items like coke, MOMO, and so on. All this items are served to a customer. So, the items which are consumed by a customer is placed in a table where items consists of four attribute which is itemID, name, product and order_ID. Here, itemID is a primary key and order_ID is a foreign key.

- itemID

  itemID uniquely identifies a item consumed by a customer and is a primary key.

- name

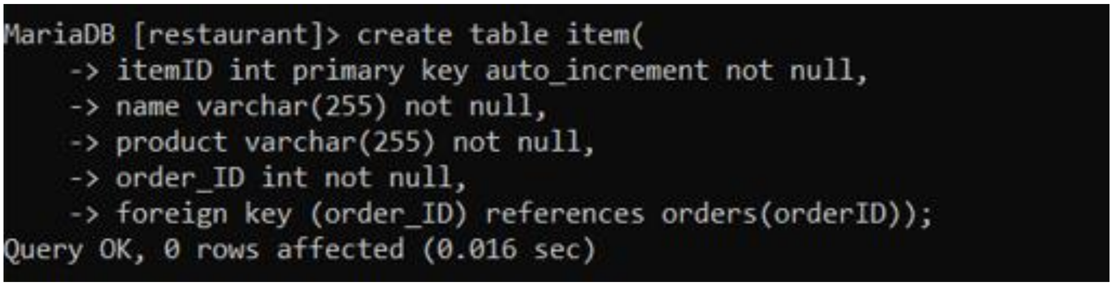
  It indicates the name of the item

- product

  Product indicates the manufacture of a certain item.

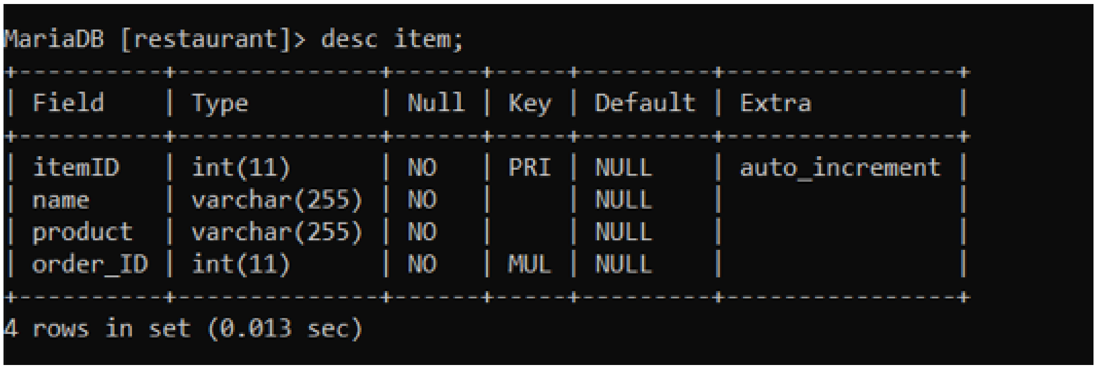
- order_ID

  It is a foreign key which includes the order placed by a customer in which a order haves many item.



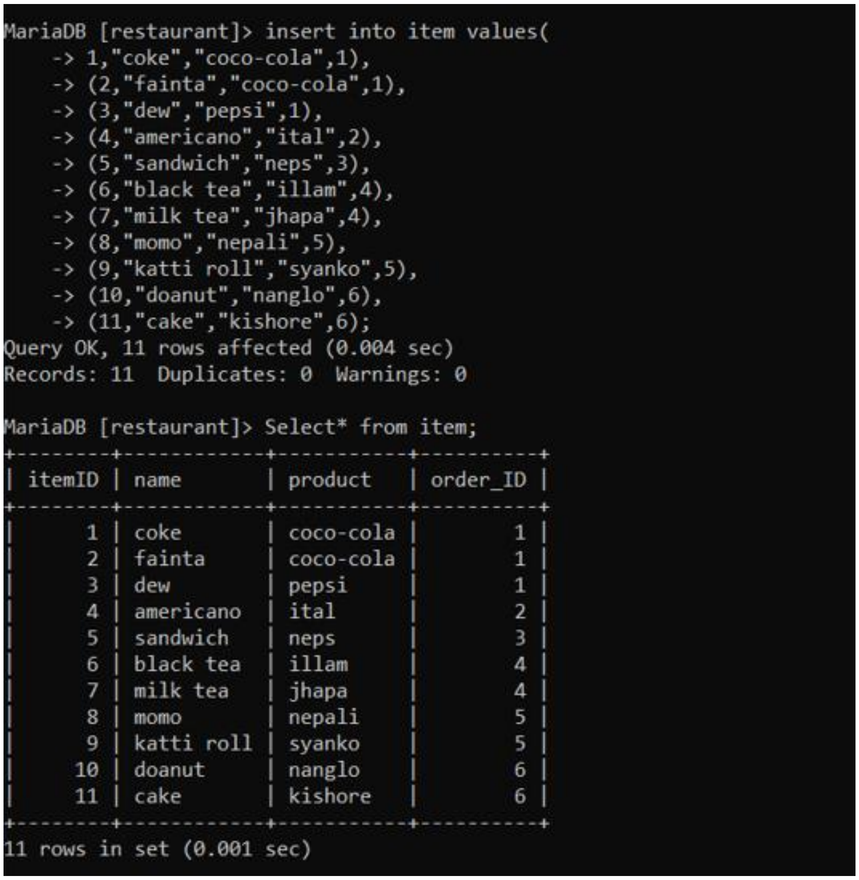
```
MariaDB [restaurant]> create table item(
    -> itemID int primary key auto_increment not null,
    -> name varchar(255) not null,
    -> product varchar(255) not null,
    -> order_ID int not null,
    -> foreign key (order_ID) references orders(orderID));
Query OK, 0 rows affected (0.016 sec)
```

Figure 17 creation of table item



```
MariaDB [restaurant]> desc item;
+----------+--------------+------+-----+---------+----------------+
| Field    | Type         | Null | Key | Default | Extra          |
+----------+--------------+------+-----+---------+----------------+
| itemID   | int(11)      | NO   | PRI | NULL    | auto_increment |
| name     | varchar(255) | NO   |     | NULL    |                |
| product  | varchar(255) | NO   |     | NULL    |                |
| order_ID | int(11)      | NO   | MUL | NULL    |                |
+----------+--------------+------+-----+---------+----------------+
4 rows in set (0.013 sec)
```

Figure 18 description of table item



```
MariaDB [restaurant]> insert into item values(
    -> 1,"coke","coco-cola",1),
    -> (2,"fainta","coco-cola",1),
    -> (3,"dew","pepsi",1),
    -> (4,"americano","ital",2),
    -> (5,"sandwich","neps",3),
    -> (6,"black tea","illam",4),
    -> (7,"milk tea","jhapa",4),
    -> (8,"momo","nepali",5),
    -> (9,"katti roll","syanko",5),
    -> (10,"doanut","nanglo",6),
    -> (11,"cake","kishore",6);
Query OK, 11 rows affected (0.004 sec)
Records: 11  Duplicates: 0  Warnings: 0

MariaDB [restaurant]> Select* from item;
+--------+------------+-----------+----------+
| itemID | name       | product   | order_ID |
+--------+------------+-----------+----------+
|      1 | coke       | coco-cola |        1 |
|      2 | fainta     | coco-cola |        1 |
|      3 | dew        | pepsi     |        1 |
|      4 | americano  | ital      |        2 |
|      5 | sandwich   | neps      |        3 |
|      6 | black tea  | illam     |        4 |
|      7 | milk tea   | jhapa     |        4 |
|      8 | momo       | nepali    |        5 |
|      9 | katti roll | syanko    |        5 |
|     10 | doanut     | nanglo    |        6 |
|     11 | cake       | kishore   |        6 |
+--------+------------+-----------+----------+
11 rows in set (0.001 sec)
```

Figure 19 insertion and selection of data of item table

3. DATA DICTIONARY

Entity name	Entity description	Column name	Column Description	Data type	Length	Primary Key	Foreign Key	Nullable	Unique	Notes
Staffs	A staff is someone who works in the organization.	staffID	staffID represent the unique ID of staffs who are in an organization	INT		True	False	False	True	Auto Incremented
		name	It holds the name of staffs working in an organization.	VARCHAR	50	False	False	False		
		address	It contains the location of staffs who are working in organization.	VARCHAR	70	False	False	False		
		contact number	It holds the record of a contact number of each staffs working in an organization.	VARCHAR	90	False	False	False		

Table 1 Data dictionary table of staffs

Entity name	**Entity description**	**Column name**	**Column Description**	**Data type**	**Length**	**Primary Key**	**Foreign Key**	**Nullable**	**Unique**	**Notes**
Customers	A customer is someone who comes in an organization to order an items.	customerID	Customer ID represent the unique ID of customers who comes in an organization.	INT		True	False	False	True	Auto Incremented
		name	It holds the name of customer coming in an organization to buy an item.	VARCHAR	50	False	False	False		
		address	It stores the customer's location from where they belongs to.	VARCHAR	70	False	False	False		Default
		contact number	It holds the record of a contact number of each customer entering in an organization.	VARCHAR	90	False	False	False	True	

Table 2 Data dictionary table of customers

Entity name	**Entity description**	**Column name**	**Column Description**	**Data type**	**Length**	**Primary Key**	**Foreign Key**	**Nullable**	**Unique**	**Notes**
Services	It consists of service given by a staffs to the customer.	serviceID	Service ID represents the unique ID of services given to the customers in an organization.	INT		True	False	False	True	Auto Incremented
		staff_ID	It keeps the record of the staffs who provided the services to the customer.	INT		False	True	False		References to staff(staffID)
		type	It holds the name of the service provided to the customer.	VARCHAR	90	False	False	False		
		customer_ID	It keeps the record of customer who takes services.	INT		False	True	False		References to customer(customerID)

Table 3 Data dictionary table of services

Entity name	**Entity description**	**Column name**	**Column Description**	**Data type**	**Length**	**Primary Key**	**Foreign Key**	**Nullable**	**Unique**	**Notes**
Orders	It consist of order placed by a customer.	orderID	Service ID represents the unique ID of services given to the customers in an organization.	INT		True	False	False	True	Auto Incremented
		name	It keeps the record of the staffs who provided the services to the customer.	VARCHAR	255	False	False	False		
		custome r _ID	It holds the name of the service provided to the customer.	INT		False	True	False		References to customer(customerID)

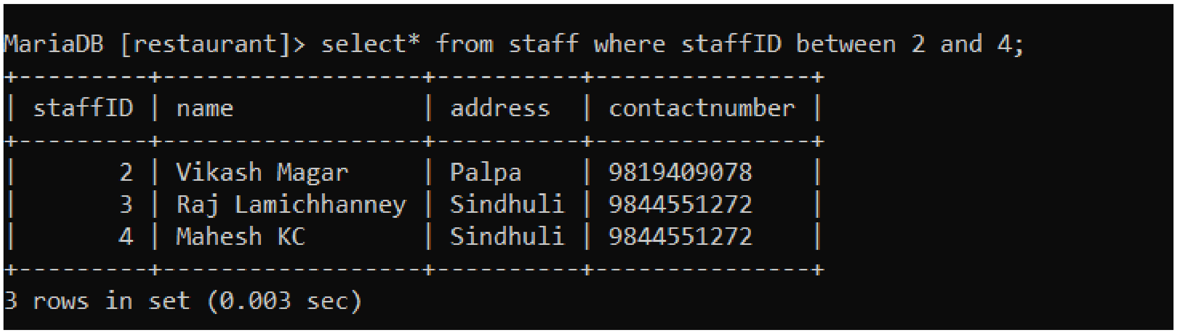
Table 4 Data dictionary table of orders

Entity name	Entity description	Column name	Column Description	Data type	Length	Primary Key	Foreign Key	Nullable	Unique	Notes
Items	It consists of an item which is available in an organization and is sold to a customer.	itemID	It holds the record of an item available in the organization.	INT		True	False	False	True	Auto Incremented
		name	It holds the name of the item present in the organization.	VARCHAR	255	False	False	False		
		product	It holds the manufactured record of a specific item.	VARCHAR	255	False	False	False		
		order_ID	It haves the record of orders who haves many item.	INT		False	True	False		References to orders(orderID)

Table 5 Data dictionary table of items

4. QUERIES

a) Between



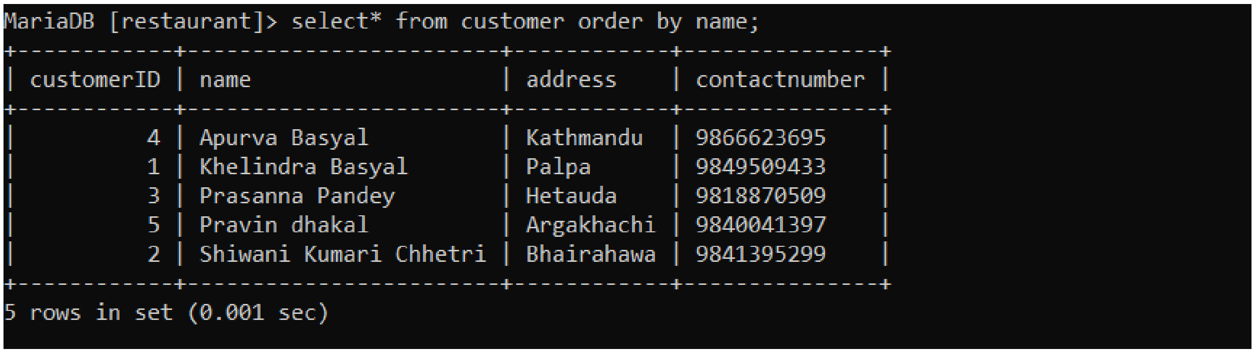
```
MariaDB [restaurant]> select* from staff where staffID between 2 and 4;
+---------+-----------------+----------+---------------+
| staffID | name            | address  | contactnumber |
+---------+-----------------+----------+---------------+
|       2 | Vikash Magar    | Palpa    | 9819409078    |
|       3 | Raj Lamichhanney | Sindhuli | 9844551272    |
|       4 | Mahesh KC       | Sindhuli | 9844551272    |
+---------+-----------------+----------+---------------+
3 rows in set (0.003 sec)
```

Figure 20 use of between queries

Query No.	1
Query	select * from staff where staffID between 2 and 4
Keyword Used	Between
Purpose	Used to select values within a given range.

Table 6 develop table of between query

b) Order By



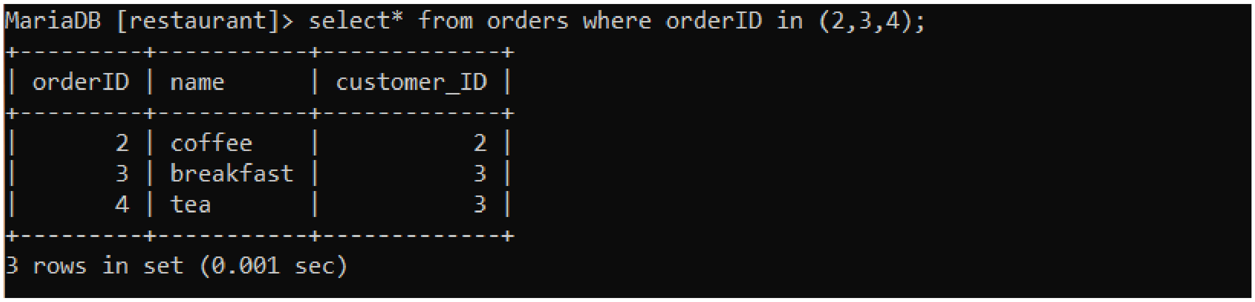
```
MariaDB [restaurant]> select* from customer order by name;
+------------+-----------------------+------------+---------------+
| customerID | name                  | address    | contactnumber |
+------------+-----------------------+------------+---------------+
|          4 | Apurva Basyal         | Kathmandu  | 9866623695    |
|          1 | Khelindra Basyal      | Palpa      | 9849509433    |
|          3 | Prasanna Pandey       | Hetauda    | 9818870509    |
|          5 | Pravin dhakal         | Argakhachi | 9840041397    |
|          2 | Shiwani Kumari Chhetri | Bhairahawa | 9841395299    |
+------------+-----------------------+------------+---------------+
5 rows in set (0.001 sec)
```

Figure 21 use of order by query

Query No.	2
Query	select * from customer order by name
Keyword Used	Order by
Purpose	Used to sort the result in ascending or descending order.

Table 7 develop table of order by query

c) In



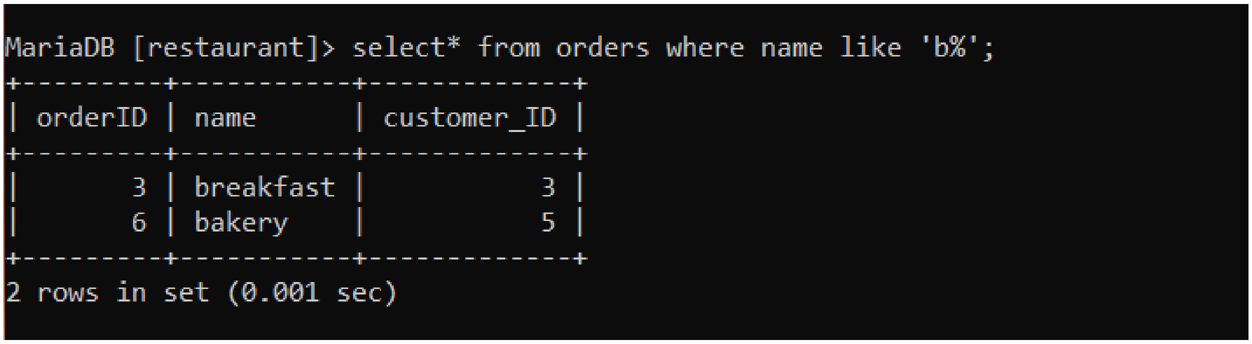
```
MariaDB [restaurant]> select* from orders where orderID in (2,3,4);
+---------+-----------+-------------+
| orderID | name      | customer_ID |
+---------+-----------+-------------+
|       2 | coffee    |           2 |
|       3 | breakfast |           3 |
|       4 | tea       |           3 |
+---------+-----------+-------------+
3 rows in set (0.001 sec)
```

Figure 22 use of In query

Query No.	3
Query	select * from orders where orderID in (2,3,4)
Keyword Used	In
Purpose	Used to specify multiple values.

Table 8 develop table of In query

d) Like



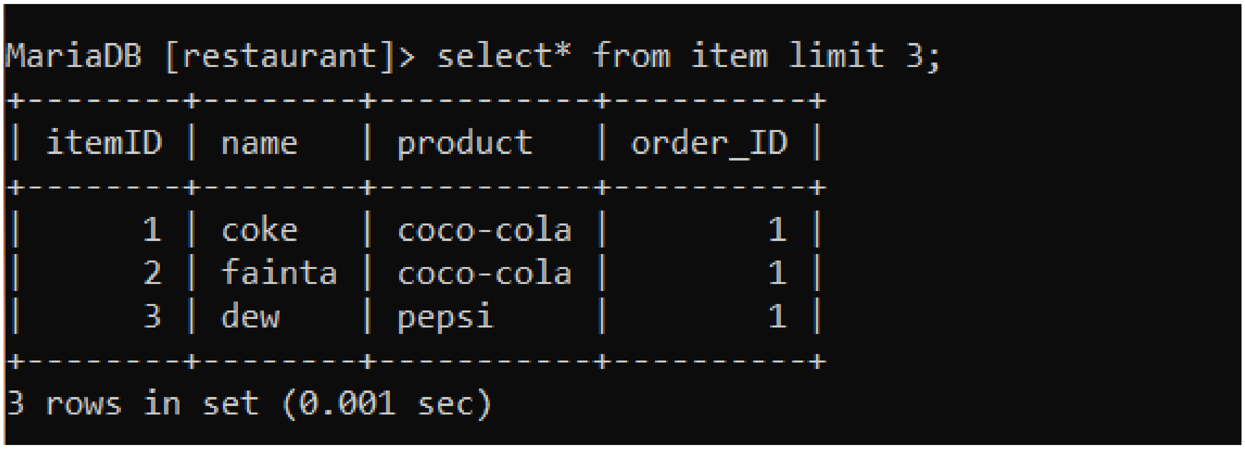
```
MariaDB [restaurant]> select* from orders where name like 'b%';
+---------+-----------+-------------+
| orderID | name      | customer_ID |
+---------+-----------+-------------+
|       3 | breakfast |           3 |
|       6 | bakery    |           5 |
+---------+-----------+-------------+
2 rows in set (0.001 sec)
```

Figure 23 use of like query

Query No.	4
Query	select * from orders where name like ‘b%’
Keyword Used	Like
Purpose	Used to search for a specific pattern.

Table 9 develop table of like query

e) Limit



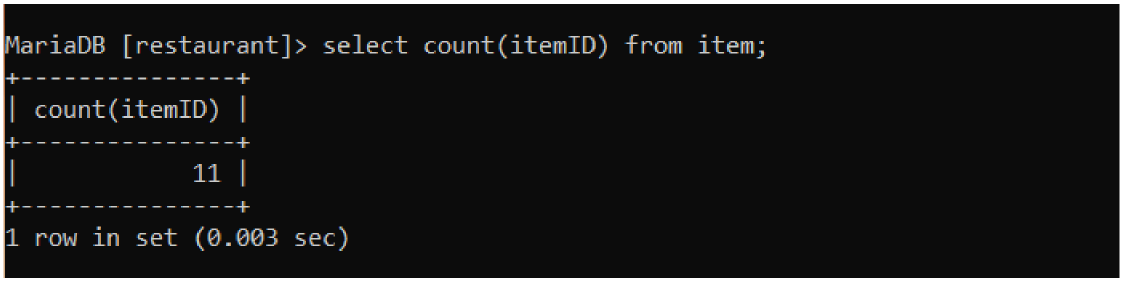
```
MariaDB [restaurant]> select* from item limit 3;
+--------+--------+-----------+----------+
| itemID | name   | product   | order_ID |
+--------+--------+-----------+----------+
|      1 | coke   | coco-cola |        1 |
|      2 | fainta | coco-cola |        1 |
|      3 | dew    | pepsi     |        1 |
+--------+--------+-----------+----------+
3 rows in set (0.001 sec)
```

Figure 24 use of limit query

Query No.	5
Query	select * from item limit 3
Keyword Used	Limit
Purpose	Used to specify the number of records to return.

Table 10 develop table of limit query

f) Count



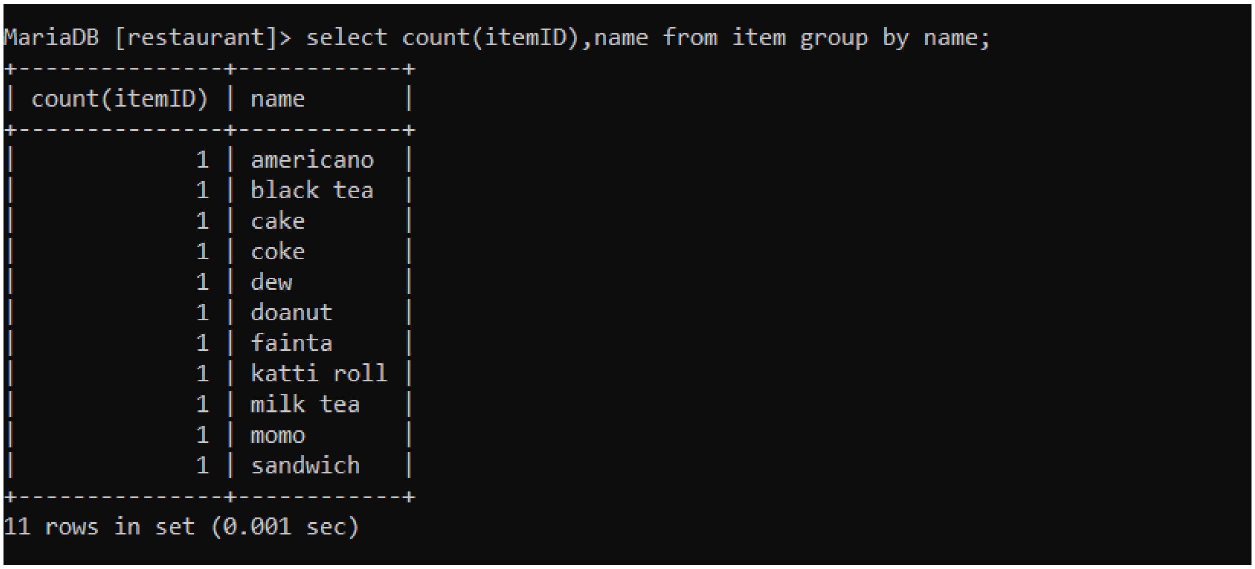
```
MariaDB [restaurant]> select count(itemID) from item;
+---------------+
| count(itemID) |
+---------------+
|            11 |
+---------------+
1 row in set (0.003 sec)
```

Figure 25 use of count query

Query No.	6
Query	select count(itemID) from item
Keyword Used	Count
Purpose	Used to return the number of rows that match a specific condition.

Table 11 develop table of count query

g) Group by



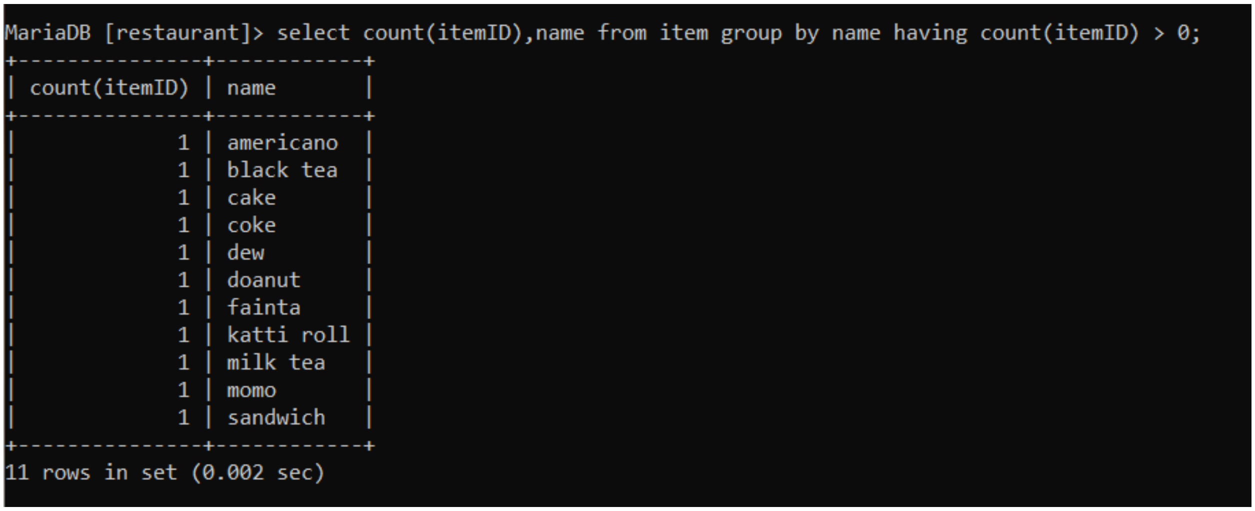
```
MariaDB [restaurant]> select count(itemID),name from item group by name;
+---------------+------------+
| count(itemID) | name       |
+---------------+------------+
|             1 | americano  |
|             1 | black tea  |
|             1 | cake       |
|             1 | coke       |
|             1 | dew        |
|             1 | doanut     |
|             1 | fainta     |
|             1 | katti roll |
|             1 | milk tea   |
|             1 | momo       |
|             1 | sandwich   |
+---------------+------------+
11 rows in set (0.001 sec)
```

Figure 26 use of group by query

Query No.	7
Query	select count(itemID),name from item group by name
Keyword Used	Group by
Purpose	Used to groups rows that have the same values into summary rows.

Table 12 develop table of group by query

h) Having



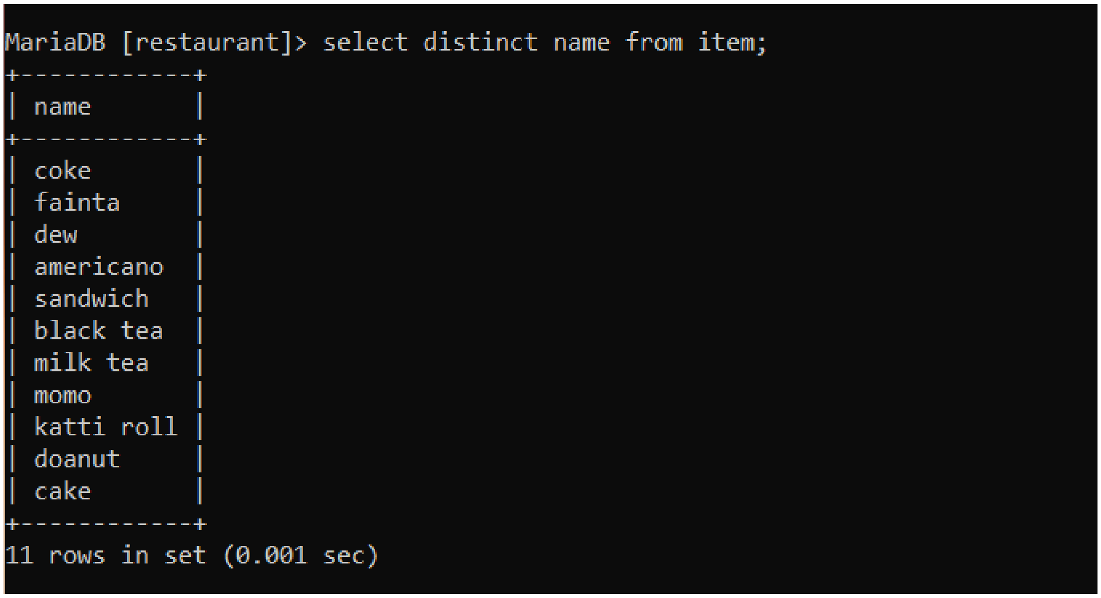
```
MariaDB [restaurant]> select count(itemID),name from item group by name having count(itemID) > 0;
+---------------+------------+
| count(itemID) | name       |
+---------------+------------+
|             1 | americano  |
|             1 | black tea  |
|             1 | cake       |
|             1 | coke       |
|             1 | dew        |
|             1 | doanut     |
|             1 | fainta     |
|             1 | katti roll |
|             1 | milk tea   |
|             1 | momo       |
|             1 | sandwich   |
+---------------+------------+
11 rows in set (0.002 sec)
```

Figure 27 use of having query

Query No.	8
Query	select count(itemID),name from item group by name having count(itemID) > 0
Keyword Used	Having
Purpose	Used to search for a specific pattern

Table 13 develop table of having query

i) Distinct



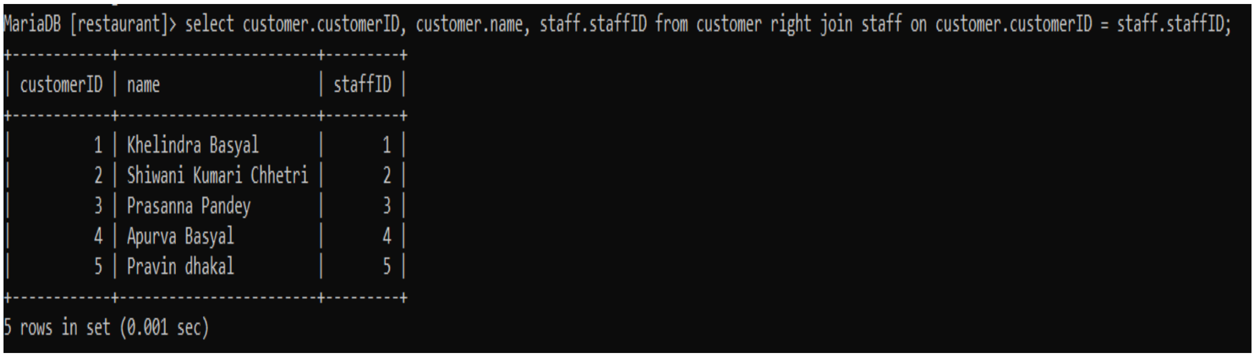
```
MariaDB [restaurant]> select distinct name from item;
+------------+
| name       |
+------------+
| coke       |
| fainta     |
| dew        |
| americano  |
| sandwich   |
| black tea  |
| milk tea   |
| momo       |
| katti roll |
| doanut     |
| cake       |
+------------+
11 rows in set (0.001 sec)
```

Figure 28 use of distinct query

Query No.	9
Query	select distinct name from item
Keyword Used	Distinct
Purpose	Used to return only distinct values.

Table 14 develop table of distinct query

j) Join



```
MariaDB [restaurant]> select customer.customerID, customer.name, staff.staffID from customer right join staff on customer.customerID = staff.staffID;
+------------+------------------------+---------+
| customerID | name                   | staffID |
+------------+------------------------+---------+
|          1 | Khelindra Basyal       |       1 |
|          2 | Shiwani Kumari Chhetri |       2 |
|          3 | Prasanna Pandey        |       3 |
|          4 | Apurva Basyal          |       4 |
|          5 | Pravin dhakal          |       5 |
+------------+------------------------+---------+
5 rows in set (0.001 sec)
```

Figure 29 use of join query

Query No.	10
Query	select customer.customerID, customer.name, staff.staffID from customer right join staff on customer.customerID = staff.staffID
Keyword Used	Join
Purpose	Used to combine rows from two or more tables, based on a related column between them.

Table 15 develop table of join query

5. Conclusion

In this assignment, I came up with the name “Wendies” for an organization and constructed a database for this restaurant. A restaurant is neither a little nor a large business. It include attribution like as customer, staff, services, order and item, each of which plays a crucial function on its own. As a result, in this organization, a proper specification of this entire attribute database is required. To the database, I use Xampp, and for more queries and solution to xampp errors, I utilized the websites w3school, which answered all of my questions and made it easier for me to complete the database. Not only xampp, but Draw.io also played an important role in helping me finish my project. Draw.io has made drawing the ERD diagram and relational dragon a lot easier for me. Not only did I use draw.io, but I also used the snipping tool for the first time. I usually learn how to crop a photo and save it for use in documentation. Well, there are many figures and tables in this project that helped me comprehend the right meaning of databases and their uses, as well as additional sources such as xampp, snipping tool, and Draw.io. Thanks to the W3 schools, I was able to overcome a number of errors and ambiguities in conducting database operation. This course has taught me a great deal and I’ve learned a lot from this module.

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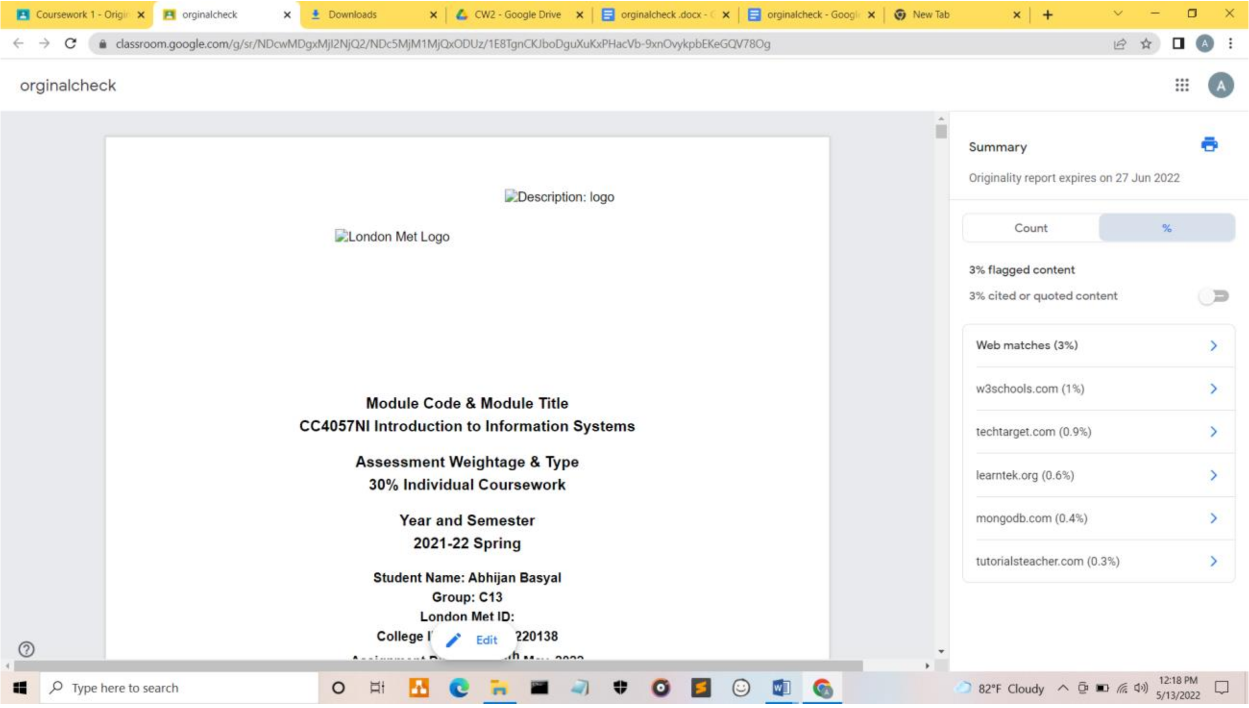
Appendix



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