Name: Saida Iman

ID: 1931165642

Table CREATE:

CREATE TABLE Publisher(

    Name VARCHAR(25) PRIMARY KEY,

    Phone\_no VARCHAR(50),

    Address VARCHAR(50));

CREATE TABLE Book(

    Book\_id INTEGER PRIMARY KEY,

    Title VARCHAR(50),

    Pub\_Year VARCHAR(20),

    Pub\_Name VARCHAR(20),

    FOREIGN KEY (Pub\_Name) REFERENCES Publisher(Name) ON DELETE CASCADE);

CREATE Table Book\_Authors(

    Author\_Name VARCHAR(25),

    Book\_id INTEGER,

    FOREIGN KEY(Book\_id) REFERENCES Book(Book\_id)ON DELETE CASCADE,

    PRIMARY KEY(Book\_id,Author\_Name));

CREATE TABLE Library\_Branch (

   Branch\_id INTEGER PRIMARY KEY,

   Address VARCHAR (50),

   Branch\_name VARCHAR (50));

CREATE TABLE Book\_Copies (

   No\_of\_Copies INTEGER,

   Book\_id INTEGER,

   Branch\_id INTEGER,

   FOREIGN KEY(BOOK\_id)  REFERENCES Book (BOOK\_id) ON DELETE CASCADE,

   FOREIGN KEY(Branch\_id) REFERENCES Library\_Branch (Branch\_id) ON DELETE CASCADE,

   PRIMARY KEY (Book\_id, Branch\_id));

CREATE TABLE Card(

    Card\_No INTEGER PRIMARY KEY);

CREATE TABLE Book\_Lending(

    Due\_date DATE,

    Date\_out DATE,

    Book\_id INTEGER,

    Branch\_id INTEGER,

    Card\_No INTEGER,

    FOREIGN KEY(Book\_id) REFERENCES Book (Book\_id) ON DELETE CASCADE,

    FOREIGN KEY (Branch\_id) REFERENCES Library\_Branch (Branch\_id) ON DELETE CASCADE,

    FOREIGN KEY (Card\_No) REFERENCES Card (Card\_No) ON DELETE CASCADE,

    PRIMARY KEY (Book\_id,Branch\_id , Card\_No));

Data INSERTION:

 INSERT INTO Publisher VALUES

  ("MCGRAW-HILL", 9989076587, "BANGALORE"),

  ("PEARSON", 9889076565, "NEWDELHI"),

  ("RANDOM HOUSE", 7455679345, "HYDRABAD"),

  ("HACHETTE LIVRE", 8970862340, "CHENAI"),

  ("GRUPO PLANETA", 7756120238, "BANGALORE");

INSERT INTO BOOK VALUES

(1,"DBMS","JAN-2017", "MCGRAW-HILL"),

(2,"ADBMS","JUN-2016", "MCGRAW-HILL"),

(3,"CN","SEP-2016", "PEARSON"),

(4,"CG","SEP-2015", "GRUPO PLANETA"),

(5,"OS","MAY-2016", "PEARSON");

INSERT INTO BOOK\_AUTHORS VALUES

("NAVATHE", 1),

("NAVATHE", 2),

("TANENBAUM", 3),

("EDWARD ANGEL", 4),

("GALVIN", 5)

INSERT INTO LIBRARY\_BRANCH VALUES

(10,"RR NAGAR","BANGALORE"),

(11,"RNSIT","BANGALORE"),

(12,"RAJAJI NAGAR", "BANGALORE"),

(13,"NITTE","MANGALORE"),

(14,"MANIPAL","UDUPI");

INSERT INTO BOOK\_COPIES VALUES

(10, 1, 10),

 (5, 1, 11),

(2, 2, 12),

(5, 2, 13),

(7, 3, 14),

(1, 5, 10),

(3, 4, 11);

INSERT INTO CARD VALUES

(100),

(101),

(102),

(103),

(104);

INSERT INTO BOOK\_LENDING VALUES

("17-01-01,"17-06-01", 1, 10, 101),

("17-01-11","17-03-11", 3, 14, 101),

("17-02-21","17-04-21", 2, 13, 101),

("17-03-15","17-01-15", 4, 11, 101),

 ("17-04-12","17-05-12", 1, 11, 104)

Solution for 1:

SELECT b.BOOK\_ID, b.TITLE, b.Pub\_Name, a.AUTHOR\_NAME

FROM BOOK b, BOOK\_AUTHORS a

WHERE b.BOOK\_ID= a.BOOK\_ID

Solution for 2:

SELECT CARD\_NO FROM BOOK\_LENDING WHERE DATE\_OUT BETWEEN '2017-01-01' AND '2017-07-01' GROUP BY CARD\_NO HAVING COUNT(CARD\_NO)> 3;

Solution for 3:

SELECT b.BOOK\_ID "id",b.TITLE "title",b.Pub\_Name "name of publisher", a.AUTHOR\_NAME "author"

FROM book b JOIN book\_copies c ON (b.BOOK\_ID=c.BOOK\_ID) INNER JOIN library\_branch lb ON (lb.BRANCH\_ID=c.BRANCH\_ID) INNER JOIN book\_authors a ON (b.BOOK\_ID=a.BOOK\_ID)

WHERE c.NO\_OF\_COPIES=1

Solution for 4:

SELECT b.BRANCH\_ID, e.BOOK\_ID, e.TITLE, e.Pub\_Name, f.AUTHOR\_NAME FROM book\_authors f, book e, book\_copies b

WHERE b.BOOK\_ID=e.BOOK\_ID

AND f.BOOK\_ID=e.BOOK\_ID

AND e.TITLE LIKE 'A%'

AND b.NO\_OF\_COPIES='2'

Solution for 5:

SELECT b.BRANCH\_ID, e.BOOK\_ID, e.TITLE, e.Pub\_Name, f.AUTHOR\_NAME FROM book\_authors f, book e, book\_lending b

WHERE b.BOOK\_ID=e.BOOK\_ID

AND f.BOOK\_ID=e.BOOK\_ID

Solution for 6:

UPDATE book SET TITLE='Database Management' WHERE TITLE='DBMS';

Solution for 7:

DELETE FROM book WHERE BOOK\_ID='5';

Solution for 8:

CREATE VIEW BOOKS AS SELECT a.BOOK\_ID, a.TITLE, b.NO\_OF\_COPIES FROM BOOK a, BOOK\_COPIES b, LIBRARY\_BRANCH c

WHERE a.BOOK\_ID=b.BOOK\_ID

AND b.BRANCH\_ID=c.BRANCH\_ID;