1. Insurance database.

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, damage_amount:int)

1) Create the above tables by properly specifying the primary keys and foreign keys.
2) Enter at least five tuples for each relation.
3) Demonstrate updating of data value, insertion of new record.
4) Write queries
a. Find the total number of people who owned cars that were involved in accidents in a specific year.
b. Find the number of accidents in which cars belonging to a specific model were involved.
c. List the details of the cars not involved in accident for a specific year.

PERSON TABLE

```
CREATE TABLE PERSON(
DRIVER_ID       VARCHAR2(10),
NAME            VARCHAR2(10),
ADDRESS         VARCHAR2(50));

ALTER TABLE PERSON ADD CONSTRAINT DRVR_ID_PK PRIMARY
KEY(DRIVER_ID);

INSERT INTO PERSON VALUES( 11 , 'KRISHNAN','GURGOAN');
INSERT INTO PERSON VALUES( 22 , 'NAVATHE','DELHI');
INSERT INTO PERSON VALUES( 33 , 'GERKHE','CALCUTTA');
INSERT INTO PERSON VALUES( 44 , 'ELMARSEE','BANGALORE');
INSERT INTO PERSON VALUES( 55 , 'LEVINTIN','NEWYORK');
```

CAR TABLE

```
CREATE TABLE CAR(
REGNO       VARCHAR2(10),
MODEL       VARCHAR2(10),
YEAR        DATE);

ALTER TABLE CAR ADD CONSTRAINT REGNO_PK PRIMARY KEY(REGNO);
```

```
INSERT INTO CAR VALUES(110,'HONDA',TO_DATE('2002','YYYY'));
INSERT INTO CAR VALUES(112,'LAMBO',TO_DATE('2003','YYYY'));
INSERT INTO CAR VALUES(113,'AUDI',TO_DATE('2004','YYYY'));
INSERT INTO CAR VALUES(114,'MARUTI',TO_DATE('2005','YYYY'));
INSERT INTO CAR VALUES(115,'SUZUKI',TO_DATE('2006','YYYY'));

------------------------
ACCIDENT TABLE
------------------------
CREATE TABLE ACCIDENT(
REPORT_NUMBER          NUMBER(10),
ACCD_DATE              DATE,
LOCATION               VARCHAR2(10));

ALTER TABLE ACCIDENT ADD CONSTRAINT RPT_NO PRIMARY
KEY(REPORT_NUMBER);

INSERT INTO SYSTEM.ACCIDENT VALUES(11,TO_DATE('10-06-2001','DD-MM-
YYYY'),'BELGAVI');
INSERT INTO SYSTEM.ACCIDENT VALUES(12,TO_DATE('12-08-2003','DD-MM-
YYYY'),'BELGAVI');
INSERT INTO SYSTEM.ACCIDENT VALUES(13,TO_DATE('14-10-2015','DD-MM-
YYYY'),'BELGAVI');
INSERT INTO SYSTEM.ACCIDENT VALUES(14,TO_DATE('16-12-2010','DD-MM-
YYYY'),'BELGAVI');
INSERT INTO SYSTEM.ACCIDENT VALUES(15,TO_DATE('18-02-2013','DD-MM-
YYYY'),'BELGAVI');

OWNS TABLE
----------
CREATE TABLE OWNS(
DRIVER_ID          VARCHAR2(10),
REGNO              VARCHAR2(10));

ALTER TABLE OWNS ADD CONSTRAINT FK_DRVR_ID  FOREIGN KEY
(DRIVER_ID) REFERENCES PERSON((DRIVER_ID);

ALTER TABLE OWNS ADD CONSTRAINT FK_REGNO_ID FOREIGN KEY
(REGNO) REFERENCES CAR(REGNO);

INSERT INTO SYSTEM.OWNS VALUES(11,110);
INSERT INTO SYSTEM.OWNS VALUES(22,112);
INSERT INTO SYSTEM.OWNS VALUES(33,113);
INSERT INTO SYSTEM.OWNS VALUES(44,114);
INSERT INTO SYSTEM.OWNS VALUES(55,115);
```

PARTICIPATED TABLE

```
CREATE TABLE PARTICIPATED(
DRIVER_ID           VARCHAR2(10),
REGNO               VARCHAR2(10),
REPORT_NUMBER       NUMBER(10),
DAMAGE_AMOUNT       NUMBER(10));
```

ALTER TABLE PARTICIPATED ADD CONSTRAINT FK_DRVR1_ID FOREIGN KEY (DRIVER_ID) REFERENCES PERSON((DRIVER_ID);

ALTER TABLE PARTICIPATED ADD CONSTRAINT FK_REGNO1_ID FOREIGN KEY (REGNO) REFERENCES CAR(REGNO);

ALTER TABLE PARTICIPATED ADD CONSTRAINT FK_RPTNO_ID FOREIGN KEY REPORT_NUMBER) REFERENCES ACCIDENT(REPORT_NUMBER);

```
INSERT INTO SYSTEM.PARTICIPATED VALUES('11','110',11,5000);
INSERT INTO SYSTEM.PARTICIPATED VALUES('22','112',12,6000);
INSERT INTO SYSTEM.PARTICIPATED VALUES('33','113',13,7000);
INSERT INTO SYSTEM.PARTICIPATED VALUES('44','114',14,8000);
INSERT INTO SYSTEM.PARTICIPATED VALUES('55','115',15,9000);
```

Output

Find The Total Number Of People Who Owned Cars That Were Involved In Accidents In A Specific Year.

```
SQL>
SQL> SELECT COUNT(*) AS TOTAL_NO_OF_PERSON FROM SYSTEM.PERSON P , SYSTEM.ACCIDENT A, SYSTEM.PARTI
CIPATED D WHERE ACCD_DATE LIKE '%03%' AND D.DRIVER_ID=P.DRIVER_ID AND A.REPORT_NUMBER=D.REPORT_NU
MBER;

TOTAL_NO_OF_PERSON
------------------
                 1

SQL>
```

Find the Number of Accidents In Which Cars Belonging To A Specific Model Were Involved.

```
SQL>
SQL> SELECT COUNT(*) FROM SYSTEM.ACCIDENT A, SYSTEM.CAR C, SYSTEM.PARTICIPATED P WHERE MODEL='HON
DA' AND P.REGNO=C.REGNO AND A.REPORT_NUMBER=P.REPORT_NUMBER;

  COUNT(*)
----------
         1

SQL>
```

List the Details of The Cars Not Involved In Accident For A Specific Year.

```
SQL>
SQL> SELECT  A.DRIVER_ID, A.NAME, B.MODEL,B.REGNO FROM SYSTEM.PERSON A, SYSTEM.CAR B WHERE ROWNUM
=1 AND A.DRIVER_ID NOT IN
  2  (SELECT DRIVER_ID FROM SYSTEM.PARTICIPATED C, SYSTEM.ACCIDENT D WHERE C.REPORT_NUMBER=D.REPO
RT_NUMBER);

DRIVER_ID  NAME       MODEL      REGNO
---------- ---------- ---------- ----------
66         JACK       HONDA      110

SQL>
SQL>
```

Demonstrate Updating Of Data Value.

```
SQL> SELECT * FROM SYSTEM.PARTICIPATED;

DRIVER_ID  REGNO      REPORT_NUMBER DAMAGE_AMOUNT
---------- ---------- ------------- -------------
11         110                   11          5000
22         112                   12          6000
33         113                   13          7000
44         114                   14          8000
55         115                   15          9000

SQL> UPDATE SYSTEM.PARTICIPATED SET DAMAGE_AMOUNT=25000 WHERE REGNO=110 AND REPORT_NUMBER=11;

1 row updated.

SQL> COMMIT;

Commit complete.

SQL> SELECT * FROM SYSTEM.PARTICIPATED;

DRIVER_ID  REGNO      REPORT_NUMBER DAMAGE_AMOUNT
---------- ---------- ------------- -------------
11         110                   11         25000
22         112                   12          6000
33         113                   13          7000
44         114                   14          8000
55         115                   15          9000
```

2. Order processing database application in a company.

CUSTOMER(custno:int , cname:string , city:string)
ORDER(orderno:int , odate:date , custno:int , ord_amt:int)
ORDER_ITEM(orderno:int , itemno:int , quantity:int)
ITEM(itemno:int , unitprice:int)
SHIPMENT(orderno:int , warehouseno:int , ship_date:date)
WAREHOUSE(warehouseno:int , city:string)

1) Create the above tables by properly specifying the primary keys and foreign keys.
2) Enter at least five tuples for each relation.
3) Produce a listing: custname , No_of_orders , Avg_order_amount , where the middle column is
the total number of orders by the customer and the last column is the average order amount for
that customer.
4) List the orderno for orders that were shipped from all the warehouses that the company has in a
specific city.
5) Demonstrate the deletion of an item from the ITEM table and demonstrate a method of handling the rows in the ORDER_ITEM table that contains this particular item.

CUSTOMER TABLE

```
--------------------------
CREATE TABLE CUSTOMER(
CUSTNO          NUMBER(20),
CNAME           VARCHAR2(50),
CITY            VARCHAR2(50));

ALTER TABLE CUSTOMER ADD CONSTRAINT CUSTNO_PK PRIMARY
KEY(CUSTNO);

INSERT INTO CUSTOMER VALUES('22','NAVATHE','DELHI');
INSERT INTO CUSTOMER VALUES('11','KRISHNAN','GURGOAN');
INSERT INTO CUSTOMER VALUES('33','GERKHE','CALCUTTA');
INSERT INTO CUSTOMER VALUES('44','ELMARSEE','BANGALORE');
INSERT INTO CUSTOMER VALUES('55','LEVINTIN','NEWYORK');
```

ORDERS TABLE

```
----------------------
CREATE TABLE ORDERS(
ORDERNO         NUMBER(20),
ODATE           DATE,
CUSTNO          NUMBER(20),
ORD_AMT         NUMBER(20));

ALTER TABLE ORDERS ADD CONSTRAINT ORDERNO_PAK PRIMARY
KEY(ORDERNO);

ALTER TABLE ORDERS ADD CONSTRAINT FK_CUSTNO FOREIGN KEY
(CUSTNO) REFERENCES CUSTOMER(CUSTNO);

INSERT INTO ORDERS VALUES(11,TO_DATE('12-12-2002','DD-MM-
YYYY'),'22','2000');
INSERT INTO ORDERS VALUES(12,TO_DATE('12-12-2003','DD-MM-
YYYY'),'11','5000');
INSERT INTO ORDERS VALUES(13,TO_DATE('12-12-2004','DD-MM-
YYYY'),'33','6000');
INSERT INTO ORDERS VALUES(14,TO_DATE('12-12-2005','DD-MM-
YYYY'),'44','7000');
INSERT INTO ORDERS VALUES(15,TO_DATE('12-12-2006','DD-MM-
YYYY'),'55','8500');

ITEM TABLE
-----------------
CREATE TABLE ITEM(
ITEMNO          NUMBER(20),
UNITPRICE       NUMBER(20));ORDERS TABLE
----------------------
CREATE TABLE ORDERS(
ORDERNO         NUMBER(20),
ODATE           DATE,
CUSTNO          NUMBER(20),
ORD_AMT         NUMBER(20));

ALTER TABLE ORDERS ADD CONSTRAINT ORDERNO_PAK PRIMARY
KEY(ORDERNO);

ALTER TABLE ORDERS ADD CONSTRAINT FK_CUSTNO FOREIGN KEY
(CUSTNO) REFERENCES CUSTOMER(CUSTNO);

INSERT INTO ORDERS VALUES(11,TO_DATE('12-12-2002','DD-MM-
YYYY'),'22','2000');
INSERT INTO ORDERS VALUES(12,TO_DATE('12-12-2003','DD-MM-
YYYY'),'11','5000');
INSERT INTO ORDERS VALUES(13,TO_DATE('12-12-2004','DD-MM-
YYYY'),'33','6000');
INSERT INTO ORDERS VALUES(14,TO_DATE('12-12-2005','DD-MM-
YYYY'),'44','7000');
```

```
INSERT INTO ORDERS VALUES(15,TO_DATE('12-12-2006','DD-MM-
YYYY'),'55','8500');
```

ITEM TABLE

```
-----------------
CREATE TABLE ITEM(
ITEMNO              NUMBER(20),
UNITPRICE           NUMBER(20));


ALTER TABLE ITEM ADD CONSTRAINT ITEMNO_PK PRIMARY KEY(ITEMNO);


INSERT INTO ITEM VALUES('456','15000');
INSERT INTO ITEM VALUES('123','20000');
INSERT INTO ITEM VALUES('789','12000');
INSERT INTO ITEM VALUES('654','18000');
INSERT INTO ITEM VALUES('321','25000');
```

ORDERITEM TABLE

```
----------------------------
CREATE TABLE ORDERITEM(
ORDERNO             NUMBER(20),
ITEMNO              NUMBER(20),
QTY                 SNUMBER(20));

ALTER TABLE ORDERITEM ADD CONSTRAINT FK_ORDERNO FOREIGN KEY
(ORDERNO) REFERENCES ORDERS(ORDERNO);

ALTER TABLE ORDERITEM ADD CONSTRAINT FK_ITEMNO FOREIGN KEY
(ITEMNO) REFERENCES ITEM(ITEMNO);

INSERT INTO ORDERITEM VALUES('11','123','2');
INSERT INTO ORDERITEM VALUES('12','456','5');
INSERT INTO ORDERITEM VALUES('13','789','4');
INSERT INTO ORDERITEM VALUES('14','654','1');
INSERT INTO ORDERITEM VALUES('15','321','6');
```

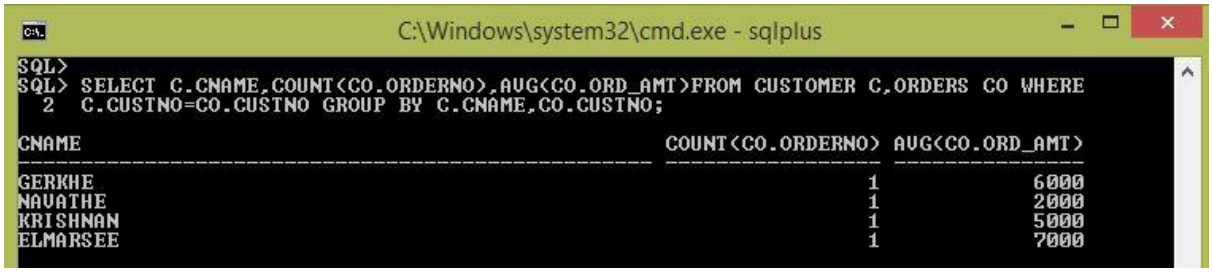
WAREHOUSE TABLE

```
----------------------------
CREATE TABLE WAREHOUSE(
WAREHOUSENO             NUMBER(20),
CITY                    VARCHAR2(50));

ALTER TABLE WAREHOUSE ADD CONSTRAINT WAREHOUSENO_PK PRIMARY
KEY(WAREHOUSENO);

INSERT INTO WAREHOUSE VALUES('01','JENSHEDPUR');
INSERT INTO WAREHOUSE VALUES('02','MUMBAI');
INSERT INTO WAREHOUSE VALUES('03','LAHORE');
```

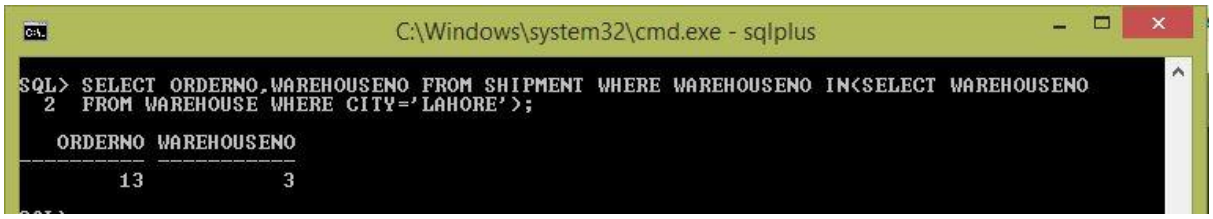
```
INSERT INTO WAREHOUSE VALUES('04','SIDNEY');
INSERT INTO WAREHOUSE VALUES('05','CANADA');

SHIPMENT TABLE
-------------------------
CREATE TABLE SHIPMENT(
ORDERNO          NUMBER(20),
WAREHOUSENO      NUMBER(20),
SHIPDATE         DATE);


ALTER TABLE SHIPMENT ADD CONSTRAINT FAK_ORDERNO FOREIGN KEY
(ORDERNO) REFERENCES ORDERS(ORDERNO);

ALTER TABLE SHIPMENT ADD CONSTRAINT FK_WAREHOUSENO FOREIGN KEY
(WAREHOUSENO) REFERENCES WAREHOUSE(WAREHOUSENO);

INSERT INTO SHIPMENT VALUES('11','01',TO_DATE('15-12-2002','DD-MM-YYYY'));
INSERT INTO SHIPMENT VALUES('12','02',TO_DATE('15-01-2004','DD-MM-YYYY'));
INSERT INTO SHIPMENT VALUES('13','03',TO_DATE('05-02-2005','DD-MM-YYYY'));
INSERT INTO SHIPMENT VALUES('14','04',TO_DATE('12-03-2006','DD-MM-YYYY'));
INSERT INTO SHIPMENT VALUES('15','05',TO_DATE('15-04-2007','DD-MM-YYYY'));
```

Output:

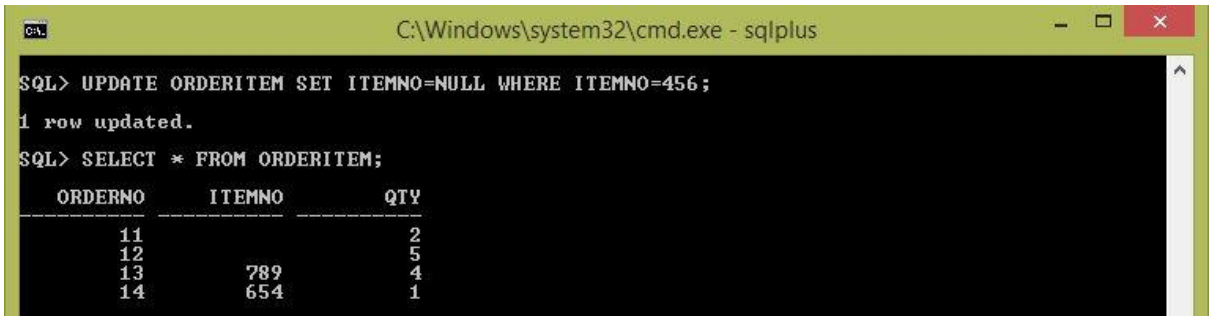
Produce a listing: custname , No_of_orders , Avg_order_amount , where the middle column is the total number of orders by the customer and the last column is the average order amount for that customer.



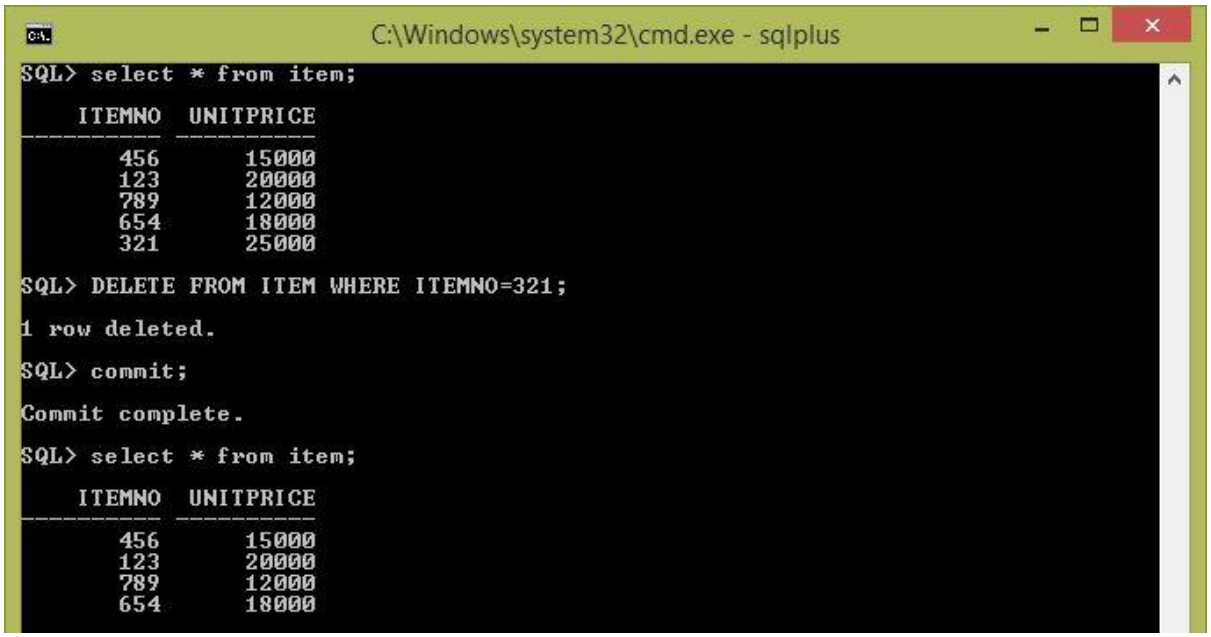
List the orderno for orders that were shipped from all the warehouses that the company has in a specific city.



List the orderno for orders that were shipped from all the warehouses that the company has in a specific city.



Demonstrate the deletion of an item from the ITEM table and demonstrate a method of handling the rows in the ORDER_ITEM table that contains this particular item.



3. Book dealer information database.
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)

1) Create the above tables by properly specifying the primary keys and foreign keys.
2) Enter at least five tuples for each relation.
3) 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.
4) Find the author of the book that has maximum sales.
5) Demonstrate how you increase the price of books published by a specific publisher by 10%

AUTHOR TABLE

```
CREATE TABLE AUTHOR(
AUTHORID        NUMBER(10),
NAME            VARCHAR2(12),
CITY            VARCHAR2(20),
COUNTRY         VARCHAR2(12));

ALTER TABLE AUTHOR ADD CONSTRAINT AUTHORID_PK PRIMARY KEY(AUTHORID);

INSERT INTO AUTHOR VALUES('11','KRISHNAN','GURGOAN','INDIA');
INSERT INTO AUTHOR VALUES('22','NAVATHE','DELHI','INDIA');
INSERT INTO AUTHOR VALUES('33','GERKHE','CALCUTTA','INDIA');
INSERT INTO AUTHOR VALUES('44','ELMARSEE','BANGALORE','INDIA');
INSERT INTO AUTHOR VALUES('55','LEVINTIN','NEWYORK','US');
```

PUBLISHER TABLE

```
CREATE TABLE PUBLISHER(
PUBLISHERID     NUMBER(5),
NAME            VARCHAR2(12),
CITY            VARCHAR2(20),
COUNTRY         VARCHAR2(12));
```

ALTER TABLE PUBLISHER ADD CONSTRAINT PUBLISHERID_PK PRIMARY KEY(PUBLISHERID);

INSERT INTO PUBLISHER VALUES('110','PEARSON','MUMBAI','INDIA');
INSERT INTO PUBLISHER VALUES('120','WILEY','LAHORE','PAKISTAN');
INSERT INTO PUBLISHER VALUES('130','PRENTICE','SIDNEY','AUSTRALIA');
INSERT INTO PUBLISHER VALUES('140','TATA','JENSHEDPUR','INDIA');
INSERT INTO PUBLISHER VALUES('150','MCGRAW','CANADA','US');

CATEGORY TABLE

CREATE TABLE CATEGORY(
CATEGORYID NUMBER(6),
DECRIPTION sVARCHAR2(12));

ALTER TABLE CATEGORY ADD CONSTRAINT CATEGORYID_PK PRIMARY KEY(CATEGORYID);

INSERT INTO CATEGORY VALUES('201','WEB PROG');
INSERT INTO CATEGORY VALUES('202','DATABASE');
INSERT INTO CATEGORY VALUES('203','UNIX');
INSERT INTO CATEGORY VALUES('204','DESIGN');
INSERT INTO CATEGORY VALUES('205','SOFTWARE');

CATLOG TABLE

CREATE TABLE CATLOG(
CBOOKID NUMBER(5),
TITLE VARCHAR2(12),
AUTHORID NUMBER(6),
PUBLISHERID NUMBER(5),
CATEGORYID NUMBER(6),
YEAR NUMBER(5),
PRICE NUMBER(6,2));

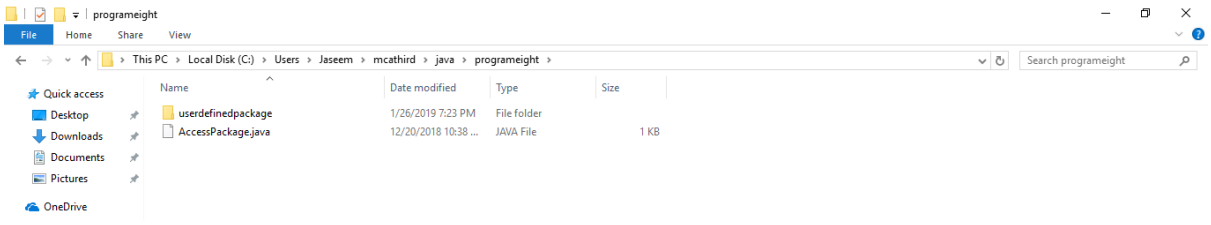
ALTER TABLE CATLOG ADD CONSTRAINT CBOOKID_PK PRIMARY KEY(CBOOKID);

ALTER TABLE CATLOG ADD CONSTRAINT FK_AUTHORID FOREIGN KEY (AUTHORID) REFERENCES AUTHOR(AUTHORID);

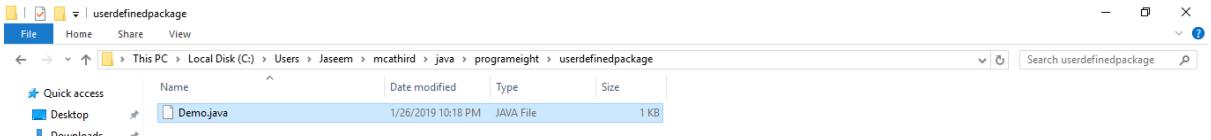
ALTER TABLE CATLOG ADD CONSTRAINT FK_PUBLISHERID FOREIGN KEY (PUBLISHERID) REFERENCES PUBLISHER(PUBLISHERID);

ALTER TABLE CATLOG ADD CONSTRAINT FK_CATEGORYID FOREIGN KEY (CATEGORYID) REFERENCES CATEGORY(CATEGORYID);

8. Write a program to demonstrate use of user defined package by importing the package and access the member variable of classes contained in the package.



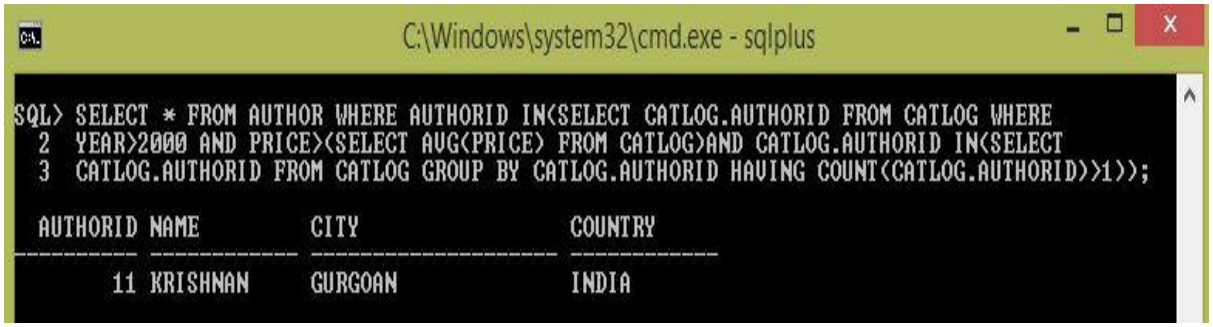
Create a folder “userdefinedpackage” and inside it create a java file “Demo.java” & compile.



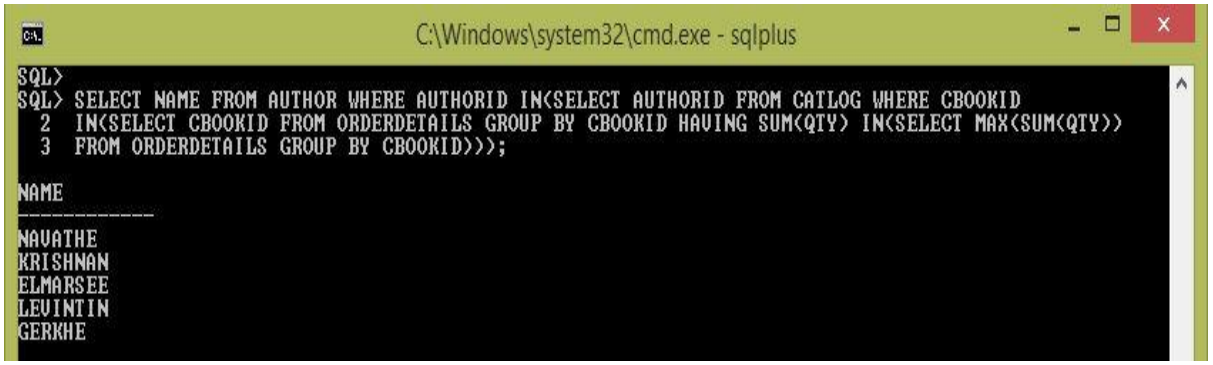

```
INSERT INTO CATLOG VALUES('101','INTRO_DBMS','22','110','202','2000','375.5');
INSERT INTO CATLOG VALUES('102','DBMS','11','120','202','2002','495');
INSERT INTO CATLOG VALUES('104','ADA','55','140','204','2003','275.75');
INSERT INTO CATLOG VALUES('105','SE','44','150','205','2003','400');
INSERT INTO CATLOG VALUES('106','UNIX','11','110','203','1999','450');
INSERT INTO CATLOG VALUES('107','CPROG','11','140','205','2001','425');

ORDERDETAILS  TABLE
-------------------------------
CREATE TABLE ORDERDETAILS(
ORDERNO          NUMBER(5),
BOOKID           NUMBER(5),
QTY              NUMBER(4));

ALTER TABLE ORDERDETAILS ADD CONSTRAINT ORDERNO_PK PRIMARY KEY(ORDERNO);

ALTER TABLE ORDERDETAILS ADD CONSTRAINT FK_BOOKID FOREIGN KEY (BOOKID) REFERENCES CATLOG(CBOOKID);

INSERT INTO ORDERDETAILS VALUES('1111','101','25');
INSERT INTO ORDERDETAILS VALUES('1112','102','15');
INSERT INTO ORDERDETAILS VALUES('1113','102','15');
INSERT INTO ORDERDETAILS VALUES('1114','104','30');
INSERT INTO ORDERDETAILS VALUES('1115','105','20');
```

Output:

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.



Find the author of the book that has maximum sales.



Demonstrate how you increase the price of books published by a specific publisher by 10%