LIBRARY RELATIONAL DATABASE

DBMS ASSIGNMENT-4

USING MySQL RDBMS

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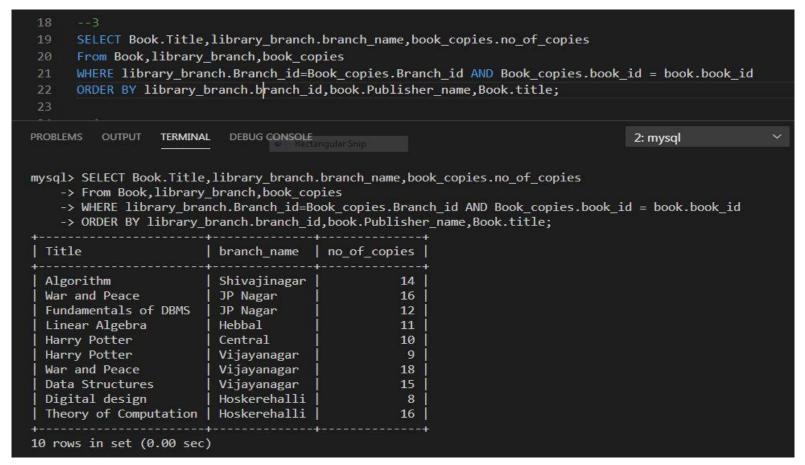
1. List all the books in the library sorting them by author and title

```
SELECT Author name, title FROM book
      JOIN Book authors
      ON Book.Book id=Book authors.Book id
      ORDER BY author name, title;
 10
PROBLEMS
          OUTPUT
                  TERMINAL
                            DEBUG CONSOLE
mysql> SELECT Author name, title FROM book
    -> JOIN Book authors
    -> ON Book.Book id=Book authors.Book id
    -> ORDER BY author name, title;
  Author name
                    title
                    Data Structures
  Algor
  Channa Bankapur
                   Algorithm
  Henry patterson
                    Digital design
  J.K. Rowling
                    Harry Potter
  Kavi Mahesh
                    Theory of Computation
 Mandela
                    War and Peace
  Raghu BA Rao
                    Fundamentals of DBMS
  RP Umashankar
                    Linear Algebra
8 rows in set (0.00 sec)
```

2.List all the books in the library by publisher and title.

```
10
      SELECT title, name FROM book
11
      JOIN Publisher
12
13
      ON Book.Publisher name=Publisher.name;
14
PROBLEMS
         OUTPUT TERMINAL DEBUG CONSOLE
mysql> clear;
mysql> SELECT title, name FROM book
    -> JOIN Publisher
    -> ON Book.Publisher name=Publisher.name;
 title
                         name
 Harry Potter
                        Bloomsbury
  Linear Algebra
                         Cengage Learning
 War and Peace
                         Macmillan
 Algorithm
                         Macmillan
 Data Structures
                         McGraw-Hill
  Fundamentals of DBMS | Pearson
 Theory of Computation
                         Wiley
 Digital design
                         Wilev
8 rows in set (0.00 sec)
```

3. For each branch print the number of copies of each book. Sort by branch id, publisher then book title.



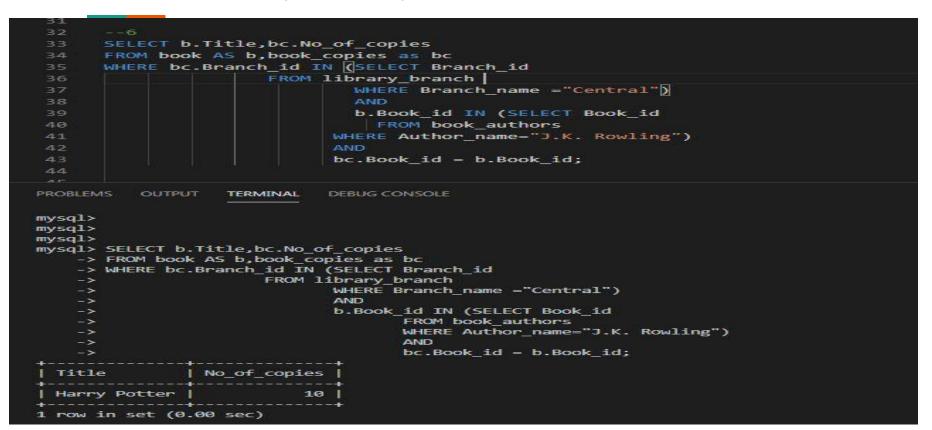
4. How many copies of the book titled Harry Potter are owned by the library branch whose name is 'Vijayanagar'?

```
21
 22
      SELECT No of copies
       FROM book copies WHERE Branch id IN (SELECT Branch id FROM library branch WHERE Branch name = "Vijayanagar")
 23
      AND Book id IN (SELECT Book id FROM book WHERE Title = "Harry Potter");
26
PROBLEMS
        OUTPUT
                  TERMINAL
                            DEBUG CONSOLE
                                                                                                                       2: mysql
mysql> SELECT No of copies
    -> FROM book copies WHERE Branch id IN (SELECT Branch id FROM library branch WHERE Branch name = "Vijayanagar")
    -> AND Book id IN (SELECT Book id FROM book WHERE Title = "Harry Potter");
 No of copies
1 row in set (0.00 sec)
```

5.How many copies of the book titled War and Peace are owned by each library branch?

```
SELECT lb.Branch name, bc.No of copies
      FROM book_copies as bc, library_branch as lb
      WHERE bc.Book id IN (SELECT Book id FROM book WHERE Title = "War and Peace") AND bc.Branch id=lb.Branch id;
PROBLEMS OUTPUT
                 TERMINAL DEBUG CONSOLE
                                                                                                                    2: mysql
mysql> SELECT lb.Branch name, bc.No of copies
   -> FROM book copies as bc, library branch as lb
   -> WHERE bc.Book id IN (SELECT Book id FROM book WHERE Title = "War and Peace") AND bc.Branch id=lb.Branch id;
 Branch_name | No_of_copies
 JP Nagar
                        16
 Vijayanagar
2 rows in set (0.00 sec)
```

6.For each book authored (or co-authored) by J. K. Rowling, retrieve the title and the number of copies owned by the library branch whose name is Central



7.For each library branch, retrieve the branch name and the total number of books loaned out from that branch. Sort it in descending order of total number of books and branch name

43	7
44	SELECT lb.Branch_name,COUNT(bl.Book_id) AS "No_of_books"
45	FROM library_branch AS lb, book_loans AS bl
46	WHERE lb.Branch_id = bl.Branch_id
47	GROUP BY 1b.Branch_name
48	ORDER BY 2 DESC,1 DESC;
49	
+ Bra + Heb Cer Vij	> SELECT lb.Branch_name,COUNT(bl.Book_id) AS "No_of_books" > FROM library_branch AS lb, book_loans AS bl > WHERE lb.Branch_id = bl.Branch_id > GROUP BY lb.Branch_name > ORDER BY 2 DESC,1 DESC;
JP +	Nagar 1

8. Retrieve the names, addresses, and number of books checked out for all borrowers who have more than five books checked out. Sort the output.

```
51
52
      SELECT borr.Name, borr.Address, COUNT(bl.Book id) AS No of books
53
      FROM borrower AS borr, book loans AS bl
54
      WHERE borr.Card no=bl.Card no
      GROUP BY borr.Name,borr.Address
55
      HAVING COUNT(bl.Book id) > 5
      ORDER BY No of books;
57
PROBLEMS
         OUTPUT
                           DEBUG CONSOLE
                  TERMINAL
4 rows in set (0.00 sec)
mysql> SELECT borr.Name, borr.Address, COUNT(bl.Book id) AS No of books
    -> FROM borrower AS borr, book loans AS bl
    -> WHERE borr.Card no=bl.Card no
    -> GROUP BY borr.Name,borr.Address
    -> HAVING COUNT(bl.Book id) > 5
    -> ORDER BY No of books;
              Address
                                 No of books
  Name
  Sumukha MK | Lalbagh Siddapura |
1 row in set (0.00 sec)
```

9. For each book that is loaned out from the Vijayanagar branch and whose Due_date is today,

retrieve the book title, the borrower's name, and the borrower's address.

ard_no ELECT Branch ary_branch nch_name = T_DATE id; BUG CONSOLE dress,b.Ti ook_loans ard_no	AS bl,book anch_id h = "Vijayanaga itle AS bl,book A	gar")
ook_loans ard_no ELECT Branch ary_branch nch_name = T_DATE id; BUG CONSOLE dress,b.Ti ook_loans ard_no	AS bl,book anch_id h = "Vijayanaga itle AS bl,book A	gar")
ard_no ELECT Branch ary_branch nch_name = T_DATE id; BUG CONSOLE dress,b.Ti ook_loans ard_no	nch_id h = "Vijayanag s itle AS bl,book A	gar")
ELECT Branch ary_branch nch_name = T_DATE id; BUG CONSOLE dress,b.Ti ook_loans ard_no	h = "Vijayanag E itle AS bl,book A	
ary_branch nch_name = T_DATE id; BUG CONSOLE dress,b.Ti ook_loans ard_no	h = "Vijayanag E itle AS bl,book A	
nch_name = T_DATE id; BUG CONSOLE dress,b.Ti ook_loans ard_no	= "Vijayanag E itle AS bl,book A	
T_DATE id; BUG CONSOLE dress,b.Ti ook_loans ard_no	itle AS bl,book A	
id; id; BUG CONSOLE dress,b.Ti ook_loans ard_no	itle AS bl,book A	AS b
BUG CONSOLE dress,b.Ti ook_loans ard_no	itle AS bl,book A	AS b
dress,b.Ti ook_loans ard_no	itle AS bl,book A	AS b
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		_id; +

10.Retrieve the names of all borrowers who do not have any books checked out.

```
--10
68
      SELECT Name
69
70
      FROM borrower
      WHERE Card no NOT IN (SELECT Card no FROM book loans);
71
72
73
PROBLEMS
         OUTPUT
                            DEBUG CONSOLE
                  TERMINAL
mysql> SELECT Name
    -> FROM borrower
    -> WHERE Card no NOT IN (SELECT Card no FROM book loans);
  Name
 Abhishek
  Sagar
2 rows in set (0.00 sec)
```

THANK YOU

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