PROJECT REPORT ON "RESTURANT MANAGEMENT SYSTEM"

1. Introduction

"RESTURANT MANAGEMENT SYSTEM" has been proposed to be implemented to replace the manual system. The main aim of this project is computerization of all processes which happen in the restaurant. It is a database system for creating a selective retrieval of information, for subsequent analysis and manipulation. The system allows the manager to see monthly revenue of the restaurant and the inventory. This system will save time and will be easy to use when compared to manual work which will be done on paper.

1.1. Objectives

- Convenience
- Better Prices
- Best Meal
- Price Comparisons
- No Crowds
- Proper Sitting Arrangement

1.2. Project Description

In this project we created one application which is easy to access, and it is user friendly. For this application we used the backend as Microsoft Access 2010 and SQL plus software to store the data which is used in the application and for the user interface. The two kinds of people who can use this application are the manager and the customer as well. The manager is the only person who can add, update, and remove the products from the site.

1.3. Existing System

In the existing system all transactions, order of items, purchase of items was done manually, which is time consuming. Reports are prepared manually and used when needed. Maintaining reports is a very tedious task.

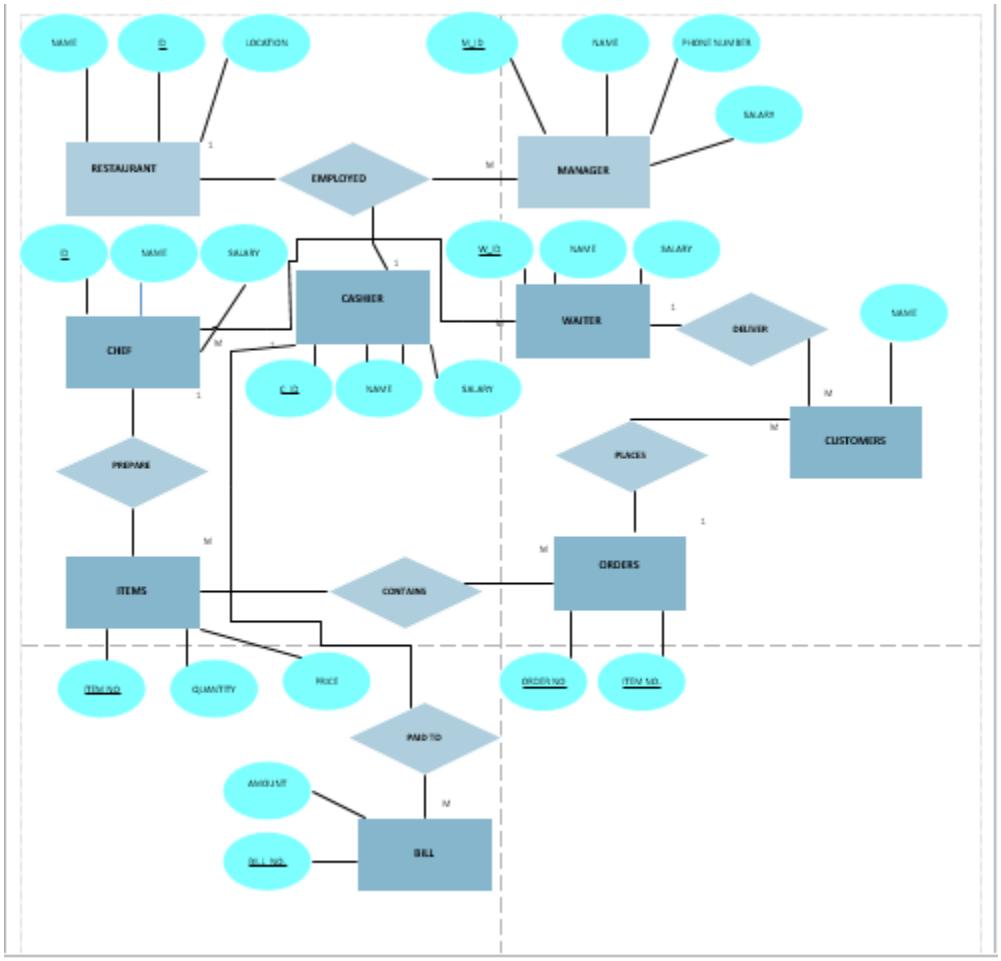
1.4. Hardware Requirements

- 256 MB RAM
- At least 2GB Hard disk

1.5. Software Requirements

- **Operating System:** Microsoft Windows 98/2000/XP/Vista /7/8
- **Back End:** Microsoft Access 2016 and SQL Plus

2. Entity Relationship Diagram On Visio



3. Relational Schema

Restaurant:

Restaurant_ID, Name, Location

In RESTAURANT table **RES_ID** is **primary key**. **Name and Loc** are non-**key attribute**.

Manager:

Manager_ID, Name, Phone no, Salary, Restaurant

In MANAGER table **MGR_ID** is **primary key.** Name, salary and phone no are non-key attribute.

RES_ID plays role of **foreign key. Relationship** between MANAGER and RESTAURANT is **one to many.**

Cashier:

Cashier_ID, Name, Phone no, Salary, Restaurant_ID

In CASHIER table **CH_ID** is **primary key.** Name, salary and phone no are non-key attribute.

RES_ID plays role of **foreign key. Relationship** between CASHIER and RESTAURANT is **One-to -One.**

Chef:

Chef_ID, Name, Salary, Phone no, Restaurant_ID

In CHEF table **CHEF_ID** is **primary key.** Name, salary and phone# are non-key attribute.

RES_ID plays role of **foreign key. Relationship** between CHEF and RESTAURANT is **One-to -MANY.**

Waiter:

Waiter_ID, Salary, Phone no, Restaurant_ID

In WAITER table **WAITER_ID** is **primary key.** Name, salary and phone no are non-key attribute.

RES_ID plays role of **foreign key. Relationship** between WAITER and RESTAURANT is **one to many**

Customer:

Customer_ID, Name, Waiter_ID, Bill no

In CUSTOMER table **C_ID** is **primary key.** Name, phone# are non-key attribute.

WAITER_ID AND **BILL_NO** plays role of **foreign key.**

Bill:

Bill No, Chef_ID, Bill date

In BILL table **BILL_NO** is **primary key.** Bill date is non-key attribute.

CASHIER_ID plays role of **foreign key. Relationship** between CASHIER AND BILL is **one-to-many.**

Order:

Order_No, Quality, Customer_ID

In Order table **ORDER_NO** is primary key. Quality is non-key attribute

CUSTOMER_ID plays role of foreign key.

Item:

Item_ID, Item price, Quantity, Chef_ID

In ITEM table **I_ID** is **primary key.** ITEM-NAME, I-PRICE, QUANTITY is non-key attribute.

CHEF_ID plays role of **foreign key.**

4. Tables (Microsoft Access)

Registration:

ADD-RESTAURANT

RES-ID	NAME	LOC	Click to Add
1	Golden Dargon	Islamabad	
2	Clay Oven	Islamabad	
3	Monal DownTown	Saddra	
4	Texas Steak House	Rawalpindi	
5	Smokey Cauldron	Rawalpindi	
6	Andaaz Restrurant	Lahore	
7	Café Aylanto	Lahore	
8	Pompel	Karachi	
9	Café Flo	Karachi	
10	Manhattan Bites	Multan	

Manager:

ADD-MANAGER | ADD-BILL | ADD-CASHIER | ADD-CHEF | ADD-CUSTOMER

MGR-ID	NAME	SALARY	PHONE NO	RES-ID
1	NIMRA	10000	5151303	1
2	KINZA	10000	5151304	2
3	SAIMA	20000	5151305	3
4	ANAYA	20000	5151306	4
5	ZARI	30000	5151307	5
6	ROMANA	30000	5151308	6
7	SHAFIA	40000	5151309	7
8	AMNA	40000	5151319	8
9	HANIYA	50000	5151311	9
10	ALAYA	50000	5151313	10

Cashier:

ADD-MANAGER | ADD-BILL | ADD-CASHIER | ADD-CHEF | ADD-CUSTOMER

CH-ID	NAME	SALARY	PHONE NO	RES-ID
1	BILAL	150000	511123	1
2	WAQRA	150000	511124	2
3	ASIM	16000	511125	3
4	AREESH	16000	511126	4
5	AL TAMASH	17000	511127	5
6	HAADI	18000	511129	6
7	ARMAAN	19000	511120	7
8	ALI	29000	511190	8
9	ASLAM	39000	511190	9
10	HASIL	49000	511190	10

Chef:

ADD-MANAGER | ADD-BILL | ADD-CASHIER | ADD-CHEF | ADD-CUSTOMER

CHEF-ID	NAME	SALARY	PHONE NO	RES-ID
1	ARHAAN	100000	3005467	1
2	ZAKIR	100000	3006758	2
3	MEHBOOB	200000	9867404	3
4	GULZAAR	300000	3245097	4
5	SHEREEN	400000	2345908	5
6	RAYAN	150000	1238907	6
7	KUNAL	160000	9865438	7
8	HASSAB	170000	4352678	8
9	KRIST	180000	3425678	9
10	SHY	190000	2300987	10

Waiter:

ADD-MANAGER | ADD-BILL | ADD-CASHIER | ADD-CHEF | ADD-CUSTOMER

WAITER-ID	NAME	SALARY	PHONE NO	RES-ID
1	HASIL	1000	51619	1
2	ASAD	2000	51629	2
3	ARSLAN	3000	51639	3
4	NAUMAN	4000	51649	4
5	ATIF	9000	51789	5
6	ESTAN	3000	51438	6
7	DANISH	6000	52346	7
8	ALI	7000	43526	8
9	HANAN	8000	45687	9
10	UMER	1000	90876	10

Customer:

ADD-MANAGER | ADD-BILL | ADD-CASHIER | ADD-CHEF

CUST-ID	NAME	WAITER-ID	BILL NO
1	SAIMA	1	201
2	NIMRA	2	202
3	UMAR	3	203
4	FQRA	4	204
5	KINZA	5	205
6	KOMAL	6	206
7	HANIYA	7	207
8	ABIDA	8	208
9	DANIEL	9	209
10	ALEX	10	210
11	AIRA	11	211

Bill:

ADD-MANAGER | ADD-BILL | ADD-CASHIER | ADD-CHEF | ADD

BILL-NO	CH-ID	BILL DATE	Click to Add
201	1	4/21/2019	
202	2	4/21/2019	
203	3	5/21/2019	
204	4	6/21/2019	
205	5	7/21/2019	
206	6	6/21/2019	
207	7	4/21/2019	
208	8	8/21/2019	
209	9	10/21/2019	
210	10	12/21/2019	

Order:

ADD-MANAGER | ADD-BILL | ADD-CASHIER | ADD-CHEF | AD

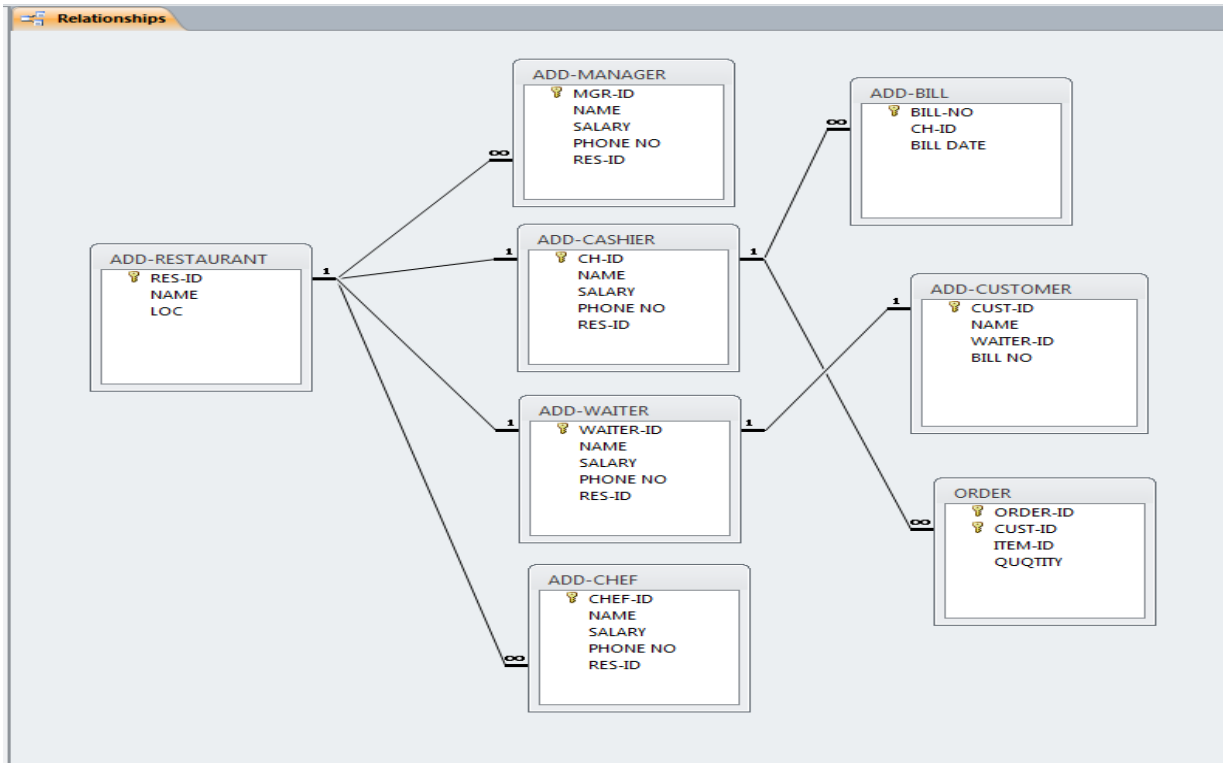
ORDER-ID	CUST-ID	ITEM-ID	QUQTITY	Cli
101	1	1	4	
102	2	2	2	
103	3	3	6	
104	4	4	10	
105	5	5	14	
106	6	6	10	
107	7	7	11	
108	8	8	9	
109	9	9	5	
110	10	10	2	

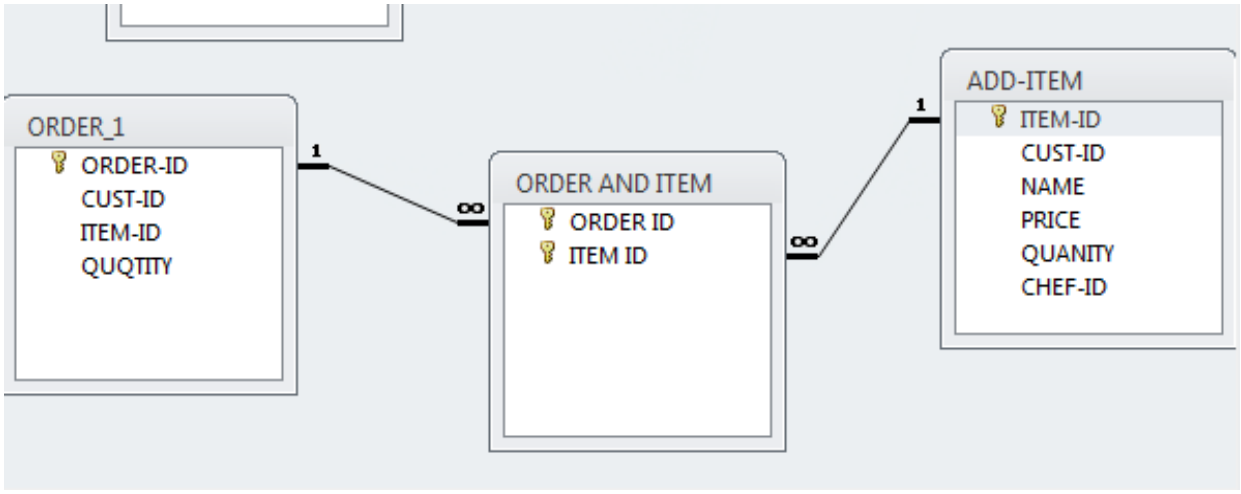
Item:

ADD-MANAGER | ADD-BILL | ADD-CASHIER | ADD-CHEF | ADD-CUSTOMER | ADD-ITEM | ADD-

ITEM-ID	CUST-ID	NAME	PRICE	QUANITY	CHEF-ID
1	1	STEAK	5000	1 PLATE	1
2	2	CREAMY KOFTAS	3000	2 PLATES	2
3	3	BIRYANI	1000	2 PLATES	3
4	4	LATTE	1500	2 CUPS	4
5	5	MACRON	2000	0.5 KG	5
6	6	ACHARI CHICKEN	4000	1 PLATE	6
7	7	SHAWARMA	3000	2 ITEMS	7
8	8	RAMEN	1000	2 BOWLS	8
9	9	JAPCHAE	4000	2 PLATES	9
10	10	NEHAARI	4000	2 PLATES	10

5. Relationships





6. Normalization

Registration:

ADD-RESTAURANT

RES-ID	NAME	LOC	Click to Add
1	Golden Dargon	Islamabad	
2	Clay Oven	Islamabad	
3	Monal DownTown	Saddra	
4	Texas Steak House	Rawalpindi	
5	Smokey Cauldron	Rawalpindi	
6	Andaaz Restrurant	Lahore	
7	Café Aylanto	Lahore	
8	Pompel	Karachi	
9	Café Flo	Karachi	
10	Manhattan Bites	Multan	

1st Normal Form:

In first normal form registration table there is no multiples values attributes so already first normal form

2nd Normal Form:

As every non-key attribute is dependent on key attribute so it is in second normal form.

3rd Normal Form:

As there is no transitive dependency between attributes so it is in third normal form.

Item:

ADD-MANAGER | ADD-BILL | ADD-CASHIER | ADD-CHEF | ADD-CUSTOMER | ADD-ITEM | ADD-

ITEM-ID	CUST-ID	NAME	PRICE	QUANITY	CHEF-ID
1	1	STEAK	5000	1 PLATE	1
2	2	CREAMY KOFTAS	3000	2 PLATES	2
3	3	BIRYANI	1000	2 PLATES	3
4	4	LATTE	1500	2 CUPS	4
5	5	MACRON	2000	0.5 KG	5
6	6	ACHARI CHICKEN	4000	1 PLATE	6
7	7	SHAWARMA	3000	2 ITEMS	7
8	8	RAMEN	1000	2 BOWLS	8
9	9	JAPCHAE	4000	2 PLATES	9
10	10	NEHAARI	4000	2 PLATES	10

1st Normal Form:

As the attribute quantity in Items tables has multiple values and in first normal form each attribute should not have multiple value so we make a second record or row for quantity by making quantity as primary key and combine both primary keys of tables. So out table is now in first normal form.

2nd Normal Form:

As every non-key attribute is dependent on key attribute so it is in second normal form.

3rd Normal Form:

As there is no transitive dependency between attributes so it is in third normal form.

Manager:

ADD-MANAGER | ADD-BILL | ADD-CASHIER | ADD-CHEF | ADD-CUSTOMER

MGR-ID	NAME	SALARY	PHONE NO	RES-ID
1	NIMRA	10000	5151303	1
2	KINZA	10000	5151304	2
3	SAIMA	20000	5151305	3
4	ANAYA	20000	5151306	4
5	ZARI	30000	5151307	5
6	ROMANA	30000	5151308	6
7	SHAFIA	40000	5151309	7
8	AMNA	40000	5151319	8
9	HANIYA	50000	5151311	9
10	ALAYA	50000	5151313	10

1st Normal Form:

. There is no multi-Valued attribute in table, so it is already First normal form.

2nd Normal Form:

As every non-key attribute is dependent on key attribute so it is in second normal form.

3rd Normal Form:

As there is no transitive dependency between attributes so it is in third normal form.

Order:

ADD-MANAGER | ADD-BILL | ADD-CASHIER | ADD-CHEF | AD

ORDER-ID	CUST-ID	ITEM-ID	QUQTITY	Cli
101	1	1	4	
102	2	2	2	
103	3	3	6	
104	4	4	10	
105	5	5	14	
106	6	6	10	
107	7	7	11	
108	8	8	9	
109	9	9	5	
110	10	10	2	

1st Normal Form:

There is no multi-Valued attribute in table, so it is already First normal form.

2nd Normal Form:

As every non-key attribute is dependent on key attribute so it is in second normal form.

3rd Normal Form:

As there is no transitive dependency between attributes so it is in third normal form.

Customer:

ADD-MANAGER | ADD-BILL | ADD-CASHIER | ADD-CHEF

CUST-ID	NAME	WAITER-ID	BILL NO
1	SAIMA	1	201
2	NIMRA	2	202
3	UMAR	3	203
4	FQRA	4	204
5	KINZA	5	205
6	KOMAL	6	206
7	HANIYA	7	207
8	ABIDA	8	208
9	DANIEL	9	209
10	ALEX	10	210
11	AIRA	11	211

1st Normal Form:

There is no multi-Valued attribute in table so it is already First normal form.

2nd Normal Form:

As every non-key attribute is dependent on key attribute so it is in second normal form.

3rd Normal Form:

As there is no transitive dependency between attributes so it is in third normal form.

Waiter:

ADD-MANAGER | ADD-BILL | ADD-CASHIER | ADD-CHEF | ADD-CUSTOMER

WAITER-ID	NAME	SALARY	PHONE NO	RES-ID
1	HASIL	1000	51619	1
2	ASAD	2000	51629	2
3	ARSLAN	3000	51639	3
4	NAUMAN	4000	51649	4
5	ATIF	9000	51789	5
6	ESTAN	3000	51438	6
7	DANISH	6000	52346	7
8	ALI	7000	43526	8
9	HANAN	8000	45687	9
10	UMER	1000	90876	10

1st Normal Form:

There is no multi-Valued attribute in table, so it is already First normal form.

2nd Normal Form:

As every non-key attribute is dependent on key attribute so it is in second normal form.

3rd Normal Form:

As there is no transitive dependency between attributes so it is in third normal form.

Bill:

ADD-MANAGER | ADD-BILL | ADD-CASHIER | ADD-CHEF | ADD

BILL-NO	CH-ID	BILL DATE	Click to Add
201	1	4/21/2019	
202	2	4/21/2019	
203	3	5/21/2019	
204	4	6/21/2019	
205	5	7/21/2019	
206	6	6/21/2019	
207	7	4/21/2019	
208	8	8/21/2019	
209	9	10/21/2019	
210	10	12/21/2019	

7. **N**

8.

9.

10.

11.

1st Normal Form:

There is no multi-Valued attribute in table so it is already First normal form.

2nd Normal Form:

As every non-key attribute is dependent on key attribute so it is in second normal form.

3rd Normal Form:

As there is no transitive dependency between attributes so it is in third normal form.

Cashier:

ADD-MANAGER | ADD-BILL | ADD-CASHIER | ADD-CHEF | ADD-CUSTOMER

CH-ID	NAME	SALARY	PHONE NO	RES-ID
1	BILAL	150000	511123	1
2	WAQRA	150000	511124	2
3	ASIM	16000	511125	3
4	AREESH	16000	511126	4
5	AL TAMASH	17000	511127	5
6	HAADI	18000	511129	6
7	ARMAAN	19000	511120	7
8	ALI	29000	511190	8
9	ASLAM	39000	511190	9
10	HASIL	49000	511190	10

1st Normal Form:

There is no multi-Valued attribute in table so it is already First normal form.

2nd Normal Form:

As every non-key attribute is dependent on key attribute so it is in second normal form.

3rd Normal Form:

As there is no transitive dependency between attributes so it is in third normal form.

Chef:

ADD-MANAGER | ADD-BILL | ADD-CASHIER | ADD-CHEF | ADD-CUSTOMER

CHEF-ID	NAME	SALARY	PHONE NO	RES-ID
1	ARHAAN	100000	3005467	1
2	ZAKIR	100000	3006758	2
3	MEHBOOB	200000	9867404	3
4	GULZAAR	300000	3245097	4
5	SHEREEN	400000	2345908	5
6	RAYAN	150000	1238907	6
7	KUNAL	160000	9865438	7
8	HASSAB	170000	4352678	8
9	KRIST	180000	3425678	9
10	SHY	190000	2300987	10

1st Normal Form:

There is no multi-Valued attribute in table so it is already First normal form.

2nd Normal Form:

As every non-key attribute is dependent on key attribute so it is in second normal form.

3rd Normal Form:

As there is no transitive dependency between attributes so it is in third normal form.

TABLE FOR RESTAURANT:

SQL Plus

```
Enter password:
Last Successful login time: Sun Apr 21 2019 18:46:38 +05:00

Connected to:
Oracle Database 12c Enterprise Edition Release 12.1.0.2.0 - 64bit Production
With the Partitioning, OLAP, Advanced Analytics and Real Application Testing options

SQL> create table restaurant( NAME VARCHAR(20), RES_ID NUMBER(10) NOT NULL,LOC VARCHAR(15),PRIMARY KEY(RES_ID));

Table created.

SQL> desc restaurant;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 NAME                                               VARCHAR2(20)
 RES_ID                                    NOT NULL NUMBER(10)
 LOC                                                VARCHAR2(15)

SQL> describe restaurant;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 NAME                                               VARCHAR2(20)
 RES_ID                                    NOT NULL NUMBER(10)
 LOC                                                VARCHAR2(15)

SQL> commit;

Commit complete.

SQL>
```

```
SQL> commit;

Commit complete.

SQL> insert into restaurant values ('GOLDEN DRAGON','1', 'ISLAMABAD');

1 row created.

SQL> insert into restaurant values ('CLAY OVEN','2', 'ISLAMABAD');

1 row created.

SQL> select * from restaurant;

NAME                    RES_ID LOC
-------------------- ---------- ---------------
GOLDEN DRAGON                1 ISLAMABAD
CLAY OVEN                    2 ISLAMABAD

SQL>
```

```
1 row created.

SQL> insert into restaurant values ('CAFE FLO','9', 'KARACHI');

1 row created.

SQL> insert into restaurant values ('MARHATTAN BITES','10', 'GUJRANWALA');

1 row created.

SQL> select *from restaurant;

NAME                     RES_ID LOC
-------------------- ---------- ---------------
GOLDEN DRAGON                 1 ISLAMABAD
CLAY OVEN                     2 ISLAMABAD
MONAL DOWNTOWN                3 SADDAR
TEXAS STEAK HOUSE             4 RAWALPINDI
SMOKEY CAULDRON               5 RAWALPINDI
ANDAAZ RESTAURANT             6 LAHORE
CAFE AYLANTO                  7 LAHORE
POMPEI                        8 KARACHI
CAFE FLO                      9 KARACHI
MARHATTAN BITES              10 GUJRANWALA

10 rows selected.

SQL>
```

TABLE FOR MANAGER:

```
SQL> create table manager(NAME VARCHAR(10),MGR_ID VARCHAR(6) NOT NULL,SALARY NUMBER(5),PHONE_NO NUMBER(7),RES_ID NUMBER(3),PRIMARY KEY(MGR
_ID),FOREIGN KEY(RES_ID) REFERENCES RESTAURANT(RES_ID));

Table created.

SQL> DESC MANAGER;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 NAME                                               VARCHAR2(10)
 MGR_ID                                    NOT NULL VARCHAR2(6)
 SALARY                                             NUMBER(5)
 PHONE_NO                                           NUMBER(7)
 RES_ID                                             NUMBER(3)

SQL>
```

```
1 row created.

SQL> insert into manager values('ALAYA','M_10','50000','05151313','10');

1 row created.

SQL> select *from manager;

NAME       MGR_ID     SALARY    PHONE_NO     RES_ID
---------- ------ ---------- ---------- ----------
NIMRA      M_01        10000    5151303          1
KINZA      M_02        10000    5151304          2
SAIMA      M_03        20000    5151305          3
ANAYA      M_04        20000    5151306          4
ZARI       M_05        30000    5151307          5
ROMANA     M_06        30000    5151308          6
SHAFIA     M_07        40000    5151309          7
AMNA       M_08        40000    5151319          8
HANIYA     M_09        50000    5151311          9
ALAYA      M_10        50000    5151313         10

10 rows selected.

SQL> commit;

Commit complete.

SQL>
```

TABLE FOR CASHIER:

```
Commit complete.

SQL> create table cashier(NAME VARCHAR(20),CH_ID VARCHAR(10) NOT NULL,SALARY NUMBER(10),PH_NO NUMBER(15),RES_ID NUMBER(1
0),PRIMARY KEY(CH_ID),FOREIGN KEY(RES_ID) REFERENCES RESTAURANT(RES_ID));

Table created.

SQL> DESC CASHIER;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 NAME                                               VARCHAR2(20)
 CH_ID                                     NOT NULL VARCHAR2(10)
 SALARY                                             NUMBER(10)
 PH_NO                                              NUMBER(15)
 RES_ID                                             NUMBER(10)

SQL>
```

```
1 row created.

SQL> insert into cashier values('HASIL','CH_10','49000','0516190','10');

1 row created.

SQL> select * from cashier
  2
SQL> select * from cashier;

NAME                 CH_ID          SALARY      PH_NO     RES_ID
-------------------- ---------- ---------- ---------- ----------
BILAL                CH_01          150000     511123          1
WAQAR                CH_02          150000     511124          2
ASIM                 CH_03           16000     511125          3
AREESH               CH_04           16000     511126          4
ALTAMASH             CH_05           17000     511127          5
HAADI                CH_06           18000     511129          6
ARMAAN               CH_07           19000     511120          7
ALI                  CH_08           29000     511190          8
ASLAM                CH_09           39000     512190          9
HASIL                CH_10           49000     516190         10

10 rows selected.
```

TABLE FOR WAITER

SQL Plus

```
Commit complete.

SQL> create table waiter(NAME VARCHAR(20),WAITER_ID VARCHAR(10) NOT NULL,SALARY NUMBER(10),PH_NO NUMBER(15),RES_ID NUMBE
R(10),PRIMARY KEY(WAITER_ID),FOREIGN KEY(RES_ID) REFERENCES RESTAURANT(RES_ID));

Table created.

SQL> DESC WAITER;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 NAME                                               VARCHAR2(20)
 WAITER_ID                                 NOT NULL VARCHAR2(10)
 SALARY                                             NUMBER(10)
 PH_NO                                              NUMBER(15)
 RES_ID                                             NUMBER(10)
```

```
SQL> select * from waiter;

NAME                WAITER_ID      SALARY      PH_NO     RES_ID
------------------- ---------- ---------- ---------- ----------
HASIL               W_001            1000      51619          1
ASAD                W_002            2000      51629          1
ATIF                W_003            3000      51729          2
FAISAL              W_004            4000      51749          2
ROHAN               W_005            5000      51849          3
RAZA                W_006            6000      51049          4
SAMI                W_007            7000      51059          5
REHAN               W_008            8000      51009          5
ALEX                W_009            9000      51000          6
ZAMEER              W_010            1005      51050          7

10 rows selected.

SQL>
```

TABLE FOR CHEF:

```
SQL> create table CHEF(NAME VARCHAR(20),CHEF_ID VARCHAR(10) NOT NULL,SALARY NUMBER(10),PH_NO NUMBER(15),RES_ID NUMBER(10
),PRIMARY KEY(CHEF_ID),FOREIGN KEY(RES_ID) REFERENCES RESTAURANT(RES_ID));

Table created.

SQL> DESC CHEF;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 NAME                                               VARCHAR2(20)
 CHEF_ID                                   NOT NULL VARCHAR2(10)
 SALARY                                             NUMBER(10)
 PH_NO                                              NUMBER(15)
 RES_ID                                             NUMBER(10)
```

```
SQL> UPDATE CHEF SET SALARY=400000 WHERE NAME='CHEF MEHBOOB';

1 row updated.

SQL> SELECT *FROM CHEF;

NAME                 CHEF_ID         SALARY      PH_NO     RES_ID
-------------------- ---------- ---------- ---------- ----------
CHEF ARHAAN          CHEF_01         100000 3005114090          1
CHEF ZAKIR           CHEF_02         200000 3015114090          2
CHEF SHY             CHEF_03         300000 3014114090          3
CHEF MEHBOOB         CHEF_04         400000 3234114090          4
CHEF GULZAAR         CHEF_05         150000 3434114090          5
CHEF SHEREEN         CHEF_06         160000 3434134090          6
CHEF RAYAN           CHEF_07         170000 3124134090          7
CHEF KUNAL           CHEF_08         180000 3120034090          8
CHEF HASSAB          CHEF_09         190000 3120034012          9
CHEF KRIST           CHEF_010        200000 3005114080         10

10 rows selected.
```

TABLE FOR BILL:

```
SQL> create table Bill(BILL_NO VARCHAR(20) NOT NULL,CH_ID VARCHAR(10), BILL_DATE DATE,PRIMARY KEY(BILL_NO), FOREIGN KEY
(CH_ID) REFERENCES CASHIER (CH_ID));

Table created.
```

```
Commit complete.

SQL> DESC Bill;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 BILL_NO                                   NOT NULL VARCHAR2(20)
 CH_ID                                              VARCHAR2(10)
 BILL_DATE                                          DATE

SQL>
```

```
SQL> SELECT * FROM Bill;

BILL_NO              CH_ID      BILL_DATE
-------------------- ---------- ---------
BILL_201             CH_01      21-APR-19
BILL_202             CH_01      21-APR-19
BILL_203             CH_02      21-MAY-19
BILL_204             CH_02      21-MAY-19
BILL_205             CH_03      21-JUN-19
BILL_206             CH_03      21-JUN-19
BILL_207             CH_04      21-JUL-19
BILL_208             CH_04      21-JUL-19
BILL_209             CH_05      21-AUG-19
BILL_210             CH_05      21-AUG-19

10 rows selected.

SQL> commit;
```

TABLE FOR CUSTOMER:

```
SQL Plus
SQL> create table customer(NAME VARCHAR(20),CUST_ID VARCHAR(10), WAITER_ID VARCHAR(10),BILL_NO VARCHAR(10),PRIMARY KEY(C
UST_ID), FOREIGN KEY (WAITER_ID) REFERENCES WAITER (WAITER_ID), FOREIGN KEY (BILL_NO) REFERENCES Bill(BILL_NO));

Table created.

SQL> DESC CUSTOMER;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 NAME                                               VARCHAR2(20)
 CUST_ID                                   NOT NULL VARCHAR2(10)
 WAITER_ID                                          VARCHAR2(10)
 BILL_NO                                            VARCHAR2(10)

SQL> COMMIT;
```

SQL Plus

```
1 row created.

SQL> SELECT * FROM CUSTOMER;

NAME                 CUST_ID    WAITER_ID  BILL_NO
-------------------- ---------- ---------- ----------
NIMRA                CUS_0001   W_001      BILL_201
UMAR                 CUS_0002   W_001      BILL_202
IQRA                 CUS_0003   W_002      BILL_203
KINZA                CUS_0004   W_002      BILL_204
KOMAL                CUS_0005   W_003      BILL_205
HANIYA               CUS_0006   W_004      BILL_206
ABIDA                CUS_0007   W_005      BILL_207
DANIEL               CUS_0008   W_006      BILL_208
ALEX                 CUS_0009   W_007      BILL_209
AIRA                 CUS_0010   W_008      BILL_210

10 rows selected.

SQL>
```

TABLE FOR ORDER_TABLE:

```
SQL> create table ORDER_T(ORDER_NO VARCHAR(10) NOT NULL, QUATITY NUMBER(5), CUST_ID VARCHAR(10), PRIMARY KEY(ORDER_NO),
FOREIGN KEY(CUST_ID) REFERENCES customer (CUST_ID));

Table created.

SQL> COMMIT;

Commit complete.

SQL>
```

```
SQL> SELECT * FROM ORDER_T;

ORDER_NO      QUATITY CUST_ID
---------- ---------- ----------
OD_01              4 CUS_0001
OD_02              2 CUS_0002
OD_03              6 CUS_0003
OD_04             10 CUS_0004
OD_05             14 CUS_0005
OD_06             10 CUS_0006
OD_07             11 CUS_0007
OD_08              9 CUS_0008
OD_09              5 CUS_0009
OD_10              2 CUS_0010

10 rows selected.

SQL>
```

MANY TO MANY RELATION BETWEEN ORDER AND ITEM:

SQL Plus

```
SQL> UPDATE ORDER_DETAILS SET ORDER_NO='OD_08' WHERE ORDER_NO='OD_8';

1 row updated.

SQL> SELECT * FROM ORDER_DETAILS;

ORDER_NO   I_ID
---------- ----------
OD_01      ITEM-00001
OD_02      ITEM-00001
OD_02      ITEM-00002
OD_02      ITEM-00003
OD_03      ITEM-00003
OD_04      ITEM-00005
OD_05      ITEM-00004
OD_06      ITEM-00005
OD_07      ITEM-00003
OD_08      ITEM-00006
OD_09      ITEM-00001

ORDER_NO   I_ID
---------- ----------
OD_09      ITEM-00006
OD_10      ITEM-00001
OD_10      ITEM-00002

14 rows selected.

SQL> COMMIT;

Commit complete.

SQL> SAVEPOINT SP9;

Savepoint created.
```

TABLE FOR ITEM:

```
SQL> SELECT * FROM ITEM;

ITEM_NAME       I_ID          I_PRICE QUANTITY   CHEF_ID
--------------- ---------- ---------- ---------- ----------
STEAK           ITEM_00001       5000 1 PLATE    CHEF_01
CREAMY KOFTAS   ITEM_00002       3000 2 PLATES   CHEF_01
BIRYANI         ITEM_00003       1000 2 PLATES   CHEF_02
LATTE           ITEM_00004       1500 2 CUPS     CHEF_02
MACARON         ITEM_00005       2000 0.5 KG     CHEF_03
ACHARI CHICKEN  ITEM_00006       4000 1 PLATE    CHEF_04
SHAWARMA+BURGER ITEM_00007       3000 2 ITEMS    CHEF_06
RAMEN           ITEM_00008       1000 2 BOWLS    CHEF_07
JAPCHAE         ITEM_00009       4000 2 PLATES   CHEF_07
NEHAARI         ITEM_00010       4000 2 PLATES   CHEF_09

10 rows selected.

SQL> COMMIT;

Commit complete.
```