**Credentials (LogIn)**

SELECT COUNT(\*) FROM USER WHERE Username='{}' AND Password='{}'

**Create Accounts**

#Check whether the user name exists already

SELECT \* FROM USER WHERE USERNAME='{}'

#Insert a row into USER table

INSERT INTO USER VALUES(%s,%s)

**Create Profile**

#Insert a row into the STUDENT\_OR\_FACULTY table

"INSERT INTO STUDENT\_OR\_FACULTY VALUES (%s,%s,%s,%s,%s,%s,%s,%s,%s,%s)"

**Home Page Set up (different for staff and regular users)**

#check whether the user is a library staff

SELECT COUNT(\*) FROM STAFF WHERE Username='{}'

**Search**

#The SQL to search for ISBN for each entry entered.

SELECT ISBN FROM BOOK WHERE ISBN=%s

SELECT ISBN FROM BOOK WHERE Title LIKE %s

SELECT ISBN FROM BOOK NATURAL JOIN BOOK\_AUTHORS WHERE Author LIKE %s

#Get Information for each ISBN selected above

SELECT ISBN, Title, Edition, COUNT(\*),is\_Reserved

FROM BOOK NATURAL JOIN BOOK\_COPY

WHERE ISBN=%s AND Is\_checked\_out=%s AND Is\_on\_hold=%s AND Is\_damaged=%s

GROUP BY ISBN

**Submit Hold**

#get the date

SELECT CURDATE()

SELECT DATE\_ADD(CURDATE(),INTERVAL 17 DAY)

#get the min available copy number of the selected isbn

SELECT MIN(Copy\_number) FROM BOOK\_COPY WHERE ISBN=%s AND Is\_checked\_out=%s AND Is\_on\_hold=%s AND Is\_damaged=%s

#place the hold on BOOK\_COPY Table

UPDATE BOOK\_COPY SET Is\_on\_hold=%s WHERE ISBN=%s AND Copy\_number=%s

#get the current max issue id

SELECT MAX(Issue\_ID) FROM ISSUE

#insert a row in the issue table for the hold

INSERT INTO ISSUE VALUES(%s, %s, %s,%s,CURDATE(),CURDATE(),%s,0)

**Submit Request Extension**

#Make sure the ISSUE ID is valid

SELECT \* FROM ISSUE WHERE Issue\_ID=%s

#Make sure the ISSUE ID is corresponding to a checked out book

SELECT Is\_checked\_out FROM ISSUE NATURAL JOIN BOOK\_COPY WHERE Issue\_ID=%s

#check whether the user is a faculty or a student

SELECT is\_Faculty FROM STUDENT\_OR\_FACULTY WHERE Username=%s

#get the dates

SELECT CURDATE()

SELECT DATE\_ADD(CURDATE(),INTERVAL 14 DAY)

SELECT DATE\_ADD(Date\_of\_issue,INTERVAL %s DAY) FROM ISSUE WHERE Issue\_ID=%s

#check future requester

SELECT Future\_requester FROM BOOK\_COPY WHERE ISBN=%s AND Copy\_Number=%s

#place the extension(update issue)

UPDATE ISSUE SET Extension\_date=CURDATE(), Return\_Date=%s,

Count\_of\_extension=%s WHERE Issue\_ID=%s

**Future Hold Request**

#Check is a reserved book or not

SELECT is\_Reserved FROM BOOK WHERE ISBN=%s

#get info about the book that will be available first

SELECT Copy\_Number, MAX(Return\_Date), Future\_requester FROM BOOK\_COPY NATURAL JOIN ISSUE

WHERE ISBN=%s AND (Is\_on\_hold=1 OR Is\_checked\_out=1) AND Is\_damaged=0 AND Return\_Date>=CURDATE()

GROUP BY Copy\_Number ORDER BY Return\_Date

#update database of reture holder

UPDATE BOOK\_COPY SET Future\_requester=%s WHERE ISBN=%s AND Copy\_Number=%s

**Locate**

#get the location infomation of the book

SELECT Floor\_number, Shelf\_number,Aisle\_number, Sub\_name FROM BOOK NATURAL JOIN SHELF WHERE ISBN=%s

**check out book:**

#check if it is a valid issue\_id

SELECT COUNT(\*) FROM ISSUE WHERE Issue\_ID=%s

#get user name, ISBN, Copy\_Number

SELECT Username FROM ISSUE WHERE Issue\_ID = %s

SELECT ISBN FROM ISSUE WHERE Issue\_ID = %s

SELECT Copy\_Number FROM ISSUE WHERE Issue\_ID = %s

#compare curdate, estDate and return date

SELECT CURDATE()

SELECT DATE\_ADD(CURDATE(),INTERVAL 14 DAY)

SELECT Return\_Date FROM ISSUE WHERE Issue\_ID = %s

SELECT Is\_checked\_out FROM BOOK\_COPY WHERE ISBN = %s AND Copy\_Number = %s

SELECT Is\_on\_hold FROM BOOK\_COPY WHERE ISBN = %s AND Copy\_Number = %s

SELECT Date\_of\_issue FROM ISSUE WHERE Issue\_ID = %s

#if hod drop

SELECT COUNT(\*) FROM BOOK\_COPY WHERE ISBN = '%s' AND Is\_damaged = FALSE AND is\_on\_hold = FALSE AND is\_checked\_out = FALSE

#checkout

UPDATE ISSUE SET Date\_of\_issue = %s,Extension\_date=%s ,Return\_Date = %s WHERE ISBN=%s AND Copy\_Number=%s

UPDATE BOOK\_COPY SET Is\_on\_hold = %s, Is\_checked\_out = %s WHERE ISBN = %s AND Copy\_Number = %s

**Return Book and Handling Lost/Damage Book**

#check valid

SELECT COUNT(\*) FROM ISSUE WHERE Issue\_ID=%s

#get user name, ISBN, Copy\_Number

SELECT Username FROM ISSUE WHERE Issue\_ID = %s

SELECT ISBN FROM ISSUE WHERE Issue\_ID = %s

SELECT Copy\_Number FROM ISSUE WHERE Issue\_ID = %s

#check return date

SELECT CURDATE()

SELECT Return\_Date FROM ISSUE WHERE Issue\_ID = %s

#if late return

SELECT Penalty FROM STUDENT\_OR\_FACULTY WHERE Username = %s

UPDATE STUDENT\_OR\_FACULTY SET Penalty = %s WHERE Username = %s

UPDATE STUDENT\_OR\_FACULTY SET is\_Debarred = %s WHERE Username = %s

#return book

UPDATE BOOK\_COPY SET IS\_Checked\_Out = %s WHERE ISBN = %s AND Copy\_Number = %s

UPDATE ISSUE SET Return\_Date = %s WHERE Issue\_ID = %s

SELECT Future\_requester FROM BOOK\_COPY WHERE ISBN = %s AND Copy\_Number = %s

UPDATE BOOK\_COPY SET Future\_requester = %s WHERE ISBN = %s AND Copy\_Number = %s

#damage book

SELECT CURDATE()

SELECT Cost FROM BOOK WHERE ISBN = %s

SELECT Cost FROM BOOK WHERE ISBN = %s

UPDATE BOOK\_COPY SET Is\_Damaged = %s WHERE ISBN = %s AND Copy\_Number = %s

SELECT Penalty FROM STUDENT\_OR\_FACULTY WHERE Username = %s

UPDATE STUDENT\_OR\_FACULTY SET Penalty = %s WHERE Username = %s

UPDATE STUDENT\_OR\_FACULTY SET is\_Debarred = %s WHERE Username = %s

**Damage Book Report:**

#Get all the subject names:

"SELECT Sub\_name FROM SUBJECT"

#Get all the damaged book.

"SELECT ISBN, Copy\_Number FROM BOOK\_COPY WHERE Is\_damaged = 1"

#According to the damaged book\_copy’s primal key, we find the issue\_ID which makes the #book damaged.

'SELECT Issue\_ID FROM ISSUE WHERE ISBN = %s AND Copy\_Number = %s'

#Get the month of date when the damaged book is returned

'SELECT MONTH(Return\_Date) FROM ISSUE WHERE ISBN = %s AND Copy\_Number = %s AND Issue\_ID = %s'

#Get the damaged book’s subject.

'SELECT Sub\_name FROM BOOK WHERE ISBN = %s'

**Popular Book Report:**

#Get the book(ISBN) and the number it has been checked\_out during Jan.

'SELECT COUNT(ISSUE\_ID),ISBN FROM ISSUE WHERE MONTH(Date\_of\_issue)= 1 GROUP BY ISBN ORDER BY COUNT(ISSUE\_ID) DESC'

#Same thing for Feb.

'SELECT COUNT(ISSUE\_ID),ISBN FROM ISSUE WHERE MONTH(Date\_of\_issue)= 2 GROUP BY ISBN ORDER BY COUNT(ISSUE\_ID) DESC'

#Get the title of the popular book.

'SELECT Title FROM BOOK WHERE ISBN = %s'

**Frequent User Report:**

#Get the book(ISBN) and the number the user has checked\_out a book during Jan. The #highest value will be on the top of the list.

'SELECT COUNT(ISSUE\_ID),Username FROM ISSUE WHERE MONTH(Date\_of\_issue)= 1 GROUP BY Username ORDER BY COUNT(ISSUE\_ID) DESC'

#Get the book(ISBN) and the number the user has checked\_out a book during Feb.

'SELECT COUNT(ISSUE\_ID),Username FROM ISSUE WHERE MONTH(Date\_of\_issue)= 2 GROUP BY Username ORDER BY COUNT(ISSUE\_ID) DESC'

**Popular Subject Report:**

#Get the number the user who has checked\_out record during Jan. Also get all the books that #user checked\_out.

'SELECT COUNT(ISSUE\_ID),ISBN FROM ISSUE WHERE MONTH(Date\_of\_issue)= 1 GROUP BY ISBN ORDER BY COUNT(ISSUE\_ID) DESC'

#Get the number the user who has checked\_out record during Feb. Also get all the books that #user checked\_out.

'SELECT COUNT(ISSUE\_ID),ISBN FROM ISSUE WHERE MONTH(Date\_of\_issue)= 2 GROUP BY ISBN ORDER BY COUNT(ISSUE\_ID) DESC'

#According to the ISBN, get the subject name of the book.

"SELECT Sub\_name FROM BOOK WHERE ISBN = %s"

**#################################################**

# When the database is connected, we update it to handle the situation where a book copy is # hold more than 3 days without checkout.

#get all DISTINCT isbn

SELECT DISTINCT ISBN FROM BOOK\_COPY

#get the copy number and isbn for each isbn

SELECT ISBN,Copy\_Number

FROM BOOK\_COPY

WHERE ISBN=%s AND Is\_on\_hold=1 AND Is\_checked\_out=0

#get infomation of the issue that is currently holding the book

SELECT Issue\_ID, DATEDIFF(MAX(Date\_of\_issue),CURDATE()),MAX(Date\_of\_issue)

FROM BOOK\_COPY NATURAL JOIN ISSUE

WHERE ISBN=%s AND Copy\_Number=%s

GROUP BY Copy\_Number

#drop the hold and update the estimate return date if hold more than 3 days

UPDATE BOOK\_COPY SET Is\_on\_hold = %s, Future\_requester=%s WHERE ISBN = %s AND Copy\_Number = %s

UPDATE ISSUE SET Return\_Date = %s WHERE Issue\_ID = %s