



ADVANCE DATABASE MANAGEMENT SYSTEM

TOPIC: UNIVERSITY MANAGEMENT SYSTEM

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SECTION: C

GROUP NAME: RJ

DEPARTMENT: BSc. CSE

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UNIVERSITY MANAGEMENT SYSTEM

University Management System is the process of several manages. It used structured data and to define the relationships between structured data groups of University Management System. Here are the requirements of a university management system:

- Students are identified by an s_id, sname,email,address.
- Student can choose only one department in a University.
- Departments are identified by an d_id,dname,no_of _program.
- Department offered different types of course.
- Courses are identified by an c_id,cname,credits,section.
- Faculties are identified by their f_id,fname,contact_no,city,country.
- Faculty can take different types of course.
- Student enroll different types of course.
- Library has l_id, lname, books_name, location, capacity.
- Student can borrow book from library.

NORMALIZATION

Step 1 :


Borrow book : (s_id,sname,email,address,l_id,lname,
Books_name,location,capacity)

1NF : **email** is a multivalued attribute

2NF : s_id,sname,email,address
l_id,lname,books_name,location,capacity

3NF : No transitive dependency

TABLE FOR borrow book:

1. s_id,sname ,address,
2. s_id,email  composite pk
3. l_id,lname,location,books_name,capacity
4. n_id, l_id , s_id

Step 2:

Choose : (s_id,sname,email,,address,d_id,dname,no_of_program)

1NF : **email** is a multivalued attribute

2NF : s_id,sname,email ,address
d_id,dname,no_of_program

3NF : No transitive dependency

TABLE FOR choose :

1. s_id,sname ,address, d_id
2. s_id,email \Rightarrow composite pk
3. d_id,dname,no_of_program

Step 3 :

Offer : (d_id,dname,no_of_program,c_id,cname,section,credits)

1NF : **section** is a multivalued attribute

2NF : d_id,dname,no_of_program

c_id,cname,section,credits

3NF : No transitive dependency

TABLE FOR offer:

1. d_id,dname,no_of_program
2. c_id,cname,credits, d_id
3. c_id,section \Rightarrow composite pk

step 4:

enroll: (s_id,sname,email,,address, c_id,cname,section,credits)

1NF : **email & section** are multivalued attributes

2NF : s_id,sname,email,,address

c_id,cname,section,credits

3NF : No transitive dependency.

TABLE FOR enroll :

- 1) s_id, sname, address
- 2) s_id, email \Rightarrow composite pk
- 3) c_id, cname, credits
- 4) c_id, section \Rightarrow composite pk
- 5) n1_id, s_id , c_id

Step 5

take : (f_id, fname, contact_no, city, country, c_id, cname, section, credits)

1NF: **contact_no** & **section** are multivalued attributes.

2NF: f_id, fname, contact_no, city, country

c_id, cname, section, credits

3NF: f_id, fname, contact_no

pass_no, city, country

c_id, cname, section, credits

TABLES FOR take:

1. f_id, fname, pass_no
2. f_id, contact_no \Rightarrow composite pk
3. pass_no, city, country
4. c_id, cname, credits
5. c_id, section \Rightarrow composite pk
6. n2_id, f_id , c_id

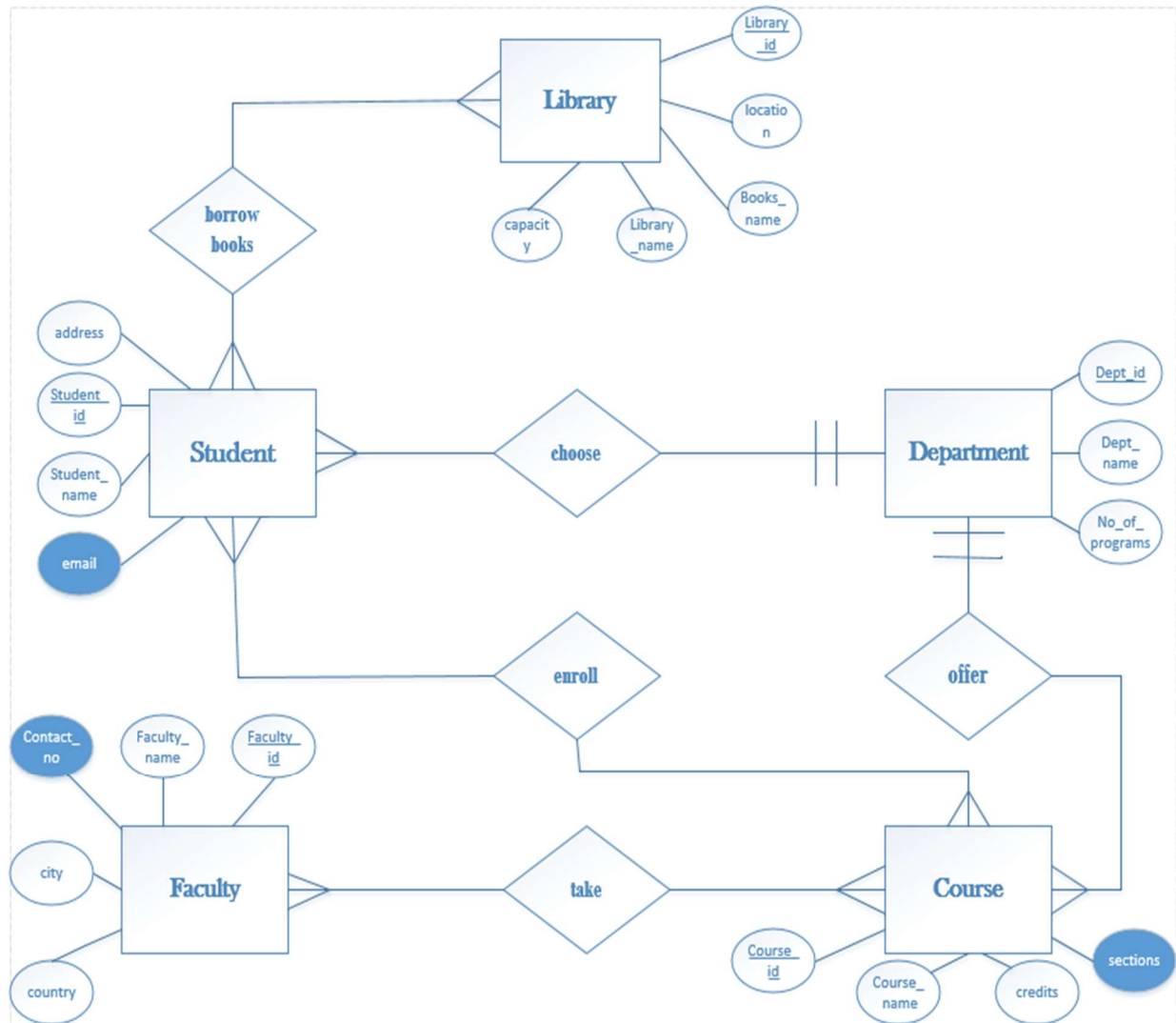
TOTAL TABLES

- 1) ~~s_id,sname ,address~~
- 2) ~~s_id,email~~
- 3) l_id,lname,location,books_name,capacity
- 4) n_id , l_id , s_id
- 5) s_id,sname ,address,d_id
- 6) s_id,email
- 7) d_id,dname,no_of_program
- 8) ~~d_id,dname,no_of_program~~
- 9) c_id,cname,credits, d_id
- 10) c_id,section
- 11) ~~s_id,sname,address~~
- 12) ~~s_id,email~~
- 13) ~~c_id,cname,credit~~
- 14) ~~c_id,section~~
- 15) n1_id, s_id,c_id
- 16) f_id,fname,pass_no
- 17) f_id,contact_no
- 18) pass_no,city,country
- 19) ~~c_id,cname,credits~~
- 20) ~~c_id,section~~

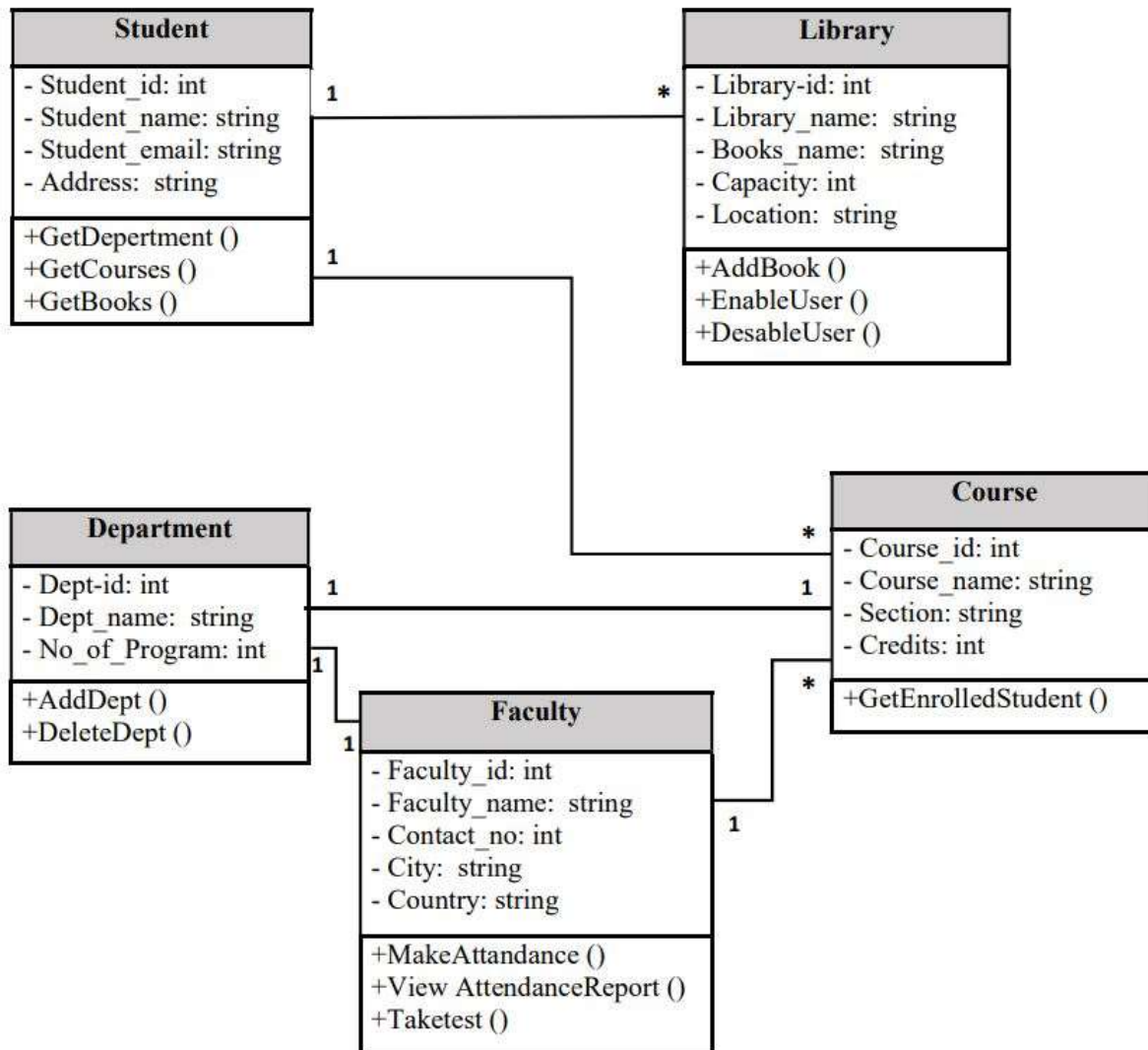
FINAL TABLE OF CONTENTS

Table No	Table Name	Column name
1	Library	<u>li_id</u> ,lname,location,books_name, capacity
2	Information	<u>n_id</u> , <u>l_id</u> , <u>s_id</u>
3	Student	<u>s_id</u> ,sname ,address,d_id
4	Student_Information	<u>s_id</u> ,email
5	Department	d_id,dname,no_of_program
6	Course	c_id,cname,credits, d_id
7	Course_Information	<u>c_id</u> , <u>section</u>
8	Information1	<u>n1_id</u> , <u>s_id</u> , <u>c_id</u>
9	Faculty	<u>f_id</u> ,fname,pass_no
10	Faculty_Contact	<u>f_id</u> ,contact_no
11	Faculty_Information	<u>pass_no</u> ,city,country

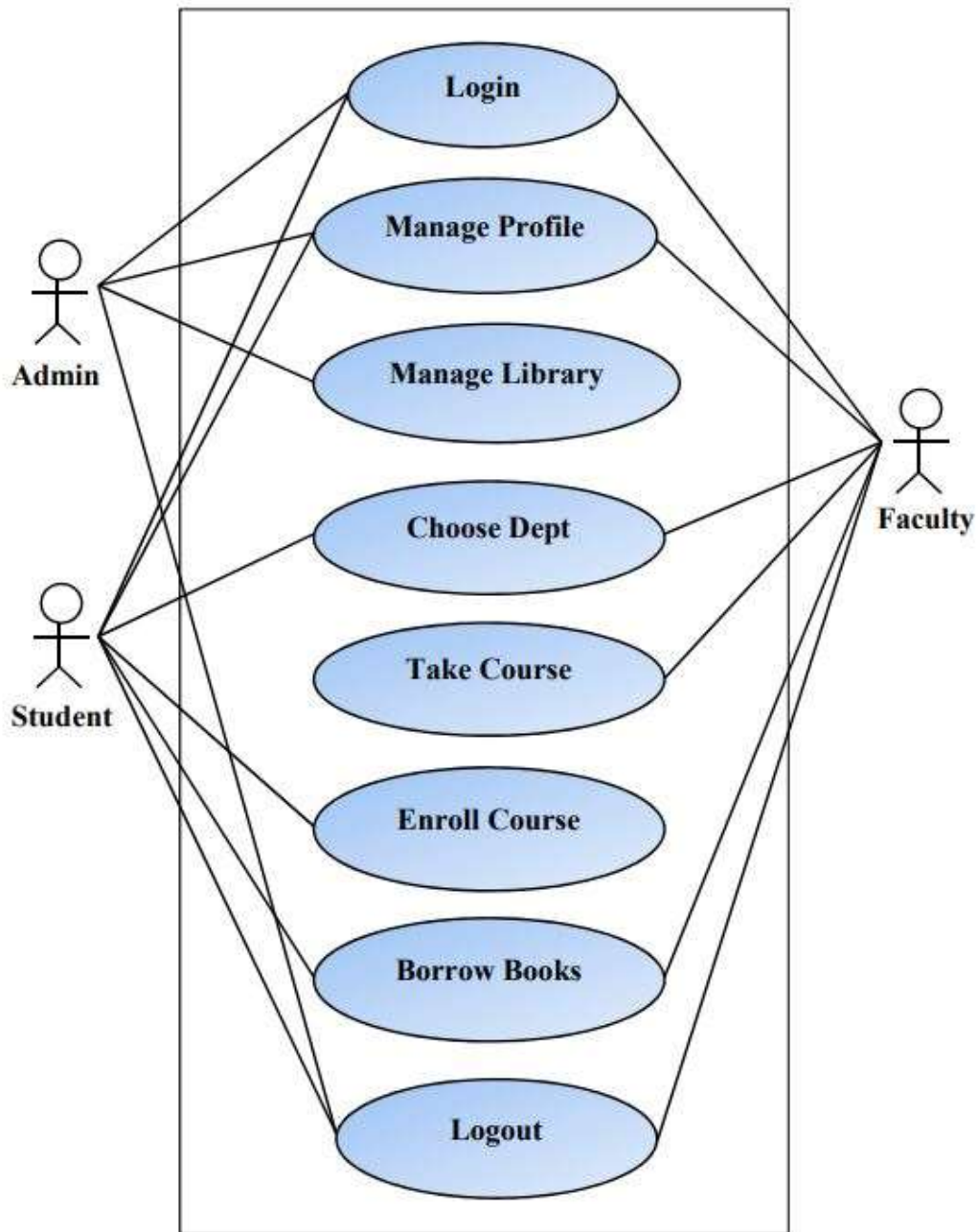
ER-DIAGRAM



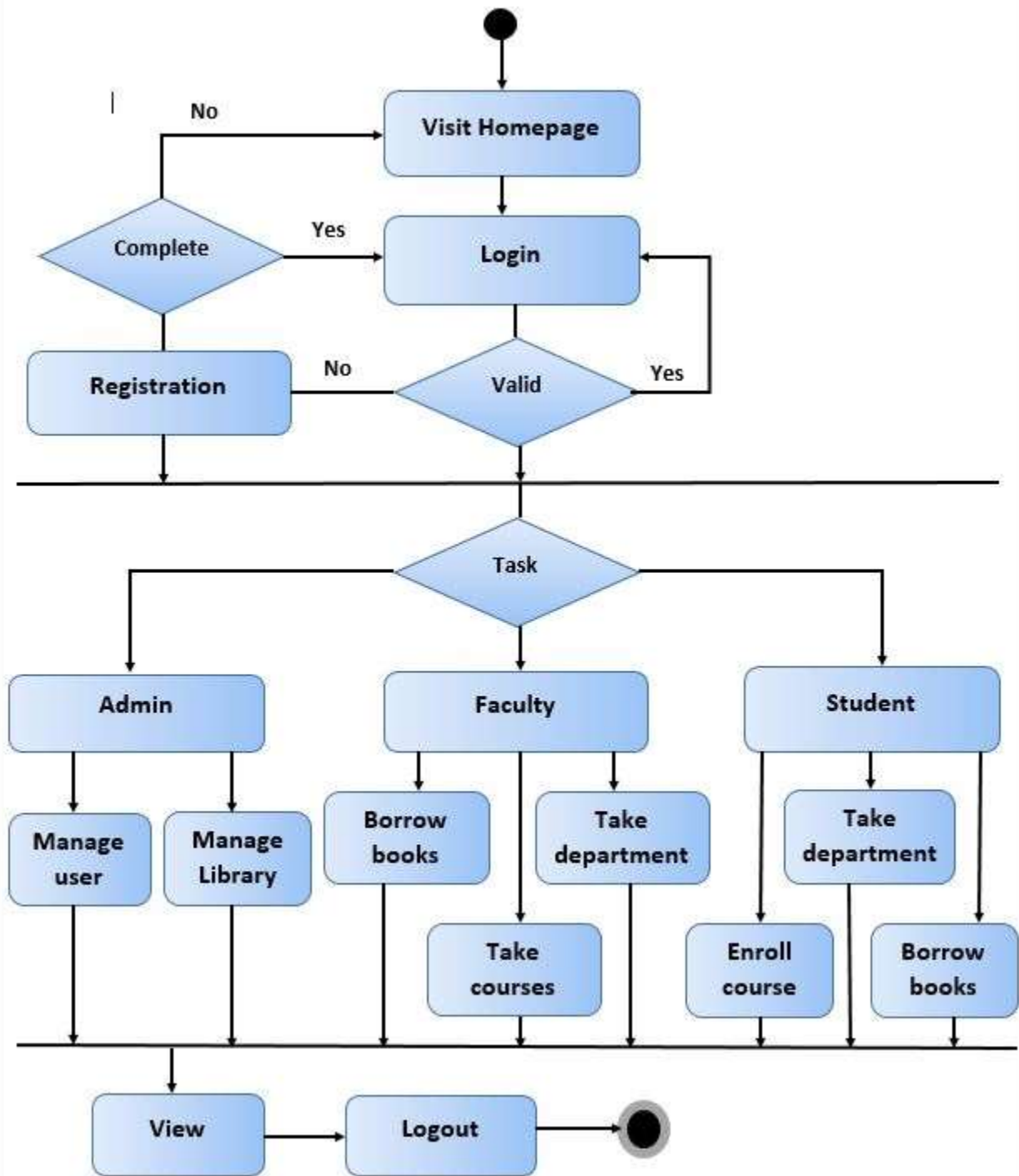
CLASS-DIAGRAM



USECASE-DIAGRAM



ACTIVITY-DIAGRAM



SCHEMA-DIAGRAM

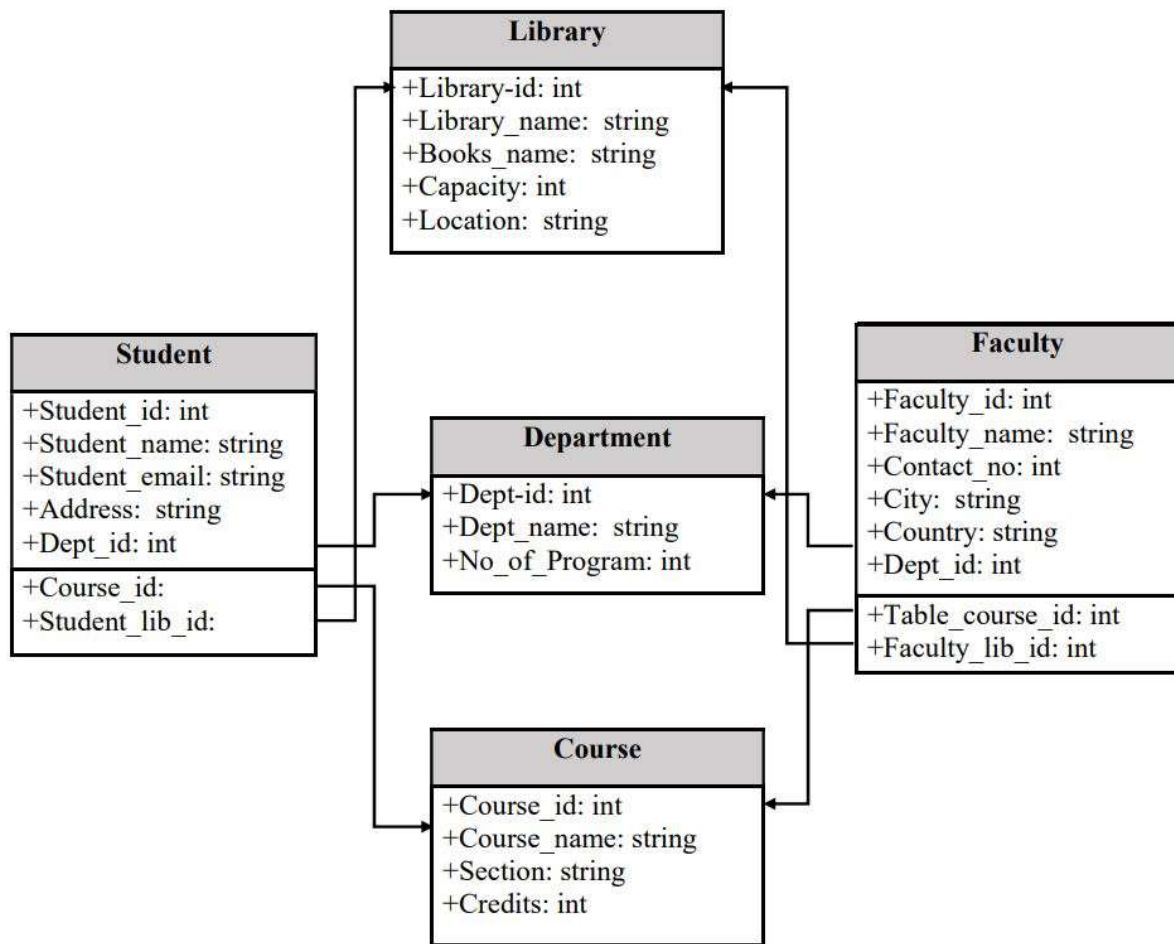


TABLE INFORMATION

Student:

```
select *  
from student
```

Results Explain Describe Saved SQL History

STUDENT_ID	FIRST_NAME	LAST_NAME	ADDRESS	DEPARTMENT_ID
1111	Shaheen Alam	Jony	Banani	2001
1112	Ritu	Basak	Basundhara R/A	2002
1113	Junak	Priya	Mirpur	2003
1114	Suraiya	Shuvra	Uttara	2004
1115	Nusrat	Labonno	Dhanmondi	2005

5 rows returned in 0.01 seconds

[CSV Export](#)

Faculty:

```
select *  
from faculty
```

Results Explain Describe Saved SQL History

FACULTY_ID	FACULTY_NAME	PASSPORT_NO
6021	Rezwan Ahmed	ba--19562376
6022	Md. Nazmul Hossain	bb--37343672
6023	Rasidul Hasan Nabil	aa--672827822
6024	Md. Kishor Morol	ga--982876328
6025	Juena Nowsin	yy--8382728969

5 rows returned in 0.00 seconds

[CSV Export](#)

Course:

```
select *  
from course
```

Results Explain Describe Saved SQL History

COURSE_ID	COURSE_NAME	DEPARTMENT_ID
50001	Advance WebTech	2002
50003	Advance .Net	2003
50005	Data Structure	2004
50007	Java	2005
50041	Advance Database	2001

5 rows returned in 0.01 seconds

[CSV Export](#)

Department:

```
select*  
from department
```

Results Explain Describe Saved SQL History

DEPARTMENT_ID	DEPARTMENT_NAME	NO_OF_PROGRAM
2001	CSE	148
2002	ENGLISH	125
2003	EEE	145
2004	ECONOMICS	130
2005	BBA	128

5 rows returned in 0.02 seconds

[CSV Export](#)

Library:

```
select*  
from library
```

Results Explain Describe Saved SQL History

LIBRARY_ID	LIBRARY_NAME	BOOKS_NAME	LOCATION	CAPACITY
1021	Library of Congress	illuminater	Washington	1000
1022	Ta_juddin	Ted_talks	Central_library	2000
1023	Saya_nazrul	When_to_jump	Modhur_canteen	3000
1024	M_Kamruzzaman	The_decision_book	Paris_road	1500
1025	M_mounsur_ali	After_the_prophet	Hakim_chottor	2500

5 rows returned in 0.00 seconds

[CSV Export](#)

Faculty_contract:

```
select *  
from faculty_contract
```

Results Explain Describe Saved SQL History

FACULTY_ID	CONTRACT_NO
6001	ahmed.rezwan@aiub.edu
6002	nazmul@aiub.edu
6003	nabil@aiub.edu
6004	juena@aiub.edu
6005	nowshin@aiub.edu

5 rows returned in 0.03 seconds

[CSV Export](#)

Faculty_information:

```
select *  
from faculty_information
```

Results Explain Describe Saved SQL History

PASSPORT_NO	CITY	COUNTRY
ba--19562376	DHAKA	BANGLADESH
bb--37343672	CHOTTOGRAM	BANGLADESH
aa--672827822	SYLHET	BANGLADESH
ga--982876328	RANGPUR	BANGLADESH
yy--8382728969	SYDNEY	AUSTRALIA

5 rows returned in 0.00 seconds

[CSV Export](#)

Information:

```
select *  
from information
```

Results Explain Describe Saved SQL History

NEW_ID	LIBRARY_ID	STUDENT_ID
4	1021	1111
5	1022	1112
6	1023	1113
7	1024	1114
8	1025	1115

5 rows returned in 0.00 seconds

[CSV Export](#)

Student_information:

```
select *  
from student_information
```

Results Explain Describe Saved SQL History

STUDENT_ID	EMAIL_NO
1111	jony@gmail.com
1112	ritubsk@gmail.com
1113	priya@gmail.com
1114	shuvra@gmail.com
1115	labonna@gmail.com

5 rows returned in 0.00 seconds

[CSV Export](#)

Course_information:

```
Select *  
from course_information
```

Results Explain Describe Saved SQL History

COURSE_ID	SECTION
50001	DD9091-A
50003	DD9092-B
50005	DD9093-C
50007	DD9094-D
50009	DD9095-E

5 rows returned in 0.00 seconds

[CSV Export](#)

Information_1:

```
select *  
from information_1
```

Results Explain Describe Saved SQL History

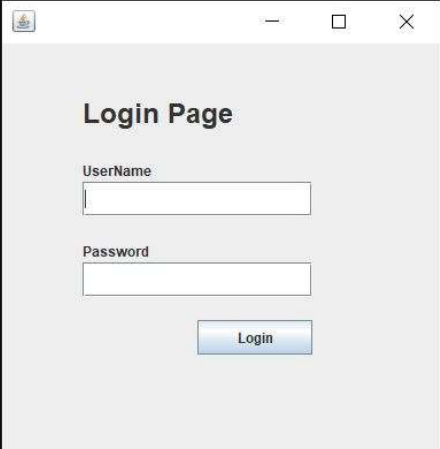
NEW_ID_1	STUDENT_ID	COURSE_ID
9091	1111	50001
9092	1112	50003
9093	1113	50005
9094	1114	50007

4 rows returned in 0.00 seconds

[CSV Export](#)

Login in .java with oracle database connection:

C:\Users\ASUS\OneDrive\Desktop\Java>java Login

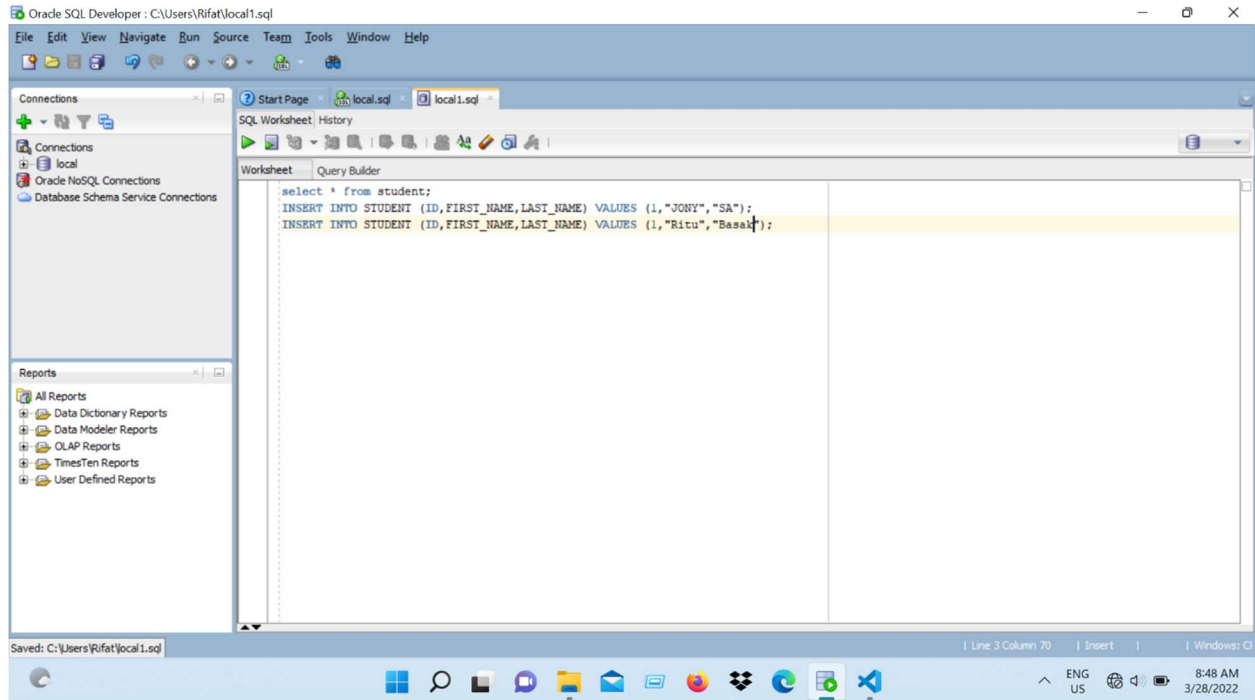


Login Page

UserName

Password

Login



QUERY QUESTIONS

1. Display department name where student id is 1114.
2. Find out in which library When_to_jump book is available and select the location of that library.
3. Find out the faculty_id and passport _no of faculty whose name starts with R and ends with A.
4. Find out the library id where ritu is allowed.

5. Find out the Email_no of Ritu or Jony.
6. Find out the section name of Data structure.
7. Find the city and Country of a faculty with faculty_id-6021.
8. Write a query to fetch 50% records from the faculty table.
9. Find Query to get information of a student where the student is not assigned to the department.
10. How to get distinct records from the Employees table without using distinct keyword.
11. Write an SQL query that returns the students (last name only) in department '2004' ordered by decreasing id.

This project helped us to understand to build a project of management system. We faced many problems when we were normalizing the data. Normalization is very sensitive. We have learnt how SQL works and the query things. Now, the future plan is to observe our surrounding more carefully and try to make a good platform for this project based on that.