**Problem Statement →**

A College Library manages records of books and borrowers.

1. You are required to create two tables **Customer** and **Book** with the following attributes

Customer

(

Id int (Primary Key)

Customer\_Name varchar

Gender varchar

Issued\_Date date

Return Date date

Book\_Id int (Foreign Key)

);

Book

(

Book\_Id int (Primary Key)

Book\_Name varchar

Category varchar

Total\_quantity int

)

1. Insert the following data

Customer Table

**Id Customer\_Name Gender Issued\_Date Return\_Date Book\_Id**

**1 Aman M 2021-10-16 2021-11-16 2**

**2 Zaman M 2021-10-18 2021-11-10 1**

**3 Anjali F 2021-10-10 2021-11-05 1**

**4 Prachi F 2021-10-09 2021-11-09 3**

**5 Ravi M 2021-10-05 2021-11-05 5**

**6 Simran F 2021-10-15 2021-11-15 4**

**7 Raj M 2021-10-20 2021-11-20 3**

Books Table

**Book\_Id Book\_Name Category Total\_Quantity**

**1 think and grow rich Self\_Help 10**

**2 Richie Rich Cartoon 5**

**3 Spiderman Comics 8**

**4 One Punch Man Anime 4**

**5 Java Computer 9**

**Queries →**

Write queries for the following:

1. How many females and how many male Customers have borrowed book named “**think and grow rich”**;
2. Find the book whose quantity is least among all the books.
3. Reduce 1 from the Total\_Quantity of each book present in the library, do nothing if the available quantity is already 0.
4. Print all the names of customers along with the number of books they borrowed, sorted in ascending order of their names.
5. Display customer name and gender whose names start with character 'A'
6. Display customer id, customer name,gender, date of book issue, for any book issued to customer after 10-Oct-2021.
7. Display the customer name, book name borrowed by them along with the category of that book.
8. Display the Customer names along with Book names who borrowed either any book from the “Self\_Help” or “Comics” category.
9. Print all the books(Book\_Name,Category) in the library along with the Customer(Customer\_Id,Customer\_Name) if any customer borrowed at least one book..

**Solutions →**

1)

create table Customer

(

id int primary key ,

Customer\_Name varchar(50) not null,

Gender char not null,

Issued\_Date date,

Return\_Date date,

Book\_Id int ,

FOREIGN KEY (Book\_Id) REFERENCES Book(Book\_Id)

);

create table Book

(

Book\_Id int primary key ,

Book\_Name varchar(50),

Category varchar(35),

Total\_Quantity int not null

);

2)

insert into Customer values(1, "Aman", 'M',"2021-10-16","2021-11-16",2);

insert into Customer values(2, "Zaman", 'M',"2021-10-18","2021-11-10",1);

insert into Customer values(3, "Anjali", 'F',"2021-10-10","2021-11-05",1);

insert into Customer values(4, "Prachi", 'F',"2021-10-09","2021-11-09",3);

insert into Customer values(5, "Ravi", 'M',"2021-10-05","2021-11-05",5);

insert into Customer values(6, "Simran", 'F',"2021-10-15","2021-11-15",4);

insert into Customer values(7, "Raj", 'M',"2021-10-20","2021-11-20",3);

select \* from Customer;

insert into book values(1,"think and grow rich","Self\_Help",10);

insert into book values(2,"Richie Rich","Cartoon",5);

insert into book values(3,"Spiderman","Comics",8);

insert into book values(4,"One Punch Man","Anime",4);

insert into book values(5,"Java","Computer",9);

select \* from book;

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3)

select Gender, count(Gender) FROM Customer,Book where Book\_Name="think and grow rich" and Customer.Book\_Id=Book.Book\_Id group by Gender ;

Gender Count

M 1

F 1

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4)

select Book\_name ,total\_quantity as Quantity from book where total\_quantity= (select min(total\_quantity) from book) ;

Book\_name Quantity

One Punch man 4

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5)

update Book set Total\_Quantity=Total\_Quantity-1;

select \* from book;

Book\_Id Book\_Name Category Total\_Quantity

1 think and grow rich Self\_Help 9

2 Richie Rich Cartoon 4

3 Spiderman Comics 7

4 One Punch Man Anime 3

5 Java Computer 8

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6)

select Customer\_Name, count(Customer\_Name) as Books\_Borrowed from Customer group by Customer\_name order by Customer\_Name asc;

Customer\_Name Books\_Borrowed

Aman 1

Anjali 1

Prachi 1

Raj 1

Ravi 1

Simran 1

Zaman 1

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7)

select Customer\_Name ,Gender from Customer where Customer\_Name like "A%" order by Customer\_Name;

Customer\_Name Gender

Aman M

Anjali F

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8)

select Id,Customer\_Name,Gender,Issued\_Date from Customer where Issued\_Date>"2021-10-10";

Id Customer\_Name Gender Issued\_Date

1 Aman M 2021-10-16

2 Zaman M 2021-10-18

6 Simran F 2021-10-15

7 Raj M 2021-10-20

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9)

select C.Customer\_Name,B.Book\_Name ,B.Category from Customer as C,Book as B where B.Book\_Id=C.Book\_Id;

Customer\_Name Book\_Name Category

Zaman think and grow rich Self\_Help

Anjali think and grow rich Self\_Help

Aman Richie Rich Cartoon

Prachi Spiderman Comics

Raj Spiderman Comics

Simran One Punch Man Anime

Ravi Java Computer

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10)

select C.Customer\_Name,B.Book\_Name ,B.Category from Customer as C inner join Book as B on C.Book\_Id=B.Book\_Id where B.Category="Self\_Help" or B.Category="Comics";

Customer\_Name Book\_Name Category

Zaman think and grow rich Self\_Help

Anjali think and grow rich Self\_Help

Prachi Spiderman Comics

Raj Spiderman Comics

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11)

select book.Book\_Name,book.Category,Customer.Id as CustomerId,Customer.Customer\_Name from book left outer join Customer on book.Book\_Id=Customer.Book\_Id ;

Book\_Name Category CustomerId Customer\_Name

think and grow rich Self\_Help 2 Zaman

think and grow rich Self\_Help 3 Anjali

Richie Rich Cartoon 1 Aman

Spiderman Comics 4 Prachi

Spiderman Comics 7 Raj

One Punch Man Anime 6 Simran

Java Computer 5 Ravi