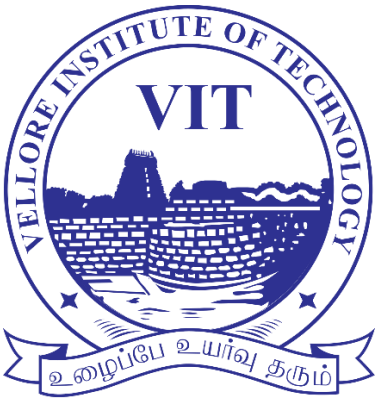
LIBRARY DATABASE MANAGEMENT

Submitted by
SHAURYA CHOUDHARY
(18BCE2113)

Under the guidance of
PROF. JAYASHREE J



Vellore Institute of Technology, Vellore
Tamil Nadu – 632014

Introduction

Manual process of keeping student records, book records, account details, managing employee is very difficult. There are various problems also faced by the student in library such as finding any particular book, information whether book is available or not, for what time this book will be available, searching of books using ISBN number etc. To eliminate this manual system, library management system has been developed. Library Management System will handle all the current issues faced by the students and by its admin personnel.

To store all the information in the database from where user will place their query and get the results on the basis of their query. Only valid users will be able to access this Library Management System. Through this Library Management System, it will be easy to manage accounts and various details of particular student and employees working under library along with the records of book.

The current Library Management System does not eliminate the process of searching books within the library campus. Students have to find books manually. They have to wait until they are not provided with their library card and token. For receiving book, they have to show their library card and wait in line for their turns. The admin personnel also have to look manually on which day which person will take the charge within library to manage the overall work.

Functional Requirements

- The system must only allow user with valid id and password to enter the system.
- The user must be able to logout after they finished using system.

- System must be able to not allow two books having same book id.
- System must be able to search if book is available or not before issuing books.
- Admin can be able to see availability of the particular book; they can also be able to see each user data (ie. Which book is issued to which user and the fine amount of the user)

Data requirements

- There will be the data of each books in the database.
- There will be the user name and password of each member and faculty in the database
- The record of the issued books will also be in the database.
- The record of all the members working in the library will be there.

DETAILED DATA REQUIREMENT:

Library will be managed by the admin. Each admin will have its unique login id and password. The library will be managing the books, staffs and members (both students and faculties).

Each staff will be having its unique id, a name, designation, salary, date_of_joining, address and dob.

Each of the books will have its unique book_code, a name, a subject_code, no_of_books, rack_no, cost, date_of_purchase and name of the author.

The members are the ones who would be accessing the library system for issuing and returning books and paying fine when not returned in time. The library consists of two members Faculties and Students.

Faculty (member) will be having its unique faculty id, a name, an address, a contact number and a department. When the faculty issues books, it will contain attributes faculty id and book_id which in turn will contain issue and return date.

Student (member) will be having its unique id, a name, an address, a contact number and a branch. When the student issues books, it will contain attributes id and book_id which in turn will contain issue and return date.

Entity types

1. **BOOK**

Strong entity set- book_code is used to identify each entity uniquely

Book_code,book_name, Author, date_of_purchase, price, subject_code, rack_no, no_of_books

2. **STAFF**

Strong entity set- staff_id is used to identify each entity uniquely

Staff_id, staff_name, dob, address, designation, salary, date_of_joining,

3. **STUDENT**

Strong entity type- student_id is used to identify each entity uniquely

Student_id, name, branch, fine, address, phone_no, issue_date, expiry_date

4. **FACULTY**

Strong entity type- f_id is used to identify each entity uniquely

F_id, name, address, phone_no, department

5. **LIBRARIAN**

Strong entity type- admin_login is used to identify each entity uniquely

Admin_login,admin_password

6. **AUTHOR**

Strong entity type- author_id is used to identify each entity uniquely

Author_id,author_name, dob, address, experience

7. **PERIODICALS**

Strong entity type- pr_id is used to identify each entity uniquely

pr_id, pr_name, month_of_release, publisher_name

Relationships

1. **BOOK – STUDENT relationship**

It's a one to many relationship as one book can be issued by only one student.

This participation is partial from both the side because all the book cannot be issued and it is also not necessary that all the students of the library is issuing the book.

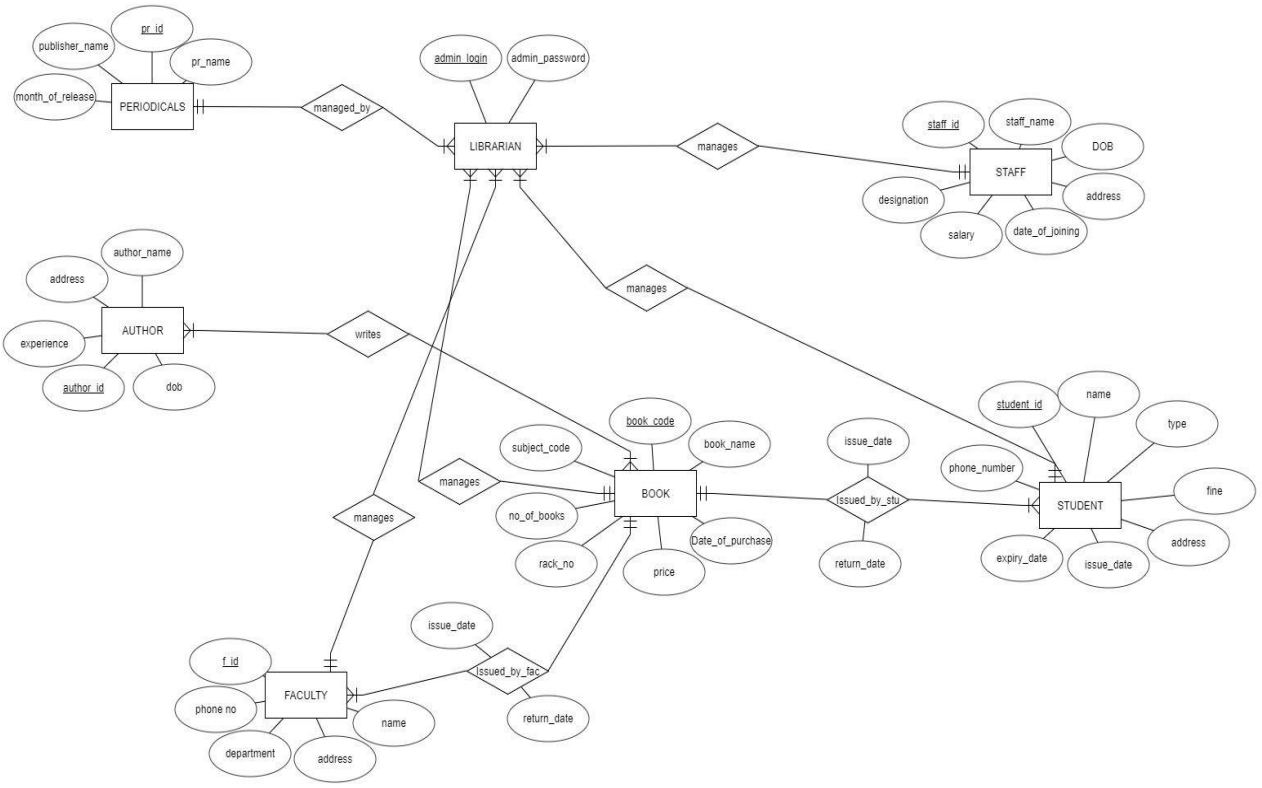
2. **BOOK – FACULTY relationship**

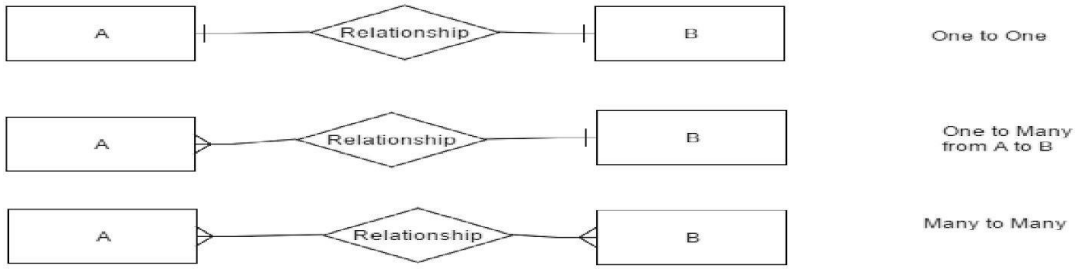
It's a one to many relationship as one book can be issued by only one faculty.

This participation is partial from both the side because all the book cannot be issued and it is also not necessary that all the faculty is issuing the book.

3. All other relationship is managed by the librarian ie. managing the other entity types of the library

Entity Relationship (ER) Diagram



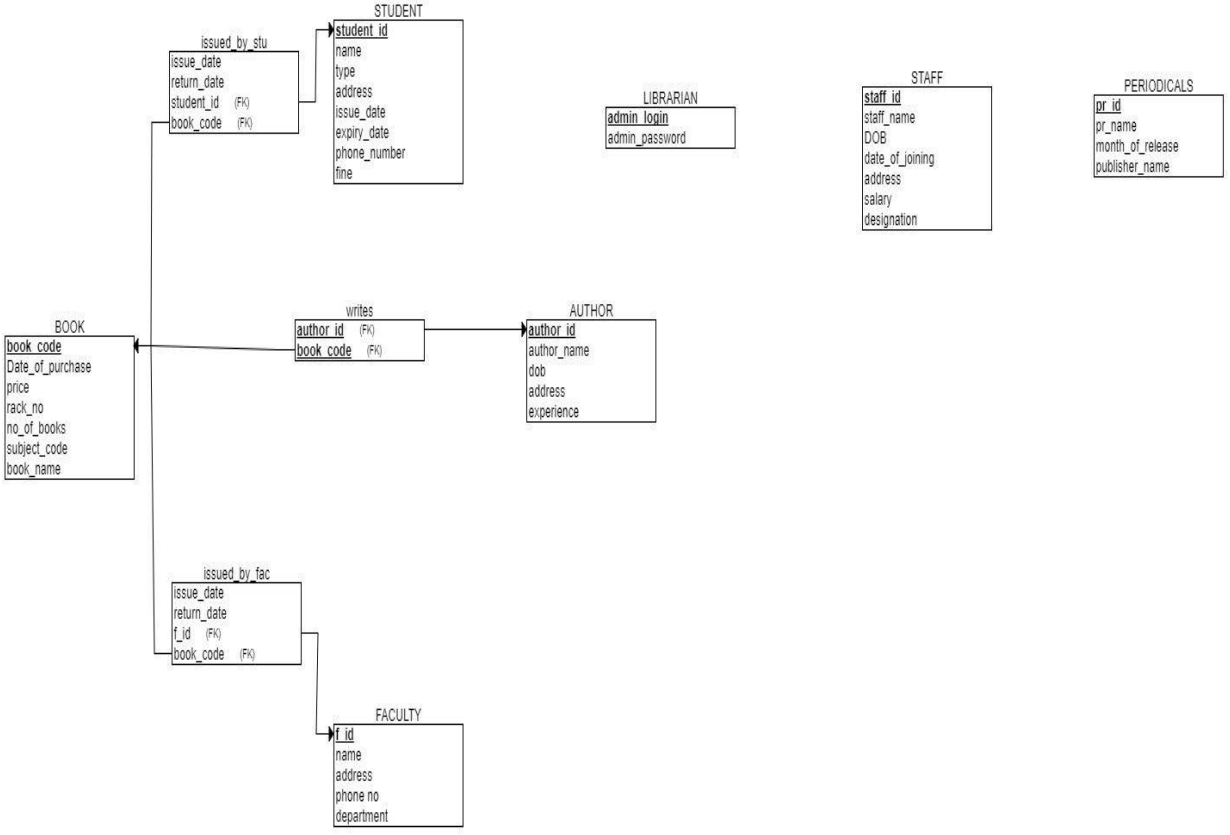


Schema

All the entity set used in this entity relationship diagram is strong so it can be directly reduced into relation schema as shown in the schema below.

For binary 1: N relationship, relation representing the participating entity type at N-side of relationship type is identified. In this relation we include as foreign key the primary key of relation that represents the other entity type.

Relation schema



Functional Dependencies: -

{book_code}→{date_of_purchase,book_name,price,rack_no,no_of

_boo ks, subject_code}

{author_id}→{author_name, dob, address, experience}

{staff_id}→{staff_name, DOB, date_of_joining, address, salary, designation}

{Member_id}→{name, type, address, issue_date, expiry_date, phone_no, fine}

{faculty}→{name, address, phone_no, department}

{author_id}→{author_name, dob, address, experience}

{book_code,member_id}→{issue_date, return_date}

{book_code,f_id}→{issue_date, return_date}

Normalization: -

ent_id	e		ess		e_no	_date	y_date
	y		hi nagar, Chennai		325458	-2016	-2020
			adi		632588	2016	-2016
	sh		Delhi		523456	2017	2021
	ant		alore		965876	-2015	-2019

We have reduced the student table from ER diagram, the given table is already in the First Normal Form since all the attributes is single valued. All the attributes of the student table are atomic.

Since the above table is already in the first normal form and there is no chance of partial dependency on the key attribute because it has only one key attribute so above table is in second normal form

Closure of the attribute set

F= {student_id→ name, student_id→ type, student_id→ address, student_id→ fine, student_id→ phone_number, student_id→ issue_date, student_id→ expiry_date}

Student_id^{+} = {name, type, address, fine, phone_number, issue_date, expiry_date}

Transitive Dependency

A transitive dependency can occur only in a relation that has three or more attributes. Let A, B, and C designate three distinct attributes (or distinct collections of attributes) in the relation.

- No non-prime attribute is transitively dependent on prime key attribute.
- For any non-trivial functional dependency, X → A, then either –
  - X is a superkey or,
  - A is prime attribute.

Since there is no transitive dependency, the table is already in Third Normal Form

Boyce - Codd Normal Form

Since there is only one key attribute and key attribute is not dependent on the non key attribute thus, we can say that the above table is in BCNF

2. Faculty (f_id, name, phone no, department, address)

The table is in BCNF. Due to the reason that f_id is the only candidate
key and all others are non-key attributes thus table is in 2NF. No non-key dependencies, hence in 3NF. One candidate key, so in BCNF

3. BOOK (book_code, book_name, subject_code, no_of_books, rack_no, price, Date_of_purchase)

The table is in BCNF. Due to the reason that book_code is the only candidate key and all others are non-key attributes thus table is in 2NF. No non-key dependencies, hence in 3NF. One candidate key, so in BCNF

4. STAFF (staff_id, staff_name, staff_name, address, date_of_joining, salary, designation)

The table is in BCNF. Due to the reason that staff_id is the only candidate key and all others are non-key attributes thus table is in 2NF. No non-key dependencies, hence in 3NF. One candidate key, so in BCNF

5. PERIODICALS (pr_id, pr_name, month_of_release, publisher_name)

The table is in BCNF. Due to the reason that pr_id is the only candidate key and all others are non-key attributes thus table is in 2NF. No non-key dependencies, hence in 3NF. One candidate key, so in BCNF

6. LIBRARIAN (admin_login, admin_password)

The table is in BCNF. Due to the reason that pr_id is the only candidate key and all others are non-key attributes thus table is in 2NF. No non-key dependencies, hence in 3NF. One candidate key, so in BCNF

7. AUTHOR (author_id, author_name, dob, address, experience)

The table is in BCNF. Due to the reason that author_id is the only candidate key and all others are non-key attributes thus table is in 2NF. No non-key dependencies, hence in 3NF. One candidate key, so in BCNF

8. issued_by_stu (student_id, book_code, issue_date, return_date)

The table is in BCNF. Due to the reason each attribute is atomic. Issue_date and return_date is dependent on the student_id and book_code and no partial dependency exists so the table is in second normal form. No transitive dependency exists in this table so it is in third normal form. And none of the non- key attribute is dependent on the key attribute so the above table is in BCNF.

9. issued_by_fac (f_id, book_code, issue_date,

return_date) The table is in BCNF. Due to the reason

each attribute is atomic.

Issue_date and return_date is dependent on the f_id and book_code and no partial dependency exists so the table is in second normal form. No transitive dependency exists in this table so it is in third normal form. And none of the non- key attribute is dependent on the key attribute so the above table is in BCNF.

IMPLEMENTATION:

CODE:

```
create table STUDENT(sid int, sname varchar(20), type char(15), sadd varchar(30), issue_date date, expiry_date date, s_phone_no varchar(10), fine int);

create table FACULTY(fid int, fname varchar(20), fadd varchar(30), f_phone_no varchar(10), department char(15));

create table LIBRARIAN(admin_login varchar(15), admin_password varchar(15));

create table STAFF(staff_id int, staff_name char(20), address varchar(30), dob date, date_of_joining date, salary int, desig char(15));

create table BOOK(bid int, book_name varchar(50), sub_code int, no_of_books int, date_of_purchase date, price int, rack_no int);

create table AUTHOR(aid int, author_name char(20), auth_dob date, auth_add varchar(30), experience int);

create table PERIODICALS(pr_id int, pr_name varchar(20), month_of_release date, publisher_name varchar(20));

create table writes(auth_id int, book_id int);

create table ibs(issue_date date, return_date date, student_id int, book_id int);

create table ibf(f_issue_date date, f_return_date date, faculty_id int, book_id int);
```

```
insert into BOOK values (1, “Natural Resources”, 8, 15, “2013-12-11”, 499, 8);

insert into BOOK values (2, “Encyclopedia Americana”, 5, 20, “2016-10-23”, 1200, 3);

insert into BOOK values (3, “Algebra 1”, 3, 35, “2018-11-04”, 700, 5);

insert into BOOK values (4, “The Philippine Daily Inquirer”, 7, 3, “2016-04-19”, 563, 7);

insert into BOOK values (5, “Science in our World”, 4, 25, “2019-10-11”, 1800, 3);
```

insert into BOOK values (6, “Literature”, 9, 20, “2013-12-11”, 300, 9);

insert into BOOK values (7, “Lexicon Universal Encyclopedia”, 5, 10, “2018-11-22”, 3800, 3);

insert into BOOK values (8, “Science and Invention Encyclopedia”, 5, 16, “2018-12-11”, 5300, 3);

insert into BOOK values (9, “Integrated Science Textbook”, 4, 15, “2017-02-19”, 4700, 4);

insert into BOOK values (10, “Algebra 2”, 3, 15, “2018-09-21”, 1900, 5);

insert into BOOK values (11, “Wiki at Panitikan”, 7, 28, “2019-08-12”, 2200, 6);

insert into BOOK values (12, “English Expressways TextBook for 4th year”, 9, 23, “2011-11-12”, 1500, 9);

insert into BOOK values (13, “Asya Pag-usbong Ng Kabihasnan”, 8, 21, “2013-12-11”, 700, 8);

insert into BOOK values (14, “Literature (the reader’s choice)”, 9, 20, “2007-12-08”, 180, 9);

insert into BOOK values (15, “Beloved a Novel”, 9, 13, “2015-02-11”, 800, 9);

insert into AUTHOR values (101, “Robin Kerrod”, “1981-02-12”, “London, England”, 9);

insert into AUTHOR values (102, “Grolier”, “1968-11-03”, “NYC, US”, 22);

insert into AUTHOR values (103, “Carolyn Bradshaw”, “1974-10-20”, “Bogota, Colombia”, 20);

insert into AUTHOR values (104, “Cristine Redoblo”, “1987-03-12”, “Rio de Jeneiro, Brazil”, 5);

insert into AUTHOR values (105, “Brian Knapp”, “1977-12-31”, “Chicago, US”, 15);

insert into AUTHOR values (106, “Greg Glowka”, “1989-10-17”, “Moscow, Russia”, 10);

insert into AUTHOR values (107, “Cristine Redoblo”, “1985-02-22”, “Manila, Philippines”, 8);

insert into AUTHOR values (108, “Clarke Donald”, “1952-08-19”, “Basra, Iraq”, 30);

insert into AUTHOR values (109, “C. Tan”, “1958-01-02”, “London, England”, 25);

insert into AUTHOR values (110, “Glencoe McGraw Hill”, “1966-09-11”, “NYC, US”, 12);

insert into AUTHOR values (111, “Lorenza P. Avera”, “1969-11-12”, “Sao Paulo, Brazil”, 18);

insert into AUTHOR values (112, “Virginia Bermudez”, “1963-01-22”, “Lima, Peru”, 28);

insert into AUTHOR values (113, “Ricardo T. Jose”, “1971-05-05”, “Warsaw, Poland”, 19);

insert into AUTHOR values (114, “Glencoe McGraw Hill”, “1990-02-09”, “Tijuana, Mexico”, 7);

insert into AUTHOR values (115, “Douglas K. Ramsey”, “1988-12-26”, “NYC, US”, 15);

insert into writes values (1, 101);

```
insert into writes values (2, 102);
insert into writes values (3, 103);
insert into writes values (4, 104);
insert into writes values (5, 105);
insert into writes values (6, 106);
insert into writes values (7, 107);
insert into writes values (8, 108);
insert into writes values (9, 109);
insert into writes values (10, 110);
insert into writes values (11, 111);
insert into writes values (12, 112);
insert into writes values (13, 113);
insert into writes values (14, 114);
insert into writes values (15, 115);

insert into LIBRARIAN values(“admin1”, “qwerty123”);
insert into LIBRARIAN values(“admin2”, “password”);
insert into LIBRARIAN values(“admin3”, “123456789”);

insert into PERIODICALS values (991, “The Atlantic”, “2019-09-00”, “Emerson Collective”);
insert into PERIODICALS values (992, “National Examiner”, “2019-09-00”, “American Media”);
insert into PERIODICALS values (993, “Scientific American”, “2019-10-00”, “ScienceDaily”);
insert into PERIODICALS values (994, “Library Journal”, “2019-10-00”, “Media Source”);
insert into PERIODICALS values (995, “TIME”, “2019-09-00”, “WarnerMedia”);

insert into STUDENT values (20113, “Shaurya”, “CSE, B.Tech”, “333, J-block”, “2018-07-00”, “2022-10-00”, “9424259784”, 0);
insert into STUDENT values (20321, “Akshit”, “IT, B.Tech”, “417, Q-block”, “2018-07-00”, “2022-10-00”, “9424259783”, 0);
```

insert into STUDENT values (20453, “Pranav”, “CSE, M.Tech”, “602, D-Annex”, “2017-07-00”, “2019-10-00”, “9479145758”, 0);

insert into STUDENT values (20217, “Parth”, “IT, Integrated”, “544, H-block”, “2018-07-00”, “2021-10-00”, “6264573124”, 0);

insert into STUDENT values (21002, “Simrit”, “ECE, M.Tech”, “321, Q-block”, “2019-09-00”, “2021-10-00”, “9887905546”, 0);

insert into ibs values (“2019-10-20”, “2019-10-30”, 20217, 6);

insert into ibs values (“2019-10-01”, “2019-10-20”, 20113, 9);

insert into ibs values (“2019-09-25”, “2019-10-20”, 21002, 12);

insert into FACULTY values (30101, “Neo”, “Vellore, Tamil Ndau”, “6779080563”, “CSE”);

insert into FACULTY values (30102, “Trinity”, “Hyderabad, Telangana”, “9479556015”, “IT”);

insert into FACULTY values (30103, “Tony”, “Chennai, Tamil Nadu”, “6264990879”, “Mech.”);

insert into FACULTY values (30104, “Steve”, “Ahmedabad, Gujarat”, “9887674450”, “ECE”);

insert into FACULTY values (30105, “Mark”, “Mumbai, Maharashtra”, “9423562462”, “CSE”);

insert into ibf values (“2019-10-10”, “2019-10-25”, 30102, 2);

insert into ibf values (“2019-10-22”, “2019-11-10”, 30101, 7);

insert into ibf values (“2019-10-01”, “2019-10-30”, 30104, 5);

insert into STAFF values (001, “Rajesh”, “Vellore, TamilNadu”, “1980-07-12”, “2017-10-09”, 24000, “LibraryAsst 1”);

insert into STAFF values (002, “Abhishek”, “Bhopal, MP”, “1970-04-22”, “2000-01-10”, 60000, “Director”);

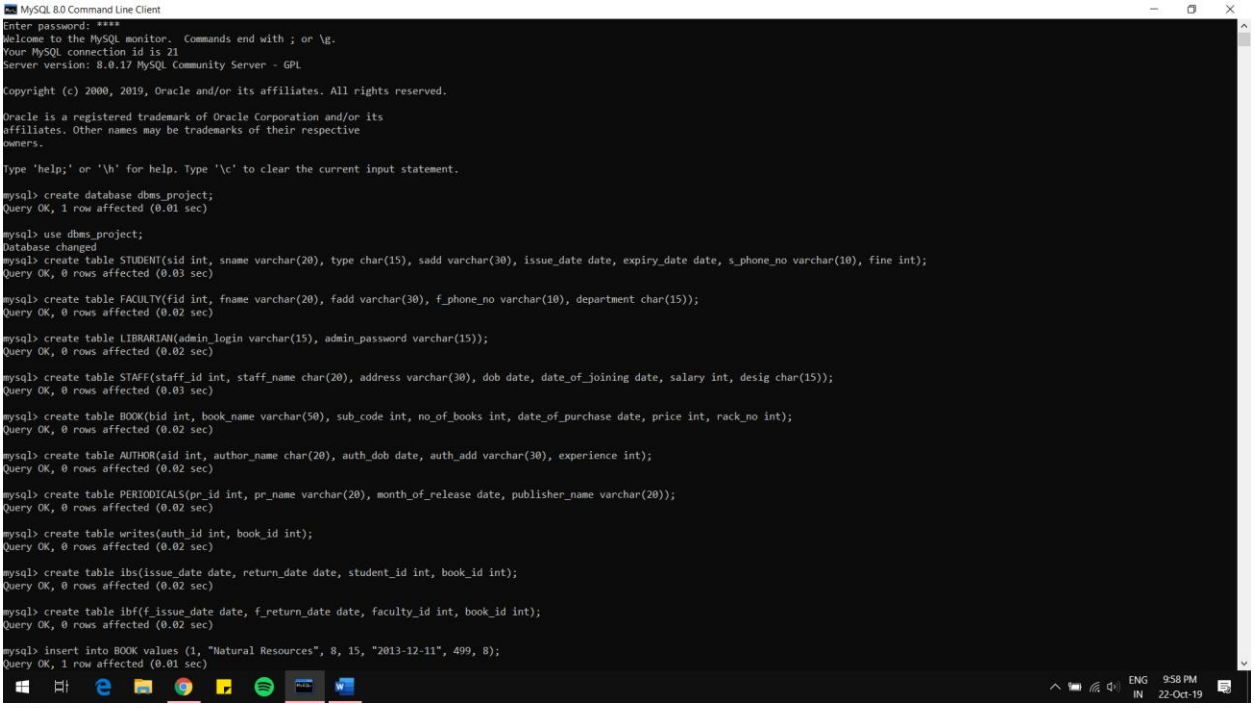
insert into STAFF values (003, “Mukesh”, “Raipur, CG”, “1975-10-06”, “2015-09-11”, 32000, “LibraryAsst 2”);

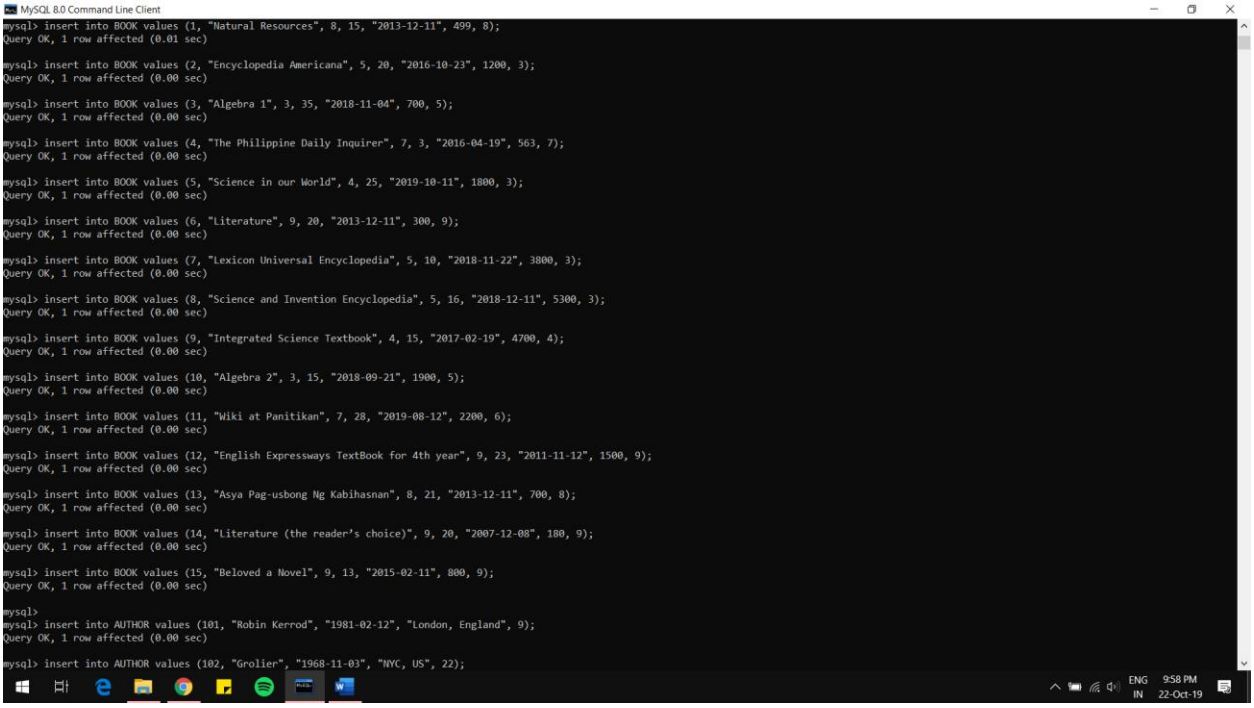
insert into STAFF values (004, “Ritesh”, “Chennai, TamilNadu”, “1985-09-09”, “2016-10-11”, 35000, “Dep.Librarian”);

insert into STAFF values (005, “Kabir”, “Hyderabad, Telangana”, “1969-11-12”, “2004-05-17”, 45000, “Librarian”);

```
alter table STUDENT add primary key (sid);
alter table FACULTY add primary key (fid);
alter table LIBRARIAN add primary key (admin_login);
alter table STAFF add primary key (staff_id);
alter table BOOK add primary key (bid);
alter table AUTHOR add primary key (aid);
alter table PERIODICALS add primary key (pr_id);
alter table ibs add foreign key (student_id) references STUDENT(sid);
alter table ibs add foreign key (book_id) references BOOK(bid);
alter table ibf add foreign key (faculty_id) references FACULTY(fid);
alter table ibf add foreign key (book_id) references BOOK(bid);
alter table writes add foreign key (auth_id) references AUTHOR(aid);
alter table writes add foreign key (book_id) references BOOK(bid);
```

OUTPUT:


MySQL 8.0 Command Line Client
Enter password: ****
Welcome to the MySQL monitor. Commands end with ; or \g.
Your MySQL connection id is 21
Server version: 8.0.17 MySQL Community Server - GPL
Copyright (c) 2000, 2019, Oracle and/or its affiliates. All rights reserved.
Oracle is a registered trademark of Oracle Corporation and/or its
affiliates. Other names may be trademarks of their respective
owners.
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.
mysql> create database dbms_project;
Query OK, 1 row affected (0.01 sec)
mysql> use dbms_project;
Database changed
mysql> create table STUDENT(sid int, sname varchar(20), type char(15), sadd varchar(30), issue_date date, expiry_date date, s_phone_no varchar(10), fine int);
Query OK, 0 rows affected (0.03 sec)
mysql> create table FACULTY(fid int, fname varchar(20), fadd varchar(30), f_phone_no varchar(10), department char(15));
Query OK, 0 rows affected (0.02 sec)
mysql> create table LIBRARIAN(admin_login varchar(15), admin_password varchar(15));
Query OK, 0 rows affected (0.02 sec)
mysql> create table STAFF(staff_id int, staff_name char(20), address varchar(30), dob date, date_of_joining date, salary int, desig char(15));
Query OK, 0 rows affected (0.03 sec)
mysql> create table BOOK(bid int, book_name varchar(50), sub_code int, no_of_books int, date_of_purchase date, price int, rack_no int);
Query OK, 0 rows affected (0.02 sec)
mysql> create table AUTHOR(aid int, author_name char(20), auth_dob date, auth_add varchar(30), experience int);
Query OK, 0 rows affected (0.02 sec)
mysql> create table PERIODICALS(pr_id int, pr_name varchar(20), month_of_release date, publisher_name varchar(20));
Query OK, 0 rows affected (0.02 sec)
mysql> create table writes(auth_id int, book_id int);
Query OK, 0 rows affected (0.02 sec)
mysql> create table ibs(issue_date date, return_date date, student_id int, book_id int);
Query OK, 0 rows affected (0.02 sec)
mysql> create table ibf(f_issue_date date, f_return_date date, faculty_id int, book_id int);
Query OK, 0 rows affected (0.02 sec)
mysql> insert into BOOK values (1, "Natural Resources", 8, 15, "2013-12-11", 499, 8);
Query OK, 1 row affected (0.01 sec)
ENG
IN
9:58 PM
22-Oct-19


MySQL 8.0 Command Line Client
mysql> insert into BOOK values (1, "Natural Resources", 8, 15, "2013-12-11", 499, 8);
Query OK, 1 row affected (0.01 sec)
mysql> insert into BOOK values (2, "Encyclopedia Americana", 5, 20, "2016-10-23", 1200, 3);
Query OK, 1 row affected (0.00 sec)
mysql> insert into BOOK values (3, "Algebra 1", 3, 35, "2018-11-04", 700, 5);
Query OK, 1 row affected (0.00 sec)
mysql> insert into BOOK values (4, "The Philippine Daily Inquirer", 7, 3, "2016-04-19", 563, 7);
Query OK, 1 row affected (0.00 sec)
mysql> insert into BOOK values (5, "Science in our World", 4, 25, "2019-10-11", 1800, 3);
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mysql> insert into BOOK values (6, "Literature", 9, 20, "2013-12-11", 300, 9);
Query OK, 1 row affected (0.00 sec)
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mysql> insert into BOOK values (11, "Wiki at Panitikan", 7, 28, "2019-08-12", 2200, 6);
Query OK, 1 row affected (0.00 sec)
mysql> insert into BOOK values (12, "English Expressways TextBook for 4th year", 9, 23, "2011-11-12", 1500, 9);
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mysql> insert into BOOK values (13, "Asya Pag-usbong Ng Kabihasnan", 8, 21, "2013-12-11", 700, 8);
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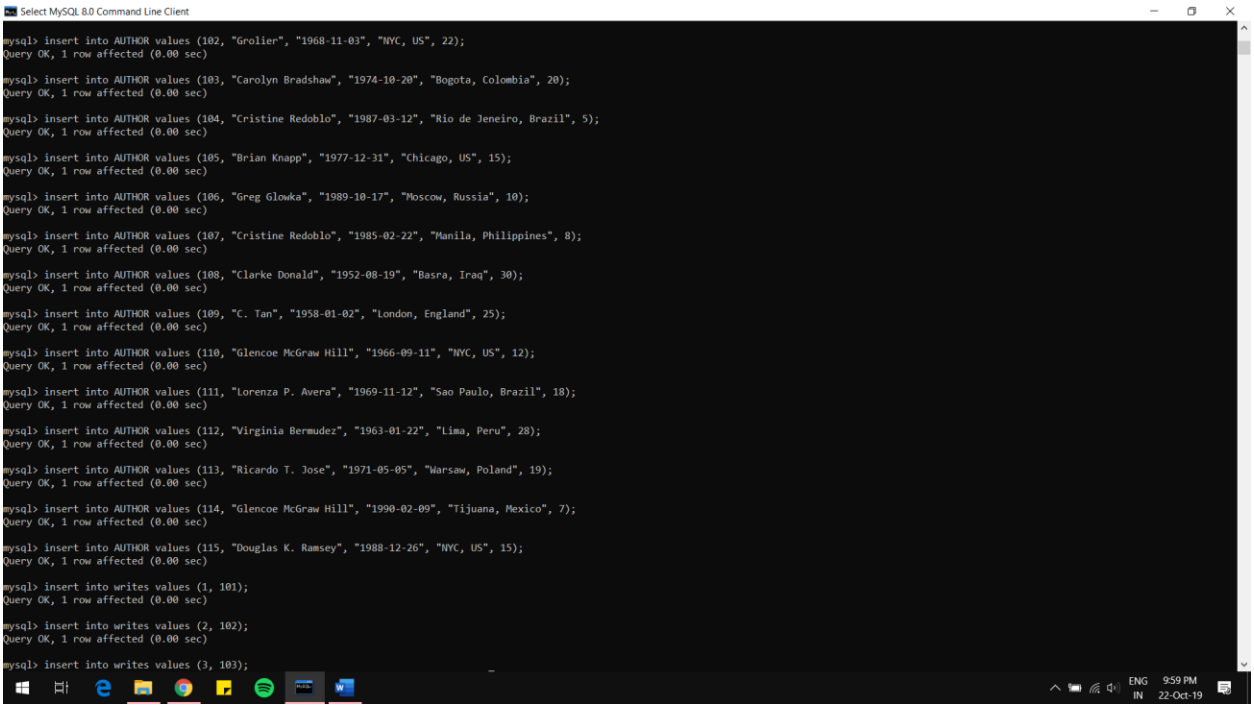
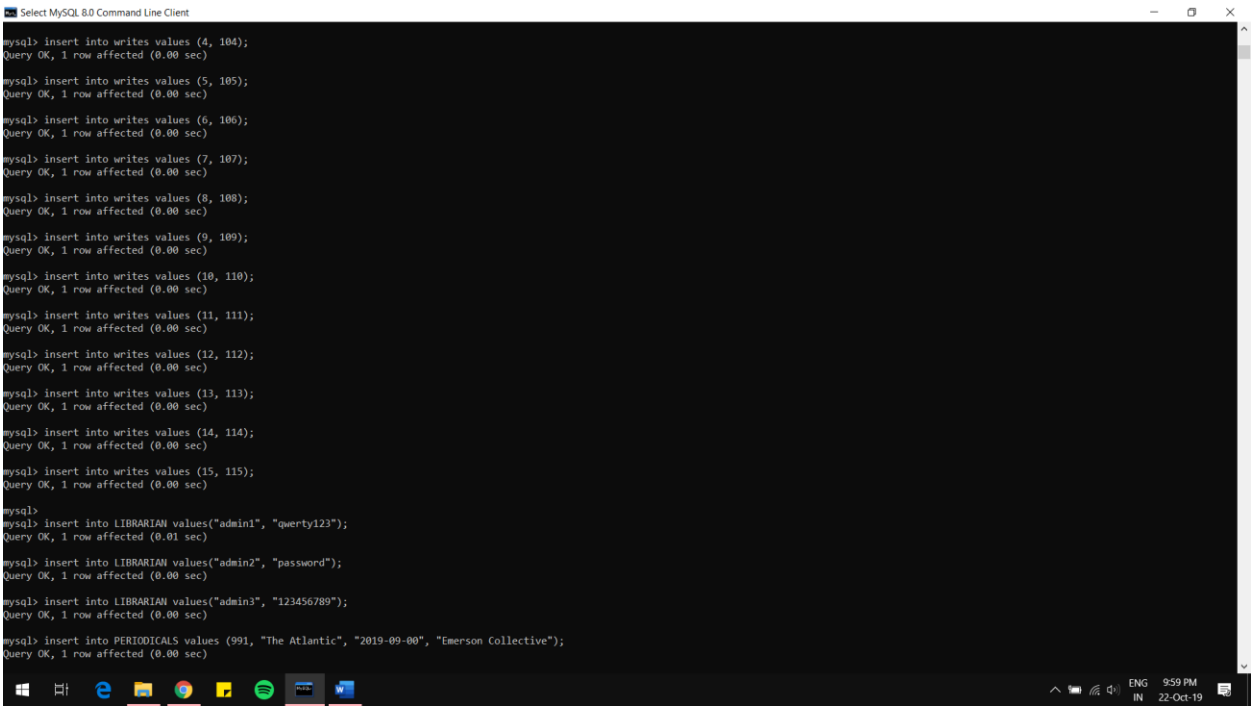
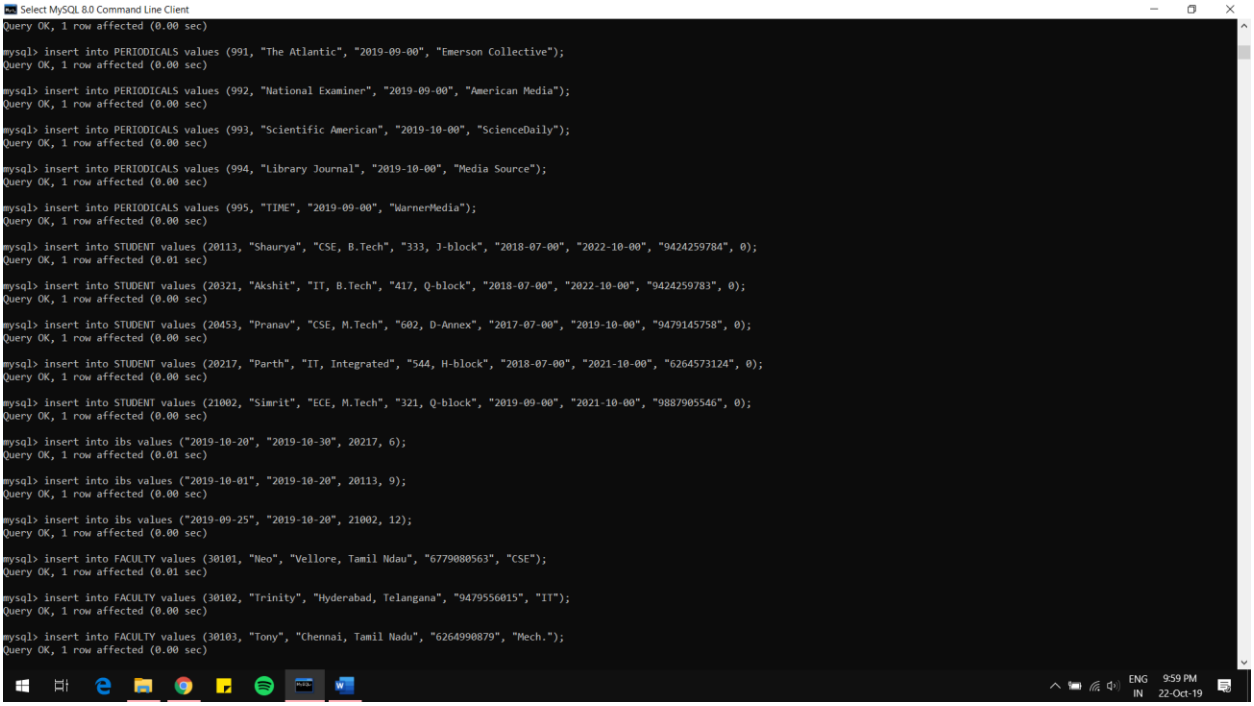
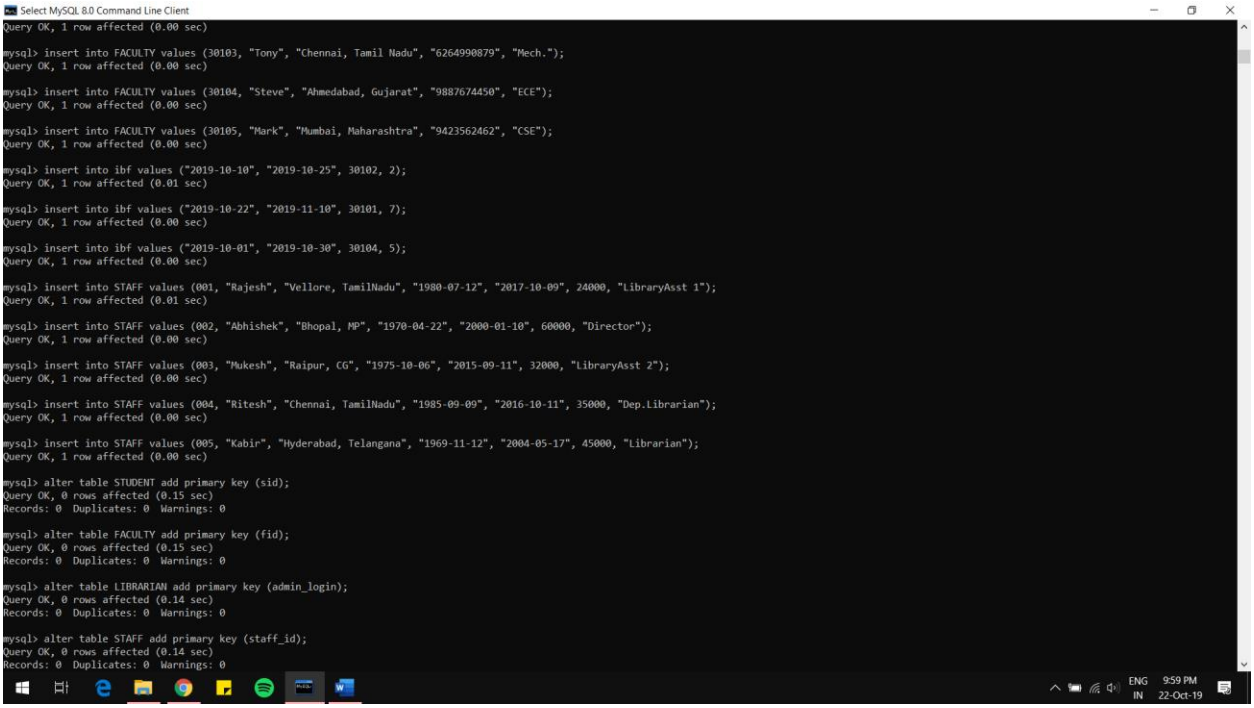
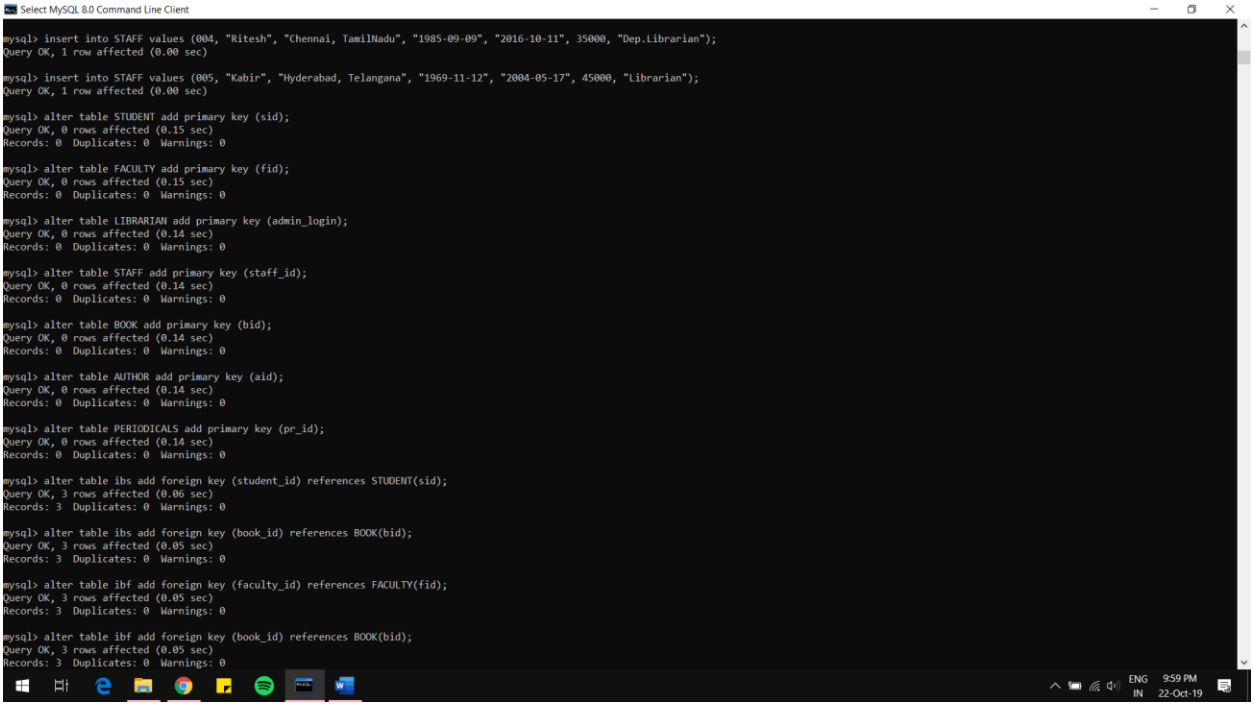
mysql> insert into AUTHOR values (102, "Grolier", "1968-11-03", "NYC, US", 22);
ENG
IN
9:58 PM
22-Oct-19

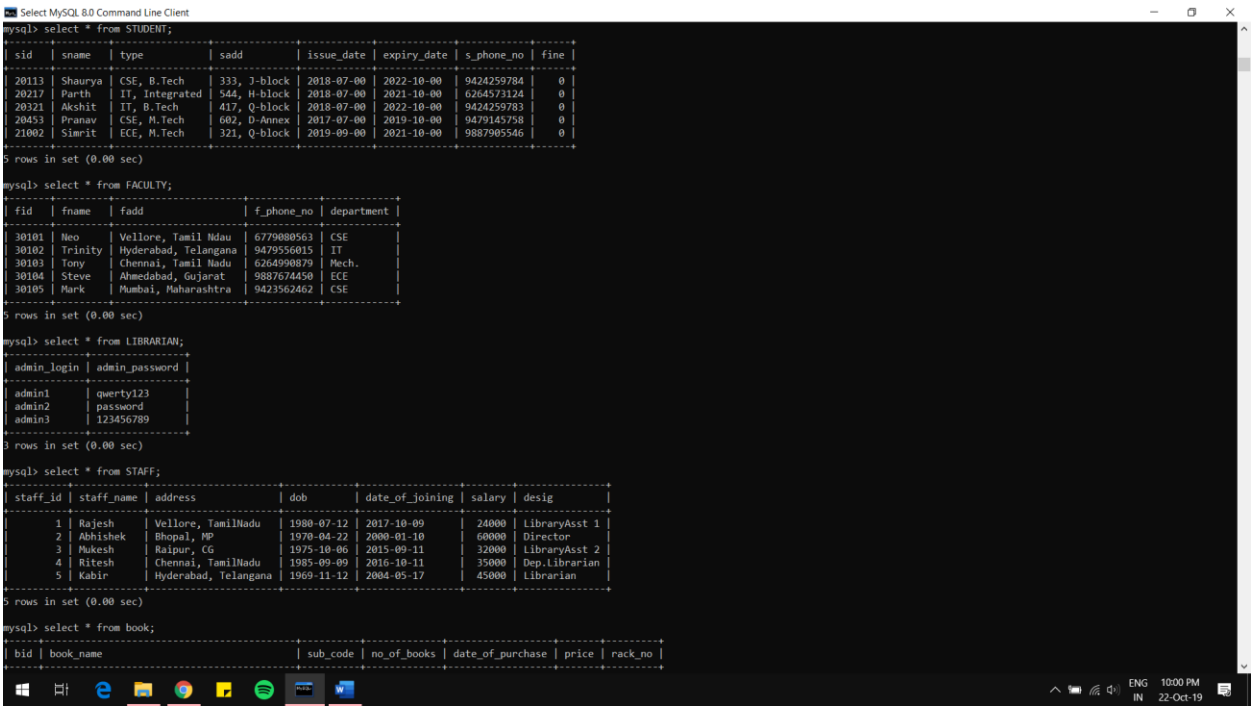

Select MySQL 8.0 Command Line Client
mysql> insert into AUTHOR values (102, "Grolier", "1968-11-03", "NYC, US", 22);
Query OK, 1 row affected (0.00 sec)
mysql> insert into AUTHOR values (103, "Carolyn Bradshaw", "1974-10-20", "Bogota, Colombia", 20);
Query OK, 1 row affected (0.00 sec)
mysql> insert into AUTHOR values (104, "Cristine Redoblo", "1987-03-12", "Rio de Jeneiro, Brazil", 5);
Query OK, 1 row affected (0.00 sec)
mysql> insert into AUTHOR values (105, "Brian Knapp", "1977-12-31", "Chicago, US", 15);
Query OK, 1 row affected (0.00 sec)
mysql> insert into AUTHOR values (106, "Greg Glowka", "1989-10-17", "Moscow, Russia", 10);
Query OK, 1 row affected (0.00 sec)
mysql> insert into AUTHOR values (107, "Cristine Redoblo", "1985-02-22", "Manila, Philippines", 8);
Query OK, 1 row affected (0.00 sec)
mysql> insert into AUTHOR values (108, "Clarke Donald", "1952-08-19", "Basra, Iraq", 30);
Query OK, 1 row affected (0.00 sec)
mysql> insert into AUTHOR values (109, "C. Tan", "1958-01-02", "London, England", 25);
Query OK, 1 row affected (0.00 sec)
mysql> insert into AUTHOR values (110, "Glencoe McGraw Hill", "1966-09-11", "NYC, US", 12);
Query OK, 1 row affected (0.00 sec)
mysql> insert into AUTHOR values (111, "Lorenza P. Avera", "1969-11-12", "Sao Paulo, Brazil", 18);
Query OK, 1 row affected (0.00 sec)
mysql> insert into AUTHOR values (112, "Virginia Bermudez", "1963-01-22", "Lima, Peru", 28);
Query OK, 1 row affected (0.00 sec)
mysql> insert into AUTHOR values (113, "Ricardo T. Jose", "1971-05-05", "Warsaw, Poland", 19);
Query OK, 1 row affected (0.00 sec)
mysql> insert into AUTHOR values (114, "Glencoe McGraw Hill", "1990-02-09", "Tijuana, Mexico", 7);
Query OK, 1 row affected (0.00 sec)
mysql> insert into AUTHOR values (115, "Douglas K. Ramsey", "1988-12-26", "NYC, US", 15);
Query OK, 1 row affected (0.00 sec)
mysql> insert into writes values (1, 101);
Query OK, 1 row affected (0.00 sec)
mysql> insert into writes values (2, 102);
Query OK, 1 row affected (0.00 sec)
mysql> insert into writes values (3, 103);
ENG IN 9:59 PM 22-Oct-19


Select MySQL 8.0 Command Line Client
mysql> insert into writes values (4, 104);
Query OK, 1 row affected (0.00 sec)
mysql> insert into writes values (5, 105);
Query OK, 1 row affected (0.00 sec)
mysql> insert into writes values (6, 106);
Query OK, 1 row affected (0.00 sec)
mysql> insert into writes values (7, 107);
Query OK, 1 row affected (0.00 sec)
mysql> insert into writes values (8, 108);
Query OK, 1 row affected (0.00 sec)
mysql> insert into writes values (9, 109);
Query OK, 1 row affected (0.00 sec)
mysql> insert into writes values (10, 110);
Query OK, 1 row affected (0.00 sec)
mysql> insert into writes values (11, 111);
Query OK, 1 row affected (0.00 sec)
mysql> insert into writes values (12, 112);
Query OK, 1 row affected (0.00 sec)
mysql> insert into writes values (13, 113);
Query OK, 1 row affected (0.00 sec)
mysql> insert into writes values (14, 114);
Query OK, 1 row affected (0.00 sec)
mysql> insert into writes values (15, 115);
Query OK, 1 row affected (0.00 sec)
mysql>
mysql> insert into LIBRARIAN values("admin1", "qwerty123");
Query OK, 1 row affected (0.01 sec)
mysql> insert into LIBRARIAN values("admin2", "password");
Query OK, 1 row affected (0.00 sec)
mysql> insert into LIBRARIAN values("admin3", "123456789");
Query OK, 1 row affected (0.00 sec)
mysql> insert into PERIODICALS values (991, "The Atlantic", "2019-09-00", "Emerson Collective");
Query OK, 1 row affected (0.00 sec)
ENG IN 9:59 PM 22-Oct-19


Select MySQL 8.0 Command Line Client
Query OK, 1 row affected (0.00 sec)
mysql> insert into PERIODICALS values (991, "The Atlantic", "2019-09-00", "Emerson Collective");
Query OK, 1 row affected (0.00 sec)
mysql> insert into PERIODICALS values (992, "National Examiner", "2019-09-00", "American Media");
Query OK, 1 row affected (0.00 sec)
mysql> insert into PERIODICALS values (993, "Scientific American", "2019-10-00", "ScienceDaily");
Query OK, 1 row affected (0.00 sec)
mysql> insert into PERIODICALS values (994, "Library Journal", "2019-10-00", "Media Source");
Query OK, 1 row affected (0.00 sec)
mysql> insert into PERIODICALS values (995, "TIME", "2019-09-00", "WarnerMedia");
Query OK, 1 row affected (0.00 sec)
mysql> insert into STUDENT values (20113, "Shaurya", "CSE, B.Tech", "333, J-block", "2018-07-00", "2022-10-00", "9424259784", 0);
Query OK, 1 row affected (0.01 sec)
mysql> insert into STUDENT values (20321, "Akshit", "IT, B.Tech", "417, Q-block", "2018-07-00", "2022-10-00", "9424259783", 0);
Query OK, 1 row affected (0.00 sec)
mysql> insert into STUDENT values (20453, "Pranav", "CSE, M.Tech", "602, D-Annex", "2017-07-00", "2019-10-00", "9479145758", 0);
Query OK, 1 row affected (0.00 sec)
mysql> insert into STUDENT values (20217, "Parth", "IT, Integrated", "544, H-block", "2018-07-00", "2021-10-00", "6264573124", 0);
Query OK, 1 row affected (0.00 sec)
mysql> insert into STUDENT values (21002, "Simrit", "ECE, M.Tech", "321, Q-block", "2019-09-00", "2021-10-00", "9887905546", 0);
Query OK, 1 row affected (0.00 sec)
mysql> insert into ibs values ("2019-10-20", "2019-10-30", 20217, 6);
Query OK, 1 row affected (0.01 sec)
mysql> insert into ibs values ("2019-10-01", "2019-10-20", 20113, 9);
Query OK, 1 row affected (0.00 sec)
mysql> insert into ibs values ("2019-09-25", "2019-10-20", 21002, 12);
Query OK, 1 row affected (0.00 sec)
mysql> insert into FACULTY values (30101, "Neo", "Vellore, Tamil Ndau", "6779080563", "CSE");
Query OK, 1 row affected (0.01 sec)
mysql> insert into FACULTY values (30102, "Trinity", "Hyderabad, Telangana", "9479556015", "IT");
Query OK, 1 row affected (0.00 sec)
mysql> insert into FACULTY values (30103, "Tony", "Chennai, Tamil Nadu", "6264990879", "Mech.");
Query OK, 1 row affected (0.00 sec)
ENG IN 9:59 PM 22-Oct-19


Select MySQL 8.0 Command Line Client
Query OK, 1 row affected (0.00 sec)
mysql> insert into FACULTY values (30103, "Tony", "Chennai, Tamil Nadu", "6264990879", "Mech.");
Query OK, 1 row affected (0.00 sec)
mysql> insert into FACULTY values (30104, "Steve", "Ahmedabad, Gujarat", "9887674450", "ECE");
Query OK, 1 row affected (0.00 sec)
mysql> insert into FACULTY values (30105, "Mark", "Mumbai, Maharashtra", "9423562462", "CSE");
Query OK, 1 row affected (0.00 sec)
mysql> insert into ibf values ("2019-10-10", "2019-10-25", 30102, 2);
Query OK, 1 row affected (0.01 sec)
mysql> insert into ibf values ("2019-10-22", "2019-11-10", 30101, 7);
Query OK, 1 row affected (0.00 sec)
mysql> insert into ibf values ("2019-10-01", "2019-10-30", 30104, 5);
Query OK, 1 row affected (0.00 sec)
mysql> insert into STAFF values (001, "Rajesh", "Vellore, TamilNadu", "1980-07-12", "2017-10-09", 24000, "LibraryAsst 1");
Query OK, 1 row affected (0.01 sec)
mysql> insert into STAFF values (002, "Abhishek", "Bhopal, MP", "1970-04-22", "2000-01-10", 60000, "Director");
Query OK, 1 row affected (0.00 sec)
mysql> insert into STAFF values (003, "Mukesh", "Raipur, CG", "1975-10-06", "2015-09-11", 32000, "LibraryAsst 2");
Query OK, 1 row affected (0.00 sec)
mysql> insert into STAFF values (004, "Ritesh", "Chennai, TamilNadu", "1985-09-09", "2016-10-11", 35000, "Dep.Librarian");
Query OK, 1 row affected (0.00 sec)
mysql> insert into STAFF values (005, "Kabir", "Hyderabad, Telangana", "1969-11-12", "2004-05-17", 45000, "Librarian");
Query OK, 1 row affected (0.00 sec)
mysql> alter table STUDENT add primary key (sid);
Query OK, 0 rows affected (0.15 sec)
Records: 0 Duplicates: 0 Warnings: 0
mysql> alter table FACULTY add primary key (fid);
Query OK, 0 rows affected (0.15 sec)
Records: 0 Duplicates: 0 Warnings: 0
mysql> alter table LIBRARIAN add primary key (admin_login);
Query OK, 0 rows affected (0.14 sec)
Records: 0 Duplicates: 0 Warnings: 0
mysql> alter table STAFF add primary key (staff_id);
Query OK, 0 rows affected (0.14 sec)
Records: 0 Duplicates: 0 Warnings: 0
ENG IN 9:59 PM 22-Oct-19


Select MySQL 8.0 Command Line Client
mysql> insert into STAFF values (004, "Ritesh", "Chennai, TamilNadu", "1985-09-09", "2016-10-11", 35000, "Dep.Librarian");
Query OK, 1 row affected (0.00 sec)
mysql> insert into STAFF values (005, "Kabir", "Hyderabad, Telangana", "1969-11-12", "2004-05-17", 45000, "Librarian");
Query OK, 1 row affected (0.00 sec)
mysql> alter table STUDENT add primary key (sid);
Query OK, 0 rows affected (0.15 sec)
Records: 0 Duplicates: 0 Warnings: 0
mysql> alter table FACULTY add primary key (fid);
Query OK, 0 rows affected (0.15 sec)
Records: 0 Duplicates: 0 Warnings: 0
mysql> alter table LIBRARIAN add primary key (admin_login);
Query OK, 0 rows affected (0.14 sec)
Records: 0 Duplicates: 0 Warnings: 0
mysql> alter table STAFF add primary key (staff_id);
Query OK, 0 rows affected (0.14 sec)
Records: 0 Duplicates: 0 Warnings: 0
mysql> alter table BOOK add primary key (bid);
Query OK, 0 rows affected (0.14 sec)
Records: 0 Duplicates: 0 Warnings: 0
mysql> alter table AUTHOR add primary key (aid);
Query OK, 0 rows affected (0.14 sec)
Records: 0 Duplicates: 0 Warnings: 0
mysql> alter table PERIODICALS add primary key (pr_id);
Query OK, 0 rows affected (0.14 sec)
Records: 0 Duplicates: 0 Warnings: 0
mysql> alter table ibs add foreign key (student_id) references STUDENT(sid);
Query OK, 3 rows affected (0.06 sec)
Records: 3 Duplicates: 0 Warnings: 0
mysql> alter table ibs add foreign key (book_id) references BOOK(bid);
Query OK, 3 rows affected (0.05 sec)
Records: 3 Duplicates: 0 Warnings: 0
mysql> alter table ibf add foreign key (faculty_id) references FACULTY(fid);
Query OK, 3 rows affected (0.05 sec)
Records: 3 Duplicates: 0 Warnings: 0
mysql> alter table ibf add foreign key (book_id) references BOOK(bid);
Query OK, 3 rows affected (0.05 sec)
Records: 3 Duplicates: 0 Warnings: 0
ENG IN 9:59 PM 22-Oct-19


Select MySQL 8.0 Command Line Client
mysql> select * from STUDENT;
+------+---------+---------------+-------------+------------+-------------+------------+------+
| sid | sname | type | sadd | issue_date | expiry_date | s_phone_no | fine |
+------+---------+---------------+-------------+------------+-------------+------------+------+
20113	Shaurya	CSE, B.Tech	333, J-block	2018-07-00	2022-10-00	9424259784	0
20217	Parth	IT, Integrated	544, H-block	2018-07-00	2021-10-00	6264573124	0
20321	Akshit	IT, B.Tech	417, Q-block	2018-07-00	2022-10-00	9424259783	0
20453	Pranav	CSE, M.Tech	602, D-Annex	2017-07-00	2019-10-00	9479145758	0
21002	Simrit	ECE, M.Tech	321, Q-block	2019-09-00	2021-10-00	9887905546	0
+------+---------+---------------+-------------+------------+-------------+------------+------+
5 rows in set (0.00 sec)
mysql> select * from FACULTY;
+-------+---------+--------------------+------------+------------+
| fid | fname | fadd | f_phone_no | department |
+-------+---------+--------------------+------------+------------+
30101	Neo	Vellore, Tamil Ndau	6779080563	CSE
30102	Trinity	Hyderabad, Telangana	9479556015	IT
30103	Tony	Chennai, Tamil Nadu	6264990879	Mech.
30104	Steve	Ahmedabad, Gujarat	9887674450	ECE
30105	Mark	Mumbai, Maharashtra	9423562462	CSE
+-------+---------+--------------------+------------+------------+
5 rows in set (0.00 sec)
mysql> select * from LIBRARIAN;
+-------------+----------------+
| admin_login | admin_password |
+-------------+----------------+
admin1	qwerty123
admin2	password
admin3	123456789
+-------------+----------------+
3 rows in set (0.00 sec)
mysql> select * from STAFF;
+----------+------------+----------------------+------------+----------------+--------+--------------+
| staff_id | staff_name | address | dob | date_of_joining | salary | desig |
+----------+------------+----------------------+------------+----------------+--------+--------------+
1	Rajesh	Vellore, TamilNadu	1980-07-12	2017-10-09	24000	LibraryAsst 1
2	Abhishek	Bhopal, MP	1970-04-22	2000-01-10	60000	Director
3	Mukesh	Raipur, CG	1975-10-06	2015-09-11	32000	LibraryAsst 2
4	Ritesh	Chennai, TamilNadu	1985-09-09	2016-10-11	35000	Dep.Librarian
5	Kabir	Hyderabad, Telangana	1969-11-12	2004-05-17	45000	Librarian
+----------+------------+----------------------+------------+----------------+--------+--------------+
5 rows in set (0.00 sec)
mysql> select * from book;
+-----+-----------+----------+--------------+------------------+-------+---------+
| bid | book_name | sub_code | no_of_books | date_of_purchase | price | rack_no |
+-----+-----------+----------+--------------+------------------+-------+---------+
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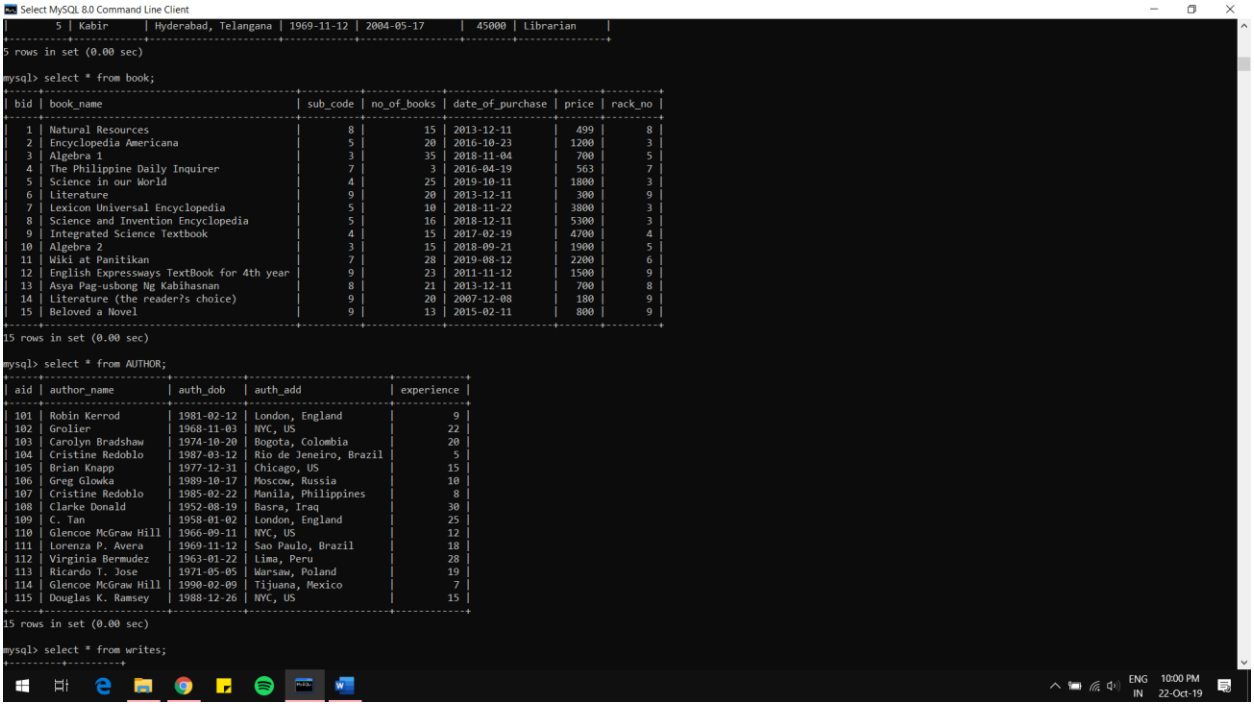
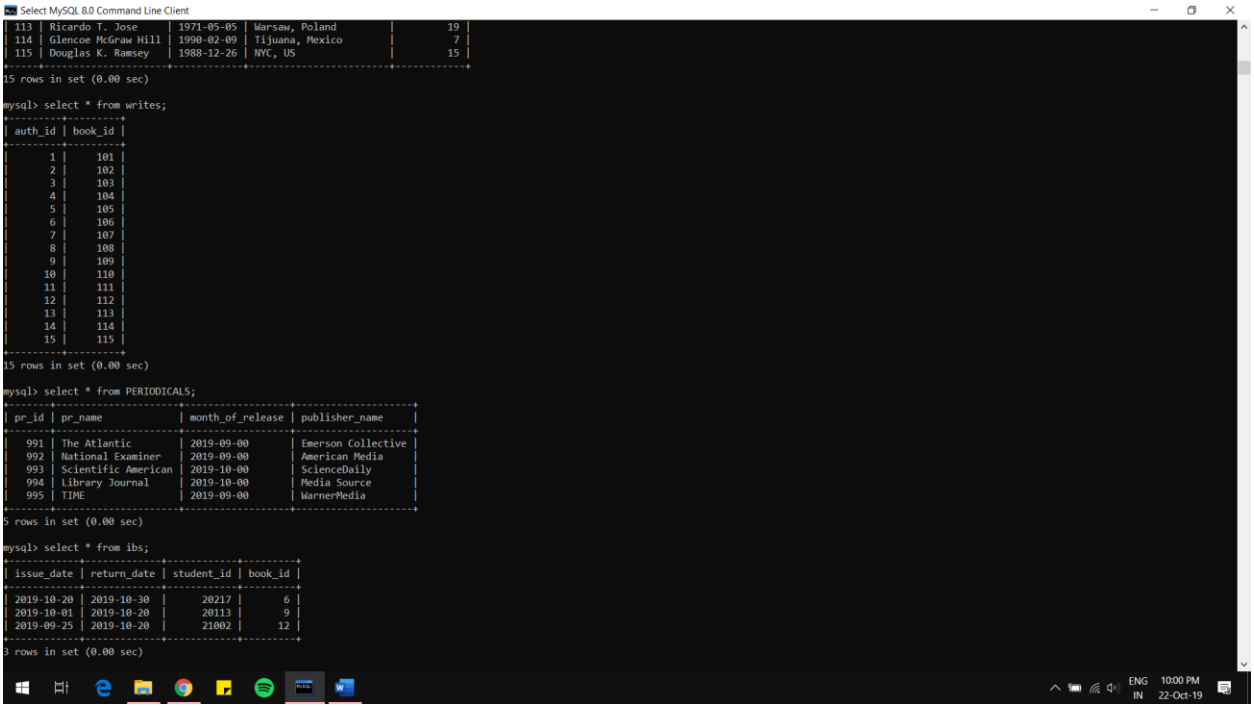
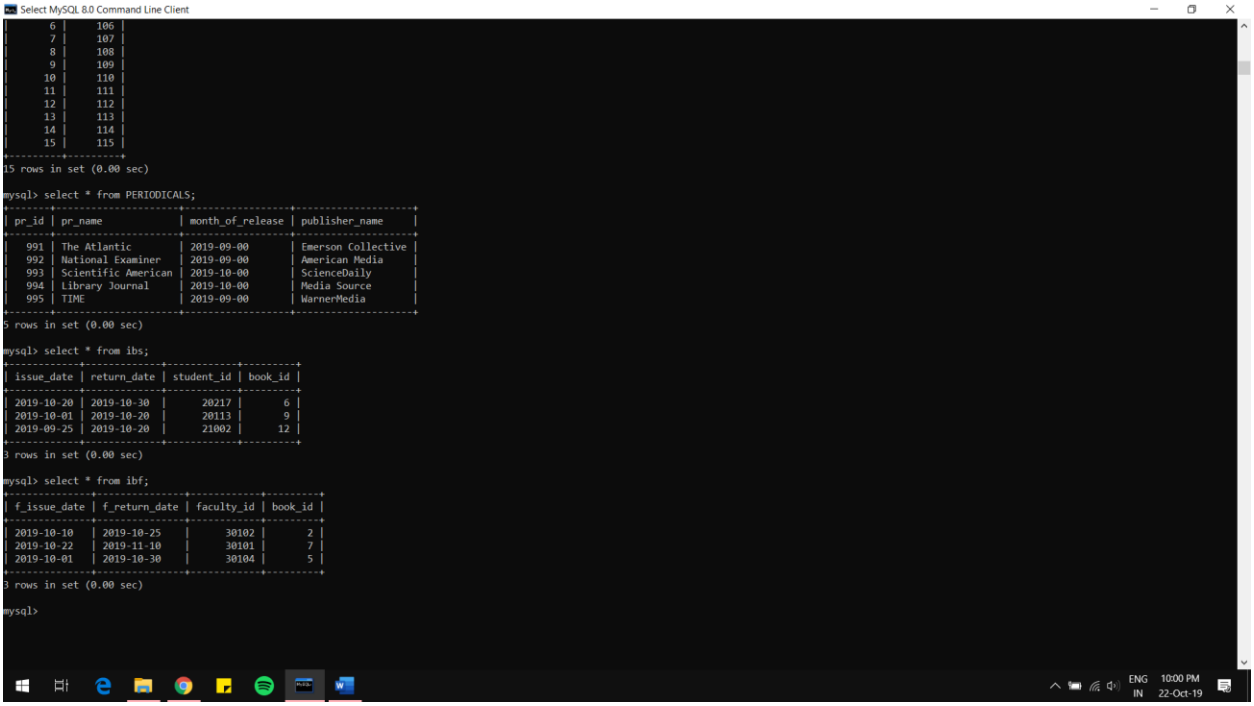

Select MySQL 8.0 Command Line Client
5 | Kabir | Hyderabad, Telangana | 1969-11-12 | 2004-05-17 | 45000 | Librarian
5 rows in set (0.00 sec)
mysql> select * from book;
bid	book_name	sub_code	no_of_books	date_of_purchase	price	rack_no
1	Natural Resources	8	15	2013-12-11	499	8
2	Encyclopedia Americana	5	20	2016-10-23	1200	3
3	Algebra 1	3	35	2018-11-04	700	5
4	The Philippine Daily Inquirer	7	3	2016-04-19	563	7
5	Science in our World	4	25	2019-10-11	1800	3
6	Literature	9	20	2013-12-11	300	9
7	Lexicon Universal Encyclopedia	5	10	2018-11-22	3800	3
8	Science and Invention Encyclopedia	5	16	2018-12-11	5300	3
9	Integrated Science Textbook	4	15	2017-02-19	4700	4
10	Algebra 2	3	15	2018-09-21	1900	5
11	Wiki at Panitikan	7	28	2019-08-12	2200	6
12	English Expressways TextBook for 4th year	9	23	2011-11-12	1500	9
13	Asya Pag-usbong Ng Kabihasnan	8	21	2013-12-11	700	8
14	Literature (the reader?s choice)	9	20	2007-12-08	180	9
15	Beloved a Novel	9	13	2015-02-11	800	9
15 rows in set (0.00 sec)
mysql> select * from AUTHOR;
aid	author_name	auth_dob	auth_add	experience
101	Robin Kerrod	1981-02-12	London, England	9
102	Grolier	1968-11-03	NYC, US	22
103	Carolyn Bradshaw	1974-10-20	Bogota, Colombia	20
104	Cristine Redoblo	1987-03-12	Rio de Jeneiro, Brazil	5
105	Brian Knapp	1977-12-31	Chicago, US	15
106	Greg Glowka	1989-10-17	Moscow, Russia	10
107	Cristine Redoblo	1985-02-22	Manila, Philippines	8
108	Clarke Donald	1952-08-19	Basra, Iraq	30
109	C. Tan	1958-01-02	London, England	25
110	Glencoe McGraw Hill	1966-09-11	NYC, US	12
111	Lorenza P. Avera	1969-11-12	Sao Paulo, Brazil	18
112	Virginia Bermudez	1963-01-22	Lima, Peru	28
113	Ricardo T. Jose	1971-05-05	Warsaw, Poland	19
114	Glencoe McGraw Hill	1990-02-09	Tijuana, Mexico	7
115	Douglas K. Ramsey	1988-12-26	NYC, US	15
15 rows in set (0.00 sec)
mysql> select * from writes;
ENG IN 10:00 PM 22-Oct-19


Select MySQL 8.0 Command Line Client
113	Ricardo T. Jose	1971-05-05	Warsaw, Poland	19
114	Glencoe McGraw Hill	1990-02-09	Tijuana, Mexico	7
115	Douglas K. Ramsey	1988-12-26	NYC, US	15
15 rows in set (0.00 sec)
mysql> select * from writes;
auth_id	book_id
1	101
2	102
3	103
4	104
5	105
6	106
7	107
8	108
9	109
10	110
11	111
12	112
13	113
14	114
15	115
15 rows in set (0.00 sec)
mysql> select * from PERIODICALS;
pr_id	pr_name	month_of_release	publisher_name
991	The Atlantic	2019-09-00	Emerson Collective
992	National Examiner	2019-09-00	American Media
993	Scientific American	2019-10-00	ScienceDaily
994	Library Journal	2019-10-00	Media Source
995	TIME	2019-09-00	WarnerMedia
5 rows in set (0.00 sec)
mysql> select * from ibs;
issue_date	return_date	student_id	book_id
2019-10-20	2019-10-30	20217	6
2019-10-01	2019-10-20	20113	9
2019-09-25	2019-10-20	21002	12
3 rows in set (0.00 sec)
ENG IN 10:00 PM 22-Oct-19


Select MySQL 8.0 Command Line Client
6 | 106 |
7 | 107 |
8 | 108 |
9 | 109 |
10 | 110 |
11 | 111 |
12 | 112 |
13 | 113 |
14 | 114 |
15 | 115 |
15 rows in set (0.00 sec)
mysql> select * from PERIODICALS;
pr_id	pr_name	month_of_release	publisher_name
991	The Atlantic	2019-09-00	Emerson Collective
992	National Examiner	2019-09-00	American Media
993	Scientific American	2019-10-00	ScienceDaily
994	Library Journal	2019-10-00	Media Source
995	TIME	2019-09-00	WarnerMedia
5 rows in set (0.00 sec)
mysql> select * from ibs;
issue_date	return_date	student_id	book_id
2019-10-20	2019-10-30	20217	6
2019-10-01	2019-10-20	20113	9
2019-09-25	2019-10-20	21002	12
3 rows in set (0.00 sec)
mysql> select * from ibf;
f_issue_date	f_return_date	faculty_id	book_id
2019-10-10	2019-10-25	30102	2
2019-10-22	2019-11-10	30101	7
2019-10-01	2019-10-30	30104	5
3 rows in set (0.00 sec)
mysql>
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