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SQL DDL DML

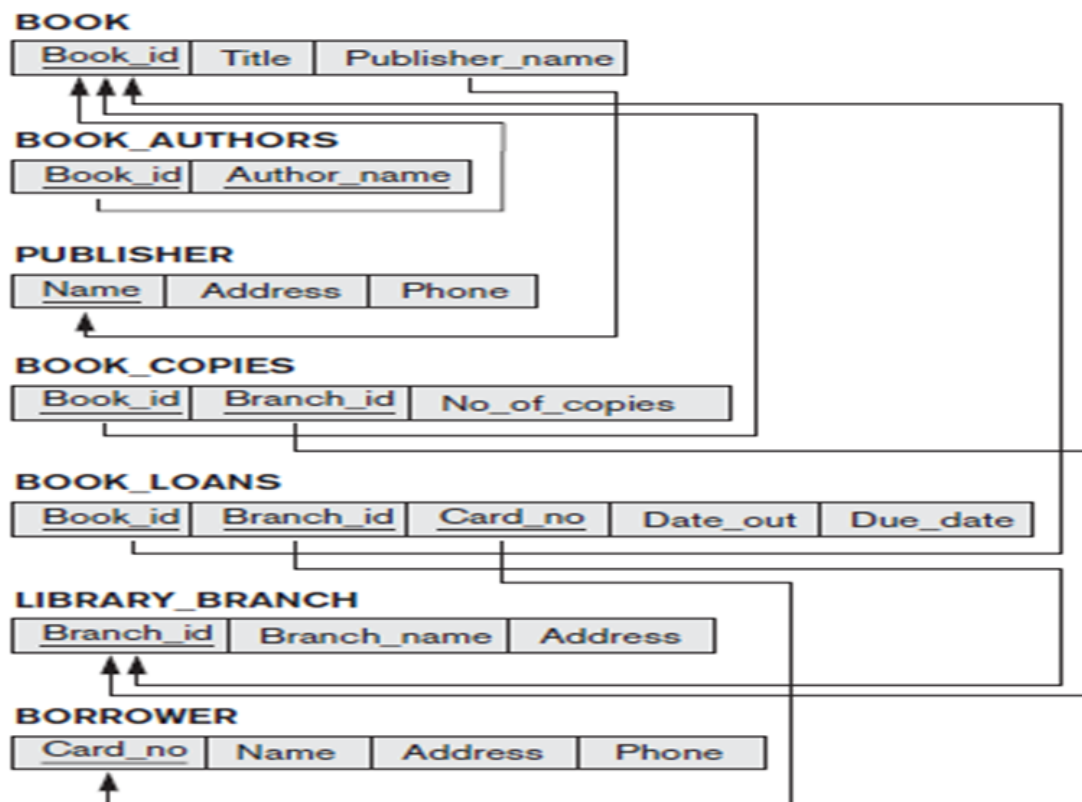
Create the following database with appropriate constraints using DDL and populate/modify it with the help of DML.

PK, FK

NOT NULL

UNIQUE

CHECK (NO_OF_COPIES <= 10)



Statements:

DDL

```
CREATE TABLE BOOK (  
  BOOK_ID NUMBER(3) PRIMARY KEY,  
  NAME VARCHAR2(20) UNIQUE NOT NULL,
```

```
PUBLISHER_NAME VARCHAR2(10), FOREIGN KEY(PUBLISHER_NAME) REFERENCES  
PUBLISHER(NAME)  
);
```

```
CREATE TABLE PUBLISHER (  
NAME VARCHAR2(10) PRIMARY KEY,  
ADDRESS VARCHAR2(20),  
PHONE_NUMBER(10) NOT NULL  
);
```

```
CREATE TABLE BOOK_AUTHORS (  
BOOK_ID NUMBER(3), FOREIGN KEY(BOOK_ID) REFERENCES BOOK(BOOK_ID),  
AUTHOR_NAME VARCHAR(10)  
);
```

```
ALTER TABLE BOOK_AUTHORS DROP PRIMARY KEY;  
DROP TABLE BOOK_AUTHORS;
```

```
ALTER TABLE BOOK_AUTHORS ADD PRIMARY KEY (BOOK_ID, AUTHOR_NAME);
```

```
CREATE TABLE BOOK_COPIES (  
BOOK_ID NUMBER(3), FOREIGN KEY(BOOK_ID) REFERENCES BOOK(BOOK_ID),  
BRANCH_ID NUMBER(3), FOREIGN KEY(BRANCH_ID) REFERENCES  
LIBRARY_BRANCH(BRANCH_ID),  
NUMBER_OF_COPIES NUMBER(2),  
CHECK (NUMBER_OF_COPIES <= 10)  
);
```

```
DROP TABLE BOOK_COPIES;
```

```
ALTER TABLE BOOK_COPIES ADD PRIMARY KEY(BOOK_ID, BRANCH_ID);
```

```
CREATE TABLE BOOK_LOANS (  
BOOK_ID NUMBER(3), FOREIGN KEY (BOOK_ID) REFERENCES BOOK(BOOK_ID),  
BRANCH_ID NUMBER(3), FOREIGN KEY (BRANCH_ID) REFERENCES  
LIBRARY_BRANCH(BRANCH_ID),  
CARD_NO NUMBER(6), FOREIGN KEY (CARD_NO) REFERENCES  
BORROWER(CARD_NO),  
DATE_OUT DATE,  
DUE_DATE DATE  
);
```

```
ALTER TABLE BOOK_LOANS ADD PRIMARY KEY (BOOK_ID, BRANCH_ID, CARD_NO);
```

```
CREATE TABLE LIBRARY_BRANCH (  
BRANCH_ID NUMBER(3) PRIMARY KEY,  
BRANCH_NAME VARCHAR2(10),  
ADDRESS VARCHAR(20)
```

);

```
CREATE TABLE BORROWER (  
CARD_NO NUMBER(3) PRIMARY KEY,  
NAME VARCHAR2(10),  
ADDRESS VARCHAR2(20),  
PHONE NUMBER(10)  
);
```

DML

```
INSERT INTO PUBLISHER VALUES ('HARRY', 'PRIVETDRIVE', 956743);  
INSERT INTO PUBLISHER VALUES ('NANCY', 'LONDON', 345689);  
INSERT INTO PUBLISHER VALUES ('REBECCA', 'FRANCE', 254687);
```

```
INSERT INTO BOOK VALUES (1, 'SORCERORS', 'HARRY');  
INSERT INTO BOOK VALUES (2, 'STAIRCASE', 'NANCY');  
INSERT INTO BOOK VALUES (3, 'GERALD', 'REBECCA');
```

```
INSERT INTO BOOK_AUTHORS VALUES (1, 'POTTER');  
INSERT INTO BOOK_AUTHORS VALUES (2, 'DREW');  
INSERT INTO BOOK_AUTHORS VALUES (3, 'CELESTUS');
```

```
INSERT INTO BOOK_COPIES VALUES (2,673,7);  
INSERT INTO BOOK_COPIES VALUES (3,774,9);  
INSERT INTO BOOK_COPIES VALUES (1,334,5);
```

```
INSERT INTO BOOK_LOANS VALUES (1,334,152,TO_DATE('17/12/2015',  
'DD/MM/YYYY'),TO_DATE('10/1/2016', 'DD/MM/YYYY'));  
INSERT INTO BOOK_LOANS VALUES (3,774,119,TO_DATE('7/2/2004',  
'DD/MM/YYYY'),TO_DATE('28/2/2004', 'DD/MM/YYYY'));  
INSERT INTO BOOK_LOANS VALUES (2,673,132,TO_DATE('30/1/2012',  
'DD/MM/YYYY'),TO_DATE('5/3/2012', 'DD/MM/YYYY'));
```

```
INSERT INTO LIBRARY_BRANCH VALUES (774,'WOODLAND','CENTRALPARK');  
INSERT INTO LIBRARY_BRANCH VALUES (334,'VINEWOOD','TEALROAD');  
INSERT INTO LIBRARY_BRANCH VALUES (673,'PENGUIN','JKGARDEN');
```

```
INSERT INTO BORROWER VALUES (119,'RICK','BRISKROAD',654897);  
INSERT INTO BORROWER VALUES (132,'MIST','ICEPARK',246589);  
INSERT INTO BORROWER VALUES (152,'DONALD','JOYLAND',418965);
```

INSERT, UPDATE DELETE

```
INSERT INTO LIBRARY_BRANCH VALUES (804,'TECHT','TARWALK');
```

INSERT INTO LIBRARY_BRANCH VALUES (279,'RAINBOW','FIRLAND');

UPDATE LIBRARY_BRANCH SET BRANCH_NAME='DELYT' WHERE BRANCH_ID=804;

UPDATE LIBRARY_BRANCH SET ADDRESS='GITROAD' WHERE BRANCH_ID=279;

BRANCH_ID	BRANCH_NAME	ADDRESS
774	WOODLAND	CENTRALPARK
334	VINEWOOD	TEALROAD
673	PENGUIN	JKGARDEN
804	DELYT	TARWALK
279	RAINBOW	GITROAD

DELETE FROM LIBRARY_BRANCH WHERE BRANCH_ID=279;

DELETE FROM LIBRARY_BRANCH WHERE BRANCH_NAME='DELYT';

DESCRIBE

DESC BOOK;

DESC PUBLISHER;

DESC BOOK_AUTHORS;

DESC BOOK_LOANS;

DESC LIBRARY_BRANCH;

DESC BORROWER;

SELECT

SELECT * FROM PUBLISHER;

NAME	ADDRESS	PHONE
HARRY	PRIVETDRIVE	956743
NANCY	LONDON	345689
REBECCA	FRANCE	254687

SELECT * FROM BOOK;

BOOK_ID	NAME	PUBLISHER_NAME
1	SORCERORS	HARRY
2	STAIRCASE	NANCY
3	GERALD	REBECCA

SELECT * FROM BOOK_AUTHORS;

BOOK_ID	AUTHOR_NAME
1	POTTER
2	DREW
3	CELESTUS

SELECT * FROM BOOK_LOANS;

BOOK_ID	BRANCH_ID	CARD_NO	DATE_OUT	DUE_DATE
1	334	152	12/17/2015	01/10/2016
3	774	119	02/07/2004	02/28/2004
2	673	132	01/30/2012	03/05/2012

SELECT * FROM LIBRARY_BRANCH;

BRANCH_ID	BRANCH_NAME	ADDRESS
774	WOODLAND	CENTRALPARK
334	VINEWOOD	TEALROAD
673	PENGUIN	JKGARDEN

SELECT * FROM BORROWER;

CARD_NO	NAME	ADDRESS	PHONE
119	RICK	BRISKROAD	654897
132	MIST	ICEPARK	246589
152	DONALD	JOYLAND	418965
