**Table Creation :**

CREATE TABLE PUBLISHER

(NAME VARCHAR2 (20) PRIMARY KEY,

PHONE INTEGER,

ADDRESS VARCHAR2 (20));

CREATE TABLE BOOK(BOOK\_ID INTEGER PRIMARY KEY,

TITLE VARCHAR2 (20),

PUB\_YEAR VARCHAR2 (20),

PUBLISHER\_NAME REFERENCES PUBLISHER (NAME) ON DELETE CASCADE);

CREATE TABLE BOOK\_AUTHORS

(AUTHOR\_NAME VARCHAR2 (20),

BOOK\_ID REFERENCES BOOK (BOOK\_ID) ON DELETE CASCADE,

PRIMARY KEY (BOOK\_ID, AUTHOR\_NAME));

CREATE TABLE LIBRARY\_BRANCH

(BRANCH\_ID INTEGER PRIMARY KEY,

BRANCH\_NAME VARCHAR2 (50),

ADDRESS VARCHAR2 (50));

CREATE TABLE BOOK\_COPIES

(NO\_OF\_COPIES INTEGER,BOOK\_ID REFERENCES BOOK (BOOK\_ID) ON DELETE CASCADE,

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

(DATE\_OUT DATE,DUE\_DATE DATE,BOOK\_ID REFERENCES BOOK (BOOK\_ID) ON DELETE CASCADE,

BRANCH\_ID REFERENCES LIBRARY\_BRANCH (BRANCH\_ID) ON DELETE CASCADE,

CARD\_NO REFERENCES CARD (CARD\_NO) ON DELETE CASCADE,

PRIMARY KEY (BOOK\_ID, BRANCH\_ID, CARD\_NO)

**Insertion of Values to Tables :**

INSERT INTO PUBLISHER VALUES ( ̳MCGRAW-HILL‘, 9989076587, ̳BANGALORE‘);

INSERT INTO PUBLISHER VALUES ( ̳PEARSON‘, 9889076565, ̳NEWDELHI‘);

INSERT INTO PUBLISHER VALUES ( ̳RANDOM HOUSE‘, 7455679345, ̳HYDRABAD‘);

INSERT INTO PUBLISHER VALUES ( ̳HACHETTE LIVRE‘, 8970862340, ̳CHENAI‘);

INSERT INTO PUBLISHER VALUES ( ̳GRUPO PLANETA‘, 7756120238, ̳BANGALORE‘);

INSERT INTO BOOK VALUES (1,‘DBMS‘,‘JAN-2017‘, ̳MCGRAW-HILL‘);

INSERT INTO BOOK VALUES (2,‘ADBMS‘,‘JUN-2016‘, ̳MCGRAW-HILL‘);

INSERT INTO BOOK VALUES (3,‘CN‘,‘SEP-2016‘, ̳PEARSON‘);

INSERT INTO BOOK VALUES (4,‘CG‘,‘SEP-2015‘, ̳GRUPO PLANETA‘);

INSERT INTO BOOK VALUES (5,‘OS‘,‘MAY-2016‘, ̳PEARSON‘);

INSERT INTO BOOK\_AUTHORS VALUES (‘NAVATHE‘, 1);

INSERT INTO BOOK\_AUTHORS VALUES (‘NAVATHE‘, 2);

INSERT INTO BOOK\_AUTHORS VALUES (‘TANENBAUM‘, 3);

INSERT INTO BOOK\_AUTHORS VALUES (‘EDWARD ANGEL‘, 4);

INSERT INTO BOOK\_AUTHORS VALUES (‘GALVIN‘, 5);

INSERT INTO LIBRARY\_BRANCH VALUES (10,‘RR NAGAR‘,‘BANGALORE‘);

INSERT INTO LIBRARY\_BRANCH VALUES (11,‘RNSIT‘,‘BANGALORE‘);

INSERT INTO LIBRARY\_BRANCH VALUES (12,‘RAJAJI NAGAR‘, ‘BANGALORE‘);

INSERT INTO LIBRARY\_BRANCH VALUES (13,‘NITTE‘,‘MANGALORE‘);

INSERT INTO LIBRARY\_BRANCH VALUES (14,‘MANIPAL‘,‘UDUPI‘);

INSERT INTO BOOK\_COPIES VALUES (10, 1, 10);

INSERT INTO BOOK\_COPIES VALUES (5, 1, 11);

INSERT INTO BOOK\_COPIES VALUES (2, 2, 12);

INSERT INTO BOOK\_COPIES VALUES (5, 2, 13);

INSERT INTO BOOK\_COPIES VALUES (7, 3, 14);

INSERT INTO BOOK\_COPIES VALUES (1, 5, 10);

INSERT INTO BOOK\_COPIES VALUES (3, 4, 11);

INSERT INTO CARD VALUES (100);

INSERT INTO CARD VALUES (101);

INSERT INTO CARD VALUES (102);

INSERT INTO CARD VALUES (103);

INSERT INTO CARD VALUES (104);

INSERT INTO BOOK\_LENDING VALUES (‘01-JAN-17‘,‘01-JUN-17‘, 1, 10, 101);

INSERT INTO BOOK\_LENDING VALUES (‘11-JAN-17‘,‘11-MAR-17‘, 3, 14, 101);

INSERT INTO BOOK\_LENDING VALUES (‘21-FEB-17‘,‘21-APR-17‘, 2, 13, 101);

INSERT INTOBOOK\_LENDING VALUES (‘15-MAR-17‘,‘15-JUL-17‘, 4, 11, 101);

INSERT INTO BOOK\_LENDING VALUES ( ̳12-APR-17‘,‘12-MAY-17‘, 1, 11, 104);

**Queries:**

1. **Retrieve details of all books in the library –id, title, name of publisher, authors, number of copies in each branch, etc.**

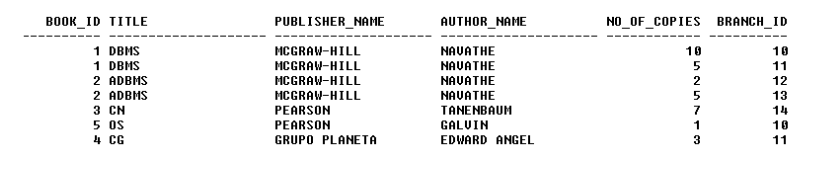
SELECT B.BOOK\_ID, B.TITLE, B.PUBLISHER\_NAME, A.AUTHOR\_NAME, C.NO\_OF\_COPIES, L.BRANCH\_ID

FROM BOOK B, BOOK\_AUTHORS A, BOOK\_COPIES C, LIBRARY\_BRANCH L

WHERE B.BOOK\_ID=A.BOOK\_ID

AND B.BOOK\_ID=C.BOOK\_ID

AND L.BRANCH\_ID=C.BRANCH\_ID;



1. **Get the particulars of borrowers who have borrowed more than 3 books,but from Jan 2017 to Jun 2017.**

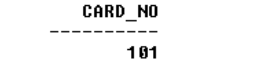
SELECT CARD\_NO

FROM BOOK\_LENDING

WHERE DATE\_OUT BETWEEN ‘01-JAN-2017‘ AND ‘01-JUL-2017‘

GROUP BY CARD\_NO

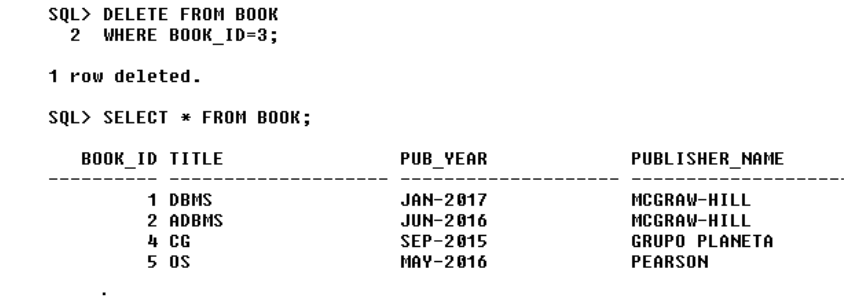
HAVING COUNT (\*)>3;



1. **Delete a book in BOOK table. Update the contents of other tables to reflect this data manipulation operation.**

DELETE FROM BOOK

WHERE BOOK\_ID=3;



1. **list the publisher of book with author “ABC” and “PQR”**.

SELECT PUBLISHER\_NAME

FROM BOOK,

BOOK\_AUTHORS

WHERE

AUTHOR\_NAME=’PQR’ AND

AUTHOR\_NAME=’ABC’