# PROJECT


COURSE:

**DATABASE SYSTEMS**

SUBMITTED TO:

Sir **MUKHTIAR ZAMIN**

TOPIC:

**LIBRARY MANAGEMENT SYSTEM**


| SUBMITTED BY: | REG NO: |
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DATE: **10-09-2020**

# Contents

# 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.

# MISSION STATEMENT

Our team is interested in the current online library management system. We are also eager to know if the current system generation still can incorporate new improvement .

- To save the time and resources.
- To make the processing faster.
- To make it easy to search any record.
- To make the system user friendly.
- To reduce the number of workers.
- To make the backup easily in the events of natural disaster.

# MISSION OBJECTIVE

- To maintain (Edit, Detail and Delete) data on books
- To maintain (Enter, Update and Delete) data on Books Issued
- To maintain (Enter, Update and Delete) data on record
- To maintain (Enter, Update and Delete) data on Student

- To Search on Books
- To Search on Student
- To Search on Record

# CONCEPTUAL DATABASE

## 1) Admin

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

**Constraints:**

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

## 2) Student

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

**Constraints:**

Admin I.D is foreign key because there is one to many relationships between **Student & Books Issued**.

## 3) Record

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

**Constraints:**

Admin I.D is the foreign key because there is one to many relationships between **Admin & record.**

## 4) 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 between **Book & record.**

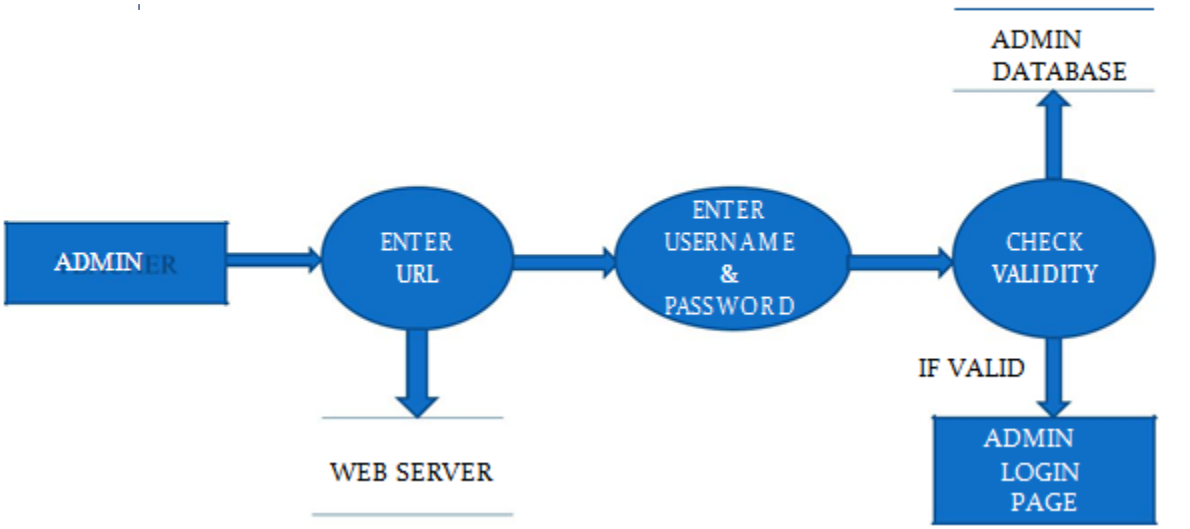
## 5) Books Issued

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

**Constraints:**

Person I.D is the primary key.

## DATA FLOW DIAGRAMS




After entering to the home page of the website , Admin can choose the ADMIN LOGIN option where they are asked to enter username & password , and if he/she is a valid user then a teacher login page will be displayed.

# “INDIVIDUAL TASK”

Usman Maqsood FA18-BCS-092

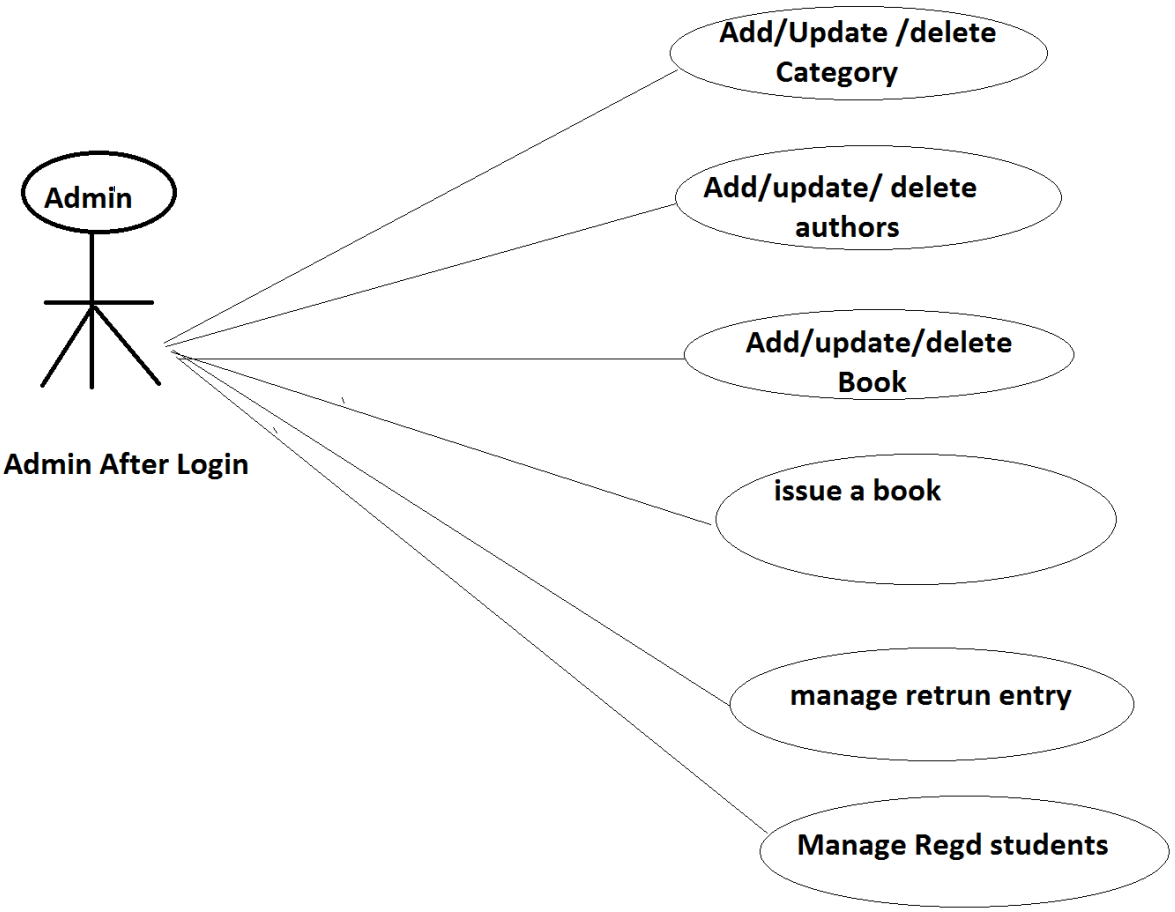
**Description of ERD Diagram:**

**Table 1:-**

## Admin:

In this table we have two attributes:

1) Adminid:
   This attribute is unique for each Admin Student.
2) Password:
   This attribute is unique for each Admin Student.


Admin
Admin After Login
Add/Update /delete Category
Add/update/ delete authors
Add/update/delete Book
issue a book
manage retrun entry
Manage Regd students

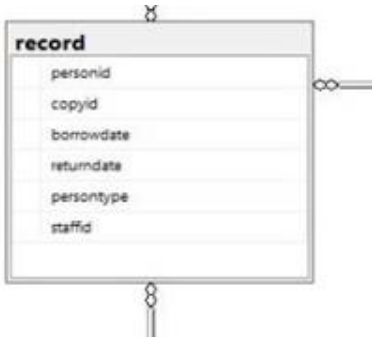
# Sanaullah Khan FA18-BCS-032

**Table 2:-**

## Record:

In this table we have two attributes:

1) User Id:
   This attribute is unique for each Admin Student.
2) copyid:
   This attribute is unique for each Admin Student.
3) Issuedate:
   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) Adminid:
   This attribute keeps record of the Admin Student who issues the book to the people.




```
create table record(
  User Id int foreign key references
  Student(User Id),
copyid int foreign key references
book(copyid), Issuedate date,
  returndate date,
  persontype varchar(30) not null);
```

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**Table 3:-**

# Books Issued:

this table keeps record of the books in the library

1) category:
   This attribute has the name of the category of the book.
2) author:
   This attribute has the name of the author of the book.
3) fine:
   This attribute has the fine of the book.
4) No_of_copies:
   This attribute keeps record of the no of copies of the books.
5) Issue date:
   This attribute keeps record of the purchase date of books.
6) Adminid:
   This attribute keeps record of the Admin Student who take the books for the library.

Sardar Ali Irtaza FA18-BCS-022

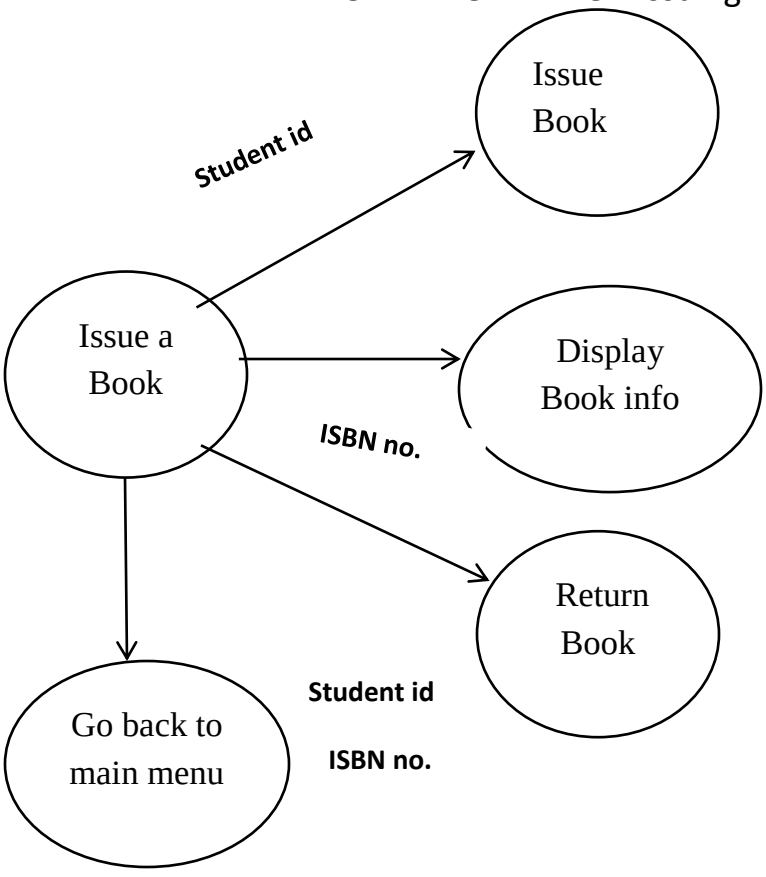
**Table 4:-**

# 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.

DATA FLOW DIAGRAM FOR Issuing Book



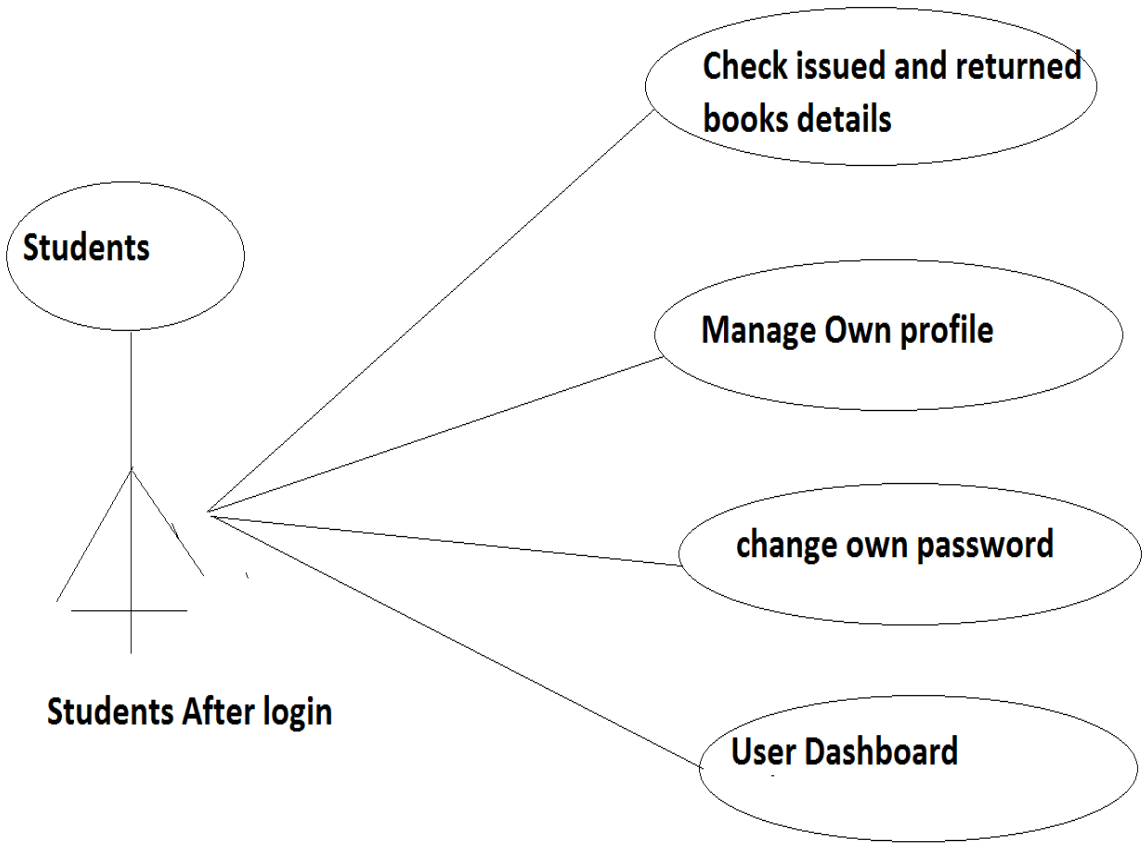
Abdul Wahab FA18-BCS-126

**Table 5:-**

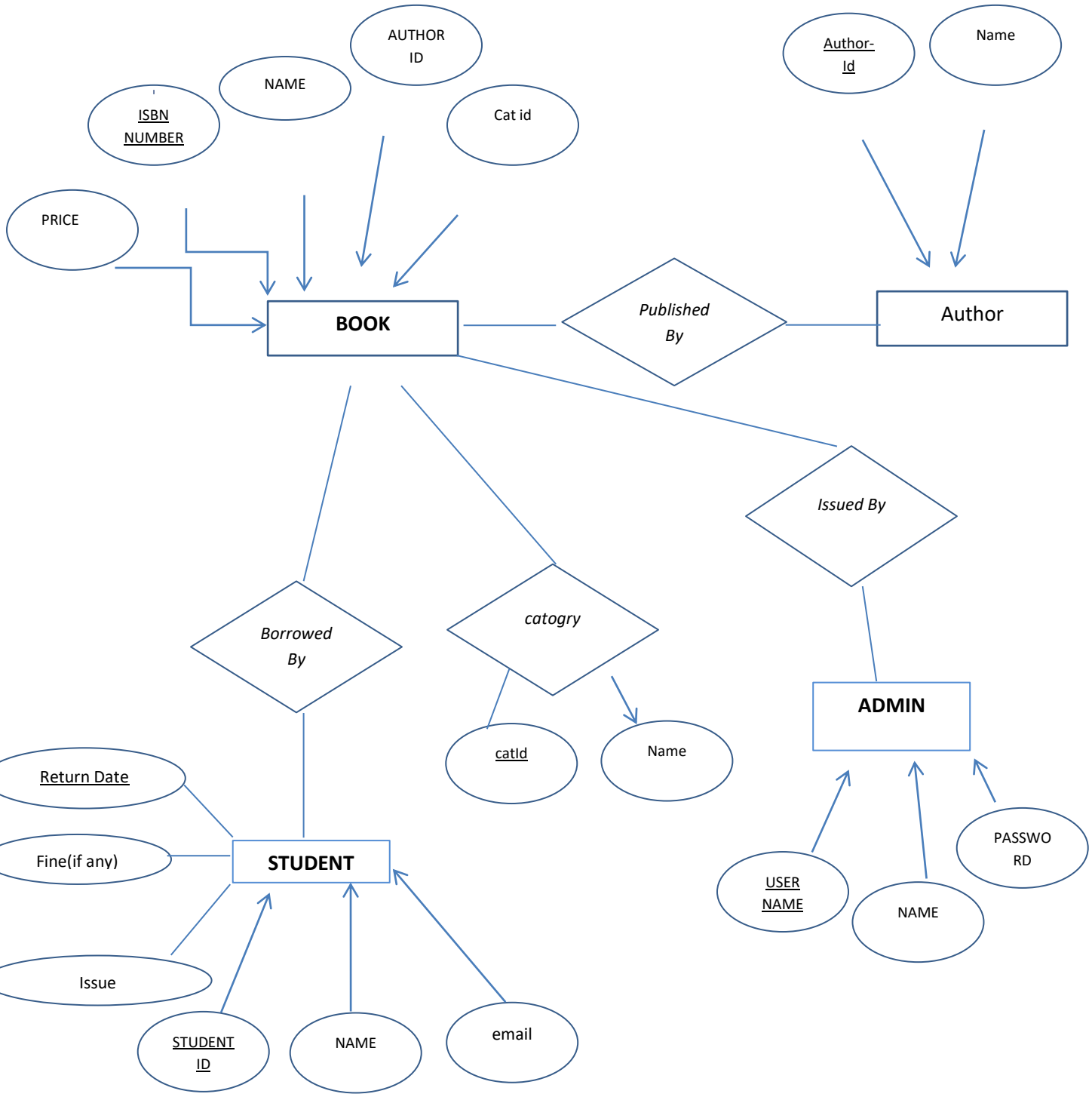
# Student:

In this table we have two attributes:

1) User Id:
   This attribute keeps record of the person who issues the book
   As person id is unique for each library Student.
2) persontype:
   This attribute keeps record of male/female person type.



# Entity Relationship Diagram



# Relational Database Schema Script ( SQL SERVER)

## CREATE DATABASE [library]

```
--
-- Table structure for table `admin`
--

CREATE TABLE `admin` (
  `id` int(11) NOT NULL,
  `FullName` varchar(100) DEFAULT NULL,
  `AdminEmail` varchar(120) DEFAULT NULL,
  `UserName` varchar(100) NOT NULL,
  `Password` varchar(100) NOT NULL,
  `updationDate` timestamp NOT NULL DEFAULT '0000-00-00 00:00:00' ON UPDATE
current_timestamp()
) ENGINE=InnoDB DEFAULT CHARSET=latin1;

--
-- Dumping data for table `admin`
--

INSERT INTO `admin` (`id`, `FullName`, `AdminEmail`, `UserName`, `Password`,
`updationDate`) VALUES
(1, 'Usman Maqsood', 'usmanmaqsood.263@gmail.com', 'admin',
'f925916e2754e5e03f75dd58a5733251', '2020-12-21 18:11:42');

-- --------------------------------------------------------

--
-- Table structure for table `tblauthors`
--

CREATE TABLE `tblauthors` (
  `id` int(11) NOT NULL,
  `AuthorName` varchar(159) DEFAULT NULL,
  `creationDate` timestamp NULL DEFAULT current_timestamp(),
  `UpdationDate` timestamp NULL DEFAULT NULL ON UPDATE current_timestamp()
) ENGINE=InnoDB DEFAULT CHARSET=latin1;

--
-- Dumping data for table `tblauthors`
--

INSERT INTO `tblauthors` (`id`, `AuthorName`, `creationDate`, `UpdationDate`) VALUES
(1, 'Tariq Baloch', '2020-12-20 12:49:09', '2020-12-20 15:16:59'),
(2, 'Somaya Zaman', '2020-12-20 14:30:23', '2020-12-20 14:30:23'),
(3, 'Dr Usman Khalid', '2020-12-20 14:30:23', '2020-12-20 14:30:23'),
(4, 'muhammad fahab', '2020-11-20 14:30:23', '2020-12-28 16:36:44'),
```

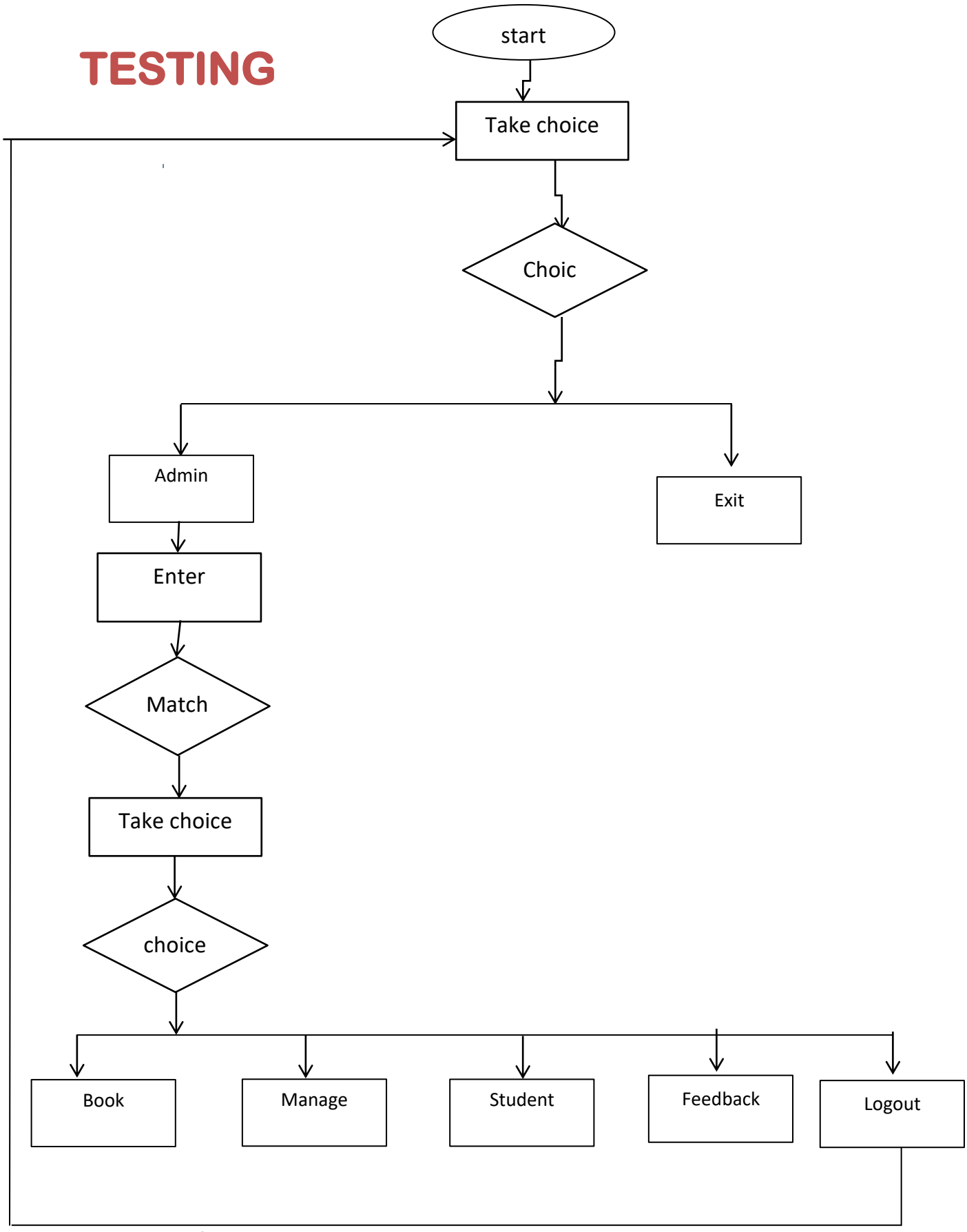
```
(5, 'Dr Sehrish Gul', '2020-12-10 14:30:23', '2020-12-10 14:30:23'),
(10, 'Mukhtiar Zamin', '2020-12-30 08:30:21', NULL),
(11, 'Samera Bano', '2020-12-30 08:43:48', NULL);

-- --------------------------------------------------------

--
-- Table structure for table `tblbooks`
--

CREATE TABLE `tblbooks` (
  `id` int(11) NOT NULL,
  `BookName` varchar(255) DEFAULT NULL,
  `CatId` int(11) DEFAULT NULL,
  `AuthorId` int(11) DEFAULT NULL,
  `ISBNNumber` int(11) DEFAULT NULL,
  `BookPrice` int(11) DEFAULT NULL,
  `RegDate` timestamp NULL DEFAULT current_timestamp(),
  `UpdationDate` timestamp NULL DEFAULT NULL ON UPDATE current_timestamp()
) ENGINE=InnoDB DEFAULT CHARSET=latin1;

--
-- Dumping data for table `tblbooks`
--

INSERT INTO `tblbooks` (`id`, `BookName`, `CatId`, `AuthorId`, `ISBNNumber`,
`BookPrice`, `RegDate`, `UpdationDate`) VALUES
(1, 'PHP And MySql programming', 5, 1, 3322, 20, '2019-12-30 08:31:58', '2020-12-30
09:24:39'),
(3, 'physics', 6, 4, 1111, 15, '2020-11-30 08:31:58', '2020-12-30 09:23:24'),
(4, 'Fundamental Of Programming', 8, 1, 1122, 40, '2020-12-30 08:31:58', NULL),
(5, 'Fundamental Of Logic', 9, 5, 1123, 40, '2020-12-30 08:33:08', '2020-12-30
08:34:52'),
(6, 'Calculus', 10, 11, 2233, 20, '2020-12-30 08:45:24', NULL);

-- --------------------------------------------------------

--
-- Table structure for table `tblcategory`
--

CREATE TABLE `tblcategory` (
  `id` int(11) NOT NULL,
  `CategoryName` varchar(150) DEFAULT NULL,
  `Status` int(1) DEFAULT NULL,
  `CreationDate` timestamp NULL DEFAULT current_timestamp(),
  `UpdationDate` timestamp NULL DEFAULT '0000-00-00 00:00:00' ON UPDATE
current_timestamp()
) ENGINE=InnoDB DEFAULT CHARSET=latin1;

--
-- Dumping data for table `tblcategory`
--
```

```
INSERT INTO `tblcategory` (`id`, `CategoryName`, `Status`, `CreationDate`,
`UpdationDate`) VALUES
(8, 'Computer Science', 1, '2020-12-30 08:29:10', '0000-00-00 00:00:00'),
(9, 'Computer Engineering', 1, '2020-12-30 08:29:43', '0000-00-00 00:00:00'),
(10, 'Maths', 1, '2020-12-30 08:42:34', '0000-00-00 00:00:00');

-- --------------------------------------------------------

--
-- Table structure for table `tblissuedbookdetails`
--

CREATE TABLE `tblissuedbookdetails` (
  `id` int(11) NOT NULL,
  `BookId` int(11) DEFAULT NULL,
  `StudentID` varchar(150) DEFAULT NULL,
  `IssuesDate` timestamp NULL DEFAULT current_timestamp(),
  `ReturnDate` timestamp NULL DEFAULT NULL ON UPDATE current_timestamp(),
  `RetrunStatus` int(1) DEFAULT NULL,
  `fine` int(11) DEFAULT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;

--
-- Dumping data for table `tblissuedbookdetails`
--

INSERT INTO `tblissuedbookdetails` (`id`, `BookId`, `StudentID`, `IssuesDate`,
`ReturnDate`, `RetrunStatus`, `fine`) VALUES
(7, 4, 'SID01', '2020-12-30 08:36:40', '2020-12-30 09:25:22', 1, 20),
(8, 4, 'SID015', '2020-12-30 08:59:11', NULL, NULL, NULL);

-- --------------------------------------------------------

--
-- Table structure for table `tblstudents`
--

CREATE TABLE `tblstudents` (
  `id` int(11) NOT NULL,
  `StudentId` varchar(100) DEFAULT NULL,
  `FullName` varchar(120) DEFAULT NULL,
  `EmailId` varchar(120) DEFAULT NULL,
  `MobileNumber` char(11) DEFAULT NULL,
  `Password` varchar(120) DEFAULT NULL,
  `Status` int(1) DEFAULT NULL,
  `RegDate` timestamp NULL DEFAULT current_timestamp(),
  `UpdationDate` timestamp NULL DEFAULT NULL ON UPDATE current_timestamp()
) ENGINE=InnoDB DEFAULT CHARSET=latin1;

--
-- Dumping data for table `tblstudents`
--
```

```
INSERT INTO `tblstudents` (`id`, `StudentId`, `FullName`, `EmailId`, `MobileNumber`,
`Password`, `Status`, `RegDate`, `UpdationDate`) VALUES
(1, 'SID01', 'Sanaullah Khan', 'vipsanaullahkhan.2000@gmail.com', '3118883615',
'7af4896825dfc7e94f8a1d6846a5a2d4', 1, '2020-12-28 13:03:59', '2020-12-30 09:19:55'),
(12, 'SID02', 'Sardar Ali Irtaza', 'sardarali.111@gmail.com', '3114254257',
'50d8bd62fbe46030f0b8fe022f80ab26', 1, '2020-12-30 08:49:56', '2020-12-30 09:15:42'),
(13, 'SID03', 'Muhammad Muzamil', 'muzamil.111@gmail.com', '3105025265',
'3b84183b2f82038c16e0b6b444f48817', 1, '2020-12-30 08:52:22', '2020-12-30 09:15:49'),
(14, 'SID05', 'Sardar Badar ', 'badar.111@gmail.com', '3101525136',
'dffcec7e95a5b7b3df08820b89601337', 1, '2020-12-30 08:53:40', '2020-12-30 09:16:04'),
(15, 'SID04', 'Samama Saleem', 'samama.263@gmail', '3102564875',
'32f69488f68c76a307db13525a47db5a', 1, '2020-12-30 08:55:08', '2020-12-30 09:15:57'),
(16, 'SID017', 'Laraib', 'laraib.123@gmail.com', '3105023255',
'8257d23d35ebc9018f744c3069ee5add', 1, '2020-12-30 09:12:39', '2020-12-30 09:15:14'),
(17, 'SID018', 'Hamid Nawaz', 'hamid.123@gmail.com', '3105023265',
'0d090b8dc3919dfdf02ce618193a015a', 1, '2020-12-30 09:19:08', NULL);

--
-- Indexes for dumped tables
--

--
-- Indexes for table `admin`
--
ALTER TABLE `admin`
  ADD PRIMARY KEY (`id`);

--
-- Indexes for table `tblauthors`
--
ALTER TABLE `tblauthors`
  ADD PRIMARY KEY (`id`);

--
-- Indexes for table `tblbooks`
--
ALTER TABLE `tblbooks`
  ADD PRIMARY KEY (`id`);

--
-- Indexes for table `tblcategory`
--
ALTER TABLE `tblcategory`
  ADD PRIMARY KEY (`id`);

--
-- Indexes for table `tblissuedbookdetails`
--
ALTER TABLE `tblissuedbookdetails`
  ADD PRIMARY KEY (`id`);

--
```

```
-- Indexes for table `tblstudents`
--
ALTER TABLE `tblstudents`
  ADD PRIMARY KEY (`id`),
  ADD UNIQUE KEY `StudentId` (`StudentId`);

--
-- AUTO_INCREMENT for dumped tables
--

--
-- AUTO_INCREMENT for table `admin`
--
ALTER TABLE `admin`
  MODIFY `id` int(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=2;

--
-- AUTO_INCREMENT for table `tblauthors`
--
ALTER TABLE `tblauthors`
  MODIFY `id` int(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=12;

--
-- AUTO_INCREMENT for table `tblbooks`
--
ALTER TABLE `tblbooks`
  MODIFY `id` int(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=7;

--
-- AUTO_INCREMENT for table `tblcategory`
--
ALTER TABLE `tblcategory`
  MODIFY `id` int(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=11;

--
-- AUTO_INCREMENT for table `tblissuedbookdetails`
--
ALTER TABLE `tblissuedbookdetails`
  MODIFY `id` int(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=9;

--
-- AUTO_INCREMENT for table `tblstudents`
--
ALTER TABLE `tblstudents`
  MODIFY `id` int(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=18;
COMMIT;
```

# TESTING


start
Take choice
Choic
Admin
Exit
Enter
Match
Take choice
choice
Book
Manage
Student
Feedback
Logout

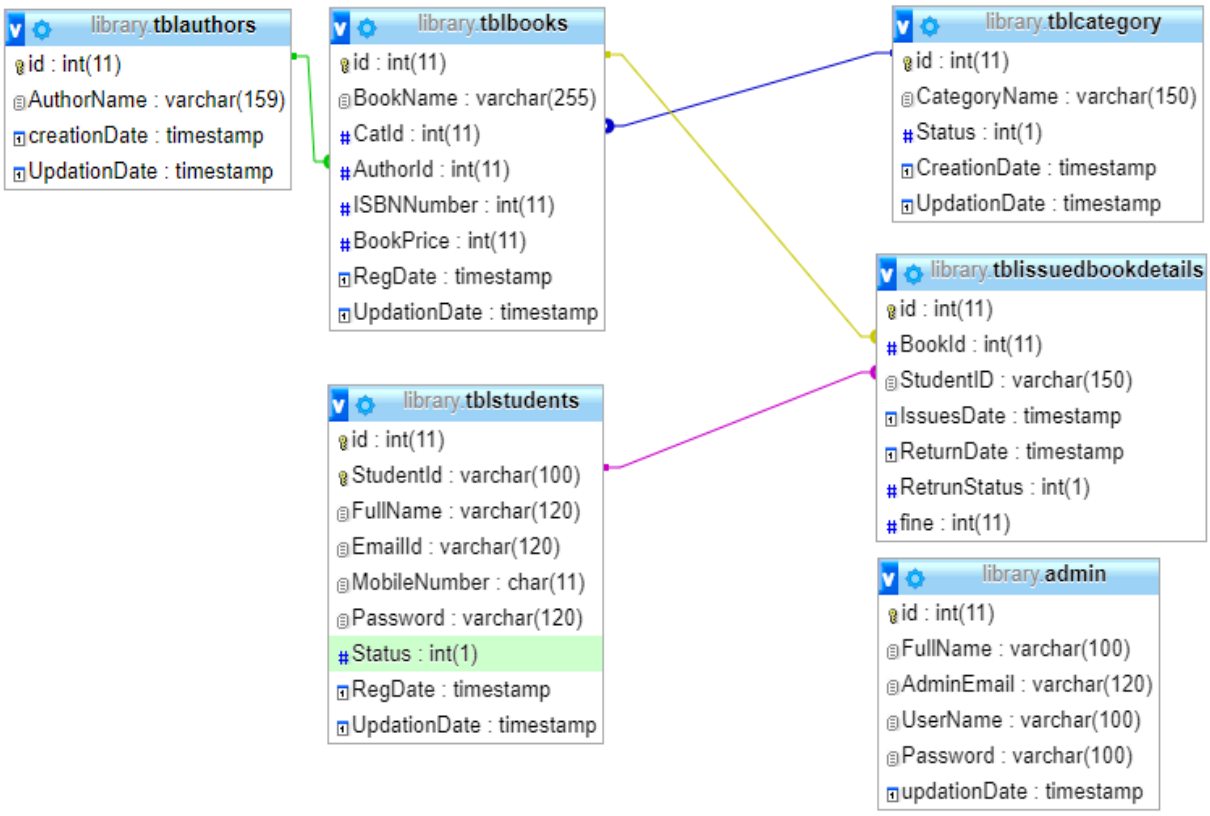
# Entity Relationship Diagram (SQL server)

## Model Redundancy

**All the relations are either one to one or one to many. The is not additional redundancy has been observe.**

## ER Diagram

- Relationship between tables

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# REFERENCES

**http://www.w3schools.com/html/html_intro.asp**

**https://www.w3schools.com/php/default.asp**

**https://www.w3schools.com/sql/default.asp**