

I3302 E

Web Development server side

It is strongly advised to define PHP functions, where necessary, to make the code clearer and less redundant, and All the functions will be created in the file "functions.php". For MySQL use the MySQLi functions.

We are interested in this exam to implement an application using PHP and MySQL that helps a librarian to monitor the student's payments for their book rent fees. The application contains only 3 tables:

- **user**: contains all users that can rent a book. Each user is identified by a userid, username and full_name.
- **book**: a book is identified by a bookid and a title.
- **rent**: contains data about rented books. A user (userid) can rent a book (bookid) in a specific date (rdate) with (fees).

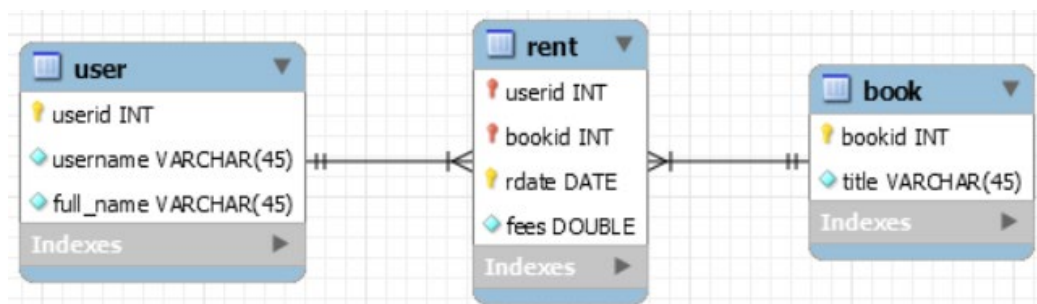


Figure 1

userid	username	full_name
1	asalim	Ahmad Salim
2	skamal	Sarah Kamal
3	ieldor	Issa Eldor

userid	bookid	rdate	fees
1	1	2019-04-15	5.5
1	1	2019-07-15	6
1	2	2019-05-12	4
2	1	2019-05-12	4.5
2	3	2019-04-20	3.2

bookid	title
1	Intro Computer
2	World Wide Web-Design
3	Visual Programming I
4	Computer Organization

Figure 2

Data backup and management is done using MySQL, installed on the same machine hosting the "localhost" web server. The database is called "library". An administrator who has a username "admin" with the password "mylib" can access this database.

Question 1. (6pts) Write the function `connect()` that established a connection using the server, database name, username and password listed above. It returns true if connected, otherwise it displays the corresponding error message and returns false.

Question 2. (7pts) Write a function `listUsers()` that list users who had rent books (it displays a table as shown below). The results must contain the user id, username, full name and the total of fees. The full name must be clickable, the action to take is in question 3.

User ID	Username	Full Name	Total
1	asalim	Ahmad Salim	15.5\$
2	skamal	Sarah Kamal	7.7\$

Question 3. (6pts) Write the php code that take action when clicking on any full name in question 2. On click, a new page *booksdetails.php* must open and display all books rented by the user with the corresponding full name. Example: by click on [Ahmad Salim](#) it must display:

Books rented by Ahmad Salim:		
Title	Date	Fees
Intro Computer	2019-04-15	5.5\$
Intro Computer	2019-07-15	6\$
World Wide Web-Design	2019-05-12	4\$

Question 4. (6pts) In this question we admit that the database has broken down. It is assumed that the data in the database has been stored in a *library.txt* file. We assume that on the first visit to the page in question 4, a *load()* function reads the file *library.txt* and saves the data in a single associative array (containing `$user`, `$book` and `$rent`), then this array will be assigned to a **session**.

Suggest a possible representation for the associative sub-array `$rent` (with its corresponding data).

```
$user = array(1=>array("asalim","Ahmad Salim"),2=>array("skamal","Sarah Kamal"),3=>array("ieldor","Issa Eldor"));
```

```
$book= array(1=>"Intro Computer",2=>"World Wide Web-Design",3=>"Visual Programming 1",4=>"Computer Organization");
```

Question 5. (5pts) Write question 2 using the session created in question 4.