Green University of Bangladesh
Department of Computer Science and Engineering (CSE)
Faculty of Sciences and Engineering
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Course Title: Database System LAB
Course Code: CSE-210   Section: 193DB

Project Report
Lab project name: Library management System

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Lab Report Status	
Marks: ……………………………	Signature: ....
Comments:	Date: ....

Chapter - 01

Introduction

Library Management System is a system which refers to library systems which are generally small or medium in size. It is used by librarian to manage the library record various transactions like hire of books, return of books, addition of new books, addition of new readers etc. Books as well as readers maintenance modules are also included in this system which would keep track of the students using the library and also a detailed description about the books a library contains. In addition, staff module is also included in Library Management System. If user's position is admin, the user is able to generate different kinds of reports like lists of staff, readers registered, list of books, hire and return reports. All these modules as well ase our project are able to help librarian to manage the library very easily.

Objective

The purpose of this project is to provide a friendly environment to maintain the details of books and library members. The main purpose of this project is to maintain easy circulation system using computers and to provide different reports. Improved user service through greater access to accurate information. Due to computerized information it reduces the risk of paper work such as file lost, file damaged and time consuming. It can help user to manage record of books, staff, readers more effectively and timesaving.

Chapter - 02

Implementation of the project

- ➢ **Table - authentication**
  ```sql
  CREATE TABLE authentication  (
      username varchar(20) not null,
      password varchar(30) not null,
      CONSTRAINT pkau primary key (username)
      );

  insert into Authentication values('Himel', 'libraryManagementSystem');

  select * from Authentication;
  ```

- ➢ **Table – staff**
  ```sql
  CREATE TABLE staff(
      staff_id number(5),
      staff_name varchar(20),
  ```

```sql
    gender varchar(6),
    salary number(5) DEFAULT 0,
    CONSTRAINT pkst primary key (staff_id)
    );

insert into Staff values(1, 'Karim', 'Male', 20000);
insert into Staff values(2, 'Mehedi', 'Male', 20000);
insert into Staff values(3, 'Suvra', 'Female', 20000);
insert into Staff values(4, 'Hossain', 'Male', 20000);
insert into Staff values(5, 'Rumi', 'Female', 20000);
insert into Staff values(6, 'Naima', 'Female', 20000);
insert into Staff values(7, 'Hasan', 'Male', 20000);
insert into Staff values(8, 'Himu', 'Female', 20000);
insert into Staff values(9, 'Rana', 'Male', 20000);
insert into Staff values(10, 'Humayun', 'Male', 20000);

select * from Staff;
```

➢ Table – Readers

```sql
CREATE TABLE Readers(
    reader_id number(5),
    reader_name varchar(30),
    address varchar(30),
    email varchar(30) UNIQUE,
    cell_no number(11) UNIQUE,
    staff_id number(5),
    CONSTRAINT pkre primary key (reader_id),

  CONSTRAINT fkre foreign key (staff_id) REFERENCES Staff(staff_id) on
delete cascade
    );

insert into Readers values(10001, 'Rubina Akter', 'Green
Road', 'Rubina@gmail.com', 01678954321, 1);
insert into Readers values(10002, 'Anamika
Ghosh', 'Gulshan', 'Anamika@gmail.com', 01715253207, 5);
insert into Readers values(10003, 'Suborno haque', 'New
Airport', 'Suborno@gmail.com', 01711204926, 6);
insert into Readers values(10004, 'Sagor
Kumar', 'Farmgate', 'Sagor@gmail.com', 01716311601, 4);
insert into Readers values(10005, 'Hridoy
Rahman', 'Banani', 'Hridoy@gmail.com', 01711238367, 1);
insert into Readers values(10006, 'Nil
Rahman', 'Mirpur', 'Nilrahman@gmail.com', 01711542542, 2);
insert into Readers values(10007, 'Sanjida
Akter', 'Mirpur', 'Sanjida@gmail.com', 01756662855, 2);
insert into Readers values(10008, 'Sadia
Akter', 'Shahbagh', 'Sadia@gmail.com', 01755527674, 3);
insert into Readers values(10009, 'Mehedi
Hasan', 'Gulshan', 'Mehedi@gmail.com', 01755527672, 10);
```

```sql
insert into Readers values(10010, 'Eram Islam', 'Green
Road', 'Eram@gmail.com', 01726682255, 9);
insert into Readers values(10011, 'Arpita
Das', 'Mohakhali', 'Arpita@gmail.com', 01499015611, 10);
insert into Readers values(10012, 'Purno
Haque', 'Banani', 'Purno@gmail.com', 01713366505, 9);
insert into Readers values(10013, 'Tahsan
Khan', 'Mohakhali', 'Tahsan@gmail.com', 01711011005, 7);
insert into Readers values(10014, 'MD.
Rabbi', 'Farmgate', 'Rabbi@gmail.com', 01712613859, 8);
insert into Readers values(10015, 'Sheikh
Rasel', 'Shahbagh', 'Rasel@gmail.com', 01328615618, 6);
insert into Readers values(10016, 'Rahim Sheikh', 'New
Airport', 'Rahim@gmail.com', 01726774346, 2);
insert into Readers values(10017, 'Sharlina
khan', 'Kafrul', 'Sharlina@gmail.com', 01711525423, 7);
insert into Readers values(10018, 'Nadia
Islam', 'Gulshan', 'Nadia@gmail.com', 01713008868, 3);
insert into Readers values(10019, 'Hina
Akter', 'Kafrul', 'Hina@gmail.com', 01913470558, 1);
insert into Readers values(10020, 'Akash
Hossain', 'Shahbagh', 'Akash@gmail.com', 01713033737, 1);

select * from Readers;
```

➢ Table – Author

```sql
CREATE TABLE Author(
    author_id number(5),
    author_name varchar(30),
    CONSTRAINT pkaut primary key (author_id)
    );

insert into Author values(1001, 'Rabindranath Tagore');
insert into Author values(1002, 'Bibhutibhushan Bandyopadhyay');
insert into Author values(2001, 'Mukaddim Pathan');
insert into Author values(2002, 'Jouni Smed');
insert into Author values(2004, 'Tyler Bain');
insert into Author values(2005, 'Christopher Hadnagy');
insert into Author values(2101, 'Stephen R. Davis');
insert into Author values(1501, 'Diane Lockward');
insert into Author values(1201, 'Leigh Bardugo');
insert into Author values(2003, 'Jennifer Robbins');
insert into Author values(2102, 'Garth G.F. Ward');
insert into Author values(2103, 'James D. Bethune');
insert into Author values(2104, 'Frank Herbert');
insert into Author values(1202, 'J.K. Rowling');
insert into Author values(1203, 'Walter Isaacson');
insert into Author values(3001, 'Joel R. Hass');
insert into Author values(3002, 'Avner Friedman');

select * from Author;
```

➢ Table – Publisher

```sql
CREATE TABLE Publisher(
    publisher_id number(5),
    publisher_name varchar(30),
    CONSTRAINT pkpu primary key (publisher_id)
    );
insert into Publisher values(101, 'India Society, Macmillan');
insert into Publisher values(102, 'Ranjan Prakashalay');
insert into Publisher values(301, 'John Wiley & Sons');
insert into Publisher values(201, 'eBookIt.com');
insert into Publisher values(151, 'Imprint');
insert into Publisher values(302, 'Reilly Media, Inc.');
insert into Publisher values(152, 'Dorrance Publishing');
insert into Publisher values(303, 'Macromedia Press');
insert into Publisher values(153, 'Macmillan Audio');
insert into Publisher values(154, 'Pottermore Publishing');
insert into Publisher values(155, 'Simon and Schuster');
insert into Publisher values(251, 'Pearson');
insert into Publisher values(252, 'Courier Corporation');

select * from Publisher;
```

➢ Table – Books

```sql
CREATE TABLE Books(
    title varchar(100),
    isbn number(10),
    price number(7,2),
    edition varchar(4),
    category varchar(30),
    staff_id number(5),
    author_id number(5),
    publisher_id number(5),
    publisher_year number(4),
    CONSTRAINT pkbo primary key (isbn),

  CONSTRAINT fkbost foreign key (staff_id) REFERENCES Staff(staff_id) on delete cascade,

  CONSTRAINT fkboau foreign key (author_id) REFERENCES Author(author_id) on delete cascade,

  CONSTRAINT fkbore foreign key (publisher_id) REFERENCES Publisher(publisher_id) on delete cascade
    );

insert into Books values('Advanced Content Delivery, Streaming, and Cloud
Services', 9781118575, 400.00, '1st', 'Networking', 1, 2001, 301, 2014)
;
```

```sql
insert into Books values('Algorithms and Networking for Computer
Games', 9781119259, 405.00, '2nd', 'Networking', 3, 2002, 301, 2017);
insert into Books values('C++ for
Dummies', 9780470317, 379.00, '6th', 'Programming', 3, 2101, 301, 2011)
;
insert into Books values('The Crafty Poet: A Portable
Workshop', 9781456624, 799.00, '1st', 'Poetry', 4, 1501, 201, 2015);
insert into Books values('King of
Scars', 9781250142, 709.00, '1st', 'Action &
Adventure', 10, 1201, 151, 2019);
insert into Books values('Learning Web Design: A Beginners Guide to
HTML, CSS, JavaScript and Web
Graphics', 9781491960, 4099.00, '5th', 'Web
Design', 6, 2003, 302, 2018);
insert into Books values('The Dragon Knight and His
Lady', 9781480989, 1699.00, '1st', 'Science
Fiction', 5, 2103, 152, 2019);
insert into Books values('Effective Project Management: Guidance and
Checklists for Engineering and
Construction', 9781119469, 5599.00, '1st', 'Technology &
Engineering', 4, 2102, 301, 2018);
insert into Books values('Engineering Graphics with AutoCAD
2020', 9780135562, 5799.00, '1st', 'Design, Graphics &
Media', 6, 2103, 303, 2019);
insert into Books values('Dune: Book One in the Dune
Chronicles', 9781427201, 3599.00, '1st', 'Science
Fiction', 7, 2104, 153, 2007);
insert into Books values('Harry Potter and the Prisoner of
Azkaban', 9781781102, 2599.00, '1st', 'Action &
Adventure', 3, 1202, 154, 2015);
insert into Books values('Einstein: His Life and
Universe', 9781416539, 1099.00, '1st', 'Biography &
Autobiography', 9, 1203, 155, 2007);
insert into Books values('Thomas Calculus: Early
Transcendentals', 9780134606, 5499.00, '14th', 'Mathematics', 2, 3001,
251, 2017);
insert into Books values('Advanced
Calculus', 9780486137, 999.00, '1st', 'Mathematics', 7, 3002, 252, 2012
);
insert into Books values('Partial Differential Equations of Parabolic
Type', 9780486318, 999.00, '1st', 'Mathematics', 7, 3002, 252, 2013);
insert into Books values('Cryptocurrency Mining For
Dummies', 9781119579, 1799.00, '1st', 'Business &
Economics', 10, 2104, 301, 2019);
insert into Books values('Social Engineering: The Science of Human
Hacking', 9781119433, 1999.00, '2nd', 'Computers', 1, 301, 301, 2018);
insert into Books values('Gitanjali', 9756478523, 1009.00, '1st', 'Poem
', 6, 1001, 101, 1910);
insert into Books values('Pather
Panchali', 9780411117, 679.00, '1st', 'Tragedy', 6, 1002, 102, 1929);
insert into Books values('Shesher
Kabita', 9745445632, 899.00, '1st', 'Novel', 9, 1001, 101, 1929);
```

```sql
select * from Books;
```

➢ Table – BookHireDetails

```sql
CREATE TABLE BookHireDetails(
    reader_id number(5),
    isbn number(10),
    reserve_date date,
    return_date date,

  CONSTRAINT fkbhdre foreign key (reader_id) REFERENCES Readers(reader_
id) on delete cascade,

  CONSTRAINT fkbhdt foreign key (isbn) REFERENCES Books(isbn) on delete
 cascade
    );

insert into BookHireDetails values(10001, 9756478523, '01-05-
2021', '01-12-2021');
insert into BookHireDetails values(10005, 9781119579, '02-04-
2021', '03-11-2021');
insert into BookHireDetails values(10009, 9781250142, '01-16-
2021', '01-23-2021');
insert into BookHireDetails values(10010, 9780470317, '04-01-
2021', '04-08-2021');
insert into BookHireDetails values(10001, 9756478523, '05-05-
2021', '05-12-2021');

select * from BookHireDetails;
```

➢ Table – Reports

```sql
CREATE TABLE Reports(
    Report_no number(5),
    Reader_id number(5),
    Book_isbn number(10),
    issue varchar(255),
    CONSTRAINT pkrep primary key (report_no),

  CONSTRAINT fkrepre foreign key (Reader_id) REFERENCES Readers(Reader_
id),
    CONSTRAINT fkrepis foreign key (Book_isbn) REFERENCES Books(isbn)
    );

insert into Reports values (501, 10003, 9756478523, 'Some pages are
Teared up');
insert into Reports values (502, 10012, 9781491960, 'Few pages have
nothing on the page');
insert into Reports values (503, 10010, 9781416539, 'Lost the book');
insert into Reports values (504, 10005, 9781119579, 'Have less pages
then pages mentioned in Table of contents');
```

```
insert into Reports values (505, 10009, 9780486137, 'Table of contents
pages are missing');

select * from Reports;
```

✓ Queries

1. Find the name of readers who stays in Gulshan or Mirpur
```
select reader_name from readers where address = 'Gulshan' or address = 'Mirpu
r';
```

2. Show name and id who are females
```
select staff_id, staff_name from Staff where gender = 'Female';
```

3. Show names and id of authors in ascending order of their author id
```
select author_id, author_name from author order by author_id;
```

4. Show the name of readers who is assigned by staff whose id is 1 to 5.
```
select reader_name from readers where staff_id between 1 and 5;
```

5. Show the name of staffs who assign atleast 2 readers.
```
select staff_name from staff where staff_id in (select count(staff_id) from r
eaders group by staff_id having count(staff_id) > 1);
```

6. count the number of books of a publisher
```
select count(books.isbn),publisher_id from books group by publisher_id;
```

7. Update everyone's salary by 15%
```
update staff set salary = salary*1.15;
```

8. Delete a staff names starts with H
```
delete from staff where staff_name like '%H';
```

9. Find avg salary of all staffs by gender
```
select avg(salary) as Avarage, count(gender) from staff group by gender;
```

10. show the name of books which is taken as hire
```
select books.title from books inner join bookhiredetails on books.isbn = book
hiredetails.isbn;
```

11. show the number of books whose price is between 1000 to 5000
```
select count(isbn) from books where price between 1000 AND 5000;
```

12. show the name of staffs who added the Science Fiction books.

```sql
select staff.staff_id, staff.staff_name from staff inner join books on staff.
staff_id = books.staff_id and books.category = 'Science Fiction';
```

13. Find the name and isbn of books those have issues

```sql
select books.title, books.isbn from books natural join reports where books.is
bn = reports.book_isbn;
```

14. Show the name of readers who taken books as hire in January month

```sql
select reader_name from readers where reader_id in (select reader_id from boo
khiredetails where to_char(reserve_date, 'MM')='01');
```

15. Add a column named sign_up which will be date datatype in readers table

```sql
ALTER TABLE Readers ADD Sign_up date;
```

16. Rename column name book_isbn to isbn in reports table

```sql
ALTER TABLE Reports RENAME COLUMN book_isbn to isbn;
```

17. Create a Trigger That salary for a staff cannot be less than or greater than 20000;

```sql
CREATE OR REPLACE TRIGGER salary_error BEFORE INSERT OR UPDATE ON staff
FOR EACH ROW
BEGIN
    IF :new.salary > 20000 THEN :new.salary := 20000;
    ELSIF :new.salary < 20000 THEN :new.salary := 20000;
END IF;
END;
```

18. Create a Trigger that a price of book cannot be negative

```sql
CREATE OR REPLACE TRIGGER price_error BEFORE INSERT OR UPDATE ON books
FOR EACH ROW
BEGIN
    IF :new.price < 0 THEN RAISE_APPLICATION_ERROR(-1.00, 'Price cannot
be negative.');
END IF;
END;
```

19. Rename table staff to staffs

```sql
Rename staff to staffs;
```

20. Drop the tables

```sql
Drop table reports;
Drop table bookhiredetails;
Drop table books;
Drop table publisher;
Drop table author;
Drop table readers;
Drop table staffs;
Drop table authentication;
```

Chapter - 03

Project

➢ **Table - authentication**

USERNAME	PASSWORD
Himel	libraryManagementSystem

1 rows returned in 0.01 seconds   Download

➢ **Table – staff**

STAFF_ID	STAFF_NAME	GENDER	SALARY
1	Karim	Male	20000
2	Mehedi	Male	20000
3	Suvra	Female	20000
4	Hossain	Male	20000
5	Rumi	Female	20000
6	Naima	Female	20000
7	Hasan	Male	20000
8	Himu	Female	20000
9	Rana	Male	20000
10	Humayun	Male	20000

10 rows returned in 0.02 seconds   Download

➢ **Table – Readers**

READER_ID	READER_NAME	ADDRESS	EMAIL	CELL_NO	STAFF_ID
10001	Rubina Akter	Green Road	Rubina@gmail.com	1678954321	1
10002	Anamika Ghosh	Gulshan	Anamika@gmail.com	1715253207	5
10003	Suborno haque	New Airport	Suborno@gmail.com	1711204926	6
10004	Sagor Kumar	Farmgate	Sagor@gmail.com	1716311601	4
10005	Hridoy Rahman	Banani	Hridoy@gmail.com	1711238367	1
10006	Nil Rahman	Mirpur	Nilrahman@gmail.com	1711542542	2
10007	Sanjida Akter	Mirpur	Sanjida@gmail.com	1756662855	2
10008	Sadia Akter	Shahbagh	Sadia@gmail.com	1755527674	3
10009	Mehedi Hasan	Gulshan	Mehedi@gmail.com	1755527672	10
10010	Eram Islam	Green Road	Eram@gmail.com	1726682255	9
10011	Arpita Das	Mohakhali	Arpita@gmail.com	1499015611	10
10012	Purno Haque	Banani	Purno@gmail.com	1713366505	9
10013	Tahsan Khan	Mohakhali	Tahsan@gmail.com	1711011005	7
10014	MD. Rabbi	Farmgate	Rabbi@gmail.com	1712613859	8
10015	Sheikh Rasel	Shahbagh	Rasel@gmail.com	1328615618	6
10016	Rahim Sheikh	New Airport	Rahim@gmail.com	1726774346	2
10017	Sharlina khan	Kafrul	Sharlina@gmail.com	1711525423	7
10018	Nadia Islam	Gulshan	Nadia@gmail.com	1713008868	3
10019	Hina Akter	Kafrul	Hina@gmail.com	1913470558	1
10020	Akash Hossain	Shahbagh	Akash@gmail.com	1713033737	1

20 rows returned in 0.00 seconds   Download

➢ **Table – Author**

AUTHOR_ID	AUTHOR_NAME
1001	Rabindranath Tagore
1002	Bibhutibhushan Bandyopadhyay
2001	Mukaddim Pathan
2002	Jouni Smed
2004	Tyler Bain
2005	Christopher Hadnagy
2101	Stephen R. Davis
1501	Diane Lockward
1201	Leigh Bardugo
2003	Jennifer Robbins
2102	Garth G.F. Ward
2103	James D. Bethune
2104	Frank Herbert
1202	J.K. Rowling
1203	Walter Isaacson
3001	Joel R. Hass
3002	Avner Friedman

17 rows returned in 0.00 seconds   Download

➢ **Table – Publisher**

PUBLISHER_ID	PUBLISHER_NAME
101	India Society, Macmillan
102	Ranjan Prakashalay
301	John Wiley & Sons
201	eBookIt.com
151	Imprint
302	Reilly Media, Inc.
152	Dorrance Publishing
303	Macromedia Press
153	Macmillan Audio
154	Pottermore Publishing
155	Simon and Schuster
251	Pearson
252	Courier Corporation

13 rows returned in 0.01 seconds   Download

➢ **Table – Books**

TITLE	ISBN	PRICE	EDITION	CATEGORY	STAFF_ID	AUTHOR_ID	PUBLISHER_ID	PUBLISHER_YEAR
Advanced Content Delivery, Streaming, and Cloud Services	9781118575	400	1st	Networking	1	2001	301	2014
Algorithms and Networking for Computer Games	9781119259	405	2nd	Networking	3	2002	301	2017
C++ for Dummies	9780470317	379	6th	Programming	3	2101	301	2011
The Crafty Poet: A Portable Workshop	9781456624	799	1st	Poetry	4	1501	201	2015
King of Scars	9781250142	709	1st	Action & Adventure	10	1201	151	2019
Learning Web Design: A Beginners Guide to HTML, CSS, JavaScript and Web Graphics	9781491960	4099	5th	Web Design	6	2003	302	2018
The Dragon Knight and His Lady	9781480989	1699	1st	Science Fiction	5	2103	152	2019
Effective Project Management: Guidance and Checklists for Engineering and Construction	9781119469	5599	1st	Technology & Engineering	4	2102	301	2018
Engineering Graphics with AutoCAD 2020	9780135562	5799	1st	Design, Graphics & Media	6	2103	303	2019
Dune: Book One in the Dune Chronicles	9781427201	3599	1st	Science Fiction	7	2104	153	2007
Harry Potter and the Prisoner of Azkaban	9781781102	2599	1st	Action & Adventure	3	1202	154	2015
Einstein: His Life and Universe	9781416539	1099	1st	Biography & Autobiography	9	1203	155	2007
Thomas Calculus: Early Transcendentals	9780134606	5499	14th	Mathematics	2	3001	251	2017
Advanced Calculus	9780486137	999	1st	Mathematics	7	3002	252	2012
Partial Differential Equations of Parabolic Type	9780486318	999	1st	Mathematics	7	3002	252	2013
Cryptocurrency Mining For Dummies	9781119579	1799	1st	Business & Economics	10	2104	301	2019
Gitanjali	9756478523	1009	1st	Poem	6	1001	101	1910
Pather Panchali	9780411117	679	1st	Tragedy	6	1002	102	1929
Shesher Kabita	9745445632	899	1st	Novel	9	1001	101	1929
Social Engineering: The Science of Human Hacking	9781119433	1999	2nd	Computers	1	2103	301	2018

20 rows returned in 0.00 seconds   Download

➢ **Table – BookHireDetails**

READER_ID	ISBN	RESERVE_DATE	RETURN_DATE
10001	9756478523	01/05/2021	01/12/2021
10005	9781119579	02/04/2021	03/11/2021
10009	9781250142	01/16/2021	01/23/2021
10010	9780470317	04/01/2021	04/08/2021
10001	9756478523	05/05/2021	05/12/2021

5 rows returned in 0.01 seconds   Download

➢ **Table – Reports**

REPORT_NO	READER_ID	BOOK_ISBN	ISSUE
501	10003	9756478523	Some pages are Teared up
502	10012	9781491960	Few pages have nothing on the page
503	10010	9781416539	Lost the book
504	10005	9781119579	Have less pages then pages mentioned in Table of contents
505	10009	9780486137	Table of contents pages are missing

5 rows returned in 0.03 seconds   Download

✓ Queries

21. **Find the name of readers who stays in Gulshan or Mirpur**

READER_NAME
Anamika Ghosh
Nil Rahman
Sanjida Akter
Mehedi Hasan
Nadia Islam

5 rows returned in 0.01 seconds

22. **Show name and id who are females**

STAFF_ID	STAFF_NAME
3	Suvra
5	Rumi
6	Naima
8	Himu

4 rows returned in 0.02 seconds   Download

23. Show names and id of authors in ascending order of their author id

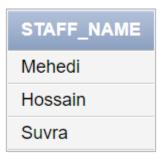| AUTHOR_ID	AUTHOR_NAME
1001	Rabindranath Tagore
1002	Bibhutibhushan Bandyopadhyay
1201	Leigh Bardugo
1202	J.K. Rowling
1203	Walter Isaacson
1501	Diane Lockward
2001	Mukaddim Pathan
2002	Jouni Smed
2003	Jennifer Robbins
2004	Tyler Bain
2005	Christopher Hadnagy
2101	Stephen R. Davis
2102	Garth G.F. Ward
2103	James D. Bethune
2104	Frank Herbert
3001	Joel R. Hass
3002	Avner Friedman

17 rows returned in 0.00 seconds   Download

24. Show the name of readers who is assigned by staff whose id is 1 to 5.

READER_NAME
Rubina Akter
Anamika Ghosh
Sagor Kumar
Hridoy Rahman
Nil Rahman
Sanjida Akter
Sadia Akter
Rahim Sheikh
Nadia Islam
Hina Akter
Akash Hossain

11 rows returned in 0.00 seconds

25. Show the name of staffs who assign atleast 2 readers.

STAFF_NAME
Mehedi
Hossain
Suvra

3 rows returned in 0.03 seconds

26. count the number of books of a publisher

COUNT(BOOKS.ISBN)	PUBLISHER_ID
1	151
1	152
1	303
1	153
1	155
2	252
1	251
1	201
1	102
6	301
2	101
1	154
1	302

13 rows returned in 0.00 seconds   Download

27. Update everyone's salary by 15%

```
10 row(s) updated.
```

0.00 seconds

28. Delete a staff names starts with H

```
0 row(s) deleted.
```

0.02 seconds

29. Find avg salary of all staffs by gender

AVARAGE	COUNT(GENDER)
23000	6
23000	4

2 rows returned in 0.01 seconds

30. show the name of books which is taken as hire

TITLE
C++ for Dummies
King of Scars
Cryptocurrency Mining For Dummies
Gitanjali
Gitanjali

5 rows returned in 0.05 seconds   Download

31. show the number of books whose price is between 1000 to 5000

COUNT(ISBN)
8

1 rows returned in 0.01 seconds

32. show the name of staffs who added the Science Fiction books.

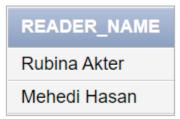| STAFF_ID	STAFF_NAME
5	Rumi
7	Hasan

2 rows returned in 0.02 seconds

33. Find the name and isbn of books those have issues

TITLE	ISBN
Learning Web Design: A Beginners Guide to HTML, CSS, JavaScript and Web Graphics	9781491960
Einstein: His Life and Universe	9781416539
Advanced Calculus	9780486137
Cryptocurrency Mining For Dummies	9781119579
Gitanjali	9756478523

5 rows returned in 0.03 seconds   Download

34. Show the name of readers who taken books as hire in January month

READER_NAME
Rubina Akter
Mehedi Hasan

2 rows returned in 0.01 seconds

35. Add a column named sign_up which will be date datatype in readers table

```
ALTER TABLE Readers ADD Sign_up date;
```

Results   Explain   Describe   Saved SQL

Table altered.

0.15 seconds

36. **Rename column name book_isbn to isbn in reports table**

```
ALTER TABLE Reports RENAME COLUMN book_isbn to isbn;
```

Results   Explain   Describe   Saved SQL   History

Table altered.

0.07 seconds

37. Create a Trigger That salary for a staff cannot be less than or greater than 20000;

Trigger created.

0.04 seconds

38. Create a Trigger that a price of book cannot be negative

```
CREATE OR REPLACE TRIGGER price_error BEFORE INSERT OR UPDATE ON books
FOR EACH ROW
BEGIN
    IF :new.price < 0 THEN RAISE_APPLICATION_ERROR(-1.00, 'Price cannot be negative.');
END IF;
END;
```
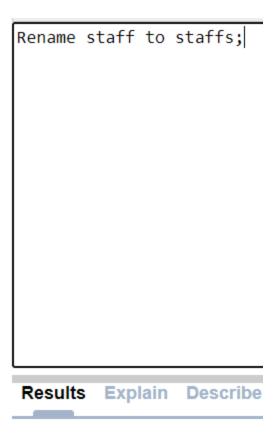
Results   Explain   Describe   Saved SQL   History

Trigger created.

0.04 seconds

39. Rename table staff to staffs

```
Rename staff to staffs;
```

Results   Explain   Describe

Statement processed.

0.57 seconds

Chapter - 04

Discussion

In this we have implemented the commands that we learnt from this course as well as got a clear view over the commands of OracleSQL .We have learnt the uses of these commands precisely. How we can use these to make a management system. While we was doing the project, we have got stuck at some point. But after thinking for a while of that we have managed to solve the problem. Solving queries that we have made are so much good to do. Finding queries of our own is so hard to do. But it was fun. Finally, overall we have made our project library management system precisely according to the er diagram that we have provided to our instructor.

Conclusion

This was an effort to make a simple library management system which may be useful in a library to insert, store, handle, delete, update and retrieve information about books. From a proper analysis of positive points, it can be safely concluded this database system meeting some basic requirements of a user. In future, it can be updated as user can trace the staffs joining and leaving date. Can keep the track the readers who returns book in time and who doesn't.

Scope of Future Work

In future we will add some advance features in our library management system project. Besides, we have made a plan to create a library management system apps and lunch it into Google playstore.