

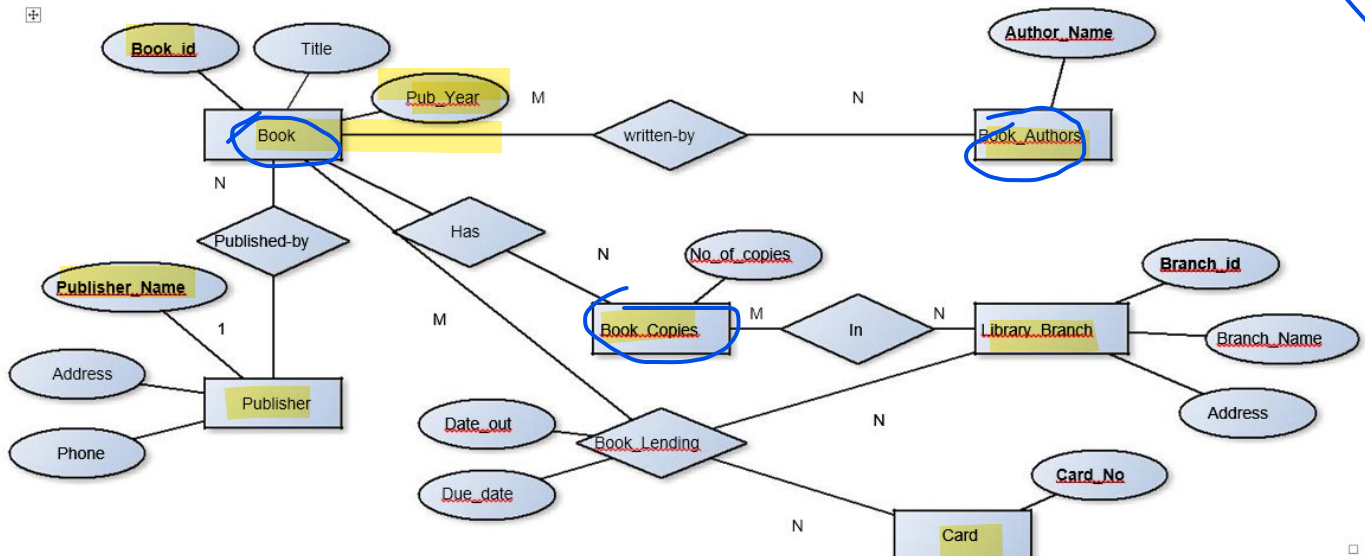


CSE 311L(Database Management System)

Sample Questions: (For question 1 You will give scripts/paper and give them 45 Minutes then get the scripts back)

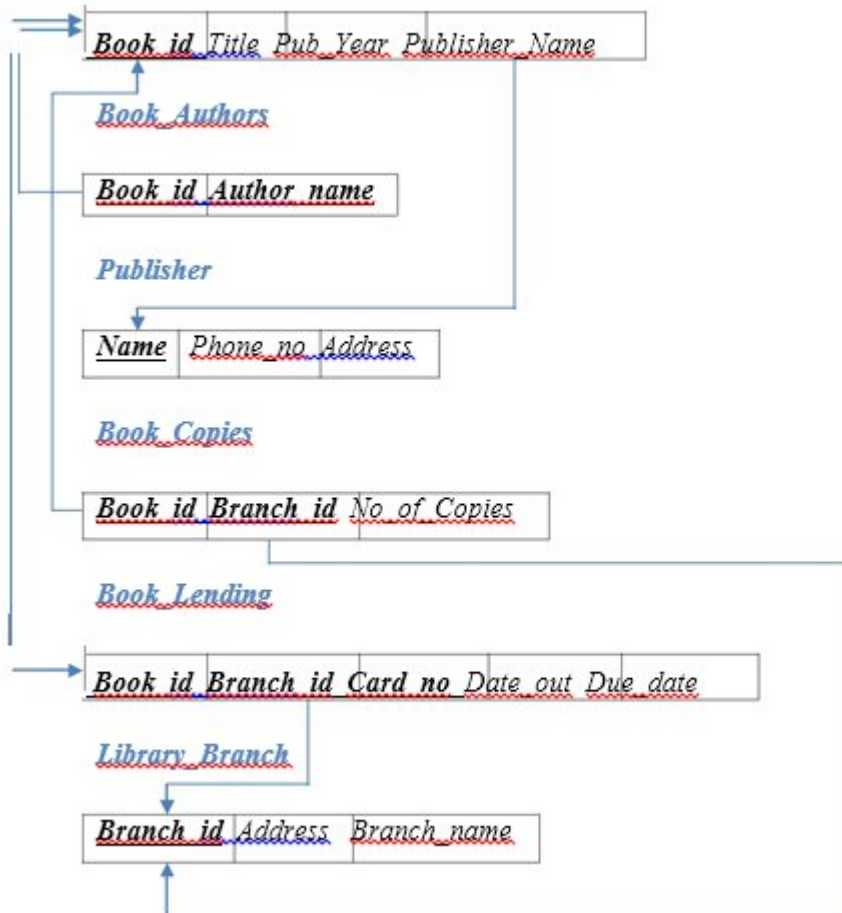
Q1. Consider the following ER diagram given to you what are the possible relations you will be creating in Relational model and write down code to define the table statements in SQL.

20



Q2. You will give the sql file to create the real tables and populate with data given in the script (book.sql) then you will ask the following queries. These queries will be based on this relational model.

30



Queries (You can add more at your discretion):

1. Retrieve details of all books in the library – id, title, name of publisher, authors, number of copies in each branch, etc.
2. Get the particulars of borrowers who have borrowed more than 3 books, but from Jan 2017 to Jun 2017
3. Delete a book in BOOK table. Update the contents of other tables to reflect this data manipulation operation.
4. Partition the BOOK table based on year of publication. Demonstrate its working with a simple query.
5. Create a view of all books and its number of copies that are currently available in the Library.

Answers with screen shots

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;
```

BOOK_ID	TITLE	PUBLISHER_NAME	AUTHOR_NAME	NO_OF_COPIES	BRANCH_ID
1	DBMS	MCGRAW-HILL	NAVATHE	10	10
1	DBMS	MCGRAW-HILL	NAVATHE	5	11
2	ADBMS	MCGRAW-HILL	NAVATHE	2	12
2	ADBMS	MCGRAW-HILL	NAVATHE	5	13
3	CN	PEARSON	TANENBAUM	7	14
5	OS	PEARSON	GALVIN	1	10
4	CG	GRUPO PLANETA	EDWARD ANGEL	3	11

2. 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;
```

CARD_NO
101

3. 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;
SQL> DELETE FROM BOOK
2 WHERE BOOK_ID=3;
```

1 row deleted.

```
SQL> SELECT * FROM BOOK;
```

BOOK_ID	TITLE	PUB_YEAR	PUBLISHER_NAME
1	DBMS	JAN-2017	MCGRAW-HILL
2	ADBMS	JUN-2016	MCGRAW-HILL
4	CG	SEP-2015	GRUPO PLANETA

4. Partition the BOOK table based on year of publication. Demonstrate its working with a simple query.

```
CREATE VIEW V_PUBLICATION AS  
SELECT PUB_YEAR  
FROM BOOK;
```

```
PUB_YEAR  
-----  
JAN-2017  
JUN-2016  
SEP-2016  
SEP-2015  
MAY-2016
```

5. Create a view of all books and its number of copies that are currently available in the Library.

```
CREATE VIEW V_BOOKS AS  
SELECT B.BOOK_ID, B.TITLE, C.NO_OF_COPIES  
FROM BOOK B, BOOK_COPIES C, LIBRARY_BRANCH L  
WHERE B.BOOK_ID=C.BOOK_ID  
AND C.BRANCH_ID=L.BRANCH_ID;
```

BOOK_ID	TITLE	NO_OF_COPIES
1	DBMS	10
1	DBMS	5
2	ADBMS	2
2	ADBMS	5
3	CN	7
5	OS	1
4	CG	3