

PROJECT



COURSE:

DATABASE SYSTEMS

SUBMITTED TO:

Sir **MUKHTIAR ZAMIN**

TOPIC:

LIBRARY MANAGEMENT SYSTEM

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REG NO:

FA18-BCS-092

FA18-BCS-032

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System Description

Library management system is all about organizing, managing the library and library-oriented tasks. It also involves maintaining the database of entering new books and the record of books that have been retrieved or issued, with their respective dates.

The main aim of this project is providing an easy to handle and automated library management system. This project also provides features and interface for maintaining librarian's records, student's history of issue and fines.

The owner can easily update, delete and insert data in the database with this project. The following are some of the features provided by this project:

The issue of books by online mode.

Columns provided to search book online.

Requests to the librarian can be sent to provide new books in the column.

Table Description

1) Staff

This table consists of information about the staff that is running the library management. This contains ID and password.

Constraints:

Staff I.D is unique while password is not NULL because password is mandatory.

2) Liberec

This table consists of information about the record of the library and books inside.

Constraints:

Staff I.D is foreign key bcz there is one to many relationships between **staff** & **Liberec**.

3) Record

This record contains info about the person that is going to take away books from library.

Constraints:

Staff I.D is the foreign key bcz there is one to many relationships btw **staff** & **record**.

4) Member

This Table contains info about the person that is going to take away the book.

Constraints:

Person I.D is the primary key.

5) Book

This table contains the info about the books of the Library.

Constraints:

Copy id is the Primary key as there is one to many relationships btw **Book** & **diagram**

Description of ERD Diagram:

Table 1:-

Staff:

In this table we have two attributes:

1) Staffid:

This attribute is unique for each staff member.

2) Password:

This attribute is unique for each staff member.



```
create table staff(  
staffid int primary  
key,  
password varchar(30) not null);
```

Table 2:-

Record:

In this table we have two attributes:

1) Personid:

This attribute is unique for each staff member.

2) copyid:

This attribute is unique for each staff member.

3) Borrowdate:

This attribute keeps record of the issue dates of the books.

4) Returndate:

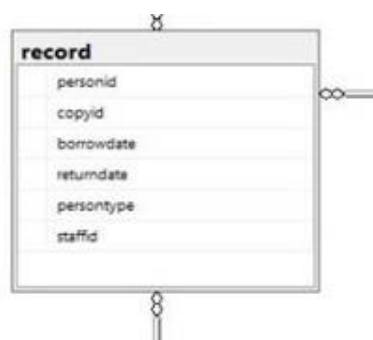
This attribute keeps record of the return dates of the books.

5) Persontype:

This attribute keeps record of male/female person type.

6) Staffid:

This attribute keeps record of the staff member who issues the book to the people.



```
create table record(  
personid int foreign key references member(personid),
```

```
copyid int foreign key references  
book(copyid), borrowdate date,  
returndate date,  
persontype varchar(30) not null);
```

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Table 3:-

librecord:

this table keeps record of the books in the library

1) seller:

This attribute has the name of the seller of the book.

2) publisher:

This attribute has the name of the publisher of the book.

3) cost:

This attribute has the cost of the book.

4) No_of_copies:

This attribute keeps record of the no of copies of the books.

5) Pur_date:

This attribute keeps record of the purchase date of books.

6) Staffid:

This attribute keeps record of the staff member who purchases the books for the library.



librec
seller
publisher
cost
numb_of_copies
pur_date
staffid

```
create table librec(
seller varchar(30),
publisher
varchar(30), cost int
, numb_of_copies
int, pur_date date,
staffid int foreign key references staff(staffid));
```

```
add bookname varchar(30);
```

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Table 4:-

book:

In this table we have two attributes:

1) booktype:

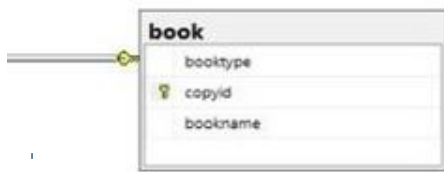
This attribute keeps the record of the type of book issued.

2) copyid:

This attribute is unique for each copy of the book.

3) bookname:

This attribute keeps record of the name of the book issued.



```
create table book(  
booktype varchar(30)  
not null, copyid int  
primary key);
```

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Table 5:-

member:

In this table we have two attributes:

1) personid:

This attribute keeps record of the person who issues the book

As person id is unique for each library member.

2) persontype:

This attribute keeps record of male/female person type.



```
create table member(  
personid int primary  
key,  
persontype varchar(30) not null);
```

Combining all the diagrams:

Final ERD Diagram:

