

1. Consider the Insurance database given below. The primary keys are underlined and the data types are specified.

PERSON (driver – id #: String, name: string, address: string)

CAR (Regno: string, model: string, year: int)

ACCIDENT (report-number: int, accd-date: date, location: string)

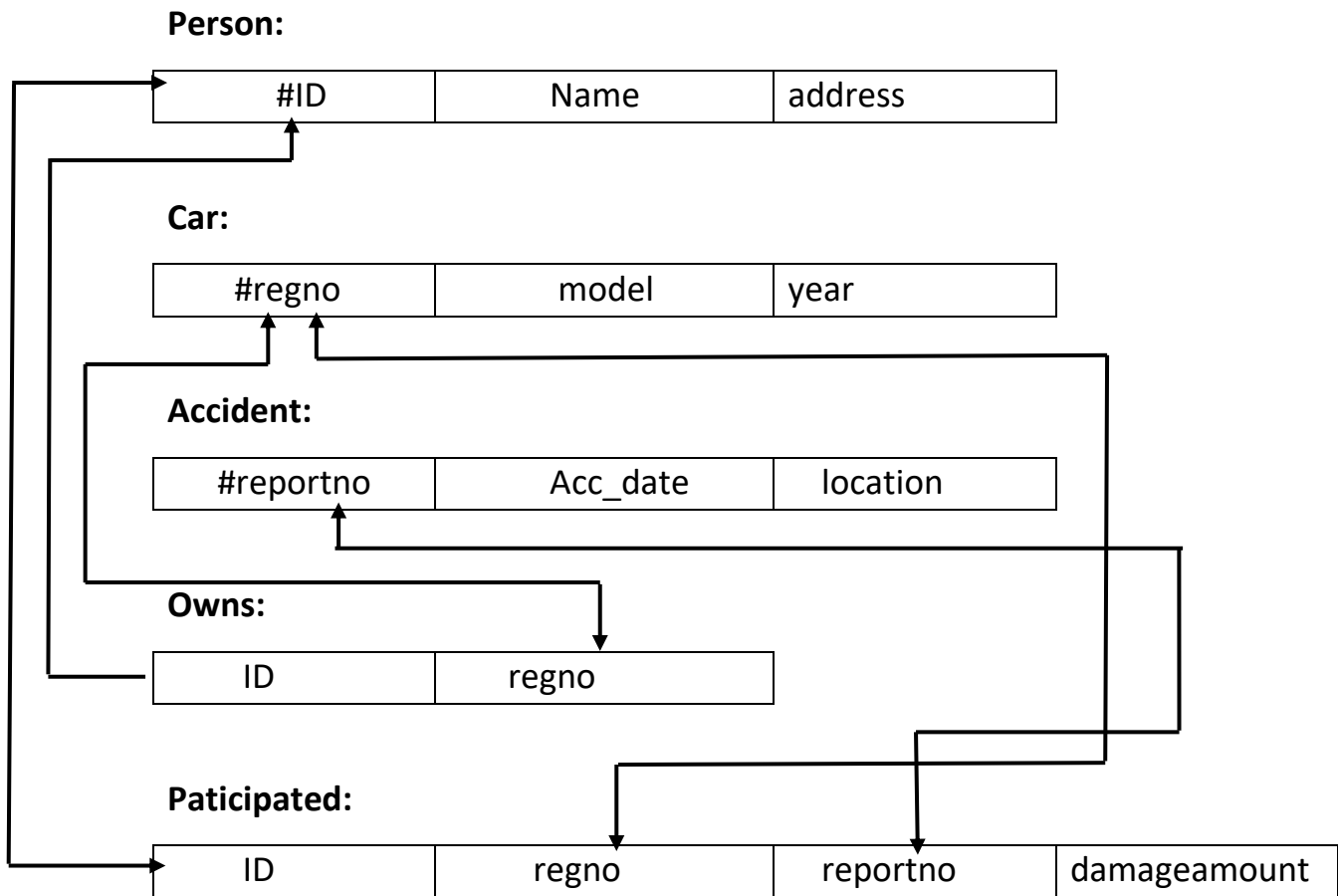
OWNS (driver-id #:string, Regno:string)

PARTICIPATED (driver-id: string, Regno:string, report-number:int, damageamount:int)

Tasks:

- (i) Create the above tables by properly specifying the primary keys and the foreign keys.
- (ii) Enter at least five tuples for each relation.
- (iii) Demonstrate how you
 - a. Update the damage amount for the car with a specific Regno in the accident with report number 12 to 25000.
 - b. Add a new accident to the database.
- (iv) Find the total number of people who owned cars that were involved in accidents in 2008.
- (v) Find the number of accidents in which cars belonging to a specific model were involved.
- (vi) Find the total number of cars along with their details that are owned by a specific person.
- (vii) Display the name of the person and model of the car that are met with an accident along with the report-number and damage amount.

SCHEMA DIAGRAM:



(i) Create the above tables by properly specifying the primary keys and the foreign keys.

```
SQL> create table person(ID int primary key NOT NULL, Name varchar(20),Address varchar(20));
```

Table created.

```
SQL> create table car(regno varchar(20) primary key NOT NULL,model varchar(20),year int);
```

Table created.

```
SQL> create table accident(reportno int primary key NOT NULL,acc_date date,location  
varchar(20));
```

Table created.

```
SQL> create table owns(ID int references person(ID), regno varchar(20) references car(regno));
```

Table created.

```
SQL> create table participated(ID int references person(ID),regno varchar(20)references  
car(regno),reportno int references accident(reportno), damageamount int);
```

Table created.

(ii) Enter at least five tuples for each relation.

SQL> desc person;

Name	Null?	Type

ID	NOT NULL	NUMBER(38)
NAME		VARCHAR2(20)
ADDRESS		VARCHAR2(20)

SQL> insert into person values('&id','&Name','&Address');

Enter value for id: 123

Enter value for name: Sourabh

Enter value for address: Belgavi

old 1: insert into person values('&id','&Name','&Address')

new 1: insert into person values('123','Sourabh','Belgavi')

1 row created.

SQL> /

Enter value for id: 124

Enter value for name: Sushant

Enter value for address: Belgavi

old 1: insert into person values('&id','&Name','&Address')

new 1: insert into person values('124','Sushant','Belgavi')

1 row created.

SQL> /

Enter value for id: 125

Enter value for name: Chetan

Enter value for address: Chikodi

old 1: insert into person values('&id','&Name','&Address')

new 1: insert into person values('125','Chetan','Chikodi')

1 row created.

SQL> /

Enter value for id: 126

Enter value for name: Kiran

Enter value for address: Samra

old 1: insert into person values('&id','&Name','&Address')

new 1: insert into person values('126','Kiran','Samra')

1 row created.

SQL> /

Enter value for id: 127

Enter value for name: Pratik

Enter value for address: Manikbag

old 1: insert into person values('&id','&Name','&Address')

new 1: insert into person values('127','Pratik','Manikbag')

1 row created.

SQL> select * from person;

ID	NAME	ADDRESS

123	Sourabh	Belgavi
124	Sushant	Belgavi
125	Chetan	Chikodi
126	Kiran	Samra
127	Pratik	Manikbag

SQL> desc car;

Name	Null?	Type

REGNO	NOT NULL	VARCHAR2(20)
MODEL		VARCHAR2(20)
YEAR		NUMBER(38)

SQL> insert into car values('®no','&Model','&Year');

Enter value for regno: KA22001

Enter value for model: Bullet

Enter value for year: 2008

old 1: insert into car values('®no','&Model','&Year')

new 1: insert into car values('KA22001','Bullet','2008')

1 row created.

SQL> /

Enter value for regno: KA22853

Enter value for model: Aviator

Enter value for year: 2008

old 1: insert into car values('®no','&Model','&Year')

new 1: insert into car values('KA22853','Aviator','2008')

1 row created.

SQL> /

Enter value for regno: KA22003

Enter value for model: Jaguar

Enter value for year: 2012

old 1: insert into car values('®no','&Model','&Year')

new 1: insert into car values('KA22003','Jaguar','2012')

1 row created.

SQL> /

Enter value for regno: KA22004

Enter value for model: JCB

Enter value for year: 2016

old 1: insert into car values('®no','&Model','&Year')

new 1: insert into car values('KA22004','JCB','2016')

1 row created.

SQL> /

Enter value for regno: KA22005

Enter value for model: Bullet

Enter value for year: 2010

old 1: insert into car values('®no','&Model','&Year')

new 1: insert into car values('KA22005','Bullet','2010')

1 row created.

SQL> select * from car;

REGNO	MODEL	YEAR
-----	-----	-----
KA22001	Bullet	2008
KA22853	Aviator	2008
KA22003	Jaguar	2012
KA22004	JCB	2016
KA22005	Bullet	2010

SQL> insert into accident values('&reportno','&acc_date','&location');

Enter value for reportno: 101

Enter value for acc_date: 15-feb-1996

Enter value for location: kolhapur

old 1: insert into accident values('&reportno','&acc_date','&location')

new 1: insert into accident values('101','15-feb-1996','kolhapur')

1 row created.

SQL> /

Enter value for reportno: 102

Enter value for acc_date: 12-jan-2001

Enter value for location: sajani

old 1: insert into accident values('&reportno','&acc_date','&location')

new 1: insert into accident values('102','12-jan-2001','sajani')

1 row created.

SQL> /

Enter value for reportno: 103

Enter value for acc_date: 08-july-2004

Enter value for location: sangali

old 1: insert into accident values('&reportno','&acc_date','&location')

new 1: insert into accident values('103','08-july-2004','sangali')

1 row created.

SQL> /

Enter value for reportno: 12

Enter value for acc_date: 09-may-2008

Enter value for location: miraj

old 1: insert into accident values('&reportno','&acc_date','&location')

new 1: insert into accident values('12','09-may-2008','miraj')

1 row created.

SQL> insert into accident values('&reportno','&acc_date','&location');

Enter value for reportno: 101

Enter value for acc_date: 15-feb-1996

Enter value for location: kolhapur

old 1: insert into accident values('&reportno','&acc_date','&location')

new 1: insert into accident values('101','15-feb-1996','kolhapur')

1 row created.

SQL> /

Enter value for reportno: 102

Enter value for acc_date: 12-jan-2001

Enter value for location: sajani

old 1: insert into accident values('&reportno','&acc_date','&location')

new 1: insert into accident values('102','12-jan-2001','sajani')

1 row created.

SQL> /

Enter value for reportno: 103

Enter value for acc_date: 08-july-2004

Enter value for location: sangali

old 1: insert into accident values('&reportno','&acc_date','&location')

new 1: insert into accident values('103','08-july-2004','sangali')

1 row created.

SQL> /

Enter value for reportno: 12

Enter value for acc_date: 09-may-2008

Enter value for location: miraj

old 1: insert into accident values('&reportno','&acc_date','&location')

new 1: insert into accident values('12','09-may-2008','miraj')

1 row created.

SQL> select * from accident;

REPORTNO	ACC_DATE	LOCATION
-----	-----	-----
101	15-FEB-96	kolhapur
102	12-JAN-01	sajani
103	08-JUL-04	sangali
12	09-MAY-08	miraj
555	17-SEP-12	Mumbai

SQL> desc owns;

Name	Null?	Type
-----	-----	-----
ID		NUMBER (38)
REGNO		VARCHAR(20)

SQL> insert into owns values('&id','®no');

Enter value for id: 123

Enter value for regno: KA22001

old 1: insert into owns values ('&id','®no')

new 1: insert into owns values ('123','KA22001')

1 row created.

SQL> /

Enter value for id: 124

Enter value for regno: KA22853

old 1: insert into owns values('&id','®no')

new 1: insert into owns values('124','KA22853')

1 row created.

SQL> /

Enter value for id: 125

Enter value for regno: KA22003

old 1: insert into owns values('&id','®no')

new 1: insert into owns values('125','KA22003')

1 row created.

SQL> /

Enter value for id: 126

Enter value for regno: KA22004

old 1: insert into owns values('&id','®no')

new 1: insert into owns values('126','KA22004')

1 row created.

SQL> /

Enter value for id: 127

Enter value for regno: KA22005

old 1: insert into owns values('&id','®no')

new 1: insert into owns values('127','KA22005')

1 row created.

SQL> select * from owns;

ID	REGNO
123	KA22001
124	KA22853
125	KA22003
126	KA22004
127	KA22005

SQL> desc participated;

Name	Null?	Type
ID		NUMBER (38)
REGNO		VARCHAR (20)
REPORTNO		NUMBER (38)
DAMAGEAMOUNT		NUMBER (38)

```
SQL> insert into participated  
values('&ID','&regno','&reportno','&damageamount');
```

Enter value for id: 123

Enter value for regno: KA22001

Enter value for reportno: 101

Enter value for damageamount: 1000

```
old 1: insert into participated      values('&ID','&regno','&reportno','&damageamount')
```

```
new 1: insert into participated values('123','KA22001','101','1000')
```

1 row created.

```
SQL> /
```

Enter value for id: 124

Enter value for regno: KA22853

Enter value for reportno: 102

Enter value for damageamount: 5000

```
old 1: insert into participated values('&ID','&regno','&reportno','&damageamount')
```

```
new 1: insert into participated values('124','KA22853','102','5000')
```

1 row created.

```
SQL> /
```

Enter value for id: 125

Enter value for regno: KA22003

Enter value for reportno: 103

Enter value for damageamount: 4500

```
old 1: insert into participated values('&ID','&regno','&reportno','&damageamount')
```

```
new 1: insert into participated values('125','KA22003','103','4500')
```

1 row created.

SQL> /

Enter value for id: 126

Enter value for regno: KA22004

Enter value for reportno: 12

Enter value for damageamount: 6700

old 1: insert into participated values('&ID','®no','&reportno','&damageamount')

new 1: insert into participated values('126','KA22004','12','6700')

1 row created.

SQL> /

Enter value for id: 127

Enter value for regno: KA22005

Enter value for reportno: 555

Enter value for damageamount: 9000

old 1: insert into participated values('&ID','®no','&reportno','&damageamount')

new 1: insert into participated values('127','KA22005','555','9000')

1 row created.

SQL> select * from participated;

ID	REGNO	REPORTNO	DAMAGEAMOUNT
-----	-----	-----	-----
123	KA22001	101	1000
124	KA22853	102	5000
125	KA22003	103	4500
126	KA22004	12	6700
127	KA22005	555	9000

(iii) Demonstrate how you

a.Update the damage amount for the car with a specific Regno in the accident with report number 12 to 25000.

```
SQL> update participated set Damageamount=25000 where reportno=12;
```

1 row updated.

```
SQL> select * from participated;
```

ID	REGNO	REPORTNO	DAMAGEAMOUNT
-----	-----	-----	-----
123	KA22001	101	1000
124	KA22853	102	5000
125	KA22003	103	4500
126	KA22004	12	25000
127	KA22005	555	9000

b. Add a new accident to the database.

```
SQL> insert into accident values('&reportno','&accddate','&location');
```

Enter value for reportno: 505

Enter value for accdate: 29-feb-2008

Enter value for location: wadgaon

old 1: insert into accident values('&reportno','&accddate','&location')

new 1: insert into accident values('505','29-feb-2008','wadgaon')

1 row created.

```
SQL> select * from accident;
```

REPORTNO	ACC_DATE	LOCATION
-----	-----	-----
101	15-FEB-96	Kolhapur
102	12-JAN-01	sajani
103	08-JUL-04	sangali
12	09-MAY-08	miraj
555	17-SEP-12	Mumbai
505	29-FEB-08	wadgaon

6 rows selected.

(iv) Find the total number of people who owned cars that were involved in Accidents in 2008.

SQL> select count(p.id) from car c, person p, accident a, participated pr where
c.regno=pr.regno and p.id=pr.id and a.reportno=pr.reportno and year like 2008;

COUNT (P.ID)

2

(v) Find the number of accidents in which cars belonging to a specific model were involved.

SQL> select count(a.reportno) from car c, accident a, participated p where c.regno =p.regno and
a.reportno=p.reportno and model like 'Bullet';

COUNT(A.REPORTNO)

2

(vi) Find the total number of cars along with their details that are owned by a specific person.

SQL> select c.regno ,c.model,c.year from person p,car c,owns o where o.id=p.id and
c.regno=o.regno and p.id='123';

REGNO	MODEL	YEAR
-------	-------	------

KA22001	Bullet	2008
---------	--------	------

(vii) Display the name of the person and model of the car that are met with an accident along with the report-number and damage amount.

```
SQL> select p.name ,c.model,a.reportno,pr.damageamount from person p ,car c,accident a ,participated pr where p.id=pr.id and c.regno=pr.regno and a.reportno=pr.reportno;
```

NAME	MODEL	REPORTNO	DAMAGEAMOUNT
-----	-----	-----	-----
Sourabh	Bullet	101	1000
Sushant	Aviator	102	5000
Chetan	Jaguar	103	4500
Kiran	JCB	12	25000
Pratik	Bullet	555	9000

2. Consider the following relations for an order processing database application in a company.

CUSTOMER (cust #: int , cname: string, city: string)

ORDER (order #: int, odate: date, cust #: int, ord-Amt: int)

ORDER – ITEM (order #: int, item #: int, qty: int)

ITEM (item # : int, unit price: int)

SHIPMENT (order #: int, warehouse#: int, ship-date: date)

WAREHOUSE (warehouse #: int, city: string)

Note : Item table specification should include the field “Item_name”

- (i) Create the above tables by properly specifying the primary keys and the foreign keys.
- (ii) Enter at least five tuples for each relation.
- (iii) Produce a listing: CUSTNAME, #of orders, AVG_ORDER_AMT, where the middle column is the total numbers of orders by the customer and the last column is the average order amount for that customer.
- (iv) List the order# for orders that were shipped from all the warehouses that the company has in a specific city.
- (v) Demonstrate the deletion of an item from the ITEM table and demonstrate a method of handling the rows in the ORDER_ITEM table that contain this particular item.
- (vi) Raise the price of all the items by 15%.
- (vii) Display customer name, Items ordered by him along with Item-number, ordernumber, order-amount and Warehouse-city.

SCHEMA DIAGRAM:

Customer:

customer_id	cname	city
-------------	-------	------

Order:

order_id	odate	customer_id	orderamt
----------	-------	-------------	----------

Item:

item_id	unitPrice
---------	-----------

Order-Item:

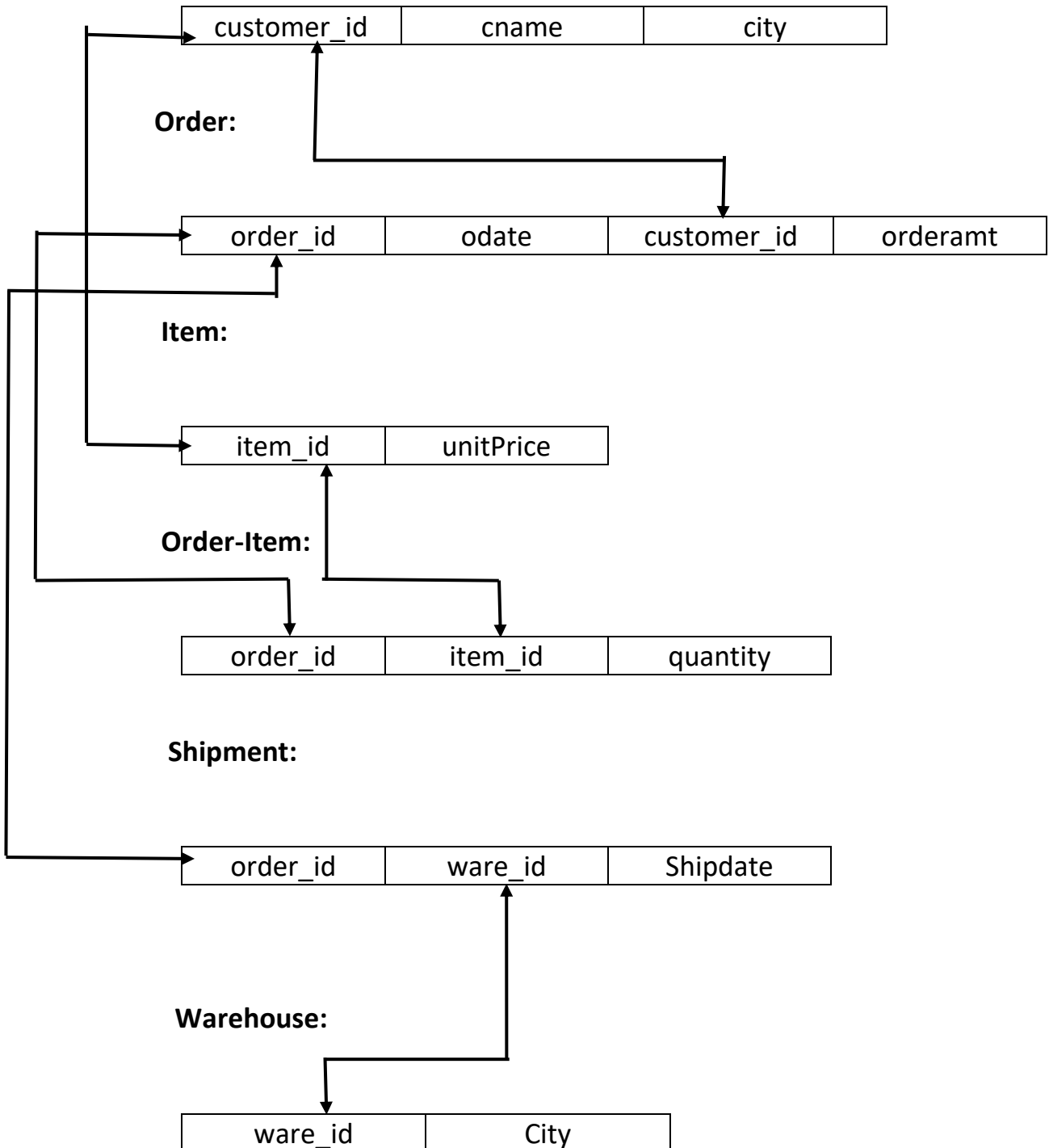
order_id	item_id	quantity
----------	---------	----------

Shipment:

order_id	ware_id	Shipdate
----------	---------	----------

Warehouse:

ware_id	City
---------	------



- (i) **Create the above tables by properly specifying the primary keys and the foreign keys.**

```
SQL> create table customer(customer_id int primary key NOT NULL,cname varchar(20),city  
varchar(20));
```

Table created.

```
SQL> create table order1(order_id int primary key NOT NULL,odate date,customer_id int  
references customer(customer_id),orderamt int);
```

Table created.

```
SQL> create table item(item_id int primary key NOT NULL,unitprice int);
```

Table created.

```
SQL> create table order_item(order_idintreferenesorder1(order_id),item_id int references  
item(item_id),quantity int);
```

Table created.

```
SQL> create table shipment(order_id int references order1(order_id),ware_id Int primary key  
NOT NULL, shipdate date);
```

Table created.

```
SQL> create table warehouse(ware_id int references shipment(ware_id),city varchar(20));
```

Table created.

(ii) Enter at least five tuples for each relation.

```
SQL> desc customer;
```

Name	Null?	Type
CUSTOMER_ID	NOT NULL	NUMBER(38)
CNAME		VARCHAR2(20)
CITY		VARCHAR2(20)

```
SQL> insert into customer values('&customer_id','&cname','&city');
```

```
Enter value for customer_id: 555
```

```
Enter value for cname: PRATIK
```

```
Enter value for city: KOLHAPUR
```

```
old 1: insert into customer values('&customer_id','&cname','&city')
```

```
new 1: insert into customer values('555','PRATIK','KOLHAPUR')
```

```
1 row created.
```

```
SQL> /
```

```
Enter value for customer_id: 666
```

```
Enter value for cname: CHETAN
```

```
Enter value for city: CHIKKODI
```

```
old 1: insert into customer values('&customer_id','&cname','&city')
```

```
new 1: insert into customer values('666','CHETAN','CHIKKODI')
```

```
1 row created.
```

```
SQL> /
```

```
Enter value for customer_id: 777
```

```
Enter value for cname: SUSHANT
```

```
Enter value for city: BELAGUM
```

```
old 1: insert into customer values('&customer_id','&cname','&city')
```

```
new 1: insert into customer values('777','SUSHANT','BELAGUM')
```

```
1 row created.
```

SQL> /

Enter value for customer_id: 888

Enter value for cname: ROHAN

Enter value for city: RUI

old 1: insert into customer values('&customer_id','&cname','&city')

new 1: insert into customer values('888','ROHAN','RUI')

1 row created.

SQL> /

Enter value for customer_id: 999

Enter value for cname: ASHOK

Enter value for city: MUMBAI

old 1: insert into customer values('&customer_id','&cname','&city')

new 1: insert into customer values('999','ASHOK','MUMBAI')

SQL> select * from customer;

CUSTOMER_ID	CNAME	CITY
555	PRATIK	KOLHAPUR
666	CHETAN	CHIKKODI
777	SUSHANT	BELAGUM
888	ROHAN	RUI
999	ASHOK	MUMBAI

SQL> desc order1;

Name	Null?	Type

ORDER_ID	NOT NULL	NUMBER(38)
ODATE		DATE
CUSTOMER_ID		NUMBER(38)
ORDERAMT		NUMBER(38)

SQL> insert into order1 values('&order_id','&odate','&customer_id','&orderamt');

Enter value for order_id: 1008

Enter value for odate: 26-feb-1996

Enter value for customer_id: 555

Enter value for orderamt: 900

old 1: insert into order1 values('&order_id','&odate','&customer_id','&orderamt')

new 1: insert into order1 values('1008','26-feb-1996','555','900')

1 row created.

SQL> /

Enter value for order_id: 1007

Enter value for odate: 12-jan-2001

Enter value for customer_id: 666

Enter value for orderamt: 5500

old 1: insert into order1 values('&order_id','&odate','&customer_id','&orderamt')

new 1: insert into order1 values('1007','12-jan-2001','666','5500')

1 row created.

SQL> /

Enter value for order_id: 1006

Enter value for odate: 16-july-2008

Enter value for customer_id: 777

Enter value for orderamt: 899

old 1: insert into order1 values('&order_id','&odate','&customer_id','&orderamt')

new 1: insert into order1 values('1006','16-july-2008','777','899')

1 row created.

SQL> /

Enter value for order_id: 1005

Enter value for odate: 25-may-2009

Enter value for customer_id: 888

Enter value for orderamt: 677

old 1: insert into order1 values('&order_id','&odate','&customer_id','&orderamt')

new 1: insert into order1 values('1005','25-may-2009','888','677')

1 row created.

SQL> /

Enter value for order_id: 1004

Enter value for odate: 28-june-2011

Enter value for customer_id: 999

Enter value for orderamt: 5400

old 1: insert into order1 values('&order_id','&odate','&customer_id','&orderamt')

new 1: insert into order1 values('1004','28-june-2011','999','5400')

1 row created.

SQL> select * from order1;

ORDER_ID	ODATE	CUSTOMER_ID	ORDERAMT
-----	-----	-----	-----
1008	26-FEB-96	555	900
1007	12-JAN-01	666	5500
1006	16-JUL-08	777	899
1005	25-MAY-09	888	677
1004	28-JUN-11	999	5400

SQL> desc item;

Name	Null?	Type
-----	-----	-----
ITEM_ID	NOT NULL	NUMBER(38)
UNITPRICE		NUMBER(38)

SQL> insert into item values('&item_id','&untprice');

Enter value for item_id: 445

Enter value for untprice: 900

old 1: insert into item values('&item_id','&untprice')

new 1: insert into item values('445','900')

1 row created.

SQL> /

Enter value for item_id: 446

Enter value for untprice: 5500

old 1: insert into item values('&item_id','&untprice')

new 1: insert into item values('446','5500')

1 row created.

SQL> /

Enter value for item_id: 447

Enter value for untprice: 899

old 1: insert into item values('&item_id','&untprice')

new 1: insert into item values('447','899')

1 row created.

SQL> /

Enter value for item_id: 448

Enter value for untprice: 677

old 1: insert into item values('&item_id','&untprice')

new 1: insert into item values('448','677')

1 row created.

SQL> /

Enter value for item_id: 449

Enter value for untprice: 5400

old 1: insert into item values('&item_id','&untprice')

new 1: insert into item values('449','5400')

1 row created.

SQL> select * from item;

ITEM_ID	UNITPRICE
-----	-----
445	900
446	5500
447	899
448	677
449	5400

SQL> desc order_item;

Name	Null?	Type
-----	-----	-----
ORDER_ID		NUMBER(38)
ITEM_ID		NUMBER(38)
QUANTITY		NUMBER(38)

SQL> insert into order_item values('&order_id','&item_id','&Quantity');

Enter value for order_id: 1008

Enter value for item_id: 445

Enter value for quantity: 1

old 1: insert into order_item values('&order_id','&item_id','&Quantity')

new 1: insert into order_item values('1008','445','1')

1 row created.

SQL> /

Enter value for order_id: 1007

Enter value for item_id: 446

Enter value for quantity: 1

old 1: insert into order_item values('&order_id','&item_id','&Quantity')

new 1: insert into order_item values('1007','446','1')

1 row created.

SQL> /

Enter value for order_id: 1006

Enter value for item_id: 447

Enter value for quantity: 1

old 1: insert into order_item values('&order_id','&item_id','&Quantity')

new 1: insert into order_item values('1006','447','1')

1 row created.

SQL> /

Enter value for order_id: 1005

Enter value for item_id: 448

Enter value for quantity: 1

old 1: insert into order_item values('&order_id','&item_id','&Quantity')

new 1: insert into order_item values('1005','448','1')

1 row created.

SQL> /

Enter value for order_id: 1004

Enter value for item_id: 449

Enter value for quantity: 1

old 1: insert into order_item values('&order_id','&item_id','&Quantity')

new 1: insert into order_item values('1004','449','1')

1 row created.

SQL> select * from order_item;

ORDER_ID	ITEM_ID	QUANTITY
1008	445	1
1007	446	1
1006	447	1
1005	448	1
1004	449	1

SQL> desc shipment;

Name	Null?	Type
ORDER_ID		NUMBER(38)
WARE_ID	NOT NULL	NUMBER(38)
SHIPDATE		DATE

```
SQL> insert into shipment values('&order_id','&ware_id','&shipdate');
```

```
Enter value for order_id: 1008
```

```
Enter value for ware_id: 401
```

```
Enter value for shipdate: 26-feb-96
```

```
old 1: insert into shipment values('&order_id','&ware_id','&shipdate')
```

```
new 1: insert into shipment values('1008','401','26-feb-96')
```

```
1 row created.
```

```
SQL> /
```

```
Enter value for order_id: 1007
```

```
Enter value for ware_id: 402
```

```
Enter value for shipdate: 13-jan-01
```

```
old 1: insert into shipment values('&order_id','&ware_id','&shipdate')
```

```
new 1: insert into shipment values('1007','402','13-jan-01')
```

```
1 row created.
```

```
SQL> /
```

```
Enter value for order_id: 1006
```

```
Enter value for ware_id: 403
```

```
Enter value for shipdate: 17-jul-08
```

```
old 1: insert into shipment values('&order_id','&ware_id','&shipdate')
```

```
new 1: insert into shipment values('1006','403','17-jul-08')
```

```
1 row created.
```

SQL> /

Enter value for order_id: 1005

Enter value for ware_id: 404

Enter value for shipdate: 26-may-09

old 1: insert into shipment values('&order_id','&ware_id','&shipdate')

new 1: insert into shipment values('1005','404','26-may-09')

1 row created.

SQL> /

Enter value for order_id: 1004

Enter value for ware_id: 405

Enter value for shipdate: 29-jun-11

old 1: insert into shipment values('&order_id','&ware_id','&shipdate')

new 1: insert into shipment values('1004','405','29-jun-11')

1 row created.

SQL> select * from shipment;

ORDER_ID	WARE_ID	SHIPDATE
-----	-----	-----
1008	401	26-FEB-96
1007	402	13-JAN-01
1006	403	17-JUL-08
1005	404	26-MAY-09
1004	405	29-JUN-11

SQL> desc warehouse;

Name	Null?	Type

WARE_ID		NUMBER(38)
CITY		VARCHAR2(20)

SQL> insert into warehouse values('&ware_id','&city');

Enter value for ware_id: 401

Enter value for city: MAHARASHTRA

old 1: insert into warehouse values('&ware_id','&city')

new 1: insert into warehouse values('401','MAHARASHTRA')

1 row created.

SQL> /

Enter value for ware_id: 402

Enter value for city: Belgaum

old 1: insert into warehouse values('&ware_id','&city')

new 1: insert into warehouse values('402','Belgaum')

1 row created.

SQL> /

Enter value for ware_id: 403

Enter value for city: Belgaum

old 1: insert into warehouse values('&ware_id','&city')

new 1: insert into warehouse values('403','Belgaum')

1 row created.

SQL> /

Enter value for ware_id: 404

Enter value for city: Bangalore

old 1: insert into warehouse values('&ware_id','&city')

new 1: insert into warehouse values('404','Banglore')

1 row created.

SQL> /

Enter value for ware_id: 405

Enter value for city: Mumbai

old 1: insert into warehouse values('&ware_id','&city')

new 1: insert into warehouse values('405','Mumbai')

1 row created.

SQL> select * from warehouse;

WARE_ID	CITY
401	MAHARASHTRA
402	Belgaum
403	Belgaum
404	Banglore
405	Mumbai

- (iii) **Produce a listing: CUSTNAME, #of orders, AVG_ORDER_AMT, where the middle column is the total numbers of orders by the customer and the last column is the average order amount for that customer.**

```
SQL> select c.cname,count(order_id),avg(orderamt) from customer c,order1 o
where c.customer_id=o.customer_id group by cname;
```

CNAME	COUNT(ORDER_ID)	AVG(ORDERAMT)
-----	-----	-----
ROHAN	1	677
ASHOK	1	5400
PRATIK	1	900
CHETAN	1	5500
SUSHANT	1	899

- (iv) **List the order# for orders that were shipped from all the warehouses that the company has in a specific city.**

```
SQL> select s.order_id, w.city from shipment s,warehouse w where
w.ware_id=s.ware_id and city like 'Mumbai';
```

ORDER_ID	CITY
-----	-----
1004	mumbai

- (v) **Demonstrate the deletion of an item from the ITEM table and demonstrate a method of handling the rows in the ORDER_ITEM table that contain this particular item.**

```
SQL> update order_item set item_id=NULL where item_id=445;
```

1 row updated.

```
SQL> delete from item where item_id=445;
```

1 row deleted

.

SQL> select * from order_item;

ORDER_ID	ITEM_ID	QUANTITY
1008		1
1007	446	1
1006	447	1
1005	448	1
1004	449	1

SQL> select * from item;

ITEM_ID	UNITPRICE
446	5500
447	899
448	677
449	5400

(vi) Raise the price of all the items by 15%.

SQL> select 1.15 * unitprice as increased_price from item;

INCREASED_PRICE
6325
1033.85
778.55
6210

- (vii) **Display customer name, Items ordered by him along with Item-number, ordernumber, order-amount and Warehouse-city.**

```
SQL> select c.cname, c.customer_id,o.order_id,o.orderamt,w.city from customer  
c,order1 o ,shipment s,warehouse w where c.customer_id=o.customer_id and  
o.order_id=s.order_id and s.ware_id=w.ware_id;
```

CNAME	CUSTOMER_ID	ORDER_ID	ORDERAMT	CITY
PRATIK	555	1008	900	MAHARASHTRA
CHETAN	666	1007	5500	Belgaum
SUSHANT	777	1006	899	Belgaum
ROHAN	888	1005	677	Banglore
ASHOK	999	1004	5400	Mumbai

3. Consider the following database of student enrolment in courses & books adopted for each course.

STUDENT (regno: string, name: string, major: string, bdate:date)

COURSE (course #:int, cname:string, dept:string)

ENROLL (regno:string, course#:int, sem:int, marks:int)

BOOK _ ADOPTION (course# :int, sem:int, book-ISBN:int)

TEXT (book-ISBN:int, book-title:string, publisher:string, author:string)

Tasks:

- (i) Create the above tables by properly specifying the primary keys and the foreign keys.
- (ii) Enter at least five tuples for each relation.
- (iii) Demonstrate how you add a new text book to the database and make this book be adopted by some department.
- (iv) Produce a list of text books (include Course #, Book-ISBN, Book-title) in the alphabetical order for courses offered by the 'CS' department that use more than two books.
- (v) List any department that has all its adopted books published by a specific publisher.
- (vi) Delete a particular course and also delete the corresponding entries from the Enroll and Book_Adoption table.

SCHEMA DIAGRAM:

STUDENT:

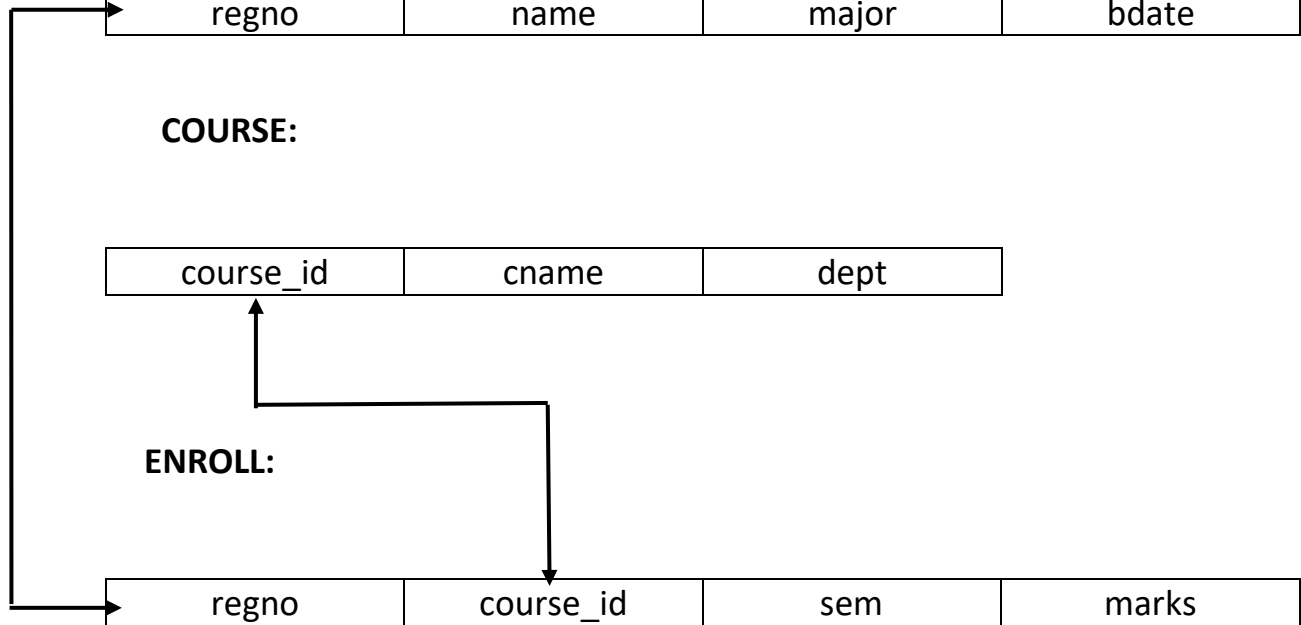
regno	name	major	bdate
-------	------	-------	-------

COURSE:

course_id	cname	dept
-----------	-------	------

ENROLL:

regno	course_id	sem	marks
-------	-----------	-----	-------

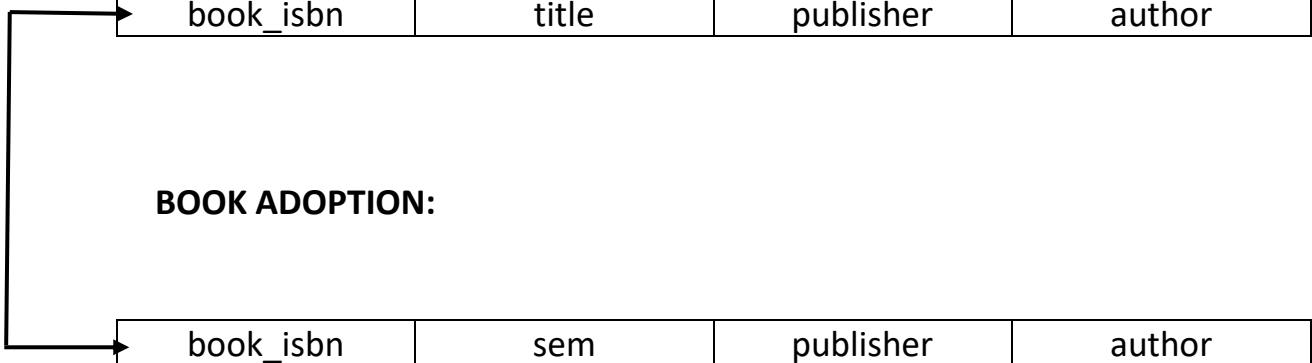


TEXT:

book_isbn	title	publisher	author
-----------	-------	-----------	--------

BOOK ADOPTION:

book_isbn	sem	publisher	author
-----------	-----	-----------	--------



(i) Create the above tables by properly specifying the primary keys and the foreign keys.

```
SQL> create table student(regno varchar(20) primary key NOT NULL,name varchar(20),major  
varchar(20),bdate date);
```

Table created.

```
SQL> create table course(course_id int primary key NOT NULL, cname varchar(20),dept  
varchar(20) not null);
```

Table created.

```
SQL> create table enroll(regno varchar(20) references student(regno),course_id i  
nt references course(course_id),sem int, marks int);
```

Table created.

```
SQL> create table text(book_isbn int primary key NOT NULL, book_title varchar(20),publisher  
varchar(20), auther varchar(20));
```

Table created.

```
SQL> create table book_adoption(course_id int references course(course_id),sem int,  
book_isbn int references text(book_isbn));
```

Table created.

(ii) Enter at least five tuples for each relation.

SQL> desc student;

Name	Null?	Type

REGNO	NOT NULL	VARCHAR2(20)
NAME		VARCHAR2(20)
MAJOR		VARCHAR2(20)
BDATE		DATE

SQL> insert into student values('®no','&name','&major','&bdate');

Enter value for regno: m1610

Enter value for name: salman

Enter value for major: medical

Enter value for bdate: 26-feb-1996

old 1: insert into student values('®no','&name','&major','&bdate')

new 1: insert into student values('m1610','salman','medical','26-feb-1996')

1 row created.

SQL> /

Enter value for regno: m1611

Enter value for name: ranbir

Enter value for major: mechanical

Enter value for bdate: 15-jan-2001

old 1: insert into student values('®no','&name','&major','&bdate')

new 1: insert into student values('m1611','ranbir','mechanical','15-jan-2001')

1 row created.

SQL> /

Enter value for regno: m1623

Enter value for name: pratik

Enter value for major: electronics

Enter value for bdate: 18-march-2008

old 1: insert into student values('®no','&name','&major','&bdate')

new 1: insert into student values('m1623','pratik','electronics','18-march-2008')

1 row created.

SQL> /

Enter value for regno: m1632

Enter value for name: abhi

Enter value for major: arts

Enter value for bdate: 22-may-2011

old 1: insert into student values('®no','&name','&major','&bdate')

new 1: insert into student values('m1632','abhi','arts','22-may-2011')

1 row created.

SQL> /

Enter value for regno: m1612

Enter value for name: aditya

Enter value for major: management

Enter value for bdate: 24-july-2018

old 1: insert into student values('®no','&name','&major','&bdate')

new 1: insert into student values('m1612','aditya','management','24-july-2018')

1 row created.

SQL> select * from student;

REGNO	NAME	MAJOR	BDATE

m1610	salman	medical	26-FEB-96
m1611	ranbir	mechanical	15-JAN-01
m1623	pratik	electronics	18-MAR-08
m1632	abhi	arts	22-MAY-11
m1612	aditya	management	24-JUL-18

SQL> desc course;

Name	Null?	Type

COURSE_ID	NOT NULL	NUMBER(38)
CNAME		VARCHAR2(20)
DEPT	NOT NULL	VARCHAR2(20)

SQL> insert into course values('&course_id','&cname','&dept');

Enter value for course_id: 303

Enter value for cname: bhms

Enter value for dept: medical

old 1: insert into course values('&course_id','&cname','&dept')

new 1: insert into course values('303','bhms','medical')

1 row created.

SQL> /

Enter value for course_id: 404

Enter value for cname: mtec

Enter value for dept: mechanical

old 1: insert into course values('&course_id','&cname','&dept')

new 1: insert into course values('404','mtec','mechanical')

1 row created.

SQL> /

Enter value for course_id: 505

Enter value for cname: entc

Enter value for dept: electronics

old 1: insert into course values('&course_id','&cname','&dept')

new 1: insert into course values('505','entc','electronics')

1 row created.

SQL> /

Enter value for course_id: 606

Enter value for cname: ba

Enter value for dept: arts

old 1: insert into course values('&course_id','&cname','&dept')

new 1: insert into course values('606','ba','arts')

1 row created.

SQL> /

Enter value for course_id: 707

Enter value for cname: mba

Enter value for dept: management

old 1: insert into course values('&course_id','&cname','&dept')

new 1: insert into course values('707','mba','management')

1 row created.

SQL> select * from course;

COURSE_ID	CNAME	DEPT
-----	-----	-----
303	bhms	medical
404	mtec	mechanical
505	entc	electronics
707	mba	management

SQL> desc enroll;

Name	Null?	Type
-----	-----	-----
REGNO		VARCHAR2(20)
COURSE_ID		NUMBER(38)
SEM		NUMBER(38)
MARKS		NUMBER(38)

```
SQL> insert into enroll values('&regno','&course_id','&sem','&marks');
```

```
Enter value for regno: m1610
```

```
Enter value for course_id: 303
```

```
Enter value for sem: 5
```

```
Enter value for marks: 200
```

```
old 1: insert into enroll values('&regno','&course_id','&sem','&marks')
```

```
new 1: insert into enroll values('m1610','303','5','200')
```

```
1 row created.
```

```
SQL> /
```

```
Enter value for regno: m1611
```

```
Enter value for course_id: 404
```

```
Enter value for sem: 2
```

```
Enter value for marks: 100
```

```
old 1: insert into enroll values('&regno','&course_id','&sem','&marks')
```

```
new 1: insert into enroll values('m1611','404','2','100')
```

```
1 row created.
```

```
SQL> /
```

```
Enter value for regno: m1623
```

```
Enter value for course_id: 505
```

```
Enter value for sem: 3
```

```
Enter value for marks: 125
```

```
old 1: insert into enrollvalues('&regno','&course_id','&sem','&marks')
```

```
new 1: insert into enroll values('m1623','505','3','125')
```

```
1 row created.
```

SQL> /

Enter value for regno: m1632

Enter value for course_id: 606

Enter value for sem: 4

Enter value for marks: 321

old 1: insert into enroll values('®no','&course_id','&sem','&marks')

new 1: insert into enroll values('m1632','606','4','321')

1 row created.

SQL> /

Enter value for regno: m1612

Enter value for course_id: 707

Enter value for sem: 1

Enter value for marks: 344

old 1: insert into enroll values('®no','&course_id','&sem','&marks')

new 1: insert into enroll values('m1612','707','1','344')

1 row created.

SQL> select * from enroll;

REGNO	COURSE_ID	SEM	MARKS
m1610	303	5	200
m1611	404	2	100
m1623	505	3	125
m1632	606	4	321
m1612	707	1	344

SQL> desc text;

Name	Null?	Type

BOOK_ISBN	NOT NULL	NUMBER(38)
BOOK_TITLE		VARCHAR2(20)
PUBLISHER		VARCHAR2(20)
AUTHER		VARCHAR2(20)

SQL> insert into text values('&book_isbn','&book_title','&publisher','&auther');

Enter value for book_isbn: 111

Enter value for book_title: COA

Enter value for publisher: pratik

Enter value for auther: Abhi

old 1: insert into text values('&book_isbn','&book_title','&publisher','&auther')

new 1: insert into text values('111','COA','pratik','Abhi')

1 row created.

SQL> /

Enter value for book_isbn: 121

Enter value for book_title: C++

Enter value for publisher: CHETAN

Enter value for auther: YOGESH

old 1: insert into text values('&book_isbn','&book_title','&publisher','&auther')

new 1: insert into text values('121','C++','CHETAN','YOGESH')

1 row created.

SQL> /

Enter value for book_isbn: 122

Enter value for book_title: UNIX

Enter value for publisher: SWAGAT

Enter value for author: SAMMED

old 1: insert into text values('&book_isbn','&book_title','&publisher','&author')

new 1: insert into text values('122','UNIX','SWAGAT','SAMMED')

1 row created.

SQL> /

Enter value for book_isbn: 123

Enter value for book_title: DMS

Enter value for publisher: KUMAR

Enter value for author: ASHOK

old 1: insert into text values('&book_isbn','&book_title','&publisher','&author')

new 1: insert into text values('123','DMS','KUMAR','ASHOK')

1 row created.

SQL> /

Enter value for book_isbn: 124

Enter value for book_title: DAA

Enter value for publisher: SOURABH

Enter value for author: DARSHU

old 1: insert into text values('&book_isbn','&book_title','&publisher','&author')

new 1: insert into text values('124','DAA','SOURABH','DARSHU')

1 row created.

SQL> select * from text;

BOOK_ISBN	BOOK_TITLE	PUBLISHER	AUTHER
-----	-----	-----	-----
111	COA	pratik	Abhi
121	C++	CHETAN	YOGESH
122	UNIX	SWAGAT	SAMMED
123	DMS	KUMAR	ASHOK
124	DAA	SOURABH	DARSHU

SQL> desc book_adoption;

Name	Null?	Type
-----	-----	-----
COURSE_ID		NUMBER(38)
SEM		NUMBER(38)
BOOK_ISBN		NUMBER(38)

SQL> insert into book_adoption values('&course_id','&sem','&book_isbn');

Enter value for course_id: 303

Enter value for sem: 5

Enter value for book_isbn: 111

old 1: insert into book_adoption values('&course_id','&sem','&book_isbn')

new 1: insert into book_adoption values('303','5','111')

1 row created.

SQL> /

Enter value for course_id: 404

Enter value for sem: 2

Enter value for book_isbn: 121

old 1: insert into book_adoption values('&course_id','&sem','&book_isbn')

new 1: insert into book_adoption values('404','2','121')

1 row created.

SQL> /

Enter value for course_id: 505

Enter value for sem: 3

Enter value for book_isbn: 122

old 1: insert into book_adoption values('&course_id','&sem','&book_isbn')

new 1: insert into book_adoption values('505','3','122')

1 row created.

SQL> /

Enter value for course_id: 606

Enter value for sem: 4

Enter value for book_isbn: 123

old 1: insert into book_adoption values('&course_id','&sem','&book_isbn')

new 1: insert into book_adoption values('606','4','123')

1 row created.

SQL> /

Enter value for course_id: 707

Enter value for sem: 1

Enter value for book_isbn: 124

old 1: insert into book_adoption values('&course_id','&sem','&book_isbn')

new 1: insert into book_adoption values('707','1','124')

1 row created.

SQL> select * from book_adoption;

COURSE_ID	SEM	BOOK_ISBN
-----	-----	-----
303	5	111
404	2	121
505	3	122
606	4	123
707	1	124

(iii) Demonstrate how you add a new text book to the database and make this book be adopted by some department.

SQL> insert into text values('&book_isbn','&book_title','&publisher','&auther');

Enter value for book_isbn: 125

Enter value for book_title: Biology

Enter value for publisher: A b patil

Enter value for auther: v s hupare

old 1: insert into text values('&book_isbn','&book_title','&publisher','&auther')

new 1: insert into text values('125','Biology','A b patil','v s hupare')

1 row created.

SQL> select * from text;

BOOK_ISBN	BOOK_TITLE	PUBLISHER	AUTHER
-----	-----	-----	-----
111	COA	pratik	Abhi
121	C++	CHETAN	YOGESH
122	UNIX	SWAGAT	SAMMED
123	DMS	KUMAR	ASHOK
124	DAA	SOURABH	DARSHU
125	Biology	A b patil	v s hupare

6 rows selected.

SQL> desc book_adoption;

Name	Null?	Type

COURSE_ID		NUMBER(38)
SEM		NUMBER(38)
BOOK_ISBN		NUMBER(38)

SQL> insert into book_adoption values('&course_id','&sem','&book_isbn');

Enter value for course_id: 303

Enter value for sem: 5

Enter value for book_isbn: 111

old 1: insert into book_adoption values('&course_id','&sem','&book_isbn')

new 1: insert into book_adoption values('303','5','111')

1 row created.

SQL> select * from book_adoption;

COURSE_ID	SEM	BOOK_ISBN
-----	-----	-----
303	5	111
404	2	121
505	3	122
606	4	123
707	1	124
303	5	111

- (iv) Produce a list of text books (include Course #, Book-ISBN, Book-title) in the alphabetical order for courses offered by the 'CS' department that use more than two books.

```
SQL> select c.course_id,c.cname,t.book_isbn,t.book_title from course c,text t,book_adoption b
where c.course_id=b.course_id and b.book_isbn=t.book_isbn and dept='mechanical' and
c.course_id in(select course_id from book_adoption group by course_id having
count(*)>=1)order by c.cname;
```

COURSE_ID	CNAME	BOOK_ISBN	BOOK_TITLE
404	ec	121	C++

- (v) List any department that has all its adopted books published by a specific publisher.

```
SQL> select c.dept from course c where course_id in (select course_id from book_adoption
where book_isbn in(select book_isbn from text where publisher='pratik'));
```

DEPT
Medical

- (vi)List the Students enrolled for a particular course.

```
SQL> select s.name, c.cname from course c,student s,enroll e where s.regno=e.regno and
c.course_id=e.course_id;
```

NAME	CNAME
salman	bhms
ranbir	mtec
pratik	entc
aditya	mba

- (vii) Delete a particular course and also delete the corresponding entries from the Enroll and Book_Adoption table.

```
SQL> update book_adoption set course_id=null where course_id=404;
```

1 row updated.

```
SQL> update enroll set course_id=null where course_id=404;
```

1 row updated.

```
SQL> delete from course where course_id=404;
```

1 row deleted.

```
SQL> select * from course;
```

COURSE_ID	CNAME	DEPT
303	bhms	medical
505	entc	electronics
707	mba	management

4. The following tables are maintained by a book dealer.

AUTHOR (author-id:int, name:string, city:string, country:string)

PUBLISHER (publisher-id:int, name:string, city:string, country:string)

CATALOG (book-id:int, title:string, author-id:int, publisher-id:int, category-id:int, year:int, price:int)

CATEGORY (category-id:int, description:string) **ORDER-DETAILS** (order-no:int, book-id:int, quantity:int)

ORDER-DETAILS(order-no:int, book-id:int, quantity:int)

Tasks:

- (i) Create the above tables by properly specifying the primary keys and the foreign keys.
- (ii) Enter at least five tuples for each relation.
- (iii) Give the details of the authors who have 2 or more books in the catalog and the price of the books is greater than the average price of the books in the catalog and the year of publication is after 2000.
- (iv) Find the author of the book which has maximum sales.
- (v) Demonstrate how you increase the price of books published by a specific publisher by 10%.
- (vi) List the Books for which no orders have been placed.
- (vii) Display Book-title, Name of the author, Publisher-Name along with the Year of publication and Price

SCHEMA DIAGRAM:

AUTHOR:

#auth_id	name	city	country
----------	------	------	---------

PUBLISHER:

#Pub_id	name	city	country
---------	------	------	---------

CATEGORY:

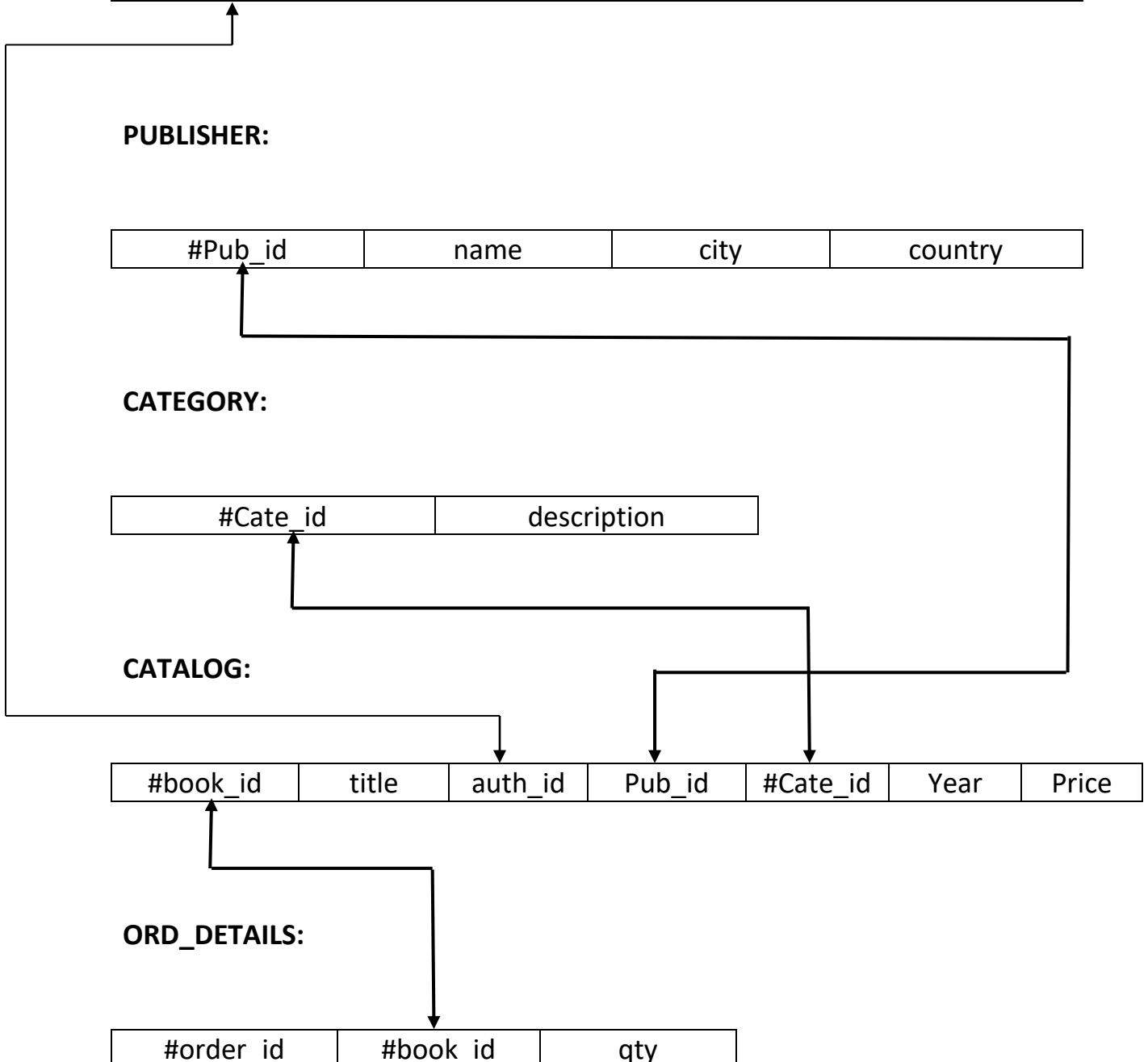
#Cate_id	description
----------	-------------

CATALOG:

#book_id	title	auth_id	Pub_id	#Cate_id	Year	Price
----------	-------	---------	--------	----------	------	-------

ORD_DETAILS:

#order_id	#book_id	qty
-----------	----------	-----



- (i) **Create the above tables by properly specifying the primary keys and the foreign keys.**

```
SQL> create table author(auth_id int primary key not null ,name varchar(20),city  
varchar(20),country varchar(20));
```

Table created.

```
SQL> create table publisher1(pub_id int primary key not null,name varchar(20),city  
varchar(20),country varchar(20));
```

Table created.

```
SQL> create table category1(cate_id int primary key not null,description  
varchar(20));
```

Table created.

```
SQL> create table catalog1(book_id int primary key,title varchar(20),auth_id int  
references author(auth_id),pub_id int references publisher1(pub_id),cate_id int  
references category1(cate_id),year int ,price int);
```

Table created.

```
SQL> create table order_details(order_id int primary key not null,book_id int  
references catalog1(book_id),qty int);
```

Table created.

- (ii) **Enter at least five tuples for each relation.**

```
SQL> desc author;
```

Name	Null?	Type

AUTH_ID	NOT NULL	NUMBER(38)
NAME		VARCHAR2(20)
CITY		VARCHAR2(20)
COUNTRY		VARCHAR2(20)

```
SQL> insert into author values('&auth_id ','&name','&city','&country');
Enter value for auth_id: 45
Enter value for name: pratik
Enter value for city: Kolaphur
Enter value for country: india
old 1: insert into author values('&auth_id ','&name','&city','&country')
new 1: insert into author values('45 ','pratik','Kolaphur','india')
```

1 row created.

```
SQL> /
Enter value for auth_id: 46
Enter value for name: Chetan
Enter value for city: Chikodi
Enter value for country: India
old 1: insert into author values('&auth_id ','&name','&city','&country')
new 1: insert into author values('46 ','Chetan','Chikodi','India')
```

1 row created.

```
SQL> /
Enter value for auth_id: 47
Enter value for name: Bhaubali
Enter value for city: Bhailongal
Enter value for country: india
old 1: insert into author values('&auth_id ','&name','&city','&country')
new 1: insert into author values('47 ','Bhaubali','Bhailongal','india')
```

1 row created.

```
SQL> /
Enter value for auth_id: 48
Enter value for name: Brian Tracy
Enter value for city: boston
Enter value for country: America
old 1: insert into author values('&auth_id ','&name','&city','&country')
new 1: insert into author values('48 ','Brian Tracy','boston','America')
```

1 row created.

```
SQL> /
Enter value for auth_id: 49
Enter value for name: Karan
Enter value for city: newyork
Enter value for country: America
old 1: insert into author values('&auth_id','&name','&city','&country')
new 1: insert into author values('49','Karan','newyork','America')

1 row created.
```

```
SQL> select * from author;
```

AUTH_ID	NAME	CITY	COUNTRY
45	pratik	Kolaphur	india
46	Chetan	Chikodi	India
47	Bhaubali	Bhailongal	india
48	Brian Tracy	boston	America
49	Karan	newyork	America

```
SQL> desc publisher1;
```

Name	Null?	Type
PUB_ID	NOT NULL	NUMBER(38)
NAME		VARCHAR2(20)
CITY		VARCHAR2(20)
COUNTRY		VARCHAR2(20)

```
SQL> insert into publisher1 values('&pub_id','&name','&city','&country');
Enter value for pub_id: 201
Enter value for name: vijay
Enter value for city: maharashtra
Enter value for country: India
old 1: insert into publisher1 values('&pub_id','&name','&city','&country')
new 1: insert into publisher1 values('201','vijay','maharashtra','India')

1 row created.
```

SQL> /

Enter value for pub_id: 202

Enter value for name: Ganesh

Enter value for city: Mysore

Enter value for country: India

old 1: insert into publisher1 values('&pub_id','&name','&city','&country')

new 1: insert into publisher1 values('202','Ganesh','Mysore ','India')

1 row created.

SQL> /

Enter value for pub_id: 203

Enter value for name: Vinay

Enter value for city: Devlapur

Enter value for country: india

old 1: insert into publisher1 values('&pub_id','&name','&city','&country')

new 1: insert into publisher1 values('203','Vinay','Devlapur','india')

1 row created.

SQL> /

Enter value for pub_id: 204

Enter value for name: Tracy

Enter value for city: boston

Enter value for country: America

old 1: insert into publisher1 values('&pub_id','&name','&city','&country')

new 1: insert into publisher1 values('204','Tracy','boston','America')

1 row created.

SQL> /

Enter value for pub_id: 205

Enter value for name: Kundra

Enter value for city: newyork

Enter value for country: America

old 1: insert into publisher1 values('&pub_id','&name','&city','&country')

new 1: insert into publisher1 values('205','Kundra','newyork','America')

1 row created.

SQL> select * from publisher1;

PUB_ID NAME	CITY	COUNTRY

201 vijay	maharashtra	India
202 Ganesh	Mysore	India
203 Vinay	Devlapur	india
204 Tracy	boston	America
205 Kundra	newyork	America

SQL> desc category1;

Name	Null?	Type

CATE_ID	NOT NULL	NUMBER(38)
DESCRIPTON		VARCHAR2(20)

```
SQL> insert into category1 values('&cate_id','&Description');
```

Enter value for cate_id: 301

Enter value for description: Journal

```
old 1: insert into category1 values('&cate_id','&Description')
```

```
new 1: insert into category1 values('301','Journal')
```

1 row created.

```
SQL> /
```

Enter value for cate_id: 302

Enter value for description: Fitness journal

```
old 1: insert into category1 values('&cate_id','&Description')
```

```
new 1: insert into category1 values('302','Fitness journal')
```

1 row created.

```
SQL> /
```

Enter value for cate_id: 303

Enter value for description: Story

```
old 1: insert into category1 values('&cate_id','&Description')
```

```
new 1: insert into category1 values('303','Story')
```

1 row created.

SQL> /

Enter value for cate_id: 304

Enter value for description: Fiction

old 1: insert into category1 values('&cate_id','&Description')

new 1: insert into category1 values('304','Fiction')

1 row created.

SQL> /

Enter value for cate_id: 305

Enter value for description: Non-Fiction

old 1: insert into category1 values('&cate_id','&Description')

new 1: insert into category1 values('305','Non-Fiction')

1 row created.

SQL> select * from category1;

CATE_ID	DESCRIPTION
301	Journal
302	Fitness journal
303	Story
304	Fiction
304	Non-Fiction

SQL> desc catalog1;

Name	Null? Type

BOOK_ID	NOT NULL NUMBER(38)
TITLE	VARCHAR2(20)
AUTH_ID	NUMBER(38)
PUB_ID	NUMBER(38)
CATE_ID	NUMBER(38)
YEAR	NUMBER(38)
PRICE	NUMBER(38)

SQL> insert into catalog1

values('&book_id','&title','&auth_id','&pub_id','&cate_id','&year','&price');

Enter value for book_id: 401

Enter value for title: INDIA 2020

Enter value for auth_id: 45

Enter value for pub_id: 201

Enter value for cate_id: 301

Enter value for year: 2012

Enter value for price: 452

old 1: insert into catalog1

values('&book_id','&title','&auth_id','&pub_id','&cate_id','&year','&price')

new 1: insert into catalog1 values('401','INDIA 2020','45','201','301','2012','452')

1 row created.

SQL> /

Enter value for book_id: 402

Enter value for title: Fitnees Freak

Enter value for auth_id: 46

Enter value for pub_id: 202

Enter value for cate_id: 302

Enter value for year: 2015

Enter value for price: 412

old 1: insert into catalog1

values('&book_id','&title','&auth_id','&pub_id','&cate_id','&year','&price')

new 1: insert into catalog1 values('402','Fitnees Freak','46','202','302','2015','412')

1 row created.

SQL> /

Enter value for book_id: 403

Enter value for title: The old wise Man

Enter value for auth_id: 46

Enter value for pub_id: 203

Enter value for cate_id: 303

Enter value for year: 2016

Enter value for price: 880

old 1: insert into catalog1

values('&book_id','&title','&auth_id','&pub_id','&cate_id','&year','&price')

new 1: insert into catalog1 values('403','The old wise Man','46','203','303','2016','880')

1 row created.

SQL> /

Enter value for book_id: 404

Enter value for title: Being Human

Enter value for auth_id: 46

Enter value for pub_id: 204

Enter value for cate_id: 304

Enter value for year: 2016

Enter value for price: 846

old 1: insert into catalog1

values('&book_id','&title','&auth_id','&pub_id','&cate_id','&year','&price')

new 1: insert into catalog1 values('404','Being Human','46','204','304','2016','846')

1 row created.

SQL> /

Enter value for book_id: 405

Enter value for title: Reality undefined

Enter value for auth_id: 47

Enter value for pub_id: 205

Enter value for cate_id: 305

Enter value for year: 2011

Enter value for price: 135

old 1: insert into catalog1

values('&book_id','&title','&auth_id','&pub_id','&cate_id','&year','&price')

new 1: insert into catalog1 values('405','Reality undefined','47','205','305','2011','135')

1 row created.

SQL> select * from catalog1;

BOOK_ID	TITLE	AUTH_ID	PUB_ID	CATE_ID	YEAR	PRICE
401	INDIA	45	201	301	2012	452
402	Fitnees Freak	46	202	302	2015	412
403	The old wise Man	46	203	303	2016	880
404	Being Human	46	204	304	2016	846
405	Reality undefined	47	205	305	2011	135

SQL> desc order_details;

Name	Null?	Type
ORDER_ID	NOT NULL	NUMBER(38)
BOOK_ID		NUMBER(38)
QTY		NUMBER(38)

SQL> insert into order_details values('&order_id','&book_id','&qty');

Enter value for order_id: 745

Enter value for book_id: 401

Enter value for qty: 124

old 1: insert into order_details values('&order_id','&book_id','&qty')

new 1: insert into order_details values('745','401','124')

1 row created.

SQL> /

Enter value for order_id: 746

Enter value for book_id: 402

Enter value for qty: 144

old 1: insert into order_details values('&order_id','&book_id','&qty')

new 1: insert into order_details values('746','402','144')

1 row created.

SQL> /

Enter value for order_id: 747

Enter value for book_id: 401

Enter value for qty: 125

old 1: insert into order_details values('&order_id','&book_id','&qty')

new 1: insert into order_details values('747','401','125')

1 row created.

SQL> /

Enter value for order_id: 748

Enter value for book_id: 404

Enter value for qty: 128

old 1: insert into order_details values('&order_id','&book_id','&qty')

new 1: insert into order_details values('748','404','128')

1 row created.

SQL> /

Enter value for order_id: 749

Enter value for book_id: 403

Enter value for qty: 15

old 1: insert into order_details values('&order_id','&book_id','&qty')

new 1: insert into order_details values('749','403','15')

1 row created.

SQL> select * from order_details;

ORDER_ID	BOOK_ID	QTY
-----	-----	-----
745	401	124
746	402	144
747	401	125
748	404	128
749	403	15

- (iii) Give the details of the authors who have 2 or more books in the catalog and the price of the books is greater than the average price of the books in the catalog and the year of publication is after 2000.

SQL> select * from author where auth_id in (select auth_id from catalog1 where (year>2000) and (catalog1.price>(select avg(price)from catalog1)))group by auth_id having count(*)>2;

AUTH_ID NAME	CITY	COUNTRY
-----	-----	-----
46 hetan	Chikodi	India

- (iv) Find the author of the book which has maximum sales.

```
SQL> select a.name from author a,catalog1 c,order_details o where  
a.auth_id=c.auth_id and c.book_id=o.book_id and o.qty=(select max(qty) from  
order_details);
```

NAME

Chetan

- (v) Demonstrate how you increase the price of books published by a specific publisher by 10%.

```
SQL> update catalog1 set price=price*1.1 where pub_id=202;
```

1 row updated.

```
SQL> select * from catalog1;
```

BOOK_ID	TITLE	AUTH_ID	PUB_ID	CATE_ID	YEAR	PRICE
-----	-----	-----	-----	-----	-----	-----
401	INDIA 2020	45	201	301	2012	452
402	Fitnees Freak	46	202	302	2015	903
403	The old wise Man	46	203	303	2016	880
404	Being Human	46	204	304	2016	846
405	Reality undefined	47	205	305	2011	135

- (vi) **Display Book-title, Name of the author, Publisher-Name along with the Year of publication and Price**

```
SQL> select a.auth_id,a.name,p.pub_id,p.name,c.book_id,title from author a,publisher1 p, catalog1 c,order_details o where a.auth_id=c.auth_id and p.pub_id=c.pub_id and c.book_id=o.book_id;
```

AUTH_ID	NAME	PUB_ID	NAME	BOOK_ID	TITLE
45	pratik	201	vijay	401	INDIA 2020
46	Chetan	202	Ganesh	402	Fitnees Freak
45	pratik	201	vijay	401	INDIA 2020
46	Chetan	204	Tracy	404	Being Human
46	Chetan	203	Vinay	403	The old wise Man

5. Consider the following database for a banking enterprise

BRANCH(branch-name:string, branch-city:string, assets:real)

ACCOUNT(accno:int, branch-name:string, balance:real)

DEPOSITOR(customer-name:string, accno:int)

CUSTOMER(customer-name:string, customer-street:string, customer-city:string)

LOAN(loan-number:int, branch-name:string, amount:real)

BORROWER(customer-name:string, loan-number:int)

- (i) Create the above tables by properly specifying the primary keys and the foreign keys
- (ii) Enter at least five tuples for each relation
- (iii) Find all the customers who have at least two accounts at the Main branch.
- (iv) Find all the customers who have an account at all the branches located in a specific city.
- (v) Demonstrate how you delete all account tuples at every branch located in a specific city.
- (vi) Display all the accounts in a specific branch along with Customer details.
- (vii) Generate suitable reports.

SCHEMA DIAGRAM:

BRANCH:

#Branch_Name	Branch_City	Assets
--------------	-------------	--------

ACCOUNT:

#Account_no	Branch_Name	Balance
-------------	-------------	---------

CUSTOMER:

#cname	Cstreet	ctreet
--------	---------	--------

DEPOSITOR:

Cname	Account_no
-------	------------

LOAN:

Loan_id	Branch-Name	Amount
---------	-------------	--------

BORROWER:

Cname	Loan_id
-------	---------

(i) **Create the above tables by properly specifying the primary keys and the foreign keys**

```
SQL>create table branch(branch_name varchar(20) primary key not null ,b_city  
varchar(20),assets varchar(20));
```

Table created.

```
SQL>create table customer1(cname varchar(20) primary key not null ,cstreet varchar(20),ccity  
varchar(20));
```

Table created.

```
SQL> create table account(accno int primary key not null,branch_name varchar(20)  
references branch(branch_name),bal float);
```

Table created.

```
SQL> create table cust1(cname varchar(20) primary key not null ,cstreet varchar(  
20),ccity varchar(20));
```

Table created.

```
SQL> create table depositor(cname varchar(20) references cust1(cname),accno int  
references account(accno));
```

Table created.

```
SQL> create table loan(l_id int primary key not null,branch_name varchar(20) ref
```

erences branch(branch_name), amount float);

Table created.

SQL> create table borrower(cname varchar(20) references cust1(cname),l_id int);

Table created.

(ii) Enter at least five tuples for each relation.

SQL> desc branch;

Name	Null?	Type

BRANCH_NAME	NOT NULL	VARCHAR2(10)
B_CITY	NOT NULL	VARCHAR2(10)
ASSETS	NOT NULL	FLOAT(126)

SQL> insert into branch values('&Branch_name','&b_city','&assets');

Enter value for branch_name: SBI Main

Enter value for b_city: Mumbai

Enter value for assets: 4512336

old 1: insert into branch values('&Branch_name','&b_city','&assets')

new 1: insert into branch values('SBI Main','Mumbai','4512336')

1 row created.

SQL> /

Enter value for branch_name: BOI

Enter value for b_city: Bangalore

Enter value for assets: 1397777

old 1: insert into branch values('&Branch_name','&b_city','&assets')

new 1: insert into branch values('BOI','Bangalore','1397777')

1 row created.

SQL> /

Enter value for branch_name: BOI MAIN

Enter value for b_city: Delhi

Enter value for assets: 4512789

old 1: insert into branch values('&Branch_name','&b_city','&assets')

new 1: insert into branch values('BOI MAIN','Delhi','4512789')

1 row created.

SQL> /

Enter value for branch_name: SYNDICATE

Enter value for b_city: Chennai

Enter value for assets: 4512789

old 1: insert into branch values('&Branch_name','&b_city','&assets')

new 1: insert into branch values('SYNDICATE','Chennai','4512789')

1 row created.

SQL> /

Enter value for branch_name: SBI

Enter value for b_city: Mumbai

Enter value for assets: 41253678

old 1: insert into branch values('&Branch_name','&b_city','&assets')

new 1: insert into branch values('SBI','Mumbai','41253678')

1 row created.

SQL> select * from branch;

BRANCH_NAME	B_CITY	ASSETS
-----	-----	-----
SBI Main	Mumbai	4512336
BOI	Banglore	1397777
BOI MAIN	Delhi	4512789
SYNDICATE	Chennai	4512789
SBI	Mumbai	41253678

SQL> desc account;

Name	Null?	Type
-----	-----	-----
ACCNO	NOT NULL	NUMBER(38)
BRANCH_NAME		VARCHAR2(20)
BAL		FLOAT(126)

SQL> insert into account('&accno','&Branch_name','&Bal');

Enter value for accno: 101

Enter value for branch_name: SYNDICATE

Enter value for bal: 412536

old 1: insert into account values('&accno','&Branch_name','&Bal')

new 1: insert into account values('101','SYNDICATE','412536')

1 row created.

SQL> /

Enter value for accno: 102

Enter value for branch_name: SBI

Enter value for bal: 700000

old 1: insert into account values('&accno','&Branch_name','&Bal')

new 1: insert into account values('102','SBI','700000')

1 row created.

SQL> /

Enter value for accno: 103

Enter value for branch_name: BOI

Enter value for bal: 412577

old 1: insert into account values('&accno','&Branch_name','&Bal')

new 1: insert into account values('103','BOI','412577')

1 row created.

SQL> /

Enter value for accno: 104

Enter value for branch_name: BOI MAIN

Enter value for bal: 41277

old 1: insert into account values('&accno','&Branch_name','&Bal')

new 1: insert into account values('104','BOI MAIN','41277')

1 row created.

SQL> /

Enter value for accno: 105

Enter value for branch_name: BOI

Enter value for bal: 451277

old 1: insert into account values('&accno','&Branch_name','&Bal')

new 1: insert into account values('105','BOI','451277')

1 row created.

SQL> select * from account;

ACCNO	BRANCH_NAME	BAL
101	SYNDICATE	412536
102	SBI	700000
103	BOI	412577
104	BOI MAIN	41277
105	BOI	451277

SQL> desc cust1;

Name	Null?	Type
CNAME	NOT NULL	VARCHAR2(20)
CSTREET		VARCHAR2(20)
CCITY		VARCHAR2(20)

SQL> insert into cust1 values('&cname','&cstreet','&ccity');

Enter value for cname: Sushant

Enter value for cstreet: Khira

Enter value for ccity: Bangalore

old 1: insert into cust1 values('&cname','&cstreet','&ccity')

new 1: insert into cust1 values('Sushant','Khira','Bangalore')

1 row created.

SQL> /

Enter value for cname: Anil

Enter value for cstreet: Tara

Enter value for ccity: Mumbai

old 1: insert into cust1 values('&cname','&cstreet','&ccity')

new 1: insert into cust1 values('Anil','Tara','Mumbai')

1 row created.

SQL> /

Enter value for cname: Amit

Enter value for cstreet: Samath

Enter value for ccity: Chennai

old 1: insert into cust1 values('&cname','&cstreet','&ccity')

new 1: insert into cust1 values('Amit','Samath ','Chennai')

1 row created.

SQL> /

Enter value for cname: Akshay

Enter value for cstreet: Vishal

Enter value for ccity: Bangalore

old 1: insert into cust1 values('&cname','&cstreet','&ccity')

new 1: insert into cust1 values('Akshay','Vishal ','Bangalore')

1 row created.

SQL> /

Enter value for cname: Vinay

Enter value for cstreet: Koliwada

Enter value for ccity: Mumbai

old 1: insert into cust1 values('&cname','&cstreet','&ccity')

new 1: insert into cust1 values('Vinay','Koliwada','Mumbai')

1 row created.

SQL> select * from cust1;

CNAME	CSTREET	CCITY
Sushant	Khira	Banglore
Anil	Tara	Mumbai
Amit	Samath	Chennai
Akshay	Vishal	Banglore
Vinay	Koliwada	Mumbai

SQL> desc depositor;

Name	Null?	Type
CNAME		VARCHAR2(20)
ACCNO		NUMBER(38)

```
SQL> insert into depositor values('&Cname','&accno');
```

```
Enter value for cname: Anil
```

```
Enter value for accno: 101
```

```
old 1: insert into depositor values('&Cname','&accno')
```

```
new 1: insert into depositor values('Anil','101')
```

```
1 row created.
```

```
SQL> /
```

```
Enter value for cname: Amit
```

```
Enter value for accno: 102
```

```
old 1: insert into depositor values('&Cname','&accno')
```

```
new 1: insert into depositor values('Amit','102')
```

```
1 row created.
```

```
SQL> /
```

```
Enter value for cname: Akshay
```

```
Enter value for accno: 103
```

```
old 1: insert into depositor values('&Cname','&accno')
```

```
new 1: insert into depositor values(' Akshay ','103')
```

```
1 row created.
```

```
SQL> /
```

```
Enter value for cname: Akshay
```

```
Enter value for accno: 103
```

```
old 1: insert into depositor values('&Cname','&accno')
```

```
new 1: insert into depositor values(' Akshay ','103')
```

1 row created.

SQL> /

Enter value for cname: Amit

Enter value for accno: 105

old 1: insert into depositor values('&Cname','&accno')

new 1: insert into depositor values('Amit','105')

1 row created.

SQL> select * from depositor;

CNAME	ACCNO
-----	-----
Anil	101
Amit	102
Akshay	103
Akshay	103
Amit	105

SQL> desc loan;

Name	Null?	Type
-----	-----	-----
L_ID	NOT NULL	NUMBER(38)
BRANCH_NAME		VARCHAR2(20)
AMOUNT		FLOAT(126)

SQL> insert into loan values('&l_id','&branch_name','&amount');

Enter value for l_id: 401

Enter value for branch_name: SBI

Enter value for amount: 25000

old 1: insert into loan values('&l_id','&branch_name','&amount')

new 1: insert into loan values('401','SBI','25000')

1 row created.

SQL> /

Enter value for l_id: 402

Enter value for branch_name: BOI

Enter value for amount: 45000

old 1: insert into loan values('&l_id','&branch_name','&amount')

new 1: insert into loan values('402','BOI','45000')

1 row created.

SQL> /

Enter value for l_id: 403

Enter value for branch_name: SBI

Enter value for amount: 14000

old 1: insert into loan values('&l_id','&branch_name','&amount')

new 1: insert into loan values('403','SBI','14000')

1 row created.

SQL> /

Enter value for l_id: 404

Enter value for branch_name: BOI

Enter value for amount: 50000

old 1: insert into loan values('&l_id','&branch_name','&amount')

new 1: insert into loan values('404','BOI','50000')

1 row created.

SQL> /

Enter value for l_id: 405

Enter value for branch_name: SYNDICATE

Enter value for amount: 12000

old 1: insert into loan values('&l_id','&branch_name','&amount')

new 1: insert into loan values('405','SYNDICATE','12000')

1 row created.

SQL> select * from Loan;

L_ID	BRANCH_NAME	AMOUNT
-----	-----	-----
401	SBI	25000
402	BOI	45000
403	SBI	14000
404	BOI	50000
405	SYNDICATE	12000

SQL> desc borrower;

Name	Null?	Type
-----	-----	-----
CNAME		VARCHAR2(20)
L_ID		NUMBER(38)

SQL> insert into borrower values('&cname','&l_id');

Enter value for cname: Anil

Enter value for l_id: 401

old 1: insert into borrower values('&cname','&l_id')

new 1: insert into borrower values('Anil','401')

1 row created.

SQL> /

Enter value for cname: Amit

Enter value for l_id: 402

old 1: insert into borrower values('&cname','&l_id')

new 1: insert into borrower values('Amit','402')

1 row created.

SQL> /

Enter value for cname: Vinay

Enter value for l_id: 403

old 1: insert into borrower values('&cname','&l_id')

new 1: insert into borrower values('Vinay','403')

1 row created.

SQL> /

Enter value for cname: Amit

Enter value for l_id: 404

old 1: insert into borrower values('&cname','&l_id')

new 1: insert into borrower values('Amit','404')

1 row created.

SQL> /

Enter value for cname: Anil

Enter value for l_id: 405

old 1: insert into borrower values('&cname','&l_id')

new 1: insert into borrower values('Anil','405')

1 row created.

SQL> select * from borrower;

CNAME	L_ID
-----	-----
Anil	401
Amit	402
Vinay	403
Amit	404
Anil	405

(iii) Find all the customers who have at least two accounts at the Main branch.

SQL> select c.cname from cust1 c, depositor d, account a, branch b where (d.cname=c.cname) and (a.accno=d.accno) and (b.branch_name=a.branch_name) and (b.branch_name like 'BOI') group by c.cname having count(d.accno)>=2;

CNAME

Akshay

(iv) Find all the customers who have an account at all the branches located in a specific city.

SQL> select distinct d.cname from depositor d where accno in (select a.accno from account a where a.branch_name in (select branch_name from branch where b_city='Mumbai'));

CNAME

Amit

(v) Demonstrate how you delete all account tuples at every branch located in a specific city.

```
SQL> delete from depositor where accno in(select accno from account a,branch b where  
a.branch_name=b.branch_name and b_city='Banglore');
```

3 rows deleted.

```
SQL> delete from account where branch_name in(select branch_name from branch whe  
re b_city='Banglore');
```

2 rows deleted.

(vi) Display all the accounts in a specific branch along with Customer details.

```
SQL> select a.accno,c.cname,c.cstreet ,c.ccity from cust1 c,account a,depositor  
d where a.branch_name='SBI' and c.cname=d.cname and d.accno=a.accno;
```

ACCNO	CNAME	CSTREET	CCITY
102	it	Samath	Chennai

(vii) Generate suitable reports.

SQL> select c.cname , d.accno, a.branch_name from account a, cust1 c, depositor
d where d.accno=a.accno and c.cname=d.cname;

CNAME	ACCNO	BRANCH_NAME
-----	-----	-----
Anil	101	SYNDICATE
Amit	102	SBI