DBMS

PROJECT

CASE STUDY ON RESTAURANT MANAGEMENT SYSTEM




ROLL NO : 22251A12C0

Objective:A restaurant management system (RMS) is an essential tool for any new restaurant.These systems are designed to keep your restaurant running by tracking employees,inventory and sales. A typical RMS setup usually includes both software andhardware, such as a cash register, barcode scanner and receipt printer, depending onhow your restaurant is organized. Most importantly, an RMS is a comprehensive toolthat allows you to see your restaurant and its needs at a glance, which can simplifyyour workload on a day-to-day basis.

Many restaurant management systems are designed to integrate easily with othersoftware applications, which allows you to customize a system that works well for your business.

Entities:

Customer:
- C_ID (Primary Key)
- Name
- Phone

Restaurant:
- R_ID (Primary Key)
- Name
- Location
- CuisineType

Staff:
- S_ID (Primary Key)
- Name
- Position
- ContactNo
- R_ID (Foreign Key referencing Restaurant)

Orders:
- O_ID (Primary Key)
- C_ID (Foreign Key referencing Customer)
- R_ID (Foreign Key referencing Restaurant)
- O_Date
- T_Amount
- Status

Relationships:

- One-to-Many relationship between Customer and Orders: Each customer can place multiple orders, but each order is placed by one customer.
- One-to-Many relationship between Restaurant and Staff: Each restaurant can have multiple staff members, but each member works at one restaurant.

- One-to-Many relationship between Restaurant and Orders: Each restaurant can have multiple orders, but each is associated with one restaurant.
- Many-to-One relationship between Staff and Orders: Each staff member can handle multiple orders, but one staff member handles each order.

DATA:

CUSTOMER

C_ID	NAME	PHONENO
1	john	1234567890
2	alice	9876543210
3	robert	8765432109
4	emily	7654321098
5	sophia	6543210987
6	michael	5432109876
7	olivia	4321098765
8	ethan	3210987654
9	ava	2109876543
10	jackson	1098765432

RESTAURANT

R_ID	NAME	LOCATION	CUISINETYPE
1	taste of italy	cityville	italian
2	grill house	townburg	american
3	spice bistro	hamleville	indian
4	ocean delight	villageville	sea food
5	fusion flavours	la	fusion

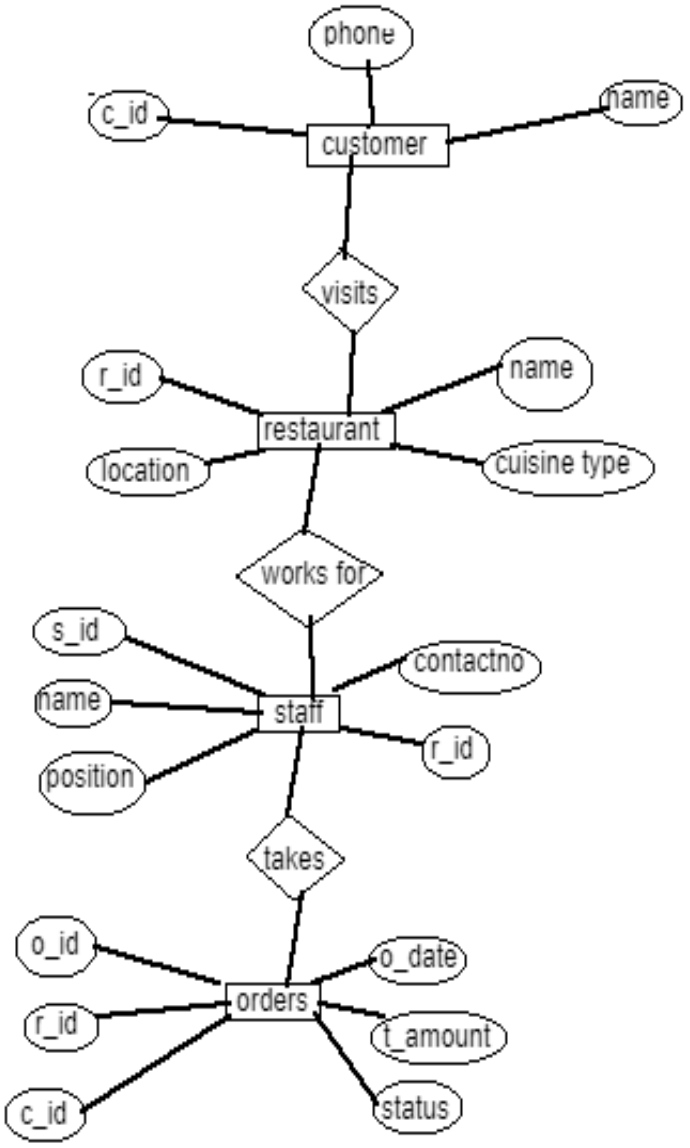
STAFF

S_ID	NAME	POSITION	CONTACTNO	R_ID
1	mike	chef	1234567890	1
2	sarah	waiter	2345678901	2
3	james	bartender	3456789012	3
4	emma	manager	4567890123	4
5	david	cook	5678901234	5
6	olivia	cook	6789012345	1
7	ethan	manager	7890123456	2
8	ava	bartender	8901234567	3
9	jackson	waiter	9012345678	4
10	mia	chef	1234567890	5

ORDERS

O_ID	C_ID	R_ID	O_DATE	T_AMOUNT	STATUS
1	1	1	15-JAN-23	3897	completed
2	2	2	20-FEB-23	1599	in progress
3	3	3	05-MAR-23	2748	completed
4	4	4	10-APR-23	4575	in progress
5	5	5	18-MAY-23	3325	in progress
6	6	5	22-JUN-23	1999	completed
7	7	4	14-JUL-23	1249	in progress
8	8	3	30-AUG-23	2999	completed
9	9	2	12-SEP-23	2275	in progress
10	10	1	08-OCT-23	1499	completed

ER MODEL:



CREATING TABLES AND INSERTING DATA:

```
SQL> create table customer(c_id number primary key,name
varchar2(50),phoneno number(10));

Table created.
```

```
SQL> desc customer;

Name                                      Null?      Type

-----------------------------------     -------     --------

C_ID                                    NOT NULL    NUMBER

NAME                                                VARCHAR2(50)

PHONENO                                             NUMBER(10)

SQL> create table restaurant(r_id number primary key,name
varchar2(20),location varchar2(20),cuisinetype varchar2(20));

Table created.

SQL> create table staff(s_id number(5) primary key,name
varchar2(20),position varchar2(20),contactno number(10),r_id
number,foreign key (r_id) references restaurant(r_id));

Table created.

SQL> desc restaurant;

Name                                        Null?  Type

 ----------------------------------- --------  ——————————

R_ID                                    NOT NULL    NUMBER

NAME                                                VARCHAR2(20)

LOCATION                                            VARCHAR2(20)

CUISINETYPE                                         VARCHAR2(20)


SQL> desc staff;

 Name                                       Null? Type

 ----------------------------------- --------  ---------

 S_ID                                   NOT NULL    NUMBER(5)

 NAME                                                VARCHAR2(20)
```

```
 POSITION                                                VARCHAR2(20)

 CONTACTNO                                               NUMBER(10)

 R_ID                                                    NUMBER

SQL> desc customer;

 Name                                      Null?      Type

 ----------------------------------------- --------   ----------

 C_ID                                      NOT NULL   NUMBER

 NAME                                                    VARCHAR2(50)

 PHONENO                                                 NUMBER(10)

SQL> CREATE TABLE orders(

  2      O_ID INT PRIMARY KEY,

  3      C_ID INT,

  4      R_ID INT,

  5      O_Date DATE,

  6      T_Amount NUMBER(10),

  7      Status VARCHAR(20),

  8      FOREIGN KEY (C_ID) REFERENCES Customer(C_ID),

  9      FOREIGN KEY (R_ID) REFERENCES Restaurant(R_ID));


Table created.

SQL> INSERT INTO Customer values(&C_ID,'&Name',&Phone);

Enter value for c_id: 1

Enter value for name: john

Enter value for phone: 1234567890
```

```
old   1: INSERT INTO Customer values(&C_ID,'&Name',&Phone)
new   1: INSERT INTO Customer values(1,'john',1234567890)
1 row created.
SQL> /
Enter value for c_id: 2
Enter value for name: alice
Enter value for phone: 9876543210
old   1: INSERT INTO Customer values(&C_ID,'&Name',&Phone)
new   1: INSERT INTO Customer values(2,'alice',9876543210)
1 row created.
SQL> /
Enter value for c_id: 3
Enter value for name: robert
Enter value for phone: 8765432109
old   1: INSERT INTO Customer values(&C_ID,'&Name',&Phone)
new   1: INSERT INTO Customer values(3,'robert',8765432109)
 1 row created.
SQL> /
Enter value for c_id: 4
Enter value for name: emily
Enter value for phone: 7654321098
old   1: INSERT INTO Customer values(&C_ID,'&Name',&Phone)
new   1: INSERT INTO Customer values(4,'emily',7654321098)
1 row created.
```

```
SQL> /

Enter value for c_id: 5

Enter value for name: sophia

Enter value for phone: 6543210987

old   1: INSERT INTO Customer values(&C_ID,'&Name',&Phone)

new   1: INSERT INTO Customer values(5,'sophia',6543210987)

1 row created.

SQL> /

Enter value for c_id: 6

Enter value for name: michael

Enter value for phone: 5432109876

old   1: INSERT INTO Customer values(&C_ID,'&Name',&Phone)

new   1: INSERT INTO Customer values(6,'michael',5432109876)

1 row created.

SQL> /

Enter value for c_id: 7

Enter value for name: olivia

Enter value for phone: 4321098765

old   1: INSERT INTO Customer values(&C_ID,'&Name',&Phone)

new   1: INSERT INTO Customer values(7,'olivia',4321098765)

1 row created.

SQL> /

Enter value for c_id: 8

Enter value for name: ethan
```

```
Enter value for phone: 3210987654

old   1: INSERT INTO Customer values(&C_ID,'&Name',&Phone)

new   1: INSERT INTO Customer values(8,'ethan',3210987654)

1 row created.

SQL> /

Enter value for c_id: 9

Enter value for name: ava

Enter value for phone: 2109876543

old   1: INSERT INTO Customer values(&C_ID,'&Name',&Phone)

new   1: INSERT INTO Customer values(9,'ava',2109876543)

1 row created.

SQL> /

Enter value for c_id: 10

Enter value for name: jackson

Enter value for phone: 1098765432

old   1: INSERT INTO Customer values(&C_ID,'&Name',&Phone)

new   1: INSERT INTO Customer values(10,'jackson',1098765432)

1 row created.

SQL> select * from customer;

 C_ID NAME                                               PHONENO

-----  ----- ---------------------------------      ------------

1 john                                                 1234567890

2 alice                                                9876543210

3 robert                                               8765432109
```

```
4 emily                                                    7654321098

5 sophia                                                   6543210987

6 michael                                                  5432109876

7 olivia                                                   4321098765

8 ethan                                                    3210987654

9 ava                                                      2109876543

10 jackson                                                  1098765432

10 rows selected.

SQL> INSERT INTO Restaurant
values(&R_ID,'&Name','&Location','&CuisineType');

Enter value for r_id: 1

Enter value for name: taste of italy

Enter value for location: cityville

Enter value for cuisinetype: italian

old   1: INSERT INTO Restaurant
values(&R_ID,'&Name','&Location','&CuisineType')

new   1: INSERT INTO Restaurant values(1,'taste of
italy','cityville','italian')

1 row created.

SQL> /

Enter value for r_id: 2

Enter value for name: grill house

Enter value for location: townburg

Enter value for cuisinetype: american

old   1: INSERT INTO Restaurant
values(&R_ID,'&Name','&Location','&CuisineType')
```

```
new   1: INSERT INTO Restaurant values(2,'grill
house','townburg','american')

1 row created.

SQL> /

Enter value for r_id: 3

Enter value for name: spice bistro

Enter value for location: hamleville

Enter value for cuisinetype: indian

old   1: INSERT INTO Restaurant
values(&R_ID,'&Name','&Location','&CuisineType')

new   1: INSERT INTO Restaurant values(3,'spice
bistro','hamleville','indian')

 1 row created.

SQL> /

Enter value for r_id: 4

Enter value for name: ocean delight

Enter value for location: villageville

Enter value for cuisinetype: sea food

old   1: INSERT INTO Restaurant
values(&R_ID,'&Name','&Location','&CuisineType')

new   1: INSERT INTO Restaurant values(4,'ocean
delight','villageville','sea food')

1 row created.

SQL> /

Enter value for r_id: 5

Enter value for name: fusion flavours

Enter value for location: citytown
```

```
Enter value for cuisinetype: fusion

old   1: INSERT INTO Restaurant
values(&R_ID,'&Name','&Location','&CuisineType')

new   1: INSERT INTO Restaurant values(5,'fusion
flavours','citytown','fusion')

1 row created.

SQL> select * from restaurant;

R_ID NAME             LOCATION               CUISINETYPE

----------------  ---------------     -------------

1 taste of italy      cityville              italian
2 grill house         townburg               american
3 spice bistro        hamleville             indian
4 Ocean Delight     Villageville             sea food
5 fusion flavors      citytown               fusion

5 rows selected.

SQL> INSERT INTO Staff
values(&S_ID,'&Name','&Position',&ContactNo,&R_ID);

Enter value for s_id: 1

Enter value for name: mike

Enter value for position: chef

Enter value for contactno: 1234567890

Enter value for r_id: 1

old   1: INSERT INTO Staff
values(&S_ID,'&Name','&Position',&ContactNo,&R_ID)

new   1: INSERT INTO Staff values(1,'mike','chef',1234567890,1)

1 row created.

SQL> /

Enter value for s_id: 2
```

```
Enter value for name: sarah

Enter value for position: waiter

Enter value for contactno: 2345678901

Enter value for r_id: 2

old   1: INSERT INTO Staff
values(&S_ID,'&Name','&Position',&ContactNo,&R_ID)

new   1: INSERT INTO Staff values(2,'sarah','waiter',2345678901,2)

1 row created.

SQL> /

Enter value for s_id: 3

Enter value for name: james

Enter value for position: bartender

Enter value for contactno: 3456789012

Enter value for r_id: 3

old   1: INSERT INTO Staff
values(&S_ID,'&Name','&Position',&ContactNo,&R_ID)

new   1: INSERT INTO Staff values(3,'james','bartender',3456789012,3)

1 row created.

SQL> /

Enter value for s_id: 4

Enter value for name: emma

Enter value for position: manager

Enter value for contactno: 4567890123

Enter value for r_id: 4

old   1: INSERT INTO Staff
values(&S_ID,'&Name','&Position',&ContactNo,&R_ID)
```

```
new   1: INSERT INTO Staff values(4,'emma','manager',4567890123,4)

1 row created.

SQL> /

Enter value for s_id: 5

Enter value for name: david

Enter value for position: cook

Enter value for contactno: 5678901234

Enter value for r_id: 5

old   1: INSERT INTO Staff
values(&S_ID,'&Name','&Position',&ContactNo,&R_ID)

new   1: INSERT INTO Staff values(5,'david','cook',5678901234,5)

1 row created.

SQL> /

Enter value for s_id: 6

Enter value for name: olivia

Enter value for position: cook

Enter value for contactno: 6789012345

Enter value for r_id: 1

old   1: INSERT INTO Staff
values(&S_ID,'&Name','&Position',&ContactNo,&R_ID)

new   1: INSERT INTO Staff values(6,'olivia','cook',6789012345,1)

1 row created.

SQL> /

Enter value for s_id: 7

Enter value for name: ethan
```

```
Enter value for position: manager

Enter value for contactno: 7890123456

Enter value for r_id: 2

old   1: INSERT INTO Staff
values(&S_ID,'&Name','&Position',&ContactNo,&R_ID)

new   1: INSERT INTO Staff values(7,'ethan','manager',7890123456,2)

1 row created.

SQL> /

Enter value for s_id: 8

Enter value for name: ava

Enter value for position: bartender

Enter value for contactno: 8901234567

Enter value for r_id: 3

old   1: INSERT INTO Staff
values(&S_ID,'&Name','&Position',&ContactNo,&R_ID)

new   1: INSERT INTO Staff values(8,'ava','bartender',8901234567,3)

1 row created.

SQL> /

Enter value for s_id: 9

Enter value for name: jackson

Enter value for position: waiter

Enter value for contactno: 9012345678

Enter value for r_id: 4

old   1: INSERT INTO Staff
values(&S_ID,'&Name','&Position',&ContactNo,&R_ID)

new   1: INSERT INTO Staff values(9,'jackson','waiter',9012345678,4)
```

```
1 row created.

SQL> /

Enter value for s_id: 10

Enter value for name: mia

Enter value for position: chef

Enter value for contactno: 0123456789

Enter value for r_id: 5

old   1: INSERT INTO Staff
values(&S_ID,'&Name','&Position',&ContactNo,&R_ID)

new   1: INSERT INTO Staff values(10,'mia','chef',0123456789,5)

1 row created.

SQL> select * from staff;

S_ID NAME            POSITION            CONTACTNO       R_ID

---------- -------------------- -------------------- ----------

1 mike               chef                1234567890      1

2 sarah              waiter              2345678901      2

3 james              bartender           3456789012      3

4 emma               manager             4567890123      4

5 david              cook                5678901234      5

6 olivia             cook                6789012345      1

7 ethan              manager             7890123456      2

8 ava                bartender           8901234567      3

9 jackson            waiter              9012345678      4

10 mia               chef                123456789       5

10 rows selected.
```

```
 SQL> INSERT INTO Orders
values(&O_ID,&C_ID,&R_ID,'&O_Date',&T_Amount,'&Status');

Enter value for o_id: 1

Enter value for c_id: 1

Enter value for r_id: 1

Enter value for o_date: 15-jan-23

Enter value for t_amount: 3897

Enter value for status: completed

old   1: INSERT INTO Orders
values(&O_ID,&C_ID,&R_ID,'&O_Date',&T_Amount,'&Status')

new   1: INSERT INTO Orders values(1,1,1,'15-jan-23',3897,'completed')

1 row created.

SQL> /

Enter value for o_id: 2

Enter value for c_id: 2

Enter value for r_id: 2

Enter value for o_date: 20-feb-23

Enter value for t_amount: 1599

Enter value for status: in progress

old   1: INSERT INTO Orders
values(&O_ID,&C_ID,&R_ID,'&O_Date',&T_Amount,'&Status')

new   1: INSERT INTO Orders values(2,2,2,'20-feb-23',1599,'in
progress')

1 row created.

SQL> /

Enter value for o_id: 3
```

```
Enter value for c_id: 3

Enter value for r_id: 3

Enter value for o_date: 05-mar-23

Enter value for t_amount: 2748

Enter value for status: completed

old   1: INSERT INTO Orders
values(&O_ID,&C_ID,&R_ID,'&O_Date',&T_Amount,'&Status')

new   1: INSERT INTO Orders values(3,3,3,'05-mar-23',2748,'completed')

1 row created.

SQL> /

Enter value for o_id: 4

Enter value for c_id: 4

Enter value for r_id: 4

Enter value for o_date: 10-apr-23

Enter value for t_amount: 4575

Enter value for status: in progress

old   1: INSERT INTO Orders
values(&O_ID,&C_ID,&R_ID,'&O_Date',&T_Amount,'&Status')

new   1: INSERT INTO Orders values(4,4,4,'10-apr-23',4575,'in
progress')

1 row created.

SQL> /

Enter value for o_id: 5

Enter value for c_id: 5

Enter value for r_id: 5

Enter value for o_date: 18-may-23
```

```
Enter value for t_amount: 3325

Enter value for status: in progress

old   1: INSERT INTO Orders
values(&O_ID,&C_ID,&R_ID,'&O_Date',&T_Amount,'&Status')

new   1: INSERT INTO Orders values(5,5,5,'18-may-23',3325,'in
progress')

1 row created.

SQL> /

Enter value for o_id: 6

Enter value for c_id: 6

Enter value for r_id: 5

Enter value for o_date: 22-jun-23

Enter value for t_amount: 1999

Enter value for status: completed

old   1: INSERT INTO Orders
values(&O_ID,&C_ID,&R_ID,'&O_Date',&T_Amount,'&Status')

new   1: INSERT INTO Orders values(6,6,5,'22-jun-23',1999,'completed')

1 row created.

SQL> /

Enter value for o_id: 7

Enter value for c_id: 7

Enter value for r_id: 4

Enter value for o_date: 14-jul-23

Enter value for t_amount: 1249

Enter value for status: in progress
```

```
old   1: INSERT INTO Orders
values(&O_ID,&C_ID,&R_ID,'&O_Date',&T_Amount,'&Status')

new   1: INSERT INTO Orders values(7,7,4,'14-jul-23',1249,'in
progress')

1 row created.

SQL> /

Enter value for o_id: 8

Enter value for c_id: 8

Enter value for r_id: 3

Enter value for o_date: 30-aug-23

Enter value for t_amount: 2999

Enter value for status: completed

old   1: INSERT INTO Orders
values(&O_ID,&C_ID,&R_ID,'&O_Date',&T_Amount,'&Status')

new   1: INSERT INTO Orders values(8,8,3,'30-aug-23',2999,'completed')

1 row created.

SQL> /

Enter value for o_id: 9

Enter value for c_id: 9

Enter value for r_id: 2

Enter value for o_date: 12-sep-23

Enter value for t_amount: 2275

Enter value for status: in progress

old   1: INSERT INTO Orders
values(&O_ID,&C_ID,&R_ID,'&O_Date',&T_Amount,'&Status')

new   1: INSERT INTO Orders values(9,9,2,'12-sep-23',2275,'in
progress')
```

```
1 row created.

SQL> /

Enter value for o_id: 10

Enter value for c_id: 10

Enter value for r_id: 1

Enter value for o_date: 08-oct-23

Enter value for t_amount: 1499

Enter value for status: completed

old   1: INSERT INTO Orders
values(&O_ID,&C_ID,&R_ID,'&O_Date',&T_Amount,'&Status')

new   1: INSERT INTO Orders
values(10,10,1,'08-oct-23',1499,'completed')

1 row created.

SQL> select * from orders;

O_ID       C_ID       R_ID O_DATE     T_AMOUNT STATUS

---------- ---------- ---------- --------- ----------

1          1          1 15-JAN-23     3897 completed

2          2          2 20-FEB-23     1599 in progress

3          3          3 05-MAR-23     2748 completed

4          4          4 10-APR-23     4575 in progress

5          5          5 18-MAY-23     3325 in progress

6          6          5 22-JUN-23     1999 completed

7          7          4 14-JUL-23     1249 in progress

8          8          3 30-AUG-23     2999 completed

9          9          2 12-SEP-23     2275 in progress
```

```
10         10         1 08-OCT-23     1499 completed

10 rows selected.
```

BASIC QUERIES:

```
SQL> select name from customer;

NAME

--------------------------------------------------


john
alice
robert
emily
sophia
michael
olivia
ethan
ava
jackson

10 rows selected.

SQL> select name from restaurant;

NAME

--------------------

taste of italy
grill house
spice bistro
ocean delight
fusion flavours

5 rows selected.

SQL> select name,position from staff;

NAME                 POSITION

-------------------- --------------------
```

```
mike                 chef
sarah                waiter
james                bartender
emma                 manager
david                cook
olivia               cook
ethan                manager
ava                  bartender
jackson              waiter
mia                  chef

10 rows selected.

SQL> select  (sysdate-o_date)/365 from orders;

(SYSDATE-O_DATE)/365

--------------------

           .944137399

          .845507262

           .809890823

           .711260686

           .607151097

           .511260686

           .450986714

           .32221959

           .286603152

           .215370275

10 rows selected.

SQL> select cuisinetype from restaurant;

CUISINETYPE

--------------------
```

```
italian
american
indian
sea food
fusion

5 rows selected.

SQL> select position from staff;

POSITION

--------------------

chef
waiter
bartender
manager
cook
cook
manager
bartender
waiter
chef

10 rows selected.

SQL> select location from restaurant;

LOCATION

--------------------

cityville
townburg
hamleville
villageville
citytown

5 rows selected.
```

WHERE CLAUSE:

```
SQL> select * from customer where name='olivia';

C_ID NAME                                               PHONENO
```

```
---------- --------------------------------------------------

7 olivia                                          4321098765

SQL> select * from staff where name='olivia';

S_ID NAME                 POSITION             CONTACTNO       R_ID

---------- ------------------- ------------------- ----------

6 olivia             cook                 6789012345      1

SQL> select * from staff where position='bartender';

S_ID NAME                 POSITION             CONTACTNO       R_ID

---------- ------------------- ------------------- ----------

3 james              bartender            3456789012      3
8 ava                bartender            8901234567      3

SQL> select * from staff where position='cook';

S_ID NAME                 POSITION             CONTACTNO       R_ID

---------- ------------------- ------------------- ----------

5 david              cook                 5678901234      5
6 olivia             cook                 6789012345      1

SQL> select * from staff where position='waiter';

S_ID NAME                 POSITION             CONTACTNO       R_ID

---------- ------------------- ------------------- ----------

2 sarah              waiter               2345678901      2
9 jackson            waiter               9012345678      4

SQL> select * from staff where r_id=2;

S_ID NAME                 POSITION             CONTACTNO       R_ID

---------- ------------------- ------------------- ----------

2 sarah              waiter               2345678901      2
7 ethan              manager              7890123456      2
```

```
SQL> select * from staff where r_id=5;

S_ID NAME                 POSITION             CONTACTNO       R_ID
---------- -------------------- -------------------- ----------
5 david               cook                 5678901234      5
10 mia                chef                 123456789       5

SQL> select * from staff where r_id=8;

no rows selected

SQL> select * from restaurant where cuisinetype='indian';

R_ID NAME                 LOCATION             CUISINETYPE
---------- -------------------- --------------------
3 spice bistro        hamleville           indian

SQL> select * from restaurant where cuisinetype='fusion';

R_ID NAME                 LOCATION             CUISINETYPE
---------- -------------------- --------------------
5 fusion flavours     citytown             fusion

SQL> select * from restaurant where cuisinetype='mexican';

no rows selected

SQL> select * from staff,restaurant where staff.r_id=restaurant.r_id;

S_ID NAME                 POSITION             CONTACTNO       R_ID
R_ID NAME                 LOCATION             CUISINETYPE
---------- -------------------- -------------------- ----------
---------- ---------- -------------------- --------------------
1 mike                chef                 1234567890      1      1
taste of italy        cityville            italian

2 sarah               waiter               2345678901      2      2
grill house           townburg             american
```

```
3 james                bartender              3456789012       3      3
spice bistro           hamleville             indian

4 emma                 manager                4567890123       4      4
ocean delight          villageville           sea food

5 david                cook                   5678901234       5      5
fusion flavours        citytown               fusion

6 olivia               cook                   6789012345       1      1
taste of italy         cityville              italian

7 ethan                manager                7890123456       2      2
grill house            townburg               american

8 ava                  bartender              8901234567       3      3
spice bistro           hamleville             indian

9 jackson              waiter                 9012345678       4      4
ocean delight          villageville           sea food

10 mia                 chef                   123456789        5      5
fusion flavours        citytown               fusion

10 rows selected.

SQL> select * from staff,restaurant where staff.r_id=restaurant.r_id
and position='chef';

S_ID NAME                   POSITION               CONTACTNO        R_ID
R_ID NAME                   LOCATION               CUISINETYPE

---------- -------------------- -------------------- ----------
---------- ---------- -------------------- --------------------

1 mike                 chef                   1234567890       1      1
taste of italy         cityville              italian

10 mia                 chef                   123456789        5      5
fusion flavours        citytown               fusion

SQL> select * from staff,restaurant where staff.r_id=restaurant.r_id
and position='bartender';

S_ID NAME                   POSITION               CONTACTNO        R_ID
R_ID NAME                   LOCATION               CUISINETYPE
```

```
---------- -------------------- -------------------- ----------
---------- ---------- -------------------- --------------------

3 james               bartender            3456789012       3      3
spice bistro          hamleville           indian

8 ava                 bartender            8901234567       3      3
spice bistro          hamleville           indian

SQL> select * from staff,restaurant where staff.r_id=restaurant.r_id
and cuisinetype='indian';

S_ID NAME                 POSITION             CONTACTNO       R_ID
R_ID NAME                 LOCATION             CUISINETYPE
---------- -------------------- -------------------- ----------
---------- ---------- -------------------- --------------------

3 james               bartender            3456789012       3      3
spice bistro          hamleville           indian

8 ava                 bartender            8901234567       3      3
spice bistro          hamleville           indian

SQL> select * from staff,restaurant where staff.r_id=restaurant.r_id
and cuisinetype='mexican';

no rows selected

SQL> select * from orders where status='completed';

O_ID       C_ID       R_ID O_DATE     T_AMOUNT STATUS

---------- ---------- ---------- --------- ----------

1          1          1 15-JAN-23     3897 completed
3          3          3 05-MAR-23     2748 completed
6          6          5 22-JUN-23     1999 completed
8          8          3 30-AUG-23     2999 completed
10         10         1 08-OCT-23     1499 completed

SQL> select * from orders where status='in progress';

O_ID       C_ID       R_ID O_DATE     T_AMOUNT STATUS

---------- ---------- ---------- --------- ----------
```

```
2          2          2 20-FEB-23     1599 in progress
4          4          4 10-APR-23     4575 in progress
5          5          5 18-MAY-23     3325 in progress
7          7          4 14-JUL-23     1249 in progress
9          9          2 12-SEP-23     2275 in progress

SQL> select * from orders where r_id=3;

O_ID       C_ID       R_ID O_DATE     T_AMOUNT STATUS

---------- ---------- ---------- --------- ----------

3          3          3 05-MAR-23     2748 completed
8          8          3 30-AUG-23     2999 completed

SQL> select * from orders where r_id=5;

O_ID       C_ID       R_ID O_DATE     T_AMOUNT STATUS

---------- ---------- ---------- --------- ----------

5          5          5 18-MAY-23     3325 in progress
6          6          5 22-JUN-23     1999 completed

SQL> select * from orders where r_id=9;

no rows selected

SQL> select * from orders where o_date<='28-nov-23';

O_ID       C_ID       R_ID O_DATE     T_AMOUNT STATUS

---------- ---------- ---------- --------- ----------

1          1          1 15-JAN-23     3897 completed
2          2          2 20-FEB-23     1599 in progress
3          3          3 05-MAR-23     2748 completed
4          4          4 10-APR-23     4575 in progress
5          5          5 18-MAY-23     3325 in progress
6          6          5 22-JUN-23     1999 completed
7          7          4 14-JUL-23     1249 in progress
8          8          3 30-AUG-23     2999 completed
9          9          2 12-SEP-23     2275 in progress
10         10         1 08-OCT-23     1499 completed

10 rows selected.
```

```
SQL> select * from orders where t_amount between 2000 and 6000  ;

O_ID       C_ID       R_ID O_DATE     T_AMOUNT STATUS

---------- ---------- ---------- --------- ----------

1          1          1 15-JAN-23     3897 completed
3          3          3 05-MAR-23     2748 completed
4          4          4 10-APR-23     4575 in progress
5          5          5 18-MAY-23     3325 in progress
8          8          3 30-AUG-23     2999 completed
9          9          2 12-SEP-23     2275 in progress

6 rows selected.

SQL> select * from orders where t_amount between 2000 and 4000;

O_ID       C_ID       R_ID O_DATE     T_AMOUNT STATUS

---------- ---------- ---------- --------- ----------

1          1          1 15-JAN-23     3897 completed
3          3          3 05-MAR-23     2748 completed
5          5          5 18-MAY-23     3325 in progress
8          8          3 30-AUG-23     2999 completed
9          9          2 12-SEP-23     2275 in progress

SQL> select * from orders where t_amount between 2000 and 3000;

O_ID       C_ID       R_ID O_DATE     T_AMOUNT STATUS

---------- ---------- ---------- --------- ----------

3          3          3 05-MAR-23     2748 completed
8          8          3 30-AUG-23     2999 completed
9          9          2 12-SEP-23     2275 in progress

SQL> select * from orders where t_amount between 2000 and 2500;

O_ID       C_ID       R_ID O_DATE     T_AMOUNT STATUS

---------- ---------- ---------- --------- ----------

9          9          2 12-SEP-23     2275 in progress

SQL> select * from orders where t_amount>3000;
```

```
O_ID       C_ID       R_ID O_DATE     T_AMOUNT STATUS

---------- ---------- ---------- --------- ----------

1          1          1 15-JAN-23     3897 completed
4          4          4 10-APR-23     4575 in progress
5          5          5 18-MAY-23     3325 in progress

SQL> select * from orders,customer where orders.c_id=customer.c_id;

O_ID       C_ID       R_ID O_DATE     T_AMOUNT STATUS
C_ID NAME                                           PHONENO

---------- ---------- ---------- --------- ----------
-------------------- ----------

1          1          1 15-JAN-23     3897 completed

1 john                                              1234567890

2          2          2 20-FEB-23     1599 in progress

2 alice                                             9876543210

3          3          3 05-MAR-23     2748 completed

3 robert                                            8765432109

4          4          4 10-APR-23     4575 in progress

4 emily                                             7654321098

5          5          5 18-MAY-23     3325 in progress

5 sophia                                            6543210987

6          6          5 22-JUN-23     1999 completed

6 michael                                           5432109876

7          7          4 14-JUL-23     1249 in progress

7 olivia                                            4321098765

8          8          3 30-AUG-23     2999 completed

8 ethan                                             3210987654
```

```
9          9          2 12-SEP-23     2275 in progress

9 ava                                              2109876543

10         10         1 08-OCT-23     1499 completed

10 jackson                                          1098765432

10 rows selected.

SQL> select * from orders,restaurant where
orders.r_id=restaurant.r_id;

O_ID       C_ID       R_ID O_DATE     T_AMOUNT STATUS
R_ID NAME                  LOCATION              CUISINETYPE

---------- ---------- ---------- --------- ----------
-------------------- ---------- --------------------

1          1          1 15-JAN-23     3897 completed

1 taste of italy      cityville             italian

2          2          2 20-FEB-23     1599 in progress

2 grill house         townburg              american

3          3          3 05-MAR-23     2748 completed

3 spice bistro        hamleville            indian

4          4          4 10-APR-23     4575 in progress

4 ocean delight       villageville          sea food

5          5          5 18-MAY-23     3325 in progress

5 fusion flavours     citytown              fusion

6          6          5 22-JUN-23     1999 completed

5 fusion flavours     citytown              fusion

7          7          4 14-JUL-23     1249 in progress

4 ocean delight       villageville          sea food

8          8          3 30-AUG-23     2999 completed
```

```
3 spice bistro        hamleville            indian

9          9          2 12-SEP-23     2275 in progress

2 grill house         townburg              american

10         10         1 08-OCT-23     1499 completed

1 taste of italy      cityville             italian

10 rows selected.

SQL> select * from orders,restaurant where orders.r_id=restaurant.r_id
and cuisinetype='indian';

O_ID       C_ID       R_ID O_DATE     T_AMOUNT STATUS
R_ID NAME                  LOCATION             CUISINETYPE

---------- ---------- ---------- --------- ----------
-------------------- ---------- --------------------

3          3          3 05-MAR-23     2748 completed

3 spice bistro        hamleville            indian

8          8          3 30-AUG-23     2999 completed

3 spice bistro        hamleville            indian

SQL> select * from orders,restaurant where orders.r_id=restaurant.r_id
and cuisinetype='mexican';

no rows selected

SQL> select * from orders,customer where orders.c_id=customer.c_id and
status='completed';

O_ID       C_ID       R_ID O_DATE     T_AMOUNT STATUS
C_ID NAME                                           PHONENO

---------- ---------- ---------- --------- ----------
-------------------- ----------

1          1          1 15-JAN-23     3897 completed

1 john                                             1234567890

3          3          3 05-MAR-23     2748 completed
```

```
3 robert                                                  8765432109

6          6          5 22-JUN-23     1999 completed

6 michael                                                 5432109876

8          8          3 30-AUG-23     2999 completed

8 ethan                                                   3210987654

10         10         1 08-OCT-23     1499 completed

10 jackson                                                1098765432

SQL> select * from orders,customer where orders.c_id=customer.c_id and
status='in progress';

O_ID       C_ID       R_ID O_DATE     T_AMOUNT STATUS
C_ID NAME                                                  PHONENO

---------- ---------- ---------- --------- ----------
-------------------- ----------

2          2          2 20-FEB-23     1599 in progress

2 alice                                                   9876543210

4          4          4 10-APR-23     4575 in progress

4 emily                                                   7654321098

5          5          5 18-MAY-23     3325 in progress

5 sophia                                                  6543210987

7          7          4 14-JUL-23     1249 in progress

7 olivia                                                  4321098765

9          9          2 12-SEP-23     2275 in progress

9 ava                                                     2109876543

SQL> select * from orders,customer where orders.c_id=customer.c_id and
status='pending';

no rows selected
```

LIKE CLAUSE:

```
SQL> select name from customer where name like 'a%';

NAME

--------------------------------------------------

alice
ava

SQL> select name,r_id from restaurant where name like 'a%';

no rows selected

SQL> select name,r_id from restaurant where name like 't%';

NAME                          R_ID

-------------------- ----------

taste of italy                1

SQL> select * from restaurant where location like 'c%';

R_ID NAME                     LOCATION              CUISINETYPE

---------- -------------------- --------------------

1 taste of italy      cityville             italian
5 fusion flavours     citytown              fusion

SQL> select * from restaurant where location like '%e';

R_ID NAME                     LOCATION              CUISINETYPE


---------- -------------------- --------------------

1 taste of italy      cityville             italian
3 spice bistro        hamleville            indian
4 ocean delight       villageville          sea food

SQL> select * from restaurant where cuisinetype like 'i%';

R_ID NAME                     LOCATION              CUISINETYPE
```

```
---------- -------------------- --------------------

1 taste of italy      cityville            italian
3 spice bistro        hamleville           indian

SQL> select * from restaurant where name like '__i';

no rows selected

SQL> select * from restaurant where name like '__i%';

R_ID NAME                 LOCATION             CUISINETYPE


---------- -------------------- --------------------

2 grill house         townburg             american
3 spice bistro        hamleville           indian
```

ORDER BY CLAUSE:

```
SQL> select name,location from restaurant order by name;

NAME                 LOCATION

-------------------- --------------------


fusion flavours      citytown
grill house          townburg
ocean delight        villageville
spice bistro         hamleville
taste of italy       cityville

SQL> select name,location from restaurant order by location;

NAME                 LOCATION

-------------------- --------------------


fusion flavours      citytown
taste of italy       cityville
spice bistro         hamleville
grill house          townburg
ocean delight        villageville
```

```
SQL> select name,position from staff order by name;

NAME                 POSITION

-------------------- --------------------

ava                  bartender
david                cook
emma                 manager
ethan                manager
jackson              waiter
james                bartender
mia                  chef
mike                 chef

olivia               cook
sarah                waiter

10 rows selected.

SQL> select name,position from staff order by position;

NAME                 POSITION

-------------------- --------------------

ava                  bartender
james                bartender
mike                 chef
mia                  chef
david                cook
olivia               cook
ethan                manager
emma                 manager
sarah                waiter
jackson              waiter

10 rows selected.

SQL> select * from orders order by o_date;

O_ID       C_ID       R_ID O_DATE     T_AMOUNT STATUS

---------- ---------- ---------- --------- ----------

1          1          1 15-JAN-23     3897 completed
2          2          2 20-FEB-23     1599 in progress
```

```
3          3          3 05-MAR-23     2748 completed
4          4          4 10-APR-23     4575 in progress
5          5          5 18-MAY-23     3325 in progress
6          6          5 22-JUN-23     1999 completed
7          7          4 14-JUL-23     1249 in progress
8          8          3 30-AUG-23     2999 completed
9          9          2 12-SEP-23     2275 in progress
10         10         1 08-OCT-23     1499 completed

10 rows selected.

SQL> select * from orders order by o_date desc;

O_ID       C_ID       R_ID O_DATE     T_AMOUNT STATUS

---------- ---------- ---------- --------- ----------

10         10         1 08-OCT-23     1499 completed
9          9          2 12-SEP-23     2275 in progress
8          8          3 30-AUG-23     2999 completed
7          7          4 14-JUL-23     1249 in progress
6          6          5 22-JUN-23     1999 completed
5          5          5 18-MAY-23     3325 in progress
4          4          4 10-APR-23     4575 in progress
3          3          3 05-MAR-23     2748 completed
2          2          2 20-FEB-23     1599 in progress
1          1          1 15-JAN-23     3897 completed

10 rows selected.
```

AGGREGATE FUNCTIONS:

```
SQL> select sum(t_amount) from orders ;

SUM(T_AMOUNT)

-------------
26165

SQL> select min(t_amount) from orders;

MIN(T_AMOUNT)

-------------
1249
```

```
SQL> select max(t_amount) from orders;

MAX(T_AMOUNT)

-------------
4575

SQL> select avg(t_amount) from orders;

AVG(T_AMOUNT)

-------------
2616.5

SQL> select count(t_amount) from orders;

COUNT(T_AMOUNT)

---------------
10
```

GROUP BY CLAUSE:

```
SQL> select sum(t_amount) from orders group by status;

 SUM(T_AMOUNT)

-------------
13142
13023

SQL> select sum(t_amount),status from orders group by status;

SUM(T_AMOUNT) STATUS

------------- --------------------
13142 completed
13023 in progress

SQL> select avg(t_amount),status from orders group by status;

AVG(T_AMOUNT) STATUS

------------- --------------------
2628.4 completed
2604.6 in progress

SQL> select max(t_amount),status from orders group by status;
```

```
MAX(T_AMOUNT) STATUS

------------ --------------------
3897 completed
4575 in progress

SQL> select min(t_amount),status from orders group by status;

MIN(T_AMOUNT) STATUS

------------ --------------------
1499 completed
1249 in progress

SQL> select count(t_amount),status from orders group by status;

COUNT(T_AMOUNT) STATUS

-------------- --------------------
5 completed
5 in progress
```

HAVING CLAUSE:

```
SQL> select sum(t_amount),status from orders group by status having
sum(t_amount)>3000;

SUM(T_AMOUNT) STATUS

------------ --------------------
13142 completed
13023 in progress

SQL> select sum(t_amount),status from orders group by status having
min(t_amount)>3000;

no rows selected

SQL> select max(t_amount),status from orders group by status having
min(t_amount)>3000;

no rows selected

SQL> select max(t_amount),status from orders group by status having
max(t_amount)>3000;

MAX(T_AMOUNT) STATUS
```

```
------------ --------------------
3897 completed
4575 in progress

SQL> select max(t_amount),status from orders group by status having
avg(t_amount)>1000;

MAX(T_AMOUNT) STATUS

------------ --------------------
3897 completed
4575 in progress

SQL> select avg(t_amount),status from orders group by status having
avg(t_amount)>1000;

AVG(T_AMOUNT) STATUS

------------ --------------------
2628.4 completed
2604.6 in progress
```

SUB-QUERIES:

```
SQL> select * from orders where t_amount>(select t_amount from orders
where o_id=1);

O_ID       C_ID       R_ID O_DATE     T_AMOUNT STATUS

---------- ---------- ---------- --------- ----------

4          4          4 10-APR-23     4575 in progress


SQL> select * from orders where t_amount>(select t_amount from orders
where c_id=7);

O_ID       C_ID       R_ID O_DATE     T_AMOUNT STATUS
---------- ---------- ---------- --------- ----------

1          1          1 15-JAN-23     3897 completed

2          2          2 20-FEB-23     1599 in progress

3          3          3 05-MAR-23     2748 completed
```

```
4          4          4 10-APR-23     4575 in progress

5          5          5 18-MAY-23     3325 in progress

6          6          5 22-JUN-23     1999 completed

8          8          3 30-AUG-23     2999 completed

9          9          2 12-SEP-23     2275 in progress

10         10         1 08-OCT-23     1499 completed

9 rows selected.

SQL> select * from orders where t_amount>(select t_amount from orders
where o_id=8);

O_ID       C_ID       R_ID O_DATE     T_AMOUNT STATUS
---------- ---------- ---------- --------- ----------

1          1          1 15-JAN-23     3897 completed

4          4          4 10-APR-23     4575 in progress

5          5          5 18-MAY-23     3325 in progress

SQL> select * from orders where t_amount>(select t_amount from orders
where c_id=8);

O_ID       C_ID       R_ID O_DATE     T_AMOUNT STATUS
---------- ---------- ---------- --------- ----------

1          1          1 15-JAN-23     3897 completed

4          4          4 10-APR-23     4575 in progress

5          5          5 18-MAY-23     3325 in progress


SQL> select * from orders where t_amount<(select t_amount from orders
where c_id=8);

O_ID       C_ID       R_ID O_DATE     T_AMOUNT STATUS
---------- ---------- ---------- --------- ----------

2          2          2 20-FEB-23     1599 in progress
```

```
3          3          3 05-MAR-23     2748 completed

6          6          5 22-JUN-23     1999 completed

7          7          4 14-JUL-23     1249 in progress

9          9          2 12-SEP-23     2275 in progress

10         10         1 08-OCT-23     1499 completed

6 rows selected.

SQL> select * from orders where t_amount=(select t_amount from orders
where c_id=8);

O_ID       C_ID       R_ID O_DATE     T_AMOUNT STATUS
---------- ---------- ---------- --------- ----------

8          8          3 30-AUG-23     2999 completed

SQL> select * from orders where t_amount=(select max(t_amount) from
orders);

O_ID       C_ID       R_ID O_DATE     T_AMOUNT STATUS
---------- ---------- ---------- --------- ----------

4          4          4 10-APR-23     4575 in progress

SQL> select * from orders where t_amount=(select min(t_amount) from
orders);

O_ID       C_ID       R_ID O_DATE     T_AMOUNT STATUS
---------- ---------- ---------- --------- ----------

7          7          4 14-JUL-23     1249 in progress

SQL> select * from orders where t_amount=(select max(t_amount) from
orders where t_amount<(select max(t_amount) from orders));

O_ID       C_ID       R_ID O_DATE     T_AMOUNT STATUS
---------- ---------- ---------- --------- ----------

1          1          1 15-JAN-23     3897 completed

SQL> select * from orders where t_amount=(select min(t_amount) from
orders where t_amount>(select min(t_amount) from orders));
```

```
O_ID       C_ID       R_ID O_DATE     T_AMOUNT STATUS
---------- ---------- ---------- --------- ----------

10         10         1 08-OCT-23     1499 completed

SQL> select * from orders where t_amount<any(select min(t_amount) from
orders);

no rows selected

SQL> select * from orders where t_amount in (select max(t_amount) from
orders);

O_ID       C_ID       R_ID O_DATE     T_AMOUNT STATUS
---------- ---------- ---------- --------- ----------

4          4          4 10-APR-23     4575 in progress

SQL> select * from orders where t_amount in (select min(t_amount) from
orders);

O_ID       C_ID       R_ID O_DATE     T_AMOUNT STATUS
---------- ---------- ---------- --------- ----------

7          7          4 14-JUL-23     1249 in progress

SQL> select * from orders where t_amount <any (select max(t_amount)
from orders);

O_ID       C_ID       R_ID O_DATE     T_AMOUNT STATUS
---------- ---------- ---------- --------- ----------

1          1          1 15-JAN-23     3897 completed

2          2          2 20-FEB-23     1599 in progress

3          3          3 05-MAR-23     2748 completed

5          5          5 18-MAY-23     3325 in progress

6          6          5 22-JUN-23     1999 completed

7          7          4 14-JUL-23     1249 in progress

8          8          3 30-AUG-23     2999 completed

9          9          2 12-SEP-23     2275 in progress
```

```
10         10         1 08-OCT-23     1499 completed

9 rows selected.

SQL> select * from orders where t_amount >any (select max(t_amount)
from orders);

no rows selected

SQL> select * from orders where t_amount <all (select max(t_amount)
from orders);

O_ID       C_ID       R_ID O_DATE     T_AMOUNT STATUS
---------- ---------- ---------- --------- ----------

1          1          1 15-JAN-23     3897 completed

2          2          2 20-FEB-23     1599 in progress

3          3          3 05-MAR-23     2748 completed

5          5          5 18-MAY-23     3325 in progress

6          6          5 22-JUN-23     1999 completed

7          7          4 14-JUL-23     1249 in progress

8          8          3 30-AUG-23     2999 completed

9          9          2 12-SEP-23     2275 in progress

10         10         1 08-OCT-23     1499 completed

9 rows selected.

SQL> select * from orders where t_amount >all (select max(t_amount)
from orders);

no rows selected

SQL> select * from orders where t_amount <any (select min(t_amount)
from orders);

no rows selected

SQL> select * from orders where t_amount >any (select min(t_amount)
from orders);
```

```
O_ID       C_ID       R_ID O_DATE     T_AMOUNT STATUS
---------- ---------- ---------- --------- ----------

1          1          1 15-JAN-23     3897 completed

2          2          2 20-FEB-23     1599 in progress

3          3          3 05-MAR-23     2748 completed

4          4          4 10-APR-23     4575 in progress

5          5          5 18-MAY-23     3325 in progress

6          6          5 22-JUN-23     1999 completed

8          8          3 30-AUG-23     2999 completed

9          9          2 12-SEP-23     2275 in progress

10         10         1 08-OCT-23     1499 completed

9 rows selected.

SQL> select * from orders where t_amount <all (select min(t_amount)
from orders);

no rows selected

SQL> select * from orders where t_amount >all (select min(t_amount)
from orders);

O_ID       C_ID       R_ID O_DATE     T_AMOUNT STATUS
---------- ---------- ---------- --------- ----------

1          1          1 15-JAN-23     3897 completed

2          2          2 20-FEB-23     1599 in progress

3          3          3 05-MAR-23     2748 completed

4          4          4 10-APR-23     4575 in progress

5          5          5 18-MAY-23     3325 in progress

6          6          5 22-JUN-23     1999 completed

8          8          3 30-AUG-23     2999 completed
```

```
9          9          2 12-SEP-23     2275 in progress

10         10         1 08-OCT-23     1499 completed

9 rows selected.
```

JOINS:

```
SQL> select * from restaurant,staff where restaurant.r_id=staff.r_id;

R_ID NAME                 LOCATION              CUISINETYPE
---------- -------------------- --------------------

S_ID NAME                 POSITION              CONTACTNO       R_ID
---------- -------------------- -------------------- ----------

1 taste of italy      cityville             italian
1 mike                chef                  1234567890      1
2 grill house         townburg              american
2 sarah               waiter                2345678901      2
3 spice bistro        hamleville            indian
3 james               bartender             3456789012      3
4 ocean delight       villageville          sea food
4 emma                manager               4567890123      4
5 fusion flavours     citytown              fusion
5 david               cook                  5678901234      5
1 taste of italy      cityville             italian
6 olivia              cook                  6789012345      1
2 grill house         townburg              american
7 ethan               manager               7890123456      2
3 spice bistro        hamleville            indian
8 ava                 bartender             8901234567      3
4 ocean delight       villageville          sea food
9 jackson             waiter                9012345678      4
5 fusion flavours     citytown              fusion
10 mia                chef                  123456789       5

10 rows selected.

SQL> select * from restaurant,staff where
restaurant.r_id=staff.r_id(+);

R_ID NAME                 LOCATION              CUISINETYPE
S_ID NAME                 POSITION              CONTACTNO       R_ID
```

```
---------- -------------------- --------------------
-------------------- ---------- --------------------

1 taste of italy      cityville            italian

1 mike                chef                 1234567890       1

2 grill house         townburg             american

2 sarah               waiter               2345678901       2

3 spice bistro        hamleville           indian

3 james               bartender            3456789012       3

4 ocean delight       villageville         sea food

4 emma                manager              4567890123       4

5 fusion flavours     citytown             fusion

5 david               cook                 5678901234       5

1 taste of italy      cityville            italian

6 olivia              cook                 6789012345       1

2 grill house         townburg             american

7 ethan               manager              7890123456       2

3 spice bistro        hamleville           indian

8 ava                 bartender            8901234567       3

4 ocean delight       villageville         sea food

9 jackson             waiter               9012345678       4

5 fusion flavours     citytown             fusion

10 mia              chef               123456789       5

10 rows selected.

SQL> select * from restaurant,staff where
restaurant.r_id(+)=staff.r_id;
```

R_ID	NAME	LOCATION	CUISINETYPE	
S_ID	NAME	POSITION	CONTACTNO	R_ID
1	taste of italy	cityville	italian	
6	olivia	cook	6789012345	1
1	taste of italy	cityville	italian	
1	mike	chef	1234567890	1
2	grill house	townburg	american	
7	ethan	manager	7890123456	2
2	grill house	townburg	american	
2	sarah	waiter	2345678901	2
3	spice bistro	hamleville	indian	
8	ava	bartender	8901234567	3
3	spice bistro	hamleville	indian	
3	james	bartender	3456789012	3
4	ocean delight	villageville	sea food	
9	jackson	waiter	9012345678	4
4	ocean delight	villageville	sea food	
4	emma	manager	4567890123	4
5	fusion flavours	citytown	fusion	
10	mia	chef	123456789	5
5	fusion flavours	citytown	fusion	
5	david	cook	5678901234	5

10 rows selected.

```
SQL> select * from restaurant,orders where restaurant.r_id=orders.r_id

R_ID NAME                 LOCATION             CUISINETYPE
O_ID       C_ID       R_ID O_DATE     T_AMOUNT STATUS

---------- -------------------- --------------------
-------------------- ---------- ---------- ---------- ---------

1 taste of italy      cityville            italian

1          1          1 15-JAN-23     3897 completed

2 grill house         townburg             american

2          2          2 20-FEB-23     1599 in progress

3 spice bistro        hamleville           indian

3          3          3 05-MAR-23     2748 completed

4 ocean delight       villageville         sea food

4          4          4 10-APR-23     4575 in progress

5 fusion flavours     citytown             fusion

5          5          5 18-MAY-23     3325 in progress

5 fusion flavours     citytown             fusion

6          6          5 22-JUN-23     1999 completed

4 ocean delight       villageville         sea food

7          7          4 14-JUL-23     1249 in progress

3 spice bistro        hamleville           indian

8          8          3 30-AUG-23     2999 completed

2 grill house         townburg             american

9          9          2 12-SEP-23     2275 in progress

1 taste of italy      cityville            italian

10         10         1 08-OCT-23     1499 completed
```

```
10 rows selected.

SQL> select * from restaurant,orders where
restaurant.r_id=orders.r_id(+);

R_ID NAME                 LOCATION             CUISINETYPE
O_ID       C_ID       R_ID O_DATE     T_AMOUNT STATUS

---------- -------------------- --------------------
-------------------- ---------- ---------- ---------- ---------

1 taste of italy      cityville             italian

1          1          1 15-JAN-23     3897 completed

2 grill house         townburg              american

2          2          2 20-FEB-23     1599 in progress

3 spice bistro        hamleville            indian

3          3          3 05-MAR-23     2748 completed

4 ocean delight       villageville          sea food

4          4          4 10-APR-23     4575 in progress

5 fusion flavours     citytown              fusion

5          5          5 18-MAY-23     3325 in progress

5 fusion flavours     citytown              fusion

6          6          5 22-JUN-23     1999 completed

4 ocean delight       villageville          sea food

7          7          4 14-JUL-23     1249 in progress

3 spice bistro        hamleville            indian

8          8          3 30-AUG-23     2999 completed

2 grill house         townburg              american

9          9          2 12-SEP-23     2275 in progress

1 taste of italy      cityville             italian
```

```
10         10         1 08-OCT-23     1499 completed

10 rows selected.

SQL> select * from restaurant,orders where
restaurant.r_id(+)=orders.r_id;

R_ID NAME                      LOCATION              CUISINETYPE
O_ID       C_ID       R_ID O_DATE     T_AMOUNT STATUS

---------- -------------------- --------------------
-------------------- ---------- ---------- ---------- ---------

1 taste of italy      cityville             italian

10         10         1 08-OCT-23     1499 completed

1 taste of italy      cityville             italian

1          1          1 15-JAN-23     3897 completed

2 grill house         townburg              american

9          9          2 12-SEP-23     2275 in progress

2 grill house         townburg              american

2          2          2 20-FEB-23     1599 in progress

3 spice bistro        hamleville            indian

8          8          3 30-AUG-23     2999 completed

3 spice bistro        hamleville            indian

3          3          3 05-MAR-23     2748 completed

4 ocean delight       villageville          sea food

7          7          4 14-JUL-23     1249 in progress

4 ocean delight       villageville          sea food

4          4          4 10-APR-23     4575 in progress

5 fusion flavours     citytown              fusion

6          6          5 22-JUN-23     1999 completed
```

```
5 fusion flavours     citytown              fusion

5          5          5 18-MAY-23     3325 in progress

10 rows selected.

SQL> select * from customer,orders where customer.c_id=orders.c_id;

C_ID NAME                                                  PHONENO
O_ID       C_ID       R_ID O_DATE     T_AMOUNT STATUS

---------- --------------------------------------------------
---------- ---------- ---------- ---------- --------- ----------

1 john                                                  1234567890

1          1          1 15-JAN-23     3897 completed

2 alice                                                 9876543210

2          2          2 20-FEB-23     1599 in progress

3 robert                                                8765432109

3          3          3 05-MAR-23     2748 completed

4 emily                                                 7654321098

4          4          4 10-APR-23     4575 in progress

5 sophia                                                6543210987

5          5          5 18-MAY-23     3325 in progress

6 michael                                               5432109876

6          6          5 22-JUN-23     1999 completed

7 olivia                                                4321098765

7          7          4 14-JUL-23     1249 in progress

8 ethan                                                 3210987654
8          8          3 30-AUG-23     2999 completed

9 ava                                                   2109876543
9          9          2 12-SEP-23     2275 in progress
```

```
10 jackson                                                1098765432
10         10         1 08-OCT-23     1499 completed

10 rows selected.

SQL> select * from customer,orders where customer.c_id=orders.c_id(+);

C_ID NAME                                                 PHONENO
O_ID       C_ID       R_ID O_DATE     T_AMOUNT STATUS

---------- --------------------------------------------------
---------- ---------- ---------- ---------- --------- ----------

1 john                                                   1234567890

1          1          1 15-JAN-23     3897 completed

2 alice                                                  9876543210

2          2          2 20-FEB-23     1599 in progress

3 robert                                                 8765432109

3          3          3 05-MAR-23     2748 completed

4 emily                                                  7654321098

4          4          4 10-APR-23     4575 in progress

5 sophia                                                 6543210987

5          5          5 18-MAY-23     3325 in progress

6 michael                                                5432109876

6          6          5 22-JUN-23     1999 completed

7 olivia                                                 4321098765

7          7          4 14-JUL-23     1249 in progress

8 ethan                                                  3210987654

8          8          3 30-AUG-23     2999 completed

9 ava                                                    2109876543

9          9          2 12-SEP-23     2275 in progress
```

```
10 jackson                                                1098765432
10         10         1 08-OCT-23     1499 completed

10 rows selected.

SQL> select * from customer,orders where customer.c_id(+)=orders.c_id;

C_ID NAME                                                 PHONENO
O_ID       C_ID       R_ID O_DATE     T_AMOUNT STATUS

---------- --------------------------------------------------
---------- ---------- ---------- ---------- --------- ----------

1 john                                                   1234567890

1          1          1 15-JAN-23     3897 completed

2 alice                                                  9876543210

2          2          2 20-FEB-23     1599 in progress

3 robert                                                 8765432109

3          3          3 05-MAR-23     2748 completed

4 emily                                                  7654321098

4          4          4 10-APR-23     4575 in progress

5 sophia                                                 6543210987

5          5          5 18-MAY-23     3325 in progress

6 michael                                                5432109876

6          6          5 22-JUN-23     1999 completed

7 olivia                                                 4321098765

7          7          4 14-JUL-23     1249 in progress

8 ethan                                                  3210987654

8          8          3 30-AUG-23     2999 completed

9 ava                                                    2109876543

9          9          2 12-SEP-23     2275 in progress
```

```
10 jackson                                                1098765432
10         10         1 08-OCT-23     1499 completed

10 rows selected.
```

VEIWS:

```
SQL> create view res_v as select * from restaurant;

View created.

SQL> select * from res_v;

R_ID NAME             LOCATION              CUISINETYPE

---------- -------------------- --------------------
1 taste of italy      cityville             italian
2 grill house         townburg              american
3 spice bistro        hamleville            indian
4 ocean delight       villageville          sea food
5 fusion flavours     citytown              fusion

SQL> rename res_v to rest_v;

Table renamed.

SQL> select * from rest_v;

R_ID NAME                   LOCATION              CUISINETYPE

---------- -------------------- --------------------

1 taste of italy      cityville             italian
2 grill house         townburg              american

3 spice bistro        hamleville            indian
4 ocean delight       villageville          sea food
5 fusion flavours     citytown              fusion

SQL> alter table restaurant add(rating number(2));

Table altered.

SQL> select * from rest_v;

R_ID NAME             LOCATION              CUISINETYPE
```

```
---------- -------------------- --------------------
1 taste of italy      cityville            italian
2 grill house         townburg             american
3 spice bistro        hamleville           indian
4 ocean delight       villageville         sea food
5 fusion flavours     citytown             fusion

SQL> select * from restaurant;

R_ID NAME       LOCATION              CUISINETYPE           RATING

---------- -------------------- --------------------
1 taste of italy      cityville            italian
2 grill house         townburg             american
3 spice bistro        hamleville           indian
4 ocean delight       villageville         sea food
5 fusion flavours     citytown             fusion

SQL> alter table restaurant drop column rating;

Table altered.

SQL> update rest_v set location='la' where name='fusion flavours';

1 row updated.

SQL> select * from restaurant;

R_ID NAME                 LOCATION             CUISINETYPE

---------- -------------------- --------------------
1 taste of italy      cityville            italian
2 grill house         townburg             american
3 spice bistro        hamleville           indian
4 ocean delight       villageville         sea food
5 fusion flavours     la                   fusion

SQL> select * from rest_v;

R_ID NAME                 LOCATION             CUISINETYPE

---------- -------------------- --------------------

1 taste of italy      cityville            italian
2 grill house         townburg             american
3 spice bistro        hamleville           indian
```

```
4 ocean delight       villageville          sea food
5 fusion flavours     la                    fusion
```

PL/SQL:

```
SQL> set serveroutput on;

SQL> select * from staff;

S_ID NAME                 POSITION             CONTACTNO       R_ID

---------- -------------------- -------------------- ----------

1 mike                chef                 1234567890      1
2 sarah               waiter               2345678901      2
3 james               bartender            3456789012      3
4 emma                manager              4567890123      4
5 david               cook                 5678901234      5
6 olivia              cook                 6789012345      1
7 ethan               manager              7890123456      2
8 ava                 bartender            8901234567      3
9 jackson             waiter               9012345678      4
10 mia                chef                 123456789       5

10 rows selected.
```

r_id.sql

```
declare

     v_name varchar2(20);

     v_position varchar2(20);

     v_s_id number(5):=&s_id;

begin

     select name,position,s_id into v_name,v_position,v_s_id from
staff where s_id=v_s_id;

     dbms_output.put_line('Name:'||v_name);

     dbms_output.put_line('Position:'||v_position);

     dbms_output.put_line('s_id:'||v_s_id);
```

```
end;
/
SQL> @ 'C:\Users\akshi\OneDrive\Desktop\r_id.sql';
Enter value for s_id: 5
old   4:    v_s_id number(5):=&s_id;
new   4:    v_s_id number(5):=5;
Name:david
Position:cook
s_id:5
PL/SQL procedure successfully completed.
SQL> @ 'C:\Users\akshi\OneDrive\Desktop\r_id.sql';
Enter value for s_id: 9
old   4:    v_s_id number(5):=&s_id;
new   4:    v_s_id number(5):=9;
Name:jackson
Position:waiter
s_id:9
PL/SQL procedure successfully completed.
SQL> @ 'C:\Users\akshi\OneDrive\Desktop\r_id.sql';
Enter value for s_id: 3
old   4:    v_s_id number(5):=&s_id;
new   4:    v_s_id number(5):=3;
Name:james
Position:bartender
```

```
s_id:3

PL/SQL procedure successfully completed.

SQL> @ 'C:\Users\akshi\OneDrive\Desktop\r_id.sql';

Enter value for s_id: 7

old   4:    v_s_id number(5):=&s_id;

new   4:    v_s_id number(5):=7;

Name:ethan

Position:manager

s_id:7

PL/SQL procedure successfully completed.

SQL> select * from customer;

C_ID NAME                                                PHONENO

---------- --------------------------------------------------

1 john                                                1234567890

2 alice                                               9876543210

3 robert                                              8765432109

4 emily                                               7654321098

5 sophia                                              6543210987

6 michael                                             5432109876

7 olivia                                              4321098765

8 ethan                                               3210987654

9 ava                                                 2109876543

10 jackson                                             1098765432

10 rows selected.
```

c_id.sql

```
declare
      v_name varchar2(20);
      v_phoneno number(10);
      v_c_id number(5):=&c_id;
begin
      select name,phoneno,c_id into v_name,v_phoneno,v_c_id from
customer where c_id=v_c_id;
      dbms_output.put_line('Name:'||v_name);
      dbms_output.put_line('PhoneNo:'||v_phoneno);
      dbms_output.put_line('c_id:'||v_c_id);
end;
/
SQL> @ 'C:\Users\akshi\OneDrive\Desktop\c_id.sql';
Enter value for c_id: 2
old   4:     v_c_id number(5):=&c_id;
new   4:     v_c_id number(5):=2;
Name:alice
PhoneNo:9876543210
c_id:2
PL/SQL procedure successfully completed.
SQL> /
Enter value for c_id: 4
old   4:     v_c_id number(5):=&c_id;
new   4:     v_c_id number(5):=4;
```

```
Name:emily

PhoneNo:7654321098

c_id:4

PL/SQL procedure successfully completed.

SQL> /

Enter value for c_id: 6

old   4:    v_c_id number(5):=&c_id;

new   4:    v_c_id number(5):=6;

Name:michael

PhoneNo:5432109876

c_id:6

PL/SQL procedure successfully completed.

SQL> /

Enter value for c_id: 8

old   4:    v_c_id number(5):=&c_id;

new   4:    v_c_id number(5):=8;

Name:ethan

PhoneNo:3210987654

c_id:8

PL/SQL procedure successfully completed.

SQL> /

Enter value for c_id: 10

old   4:    v_c_id number(5):=&c_id;

new   4:    v_c_id number(5):=10;
```

```
Name:jackson

PhoneNo:1098765432

c_id:10

PL/SQL procedure successfully completed.
```

CURSORS:

```
SQL> select * from staff;
S_ID NAME              POSITION              CONTACTNO       R_ID
---------- -------------------- -------------------- ----------
1 mike                 chef                 1234567890          1
2 sarah                waiter               2345678901          2
3 james                bartender            3456789012          3
4 emma                 manager              4567890123          4
5 david                cook                 5678901234          5
6 olivia               cook                 6789012345          1
7 ethan                manager              7890123456          2
8 ava                  bartender            8901234567          3
9 jackson              waiter               9012345678          4
10 mia                 chef                 1234567890          5

10 rows selected.
```

cursorstaff.sql

```
declare
 cursor cfor_staff is select * from staff where r_id=&r_id;
begin
 for v_staff in cfor_staff
 loop
 dbms_output.put_line('**************');
 dbms_output.put_line(v_staff.s_id);
 dbms_output.put_line(v_staff.name);
 dbms_output.put_line(v_staff.position);
end loop;
end;
/
SQL> @ 'C:\Users\akshi\OneDrive\Desktop\DBMS\cursorstaff.sql';
Enter value for r_id: 5
old   2:  cursor cfor_staff is select * from staff where r_id=&r_id;
```

```
new   2:  cursor cfor_staff is select * from staff where r_id=5;
**************
5
david
cook
**************
10
mia
chef

PL/SQL procedure successfully completed.

SQL> /
Enter value for r_id: 4
old   2:  cursor cfor_staff is select * from staff where r_id=&r_id;
new   2:  cursor cfor_staff is select * from staff where r_id=4;
**************
4
emma
manager
**************
9
jackson
waiter

PL/SQL procedure successfully completed.

SQL> /
Enter value for r_id: 3
old   2:  cursor cfor_staff is select * from staff where r_id=&r_id;
new   2:  cursor cfor_staff is select * from staff where r_id=3;
**************
3
james
bartender
**************
8
ava
bartender

PL/SQL procedure successfully completed.

SQL> /
Enter value for r_id: 2
```

```
old   2:  cursor cfor_staff is select * from staff where r_id=&r_id;
new   2:  cursor cfor_staff is select * from staff where r_id=2;
**************
2
sarah
waiter
**************
7
ethan
manager

PL/SQL procedure successfully completed.

SQL> /
Enter value for r_id: 1
old   2:  cursor cfor_staff is select * from staff where r_id=&r_id;
new   2:  cursor cfor_staff is select * from staff where r_id=1;
**************
1
mike
chef
**************
6
olivia
cook

PL/SQL procedure successfully completed.

SQL> select * from orders;
O_ID       C_ID       R_ID O_DATE      T_AMOUNT STATUS
---------- ---------- ---------- --------- ----------
1          1          1 15-JAN-23       3897 completed
2          2          2 20-FEB-23       1599 in progress
3          3          3 05-MAR-23       2748 completed
4          4          4 10-APR-23       4575 in progress
5          5          5 18-MAY-23       3325 in progress
6          6          5 22-JUN-23       1999 completed
7          7          4 14-JUL-23       1249 in progress
8          8          3 30-AUG-23       2999 completed
9          9          2 12-SEP-23       2275 in progress
10         10          1 08-OCT-23       1499 completed

10 rows selected.
```

cursororders.sql

```
declare
 cursor cfor_orders is select * from orders where r_id=&r_id;
begin
 for v_orders in cfor_orders
 loop
 dbms_output.put_line('**************');
 dbms_output.put_line(v_orders.o_date);
 dbms_output.put_line(v_orders.t_amount);
 dbms_output.put_line(v_orders.status);
end loop;
end;
/

SQL> @ 'C:\Users\akshi\OneDrive\Desktop\DBMS\cursororders.sql';
Enter value for r_id: 1
old   2:  cursor cfor_orders is select * from orders where r_id=&r_id;
new   2:  cursor cfor_orders is select * from orders where r_id=1;
**************
15-JAN-23
3897
completed
**************
08-OCT-23
1499
completed

PL/SQL procedure successfully completed.

SQL> /
Enter value for r_id: 2
old   2:  cursor cfor_orders is select * from orders where r_id=&r_id;
new   2:  cursor cfor_orders is select * from orders where r_id=2;
**************
20-FEB-23
1599
in progress
**************
12-SEP-23
2275
in progress

PL/SQL procedure successfully completed.
```

```
SQL> /
Enter value for r_id: 3
old   2:  cursor cfor_orders is select * from orders where r_id=&r_id;
new   2:  cursor cfor_orders is select * from orders where r_id=3;
**************
05-MAR-23
2748
completed
**************
30-AUG-23
2999
completed

PL/SQL procedure successfully completed.

SQL> /
Enter value for r_id: 4
old   2:  cursor cfor_orders is select * from orders where r_id=&r_id;
new   2:  cursor cfor_orders is select * from orders where r_id=4;
**************
10-APR-23
4575
in progress
**************
14-JUL-23
1249
in progress

PL/SQL procedure successfully completed.

SQL> /
Enter value for r_id: 5
old   2:  cursor cfor_orders is select * from orders where r_id=&r_id;
new   2:  cursor cfor_orders is select * from orders where r_id=5;
**************
18-MAY-23
3325
in progress
**************
22-JUN-23
1999
completed
```

```
PL/SQL procedure successfully completed.

SQL> select * from restaurant;

R_ID NAME                 LOCATION            CUISINETYPE
---------- -------------------- --------------------
1 taste of italy       cityville           italian
2 grill house          townburg            american
3 spice bistro         hamleville          indian
4 ocean delight        villageville        sea food
5 fusion flavours      la                  fusion

5 rows selected.
```

Cursorrestaurant.sql

```
declare
 cursor cfor_restaurant is select * from restaurant where r_id=&r_id;
begin
 for v_restaurant in cfor_restaurant
 loop
 dbms_output.put_line('**************');
 dbms_output.put_line(v_restaurant.name);
 dbms_output.put_line(v_restaurant.location);
 dbms_output.put_line(v_restaurant.cuisinetype);
end loop;
end;
/

SQL> @ 'C:\Users\akshi\OneDrive\Desktop\DBMS\cursorrestaurant.sql';
Enter value for r_id: 1
old   2:  cursor cfor_restaurant is select * from restaurant where
r_id=&r_id;
new   2:  cursor cfor_restaurant is select * from restaurant where
r_id=1;
**************
taste of italy
cityville
italian

PL/SQL procedure successfully completed.

SQL> /
Enter value for r_id: 2
```

```
old   2:  cursor cfor_restaurant is select * from restaurant where
r_id=&r_id;
new   2:  cursor cfor_restaurant is select * from restaurant where
r_id=2;
**************
grill house
townburg
american

PL/SQL procedure successfully completed.

SQL> /
Enter value for r_id: 3
old   2:  cursor cfor_restaurant is select * from restaurant where
r_id=&r_id;
new   2:  cursor cfor_restaurant is select * from restaurant where
r_id=3;
**************
spice bistro
hamleville
indian

PL/SQL procedure successfully completed.

SQL> /
Enter value for r_id: 4
old   2:  cursor cfor_restaurant is select * from restaurant where
r_id=&r_id;
new   2:  cursor cfor_restaurant is select * from restaurant where
r_id=4;
**************
ocean delight
villageville
sea food

PL/SQL procedure successfully completed.

SQL> /
Enter value for r_id: 5
old   2:  cursor cfor_restaurant is select * from restaurant where
r_id=&r_id;
new   2:  cursor cfor_restaurant is select * from restaurant where
r_id=5;
**************
```

```
fusion flavours
la
fusion

PL/SQL procedure successfully completed.
```

TRIGGERS:

t_orders.sql

```
create or replace trigger t_orders
before
insert
on orders
for each row
begin
      dbms_output.put_line('Yay!!! You have placed your order.');
end;
/

SQL> @ 'C:\Users\akshi\OneDrive\Desktop\t_orders.sql';

Trigger created.

SQL> insert into orders
values(&o_id,&c_1d,&r_id,'&o_date',&t_amount,'&status');
Enter value for o_id: 11
Enter value for c_1d: 1
Enter value for r_id: 1
Enter value for o_date: 09-sep-23
Enter value for t_amount: 5555
Enter value for status: completed
old   1: insert into orders
values(&o_id,&c_1d,&r_id,'&o_date',&t_amount,'&status')
new   1: insert into orders
values(11,1,1,'09-sep-23',5555,'completed')
Yay!!! You have placed your order.

1 row created.

SQL> insert into orders
values(&o_id,&c_1d,&r_id,'&o_date',&t_amount,'&status');
Enter value for o_id: 12
Enter value for c_1d: 2
Enter value for r_id: 2
```

```
Enter value for o_date: 10-oct-23
Enter value for t_amount: 1010
Enter value for status: in progress
old   1: insert into orders
values(&o_id,&c_1d,&r_id,'&o_date',&t_amount,'&status')
new   1: insert into orders values(12,2,2,'10-oct-23',1010,'in
progress')
Yay!!! You have placed your order.

1 row created.
```

t_restaurant.sql

```
create or replace trigger t_restaurant
before
delete
on restaurant
for each row
begin
      raise_application_error(-20000,'Hey you cannot delete this
data.');
end;
/

SQL> @ 'C:\Users\akshi\OneDrive\Desktop\t_restaurant.sql';

Trigger created.

SQL> delete from restaurant where r_id=5;
delete from restaurant where r_id=5
            *
ERROR at line 1:
ORA-20000: Hey you cannot delete this data.
ORA-06512: at "AKSHITHA.T_RESTAURANT", line 2
ORA-04088: error during execution of trigger 'AKSHITHA.T_RESTAURANT'

SQL> select * from restaurant;

R_ID NAME                 LOCATION             CUISINETYPE
---------- -------------------- --------------------
1 taste of italy       cityville            italian
2 grill house          townburg             american
3 spice bistro         hamleville           indian
4 ocean delight        villageville         sea food
```

```
5 fusion flavours      la                    fusion
```

t_dorders.sql

```
create or replace trigger t_orders
before
delete
on orders
for each row
begin
      dbms_output.put_line('Oops! Hope to see you again :( ');
end;
/

SQL> @ 'C:\Users\akshi\OneDrive\Desktop\t_dorders.sql';

Trigger created.

SQL> delete from orders where o_id=12;
Oops! Hope to see you again :(

1 row deleted.

SQL> delete from orders where o_id=11;
Oops! Hope to see you again :(

1 row deleted.
```

FUNCTIONS:

d_fun_res.sql

```
create or replace function f_res(r number)
return varchar2 is
n varchar2(20);
begin
      select name into n from restaurant where r_id=r;
      return n;
end;
/

SQL> set server output on;
SQL> @ 'C:\Users\akshi\OneDrive\Desktop\d_fun_res.sql';
```

```
Function created.
```

user_fun_res.sql

```
declare
      x number(2):=&x;
      n varchar2(20);
begin
      n:=f_res(x);
      dbms_output.put_line('Restaurant Name:'||n);
end;
/

SQL> @ 'C:\Users\akshi\OneDrive\Desktop\user_fun_res.sql';
Enter value for x: 1
old   2:        x number(2):=&x;
new   2:        x number(2):=1;
Restaurant Name:taste of italy

PL/SQL procedure successfully completed.

SQL> /
Enter value for x: 2
old   2:        x number(2):=&x;
new   2:        x number(2):=2;
Restaurant Name:grill house

PL/SQL procedure successfully completed.

SQL> /
Enter value for x: 3
old   2:        x number(2):=&x;
new   2:        x number(2):=3;
Restaurant Name:spice bistro

PL/SQL procedure successfully completed.

SQL> /
Enter value for x: 4
old   2:        x number(2):=&x;
new   2:        x number(2):=4;
Restaurant Name:ocean delight

PL/SQL procedure successfully completed.
```

```
SQL> /
Enter value for x: 5
old   2:        x number(2):=&x;
new   2:        x number(2):=5;
Restaurant Name:fusion flavours

PL/SQL procedure successfully completed.
```

d_fun_staff.sql

```
create or replace function f_staff(s number)
return varchar2 is
p varchar2(20);
begin
     select position into p from staff where s_id=s;
     return p;
end;
/

SQL> @ 'C:\Users\akshi\OneDrive\Desktop\d_fun_staff.sql';

Function created.
```

user_fun_staff.sql

```
declare
     x number(2):=&x;
     p varchar2(20);
begin
     p:=f_staff(x);
     dbms_output.put_line('Position:'||p);
end;
/

SQL> @ 'C:\Users\akshi\OneDrive\Desktop\user_fun_staff.sql';
Enter value for x: 1
old   2:        x number(2):=&x;
new   2:        x number(2):=1;
Position:chef

PL/SQL procedure successfully completed.

SQL> /
```

```
Enter value for x: 2
old   2:        x number(2):=&x;
new   2:        x number(2):=2;
Position:waiter

PL/SQL procedure successfully completed.

SQL> /
Enter value for x: 3
old   2:        x number(2):=&x;
new   2:        x number(2):=3;
Position:bartender

PL/SQL procedure successfully completed.

SQL> /
Enter value for x: 4
old   2:        x number(2):=&x;
new   2:        x number(2):=4;
Position:manager

PL/SQL procedure successfully completed.

SQL> /
Enter value for x: 5
old   2:        x number(2):=&x;
new   2:        x number(2):=5;
Position:cook

PL/SQL procedure successfully completed.

SQL> /
Enter value for x: 6
old   2:        x number(2):=&x;
new   2:        x number(2):=6;
Position:cook

PL/SQL procedure successfully completed.

SQL> /
Enter value for x: 7
old   2:        x number(2):=&x;
new   2:        x number(2):=7;
Position:manager
```

```
PL/SQL procedure successfully completed.

SQL> /
Enter value for x: 8
old   2:        x number(2):=&x;
new   2:        x number(2):=8;
Position:bartender

PL/SQL procedure successfully completed.

SQL> /
Enter value for x: 9
old   2:        x number(2):=&x;
new   2:        x number(2):=9;
Position:waiter

PL/SQL procedure successfully completed.

SQL> /
Enter value for x: 10
old   2:        x number(2):=&x;
new   2:        x number(2):=10;
Position:chef

PL/SQL procedure successfully completed
```

PROCEDURES:

d_pro_cus.sql

```
create or replace procedure p_cus(c in number)
is
n varchar2(20);
begin
      select name into n from customer where c_id=c;
      dbms_output.put_line('Customer name:'||n);
end;
/

SQL> @ 'C:\Users\akshi\OneDrive\Desktop\d_pro_cus.sql';

Procedure created.
```

user_pro_cus.sql

```
declare
      x number(2):=&x;
begin
      p_cus(x);

end;
/

SQL> @ 'C:\Users\akshi\OneDrive\Desktop\user_pro_cus.sql';
Enter value for x: 1
old   2:        x number(2):=&x;
new   2:        x number(2):=1;
Customer name:john

PL/SQL procedure successfully completed.

SQL> /
Enter value for x: 2
old   2:        x number(2):=&x;
new   2:        x number(2):=2;
Customer name:alice

PL/SQL procedure successfully completed.

SQL> /
Enter value for x: 3
old   2:        x number(2):=&x;
new   2:        x number(2):=3;
Customer name:robert

PL/SQL procedure successfully completed.

SQL> /
Enter value for x: 4
old   2:        x number(2):=&x;
new   2:        x number(2):=4;
Customer name:emily

PL/SQL procedure successfully completed.

SQL> /
Enter value for x: 5
```

```
old   2:        x number(2):=&x;
new   2:        x number(2):=5;
Customer name:sophia

PL/SQL procedure successfully completed.

SQL> /
Enter value for x: 6
old   2:        x number(2):=&x;
new   2:        x number(2):=6;
Customer name:michael

PL/SQL procedure successfully completed.

SQL> /
Enter value for x: 7
old   2:        x number(2):=&x;
new   2:        x number(2):=7;
Customer name:olivia

PL/SQL procedure successfully completed.

SQL> /
Enter value for x: 8
old   2:        x number(2):=&x;
new   2:        x number(2):=8;
Customer name:ethan

PL/SQL procedure successfully completed.

SQL> /
Enter value for x: 9
old   2:        x number(2):=&x;
new   2:        x number(2):=9;
Customer name:ava

PL/SQL procedure successfully completed.

SQL> /
Enter value for x: 10
old   2:        x number(2):=&x;
new   2:        x number(2):=10;
Customer name:jackson
```

```
PL/SQL procedure successfully completed.
```

d_pro_ord.sql

```
create or replace procedure p_ord(o in number)
is
s varchar2(20);
begin
      select status into s from orders where o_id=o;
      dbms_output.put_line('Status:'||s);
end;
/

SQL> @ 'C:\Users\akshi\OneDrive\Desktop\d_pro_ord.sql';

Procedure created.
```

user_pro_ord.sql

```
declare
      x number(2):=&x;
begin
      p_ord(x);
end;
/

SQL> @ 'C:\Users\akshi\OneDrive\Desktop\user_pro_ord.sql';
Enter value for x: 1
old   2:        x number(2):=&x;
new   2:        x number(2):=1;
Status:completed

PL/SQL procedure successfully completed.

SQL> /
Enter value for x: 2
old   2:        x number(2):=&x;
new   2:        x number(2):=2;
Status:in progress

PL/SQL procedure successfully completed.

SQL> /
Enter value for x: 3
```

```
old   2:        x number(2):=&x;
new   2:        x number(2):=3;
Status:completed

PL/SQL procedure successfully completed.

SQL> /
Enter value for x: 4
old   2:        x number(2):=&x;
new   2:        x number(2):=4;
Status:in progress

PL/SQL procedure successfully completed.

SQL> /
Enter value for x: 5
old   2:        x number(2):=&x;
new   2:        x number(2):=5;
Status:in progress

PL/SQL procedure successfully completed.

SQL> /
Enter value for x: 6
old   2:        x number(2):=&x;
new   2:        x number(2):=6;
Status:completed

PL/SQL procedure successfully completed.

SQL> /
Enter value for x: 7
old   2:        x number(2):=&x;
new   2:        x number(2):=7;
Status:in progress

PL/SQL procedure successfully completed.

SQL> /
Enter value for x: 8
old   2:        x number(2):=&x;
new   2:        x number(2):=8;
Status:completed
```

```
PL/SQL procedure successfully completed.

SQL> /
Enter value for x: 9
old   2:        x number(2):=&x;
new   2:        x number(2):=9;
Status:in progress

PL/SQL procedure successfully completed.

SQL> /
Enter value for x: 10
old   2:        x number(2):=&x;
new   2:        x number(2):=10;
Status:completed

PL/SQL procedure successfully completed.
```