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| ***Introduction To Database*** | **Project Spring**  **2017-18** |

**Project Name:**

*Database of Restaurants*

**Course Teacher:** Kawser Irom Rushee

***Project Theme:***

A relational database management of Restaurants

**Group Members**

|  |  |
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| **Database Project Report** |

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A restaurant has a unique restaurant ID(R\_id), name(R\_name), contact number(contact\_no) and address. Many customers can go to one restaurant. A customer has unique customer ID(Cus\_id), Name(Cus\_name), contact number(contact\_no). One waiter can serve more than one customers. A waiter has a unique ID(w\_id) and name(W\_name). A customer places order via waiter and the order is prepared by Chef. An order has unique order number(order\_no), Number of items(no\_items) and order time(ord\_time). A chef has unique ID number(chef\_id) and name(chef\_name). An order contains food which has unique food number(food\_no), quantity, price and description. Customers pay bills that contains a unique bill number(b\_no), price, order detail (ord\_detail)and vat.

ER\_diagram

***Serves***

***Takes***

***Pays***

***Goes***

***Bill***

***Food***

***Contains***

***Places***

***Waiter***

***Chef***

***Prepares***

***Order***

***Restaurant***

***Customer***

Normalization

Goes:

UNF: R\_id, R\_name,Contact\_no, Address, Cus\_id, Contact\_no,Cus\_name

1NF:

Customer- Cus\_id, Cus\_name, Contact\_no, R\_id

Restaurant\_ R\_id, R\_name, Contact\_no, address

2NF:

Customer- Cus\_id, Cus\_name, Contact\_no, R\_id

Restaurant\_ R\_id, R\_name, Contact\_no, address

3NF:

Restaurant- R\_id, R\_name, contact-no, R\_id

Restaurant\_info- R\_name, Address

Serves:

UNF: Cus\_Id, Cus\_name, Contact\_no, W\_id, Wname

1NF:

Customer: Cus\_id, Cus\_name, contact\_no

Waiter: W\_id, W\_name, Cus\_id

2NF:

Customer: Cus\_id, Cus\_name, contact\_no

Waiter: W\_id, W\_name, Cus\_id

3NF:

Customer: Cus\_id, Cus\_name, contact\_no

Waiter: W\_id, W\_name, Cus\_id

Prepares:

UNF: chef\_id, Chef\_name, order\_no, no\_items, ord\_time

1NF:

Chef: Chef\_id, Chef\_name, order\_no

Order- order\_no, no\_items, ord\_time

2NF:

Chef: Chef\_id, Chef\_name, order\_no

Order- order\_no, no\_items, ord\_time

3NF:

Chef: Chef\_id, Chef\_name, order\_no

Order- order\_no, no\_items

Order\_info: no\_items, ord\_time

Takes:

UNF: W\_id, W\_name, order\_no, no\_items, ord\_time

1NF:

Waiter: W\_id, W\_name, order\_no

Order- order\_no, no\_items, ord\_time

2NF:

Waiter: W\_id, W\_name, order\_no

Order- order\_no, no\_items, ord\_time

3NF:

Waiter: W\_id, W\_name, order\_no

Order- order\_no, no\_items

Order\_info: no\_items, ord\_time

Places:

UNF: Cus\_id, Cus\_name, contact\_no, order\_no, no\_items, ord\_time

1NF:

Customer: Cus\_id, Cus\_name, contact\_no

Order- order\_no, no\_items, ord\_time

2NF:

Customer: Cus\_id, Cus\_name, contact\_no

Order- order\_no, no\_items, ord\_time

3NF:

Customer: Cus\_id, Cus\_name, contact\_no

Order- order\_no, no\_items

Order\_info: no\_items, ord\_time

Contains:

UNF: Order\_no, No\_items, ord\_date, food\_no, quantity, price, description

1NF:

Order- order\_no, no\_items, ord\_time

Food- food\_no, quantity, price, description, order\_no

2NF:

Order- order\_no, no\_items, ord\_time

Food- food\_no, quantity, price, description, order\_no

3NF:

Order- order\_no, no\_items, ord\_time

Food- food\_no, price, description, order\_no

Food\_detail- quantity, price

Pays:

UNF: Cus\_id, Cus\_name, contact\_no, b\_no, price, ord\_detail,vat

1NF:

Customer: Cus\_id, Cus\_name, contact\_no

Bill- b\_no, price, ord\_detail,vat, Cus\_id

2NF:

Customer: Cus\_id, Cus\_name, contact\_no

Bill- b\_no, price, ord\_detail,vat, Cus\_id

3NF:

Customer: **Cus\_id**, Cus\_name, contact\_no

Bill- b\_no, price, ord\_detail, Cus\_id

Bill\_description- price, vat

Screenshot of Database Table

Relationship: Goes

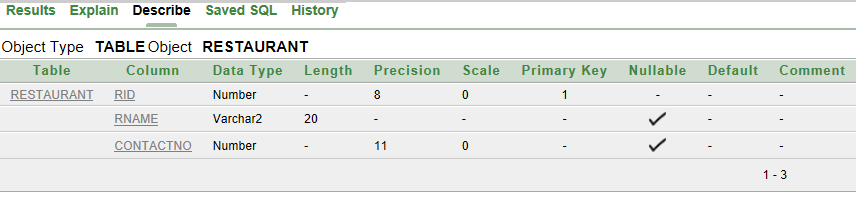
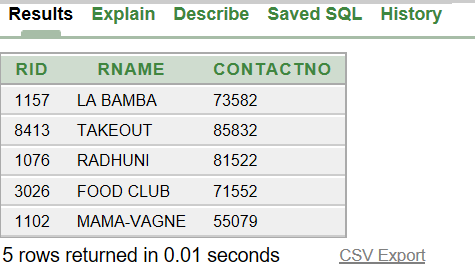
CREATE TABLE RESTAURANT

(

RID NUMBER(8) CONSTRAINT RID PRIMARY KEY,

RNAME VARCHAR(20),CONTACTNO NUMBER(11)

)



CREATE TABLE CUSTOMER

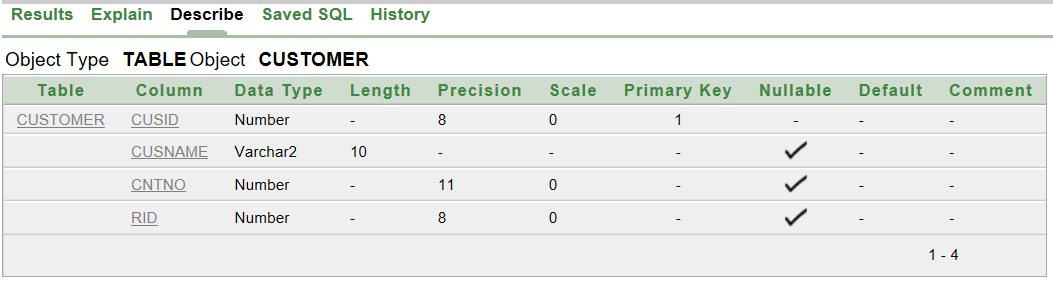
(

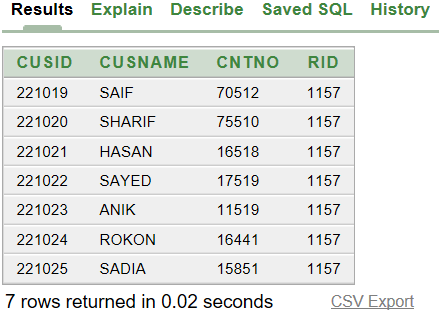
CUSID NUMBER (8) CONSTRAINT CUS\_PK PRIMARY KEY,

CUSNAME VARCHAR2 (10),CNTNO NUMBER(11),RID NUMBER(8),

CONSTRAINT FK\_PK FOREIGN KEY(RID) REFERENCES RESTAURANT(RID)

)





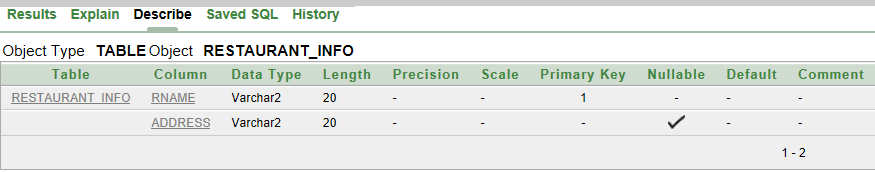
CREATE TABLE RESTAURANT\_INFO

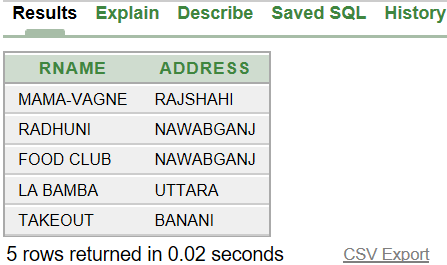
(

RNAME VARCHAR2(20) CONSTRAINT RN PRIMARY KEY,

ADDRESS VARCHAR2(20)

)





Relationship: Serves

CREATE TABLE WAITER

(

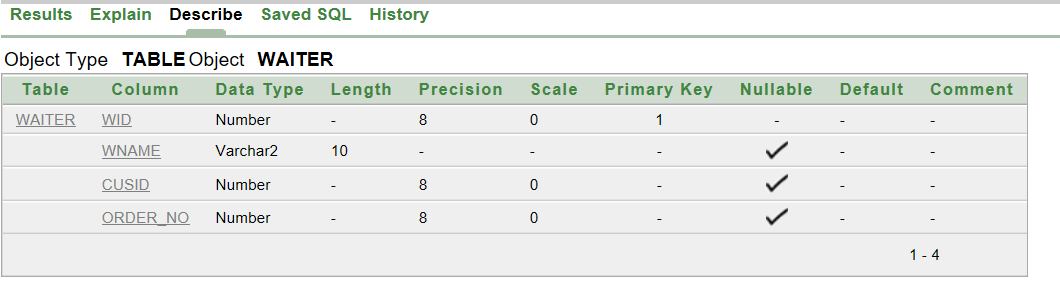
WID NUMBER (8) CONSTRAINT W\_PK PRIMARY KEY,

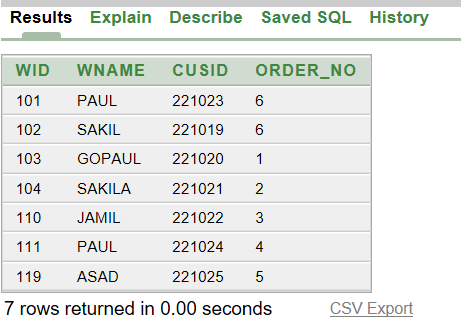
WNAME VARCHAR2 (10),CUSID NUMBER(8),ORDER\_NO NUMBER(8),

CONSTRAINT CK\_PK FOREIGN KEY(CUSID) REFERENCES CUSTOMER(CUSID),

CONSTRAINT OK\_PK FOREIGN KEY(ORDER\_NO) REFERENCES ORDERR(ORDER\_NO)

)





Relationship:Places

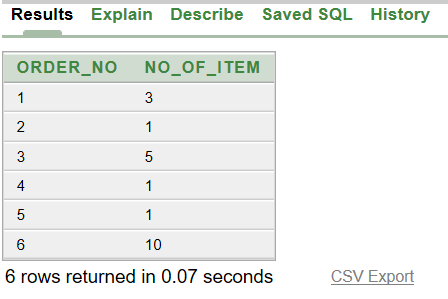
CREATE TABLE ORDERR

(

ORDER\_NO NUMBER (8) CONSTRAINT OR\_PK PRIMARY KEY,

NO\_OF\_ITEM NUMBER (4)

)



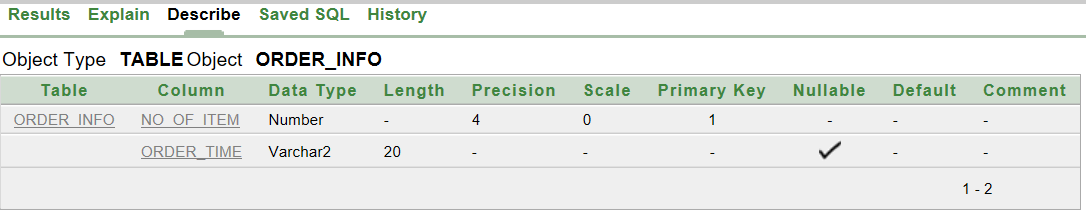
CREATE TABLE ORDER\_INFO

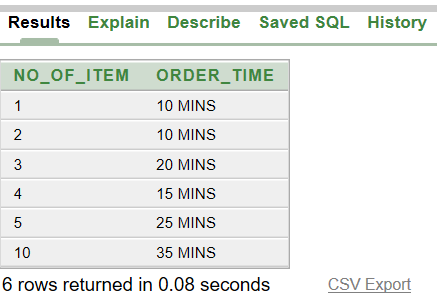
(

NO\_OF\_ITEM NUMBER(4) CONSTRAINT NO\_PK PRIMARY KEY,

ORDER\_TIME VARCHAR2(20)

)





Relationship : Contains

CREATE TABLE FOOD

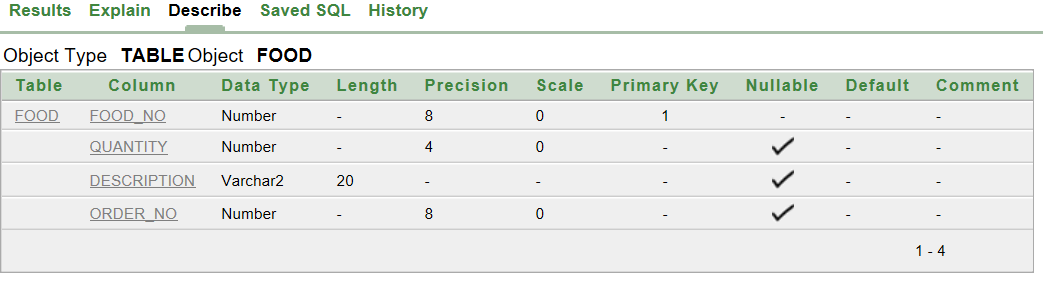
(

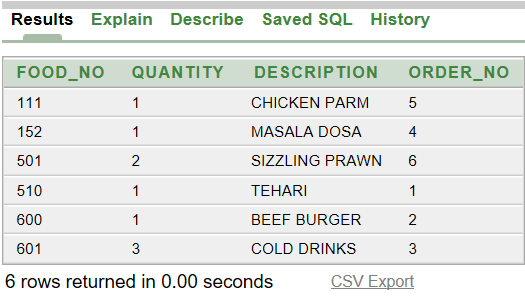
FOOD\_NO NUMBER (8) CONSTRAINT FO\_PK PRIMARY KEY,

QUANTITY NUMBER (4),DESCRIPTION VARCHAR2(20),ORDER\_NO NUMBER(8),

CONSTRAINT FRD\_PK FOREIGN KEY(ORDER\_NO) REFERENCES ORDERR(ORDER\_NO)

)





CREATE TABLE FOOD\_DETAILS

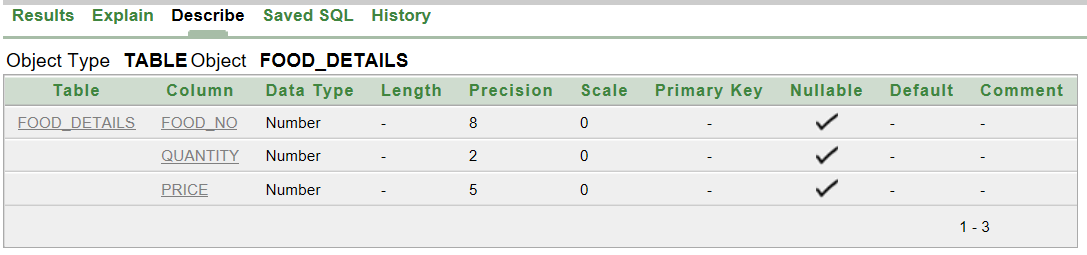
(

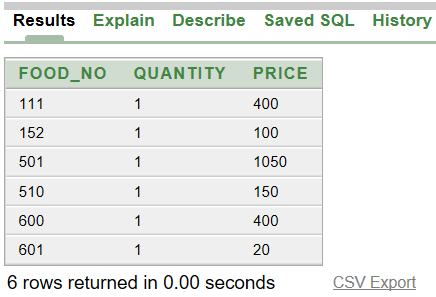
FOOD\_NO NUMBER (8),

QUANTITY NUMBER (2),PRICE NUMBER(5),

CONSTRAINT FD\_PK FOREIGN KEY(FOOD\_NO) REFERENCES FOOD(FOOD\_NO)

)





Relationship: Prepares

CREATE TABLE CHEF

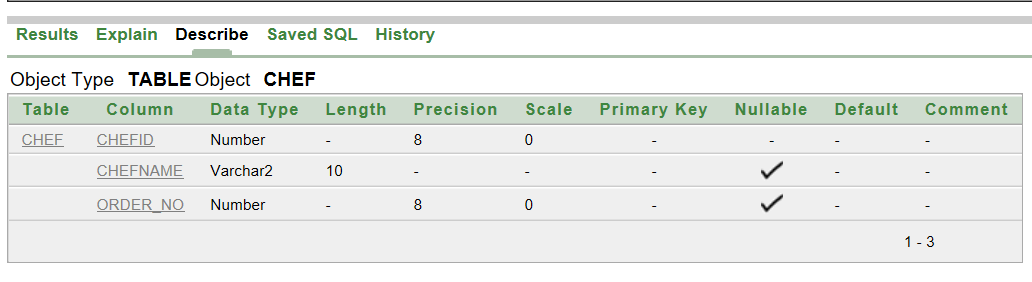
(

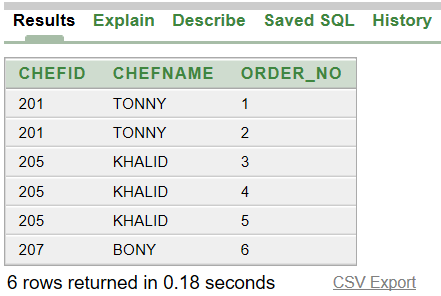
CHEFID NUMBER (8) CONSTRAINT CHEF\_PK NOT NULL,

CHEFNAME VARCHAR2(10),ORDER\_NO NUMBER(8),

CONSTRAINT FOR\_PK FOREIGN KEY(ORDER\_NO) REFERENCES ORDERR(ORDER\_NO)

)





Relationship: pays

CREATE TABLE BILL

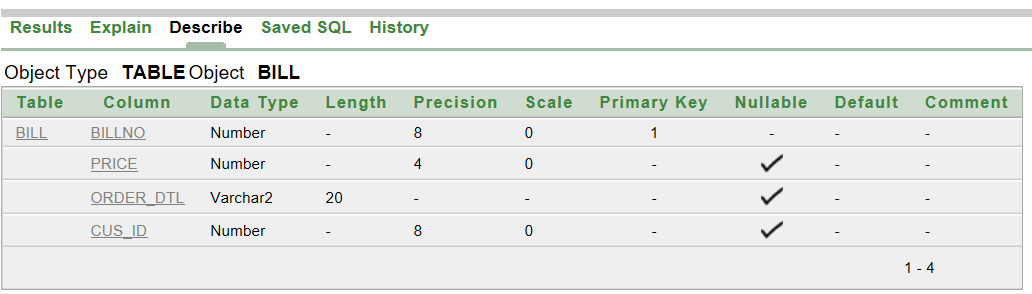
(

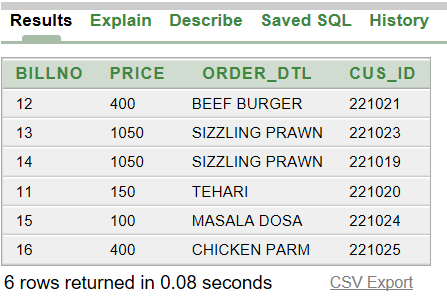
BILLNO NUMBER (8) CONSTRAINT BILL\_PK PRIMARY KEY,

PRICE NUMBER(4),ORDER\_DTL VARCHAR2(20),CUS\_ID NUMBER(8),

CONSTRAINT CS\_PK FOREIGN KEY(CUS\_ID) REFERENCES CUSTOMER(CUSID)

)





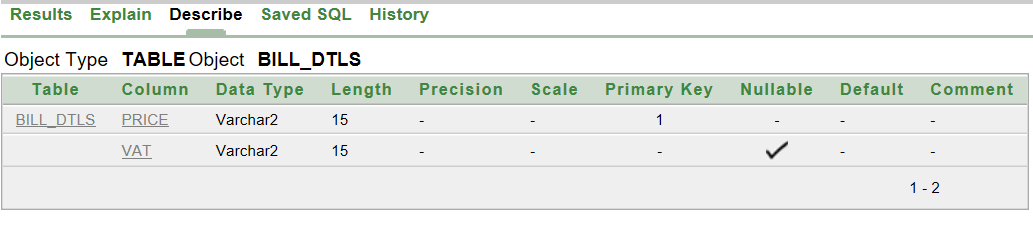
CREATE TABLE BILL\_DTLS

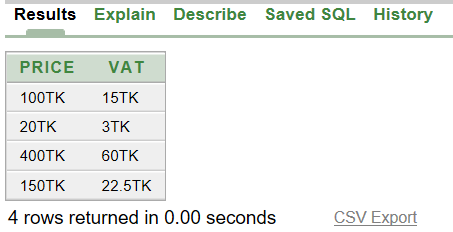
(

PRICE VARCHAR2 (15) CONSTRAINT PC\_PK PRIMARY KEY,

VAT VARCHAR2(15)

)

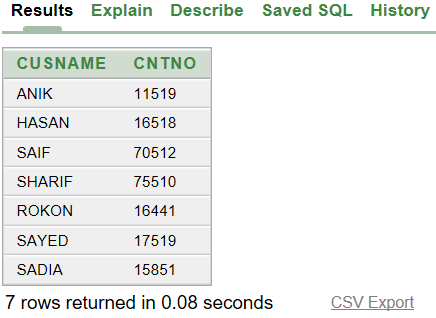




SUBQUERY

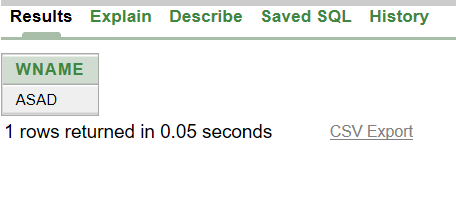
Que-01: Display the customers name and contact no. who goes La Bamba

Ans:SELECT CUSNAME,CNTNO FROM CUSTOMER WHERE RID=(SELECT RID FROM RESTAURANT WHERE RNAME='LA BAMBA')



Que-02:Display waiter name who takes order from Sadia

Ans:SELECT WNAME FROM WAITER WHERE CUSID=(SELECT CUSID FROM CUSTOMER WHERE CUSNAME='SADIA')

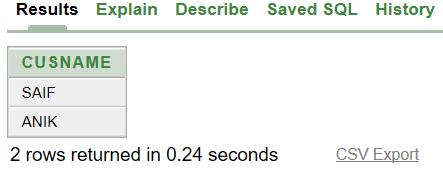


Que-03:Display customer name who order sizzling prawn

Ans:SELECT CUSNAME FROM CUSTOMER WHERE CUSID IN

(SELECT CUSID FROM WAITER WHERE

ORDER\_NO=(SELECT ORDER\_NO FROM FOOD WHERE DESCRIPTION='SIZZLING PRAWN'))

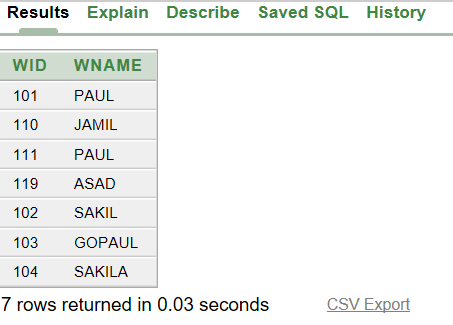


Que-04:Disply waiters who works in La Bamba

Ans:SELECT WID,WNAME FROM WAITER WHERE CUSID IN

(SELECT CUSID FROM CUSTOMER WHERE

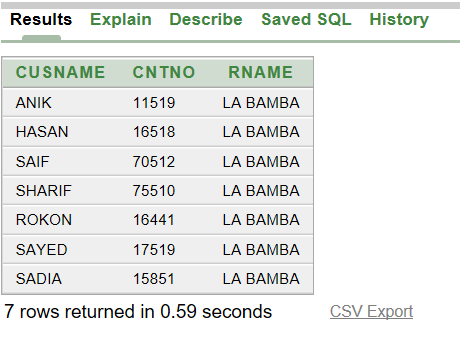
RID=(SELECT RID FROM RESTAURANT WHERE RNAME='LA BAMBA'))



Joining

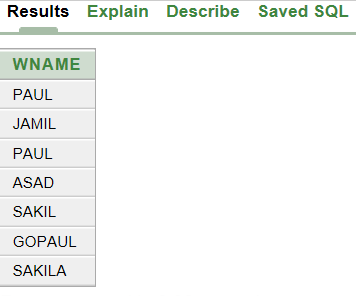
Que-01:Display customer name,contact no and restaurant name

Ans:SELECT C.CUSNAME,C.CNTNO,R.RNAME FROM CUSTOMER C,RESTAURANT R WHERE C.RID=R.RID



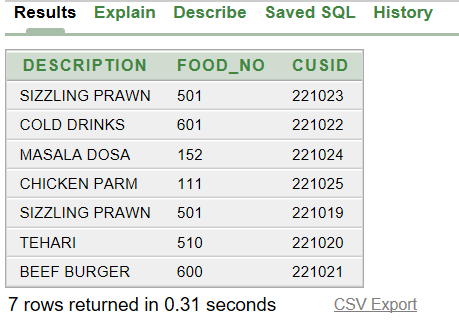
Que-02:Display waiter name who takes order

Ans:SELECT W.WNAME FROM WAITER W,FOOD F WHERE W.ORDER\_NO=F.ORDER\_NO



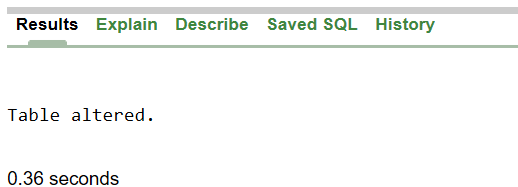
Que-03:Dispaly foods,food\_no which ordered by customes

Ans:SELECT F.DESCRIPTION,F.FOOD\_NO,W.CUSID FROM FOOD F,WAITER W WHERE F.ORDER\_NO=W.ORDER\_NO

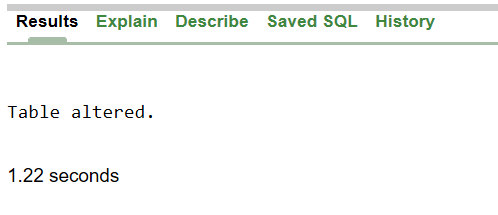


Enable and Disable

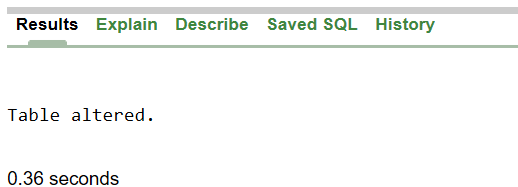
1. ALTER TABLE RESTAURANT\_INFO DISABLE CONSTRAINT RN



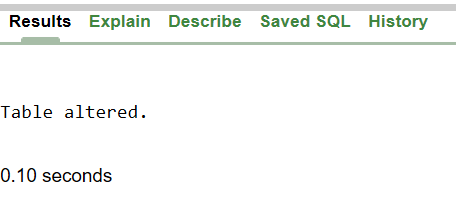
ALTER TABLE RESTAURANT\_INFO ENABLE CONSTRAINT RN



ALTER TABLE BILL\_DTLS DISABLE CONSTRAINT PC\_PK



ALTER TABLE BILL\_DTLS ENABLE CONSTRAINT PC\_PK



Relationship- Goes

CREATE TABLE RESTAURANT

(

RID NUMBER(8) CONSTRAINT RID PRIMARY KEY,

RNAME VARCHAR(20),CONTACTNO NUMBER(11)

)

INSERT INTO RESTAURANT VALUES(1076,'RADHUNI',081522)

INSERT INTO RESTAURANT VALUES(3026,'FOOD CLUB',071552)

INSERT INTO RESTAURANT VALUES(1157,'LA BAMBA',073582)

INSERT INTO RESTAURANT VALUES(8413,'TAKEOUT',085832)

INSERT INTO RESTAURANT VALUES(1102,'MAMA-VAGNE',055079)

CREATE TABLE RESTAURANT\_INFO

(

RNAME VARCHAR2(20) CONSTRAINT RN PRIMARY KEY,

ADDRESS VARCHAR2(20)

)

INSERT INTO RESTAURANT\_INFO VALUES('RADHUNI','NAWABGANJ')

INSERT INTO RESTAURANT\_INFO VALUES('FOOD CLUB','NAWABGANJ')

INSERT INTO RESTAURANT\_INFO VALUES('LA BAMBA','UTTARA')

INSERT INTO RESTAURANT\_INFO VALUES('TAKEOUT','BANANI')

INSERT INTO RESTAURANT\_INFO VALUES('MAMA-VAGNE','RAJSHAHI')

CREATE TABLE CUSTOMER

(

CUSID NUMBER (8) CONSTRAINT CUS\_PK PRIMARY KEY,

CUSNAME VARCHAR2 (10),CNTNO NUMBER(11),RID NUMBER(8),

CONSTRAINT FK\_PK FOREIGN KEY(RID) REFERENCES RESTAURANT(RID)

)

INSERT INTO CUSTOMER VALUES(221023,'ANIK',011519,1157)

INSERT INTO CUSTOMER VALUES(221021,'HASAN',016518,1157)

INSERT INTO CUSTOMER VALUES(221022,'SAYED',017519,1157)

INSERT INTO CUSTOMER VALUES(221019,'SAIF',070512,1157)

INSERT INTO CUSTOMER VALUES(221020,'SHARIF',075510,1157)

INSERT INTO CUSTOMER VALUES(221024,'ROKON',016441,1157)

INSERT INTO CUSTOMER VALUES(221025,'SADIA',015851,1157)

Relationship:Places

CREATE TABLE ORDERR

(

ORDER\_NO NUMBER (8) CONSTRAINT OR\_PK PRIMARY KEY,

NO\_OF\_ITEM NUMBER (4)

)

INSERT INTO ORDERR VALUES(01,03)

INSERT INTO ORDERR VALUES(02,01)

INSERT INTO ORDERR VALUES(03,05)

INSERT INTO ORDERR VALUES(04,01)

INSERT INTO ORDERR VALUES(05,01)

INSERT INTO ORDERR VALUES(06,10)

CREATE TABLE ORDER\_INFO

(

NO\_OF\_ITEM NUMBER(4) CONSTRAINT NO\_PK PRIMARY KEY,

ORDER\_TIME VARCHAR2(20)

)

INSERT INTO ORDER\_INFO VALUES(01,'10 MINS')

INSERT INTO ORDER\_INFO VALUES(02,'10 MINS')

INSERT INTO ORDER\_INFO VALUES(05,'25 MINS')

INSERT INTO ORDER\_INFO VALUES(03,'20 MINS')

INSERT INTO ORDER\_INFO VALUES(10,'35 MINS')

INSERT INTO ORDER\_INFO VALUES(04,'15 MINS')

Relationship: Serves

CREATE TABLE WAITER

(

WID NUMBER (8) CONSTRAINT W\_PK PRIMARY KEY,

WNAME VARCHAR2 (10),CUSID NUMBER(8),ORDER\_NO NUMBER(8),

CONSTRAINT CK\_PK FOREIGN KEY(CUSID) REFERENCES CUSTOMER(CUSID),

CONSTRAINT OK\_PK FOREIGN KEY(ORDER\_NO) REFERENCES ORDERR(ORDER\_NO)

)

INSERT INTO WAITER VALUES(101,'PAUL',221023,6)

INSERT INTO WAITER VALUES(102,'SAKIL',221019,6)

INSERT INTO WAITER VALUES(103,'GOPAUL',221020,1)

INSERT INTO WAITER VALUES(104,'SAKILA',221021,2)

INSERT INTO WAITER VALUES(110,'JAMIL',221022,3)

INSERT INTO WAITER VALUES(111,'PAUL',221024,4)

INSERT INTO WAITER VALUES(119,'ASAD',221025,5)

Relationship: Contains

CREATE TABLE FOOD

(

FOOD\_NO NUMBER (8) CONSTRAINT FO\_PK PRIMARY KEY,

QUANTITY NUMBER (4),DESCRIPTION VARCHAR2(20),ORDER\_NO NUMBER(8),

CONSTRAINT FRD\_PK FOREIGN KEY(ORDER\_NO) REFERENCES ORDERR(ORDER\_NO)

)

INSERT INTO FOOD VALUES(510,1,'TEHARI',1)

INSERT INTO FOOD VALUES(600,1,'BEEF BURGER',2)

INSERT INTO FOOD VALUES(601,3,'COLD DRINKS',3)

INSERT INTO FOOD VALUES(152,1,'MASALA DOSA',4)

INSERT INTO FOOD VALUES(111,1,'CHICKEN PARM',5)

INSERT INTO FOOD VALUES(501,2,'SIZZLING PRAWN',6)

CREATE TABLE FOOD\_DETAILS

(

FOOD\_NO NUMBER (8),

QUANTITY NUMBER (2),PRICE NUMBER(5),

CONSTRAINT FD\_PK FOREIGN KEY(FOOD\_NO) REFERENCES FOOD(FOOD\_NO)

)

INSERT INTO FOOD\_DETAILS VALUES(601,1,20)

INSERT INTO FOOD\_DETAILS VALUES(501,1,1050)

INSERT INTO FOOD\_DETAILS VALUES(600,1,400)

INSERT INTO FOOD\_DETAILS VALUES(510,1,150)

INSERT INTO FOOD\_DETAILS VALUES(152,1,100)

INSERT INTO FOOD\_DETAILS VALUES(111,1,400)

Relationship: Prepares

CREATE TABLE CHEF

(

CHEFID NUMBER (8) CONSTRAINT CHEF\_PK NOT NULL,

CHEFNAME VARCHAR2(10),ORDER\_NO NUMBER(8),

CONSTRAINT FOR\_PK FOREIGN KEY(ORDER\_NO) REFERENCES ORDERR(ORDER\_NO)

)

INSERT INTO CHEF VALUES(201,'TONNY',1)

INSERT INTO CHEF VALUES(201,'TONNY',2)

INSERT INTO CHEF VALUES(205,'KHALID',3)

INSERT INTO CHEF VALUES(205,'KHALID',4)

INSERT INTO CHEF VALUES(205,'KHALID',5)

INSERT INTO CHEF VALUES(207,'BONY',6)

Relationship: Pays

CREATE TABLE BILL

(

BILLNO NUMBER (8) CONSTRAINT BILL\_PK PRIMARY KEY,

PRICE NUMBER(4),ORDER\_DTL VARCHAR2(20),CUS\_ID NUMBER(8),

CONSTRAINT CS\_PK FOREIGN KEY(CUS\_ID) REFERENCES CUSTOMER(CUSID)

)

INSERT INTO BILL VALUES(11,150,'TEHARI',221020)

INSERT INTO BILL VALUES(12,400,'BEEF BURGER',221021)

INSERT INTO BILL VALUES(13,1050,'SIZZLING PRAWN',221023)

INSERT INTO BILL VALUES(14,1050,'SIZZLING PRAWN',221019)

INSERT INTO BILL VALUES(15,100,'MASALA DOSA',221024)

INSERT INTO BILL VALUES(16,400,'CHICKEN PARM',221025)

CREATE TABLE BILL\_DTLS

(

PRICE VARCHAR2 (15) CONSTRAINT PC\_PK PRIMARY KEY,

VAT VARCHAR2(15)

)

INSERT INTO BILL\_DTLS VALUES('20TK','3TK')

INSERT INTO BILL\_DTLS VALUES('400TK','60TK')

INSERT INTO BILL\_DTLS VALUES('150TK','22.5TK')

INSERT INTO BILL\_DTLS VALUES('100TK','15TK')

SUBQUERY

Que-01: Display the customers name and contact no. who goes La Bamba

Ans:SELECT CUSNAME,CNTNO FROM CUSTOMER WHERE RID=(SELECT RID FROM RESTAURANT WHERE RNAME='LA BAMBA')

Que-02:Display waiter name who takes order from Sadia

Ans:SELECT WNAME FROM WAITER WHERE CUSID=(SELECT CUSID FROM CUSTOMER WHERE CUSNAME='SADIA')

Que-03:Display customer name who order sizzling prawn

Ans:SELECT CUSNAME FROM CUSTOMER WHERE CUSID IN

(SELECT CUSID FROM WAITER WHERE

ORDER\_NO=(SELECT ORDER\_NO FROM FOOD WHERE DESCRIPTION='SIZZLING PRAWN'))

Que-04:Disply waiters who works in La Bamba

Ans:SELECT WID,WNAME FROM WAITER WHERE CUSID IN

(SELECT CUSID FROM CUSTOMER WHERE

RID=(SELECT RID FROM RESTAURANT WHERE RNAME='LA BAMBA'))

Joining

Que-01:Display customer name,contact no and restaurant name

Ans:SELECT C.CUSNAME,C.CNTNO,R.RNAME FROM CUSTOMER C,RESTAURANT R WHERE C.RID=R.RID

Que-02:Display waiter name who takes order

Ans:SELECT W.WNAME FROM WAITER W,FOOD F WHERE W.ORDER\_NO=F.ORDER\_NO

Que-03:Dispaly foods,food\_no which ordered by customes

Ans:SELECT F.DESCRIPTION,F.FOOD\_NO,W.CUSID FROM FOOD F,WAITER W WHERE F.ORDER\_NO=W.ORDER\_NO  
Enable and Disable

ALTER TABLE RESTAURANT\_INFO DISABLE CONSTRAINT RN

ALTER TABLE RESTAURANT\_INFO ENABLE CONSTRAINT RN

ALTER TABLE BILL\_DTLS DISABLE CONSTRAINT PC\_PK

ALTER TABLE BILL\_DTLS ENABLE CONSTRAINT PC\_PK