CREATE TABLE BOOK (

Book\_id INT PRIMARY KEY,

Title VARCHAR(100),

Publisher\_Name VARCHAR(100),

Pub\_Year INT

);

CREATE TABLE BOOK\_AUTHORS (

Book\_id INT,

Author\_Name VARCHAR(100),

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

);

CREATE TABLE PUBLISHER (

Name VARCHAR(100) PRIMARY KEY,

Address VARCHAR(255),

Phone VARCHAR(15)

);

CREATE TABLE BOOK\_COPIES (

Book\_id INT,

Programme\_id INT,

No\_of\_Copies INT,

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

);

CREATE TABLE LIBRARY\_PROGRAMME (

Programme\_id INT PRIMARY KEY,

Programme\_Name VARCHAR(100),

Address VARCHAR(255)

);

CREATE TABLE BOOK\_LENDING (

Book\_id INT,

Programme\_id INT,

Card\_No INT,

Date\_Out DATE,

Due\_Date DATE,

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

FOREIGN KEY (Programme\_id) REFERENCES LIBRARY\_PROGRAMME(Programme\_id)

);

INSERT INTO BOOK (Book\_id, Title, Publisher\_Name, Pub\_Year) VALUES

(1, 'Database Systems', 'Pearson', 2015),

(2, 'Operating Systems', 'McGraw-Hill', 2017),

(3, 'Computer Networks', 'Pearson', 2016);

INSERT INTO BOOK\_AUTHORS (Book\_id, Author\_Name) VALUES

(1, 'Raghu Ramakrishnan'),

(2, 'Abraham Silberschatz'),

(3, 'Andrew Tanenbaum');

INSERT INTO PUBLISHER (Name, Address, Phone) VALUES

('Pearson', 'New York, USA', '1234567890'),

('McGraw-Hill', 'Chicago, USA', '0987654321');

INSERT INTO LIBRARY\_PROGRAMME (Programme\_id, Programme\_Name, Address) VALUES

(101, 'B.Tech CSE', 'Block A'),

(102, 'B.Tech IT', 'Block B');

INSERT INTO BOOK\_COPIES (Book\_id, Programme\_id, No\_of\_Copies) VALUES

(1, 101, 4),

(1, 102, 2),

(2, 101, 3),

(3, 102, 5);

INSERT INTO BOOK\_LENDING (Book\_id, Programme\_id, Card\_No, Date\_Out, Due\_Date) VALUES

(1, 101, 201, '2017-01-10', '2017-01-20'),

(2, 101, 201, '2017-02-15', '2017-02-25'),

(3, 102, 202, '2017-03-10', '2017-03-20'),

(1, 101, 201, '2017-04-05', '2017-04-15'),

(2, 101, 201, '2017-05-01', '2017-05-10');

SELECT

b.Book\_id,

b.Title,

b.Publisher\_Name,

ba.Author\_Name,

bc.Programme\_id,

bc.No\_of\_Copies

FROM

BOOK b

JOIN

BOOK\_AUTHORS ba ON b.Book\_id = ba.Book\_id

JOIN

BOOK\_COPIES bc ON b.Book\_id = bc.Book\_id;

SELECT

Card\_No,

COUNT(\*) AS Books\_Borrowed

FROM

BOOK\_LENDING

WHERE

Date\_Out BETWEEN '2017-01-01' AND '2017-06-30'

GROUP BY

Card\_No

HAVING

COUNT(\*) > 3;

DELETE FROM BOOK\_AUTHORS WHERE Book\_id = 2;

DELETE FROM BOOK\_COPIES WHERE Book\_id = 2;

DELETE FROM BOOK\_LENDING WHERE Book\_id = 2;

DELETE FROM BOOK WHERE Book\_id = 2;

SELECT \* FROM BOOK;

CREATE TABLE BOOK\_PARTITIONED (

Book\_id INT,

Title VARCHAR(100),

Publisher\_Name VARCHAR(100),

Pub\_Year INT,

PRIMARY KEY (Book\_id, Pub\_Year)

)

PARTITION BY RANGE (Pub\_Year) (

PARTITION p0 VALUES LESS THAN (2010),

PARTITION p1 VALUES LESS THAN (2015),

PARTITION p2 VALUES LESS THAN (2020),

PARTITION p3 VALUES LESS THAN MAXVALUE

);

INSERT INTO BOOK\_PARTITIONED VALUES

(1, 'Database Systems', 'Pearson', 2015),

(2, 'Operating Systems', 'McGraw-Hill', 2017),

(3, 'Computer Networks', 'Pearson', 2016),

(4, 'Data Structures', 'McGraw-Hill', 2009);

SELECT \* FROM BOOK\_PARTITIONED WHERE Pub\_Year BETWEEN 2015 AND 2020;