**customer (cust\_ID, cust\_name)**

**item (item ID, item\_name, price)**

**bill (bill\_no, bill\_date, cust ID, item\_ID, qty\_sold, bill\_amt)**

**a) Create the tables and enter at least 5 sets of records in each table created that will help in retrieving data from your database.**

**b) Write optimized queries for the following. No duplicates should be printed in any of the answers.**

**Output should display at least one record set.**

**1. List the details of the customers who bought "ice-cream" but not "cold drinks".**

**2. Print the total bill amount for everyday of the week starting on 11/04/16 and ending on 16/04/16, for items whose names start with 'S'.**

**3. For every item sold to "Alice", find the total quantity sold.**

**4. Find the number of customers who have purchased an item that is costlier than the costliest item purchased by "Bob".**

CREATE TABLE customer (

cust\_ID NUMBER PRIMARY KEY,

cust\_name VARCHAR2(100)

);

INSERT INTO customer VALUES (1 ,’John’);

INSERT INTO customer VALUES (2 ,’Dan’);

INSERT INTO customer VALUES (3 ,’Rohan’);

INSERT INTO customer VALUES (4 ,’Rohit’);

INSERT INTO customer VALUES (5 ,’Alice’);

INSERT INTO customer VALUES (6 ,’Bob’);

CREATE TABLE item (

item\_ID NUMBER PRIMARY KEY,

item\_name VARCHAR2(100),

price NUMBER

);

INSERT INTO item VALUES (101 ,’ice-cream’,100);

INSERT INTO item VALUES (102 ,’cold drinks’,120);

INSERT INTO item VALUES (103 ,’Soap’,30);

INSERT INTO item VALUES (104 ,’Salt’,40);

INSERT INTO item VALUES (105 ,’Oil’,50);

INSERT INTO item VALUES (106 ,’egg’,10);

CREATE TABLE bill (

bill\_no NUMBER PRIMARY KEY,

bill\_date DATE,

cust\_ID NUMBER REFERENCES customer(cust\_ID) ON DELETE CASCADE,

item\_ID NUMBER REFERENCES item(item\_ID) ON DELETE CASCADE,

qty\_sold NUMBER,

bill\_amt NUMBER

);

INSERT INTO bill VALUES (1001 , TO\_DATE(’2016-04-11’,’YYYY-MM-DD’) , 1 , 101 , 2 , 200);

INSERT INTO bill VALUES (1002 , TO\_DATE(’2016-04-12’,’YYYY-MM-DD’) , 1 , 102 , 1 , 120);

INSERT INTO bill VALUES (1003 , TO\_DATE(’2016-04-13’,’YYYY-MM-DD’) , 2 , 101 , 1 , 100);

INSERT INTO bill VALUES (1004 , TO\_DATE(’2016-04-14’,’YYYY-MM-DD’) , 3 , 103 , 4 , 120);

INSERT INTO bill VALUES (1005 , TO\_DATE(’2016-04-15’,’YYYY-MM-DD’) , 4 , 104 , 2 , 80);

INSERT INTO bill VALUES (1006 , TO\_DATE(’2016-04-16’,’YYYY-MM-DD’) , 5 , 105 , 1 , 50);

INSERT INTO bill VALUES (1007 , TO\_DATE(’2016-04-17’,’YYYY-MM-DD’) , 5 , 104 , 3 , 120);

INSERT INTO bill VALUES (1008 , TO\_DATE(’2016-04-18’,’YYYY-MM-DD’) , 6 , 105 , 1 , 50);

INSERT INTO bill VALUES (1009 , TO\_DATE(’2016-04-19’,’YYYY-MM-DD’) , 6 , 106 , 2 , 20);

Q1: List the details of the customers who bought "ice-cream" but not "cold drinks".

SELECT C.cust\_ID , C.cust\_name FROM customer C JOIN bill B ON C.cust\_ID = B.cust\_ID

JOIN item I ON B.item\_ID = I.item\_ID WHERE I.item\_name =’ice-cream’ AND C.cust\_ID NOT IN (

SELECT C.cust\_ID FROM customer C JOIN bill B ON C.cust\_ID = B.cust\_ID

JOIN item I ON B.item\_ID = I.item\_ID WHERE I.item\_name =’cold drinks’

);

Q2: Print the total bill amount for everyday of the week starting on 11/04/16 and ending on 16/04/16, for items whose names start with 'S'.

SELECT B.bill\_date , sum(bill\_amt) FROM bill B JOIN item I ON

B.item\_ID = I.item\_ID WHERE I.item\_name LIKE ’S%’

AND B.bill\_date BETWEEN TO\_DATE(’2016-04-11’,’YYYY-MM-DD’) AND TO\_DATE(’2016-04-16’,’YYYY-MM-DD’)

GROUP BY B.bill\_date

ORDER BY B.bill\_date;

;

Q3: For every item sold to "Alice", find the total quantity sold.

SELECT I.item\_name , sum(B.qty\_sold) AS TOTAL\_QTY\_SOLD FROM bill B JOIN customer C ON B.cust\_ID = C.cust\_ID JOIN item I ON B.item\_ID = I.item\_ID

WHERE C.cust\_name =’Alice’

GROUP BY I.item\_name;

Q4: Find the number of customers who have purchased an item that is costlier than the costliest item purchased by "Bob".

SELECT count(DISTINCT B.cust\_ID) AS COUNTCUST FROM bill B JOIN customer C ON

B.cust\_ID = C.cust\_ID JOIN item I ON B.item\_ID = I.item\_ID

WHERE I.price > (SELECT max(price) from bill b JOIN customer c ON

b.cust\_ID = c.cust\_ID JOIN item i ON b.item\_ID = i.item\_ID

WHERE c.cust\_name =’Bob’ );