A

Project Report

on

**Library Management System**

Developed by

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**Faculty of Technology**

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**College Road, Nadiad-387001**

**October-2021**

**DHARMSINH DESAI UNIVERSITY**

**NADIAD-387001, GUJARAT**

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**CERTIFICATE**

This is to certify that the project entitled “**Library Management System**” is a bonafied report of the work carried out by

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of Department of Information Technology, semester V, under the guidance and supervision for the subject Database Management System. They were involved in Project training during academic year 2021-2022.

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Date: 21-10-2021

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Head, Department of Information Technology,

Faculty of Technology,

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Date: 21-10-2021

**ACKNOWLEDGEMENT**

We would like to give our sincere acknowledgement and express our heartiest gratitude to everybody responsible for the successful completion of our project “OMNILIB”.

The success and final outcome of this project required a lot of guidance and assistance from many people and we are extremely privileged to have them all along the completion of this project.

We owe our gratitude to our project guide Prof. Fatema Vhora, who took keen interest on our project work and guided us all along till the completion of our project work by providing all the necessary help for developing a good Database System.

We would also like to thank Prof. Archana N. Vyas whose lectures and constant motivation led us to completion of this project.

Finally we convey our acknowledgement to all our faculties, friends and family members who are directly or indirectly associated with us in successful completion of this project.

We thank one and all.

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**1.SYSTEM OVERVIEW**

**1.1 CURRENT SYSTEM**

* OMNILIB is engineered to help people locate libraries or their favourite books in India. A person can get registered to the system via the Login portal and select the membership types offered to them and avail the benefits.
* OMNILIB has two types of users:

1) Admins,

2) Users.

An Admin can administer his books in his library and can keep a track of the return or issuing dates of the books. The Users can search the books they need and put hold on those books which they will issue physically at the libraries they attend to, Users are given merit points by the Admins based on their loyalty and User is also allowed to give feedback on or about the books and libraries.

**1.2 OBJECTIVES OF THE PROPOSED SYSTEM**

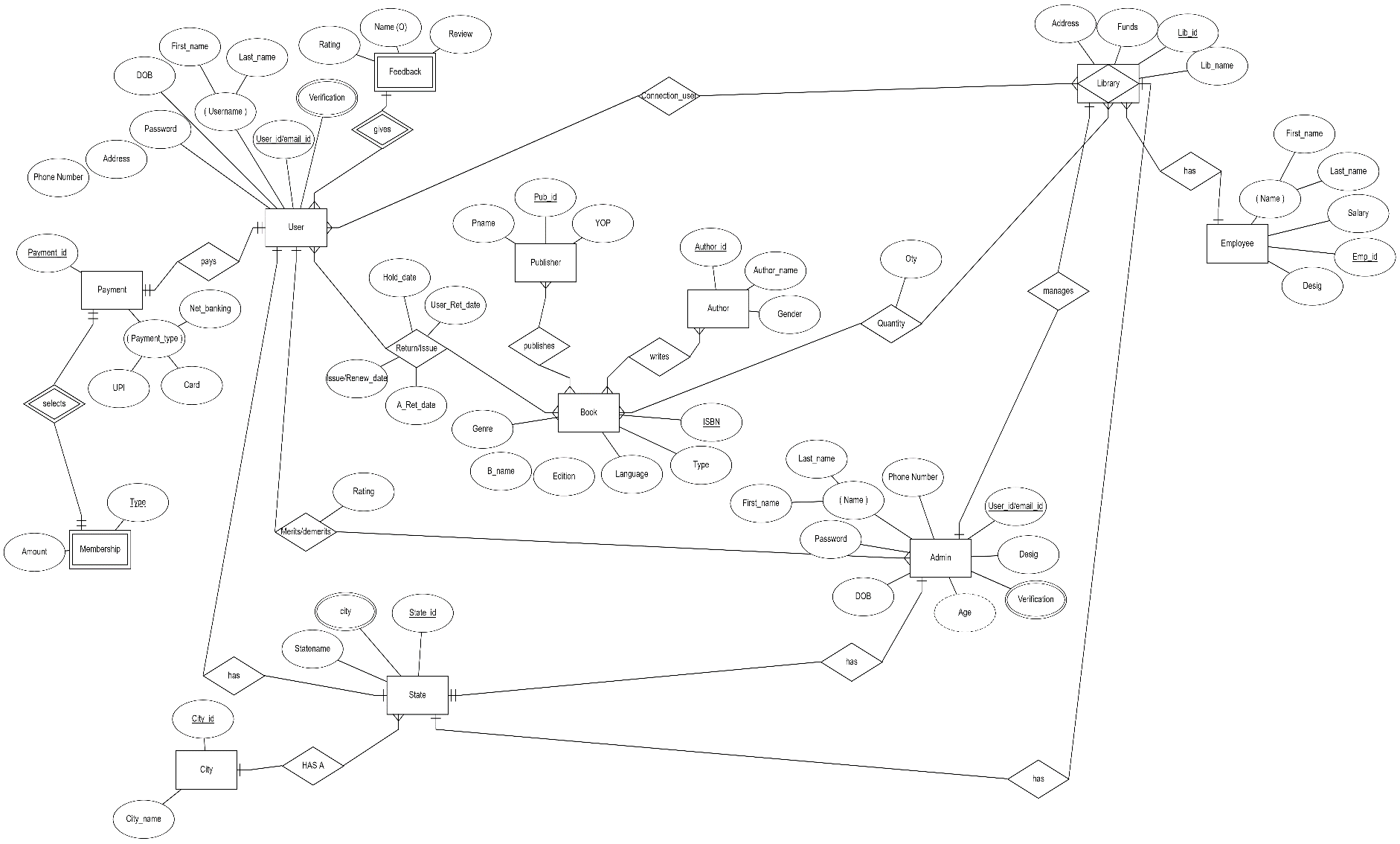
* Automate and facilitate process of searching books in one’s locality.
* Unified system for Return/Issue or holding a particular book
* Ease of access for Users and Admins

**1.3 ADVANTAGES OF THE PROPOSED SYSTEM**

Through this system we try to achieve the below objectives

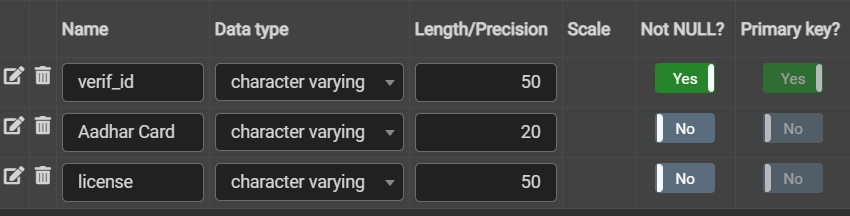
* Reducing the managing/accessing time for the users and the admins
* Reduces time for the users looking for particular genres/authors.They can sift through the books easily.
* Helps reduce Library funds towards employment thus allowing minimal management
* Allows a user to extend his return date/ re-issuing of the book online.
* Admins can track users favourite genres and thus exercise their decisions for purchasing books and works that seem beneficial.

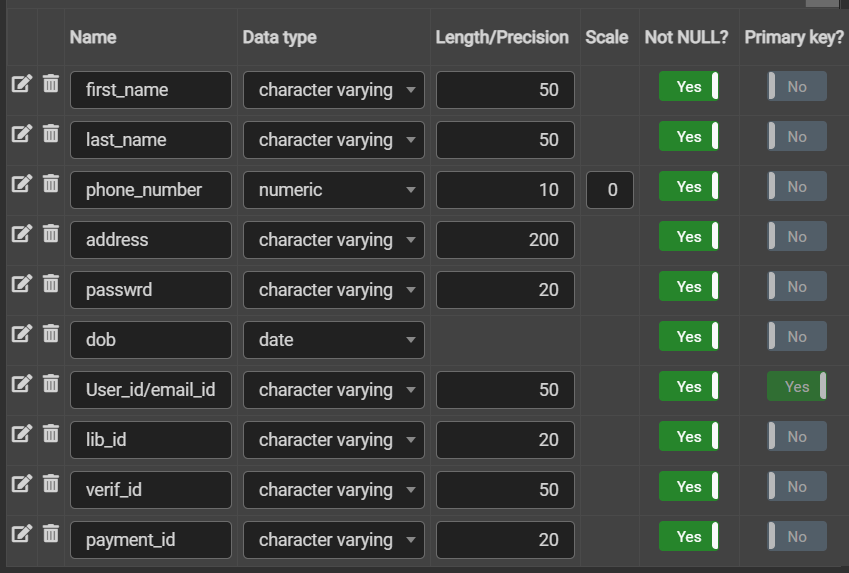
**2.ER Diagram**

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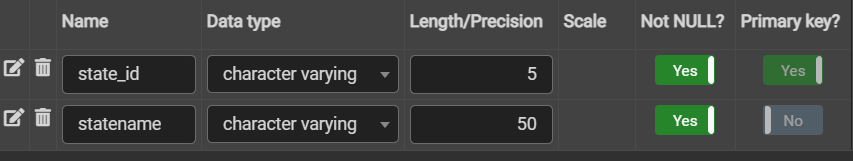
**3.Data Dictionary**

**Verification**

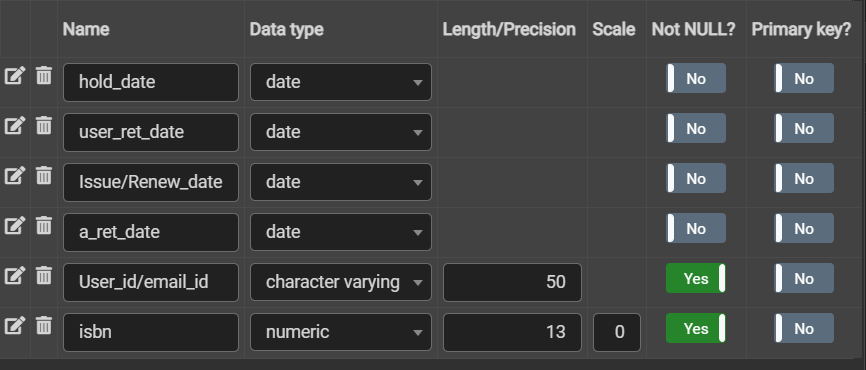
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**User**

**State**

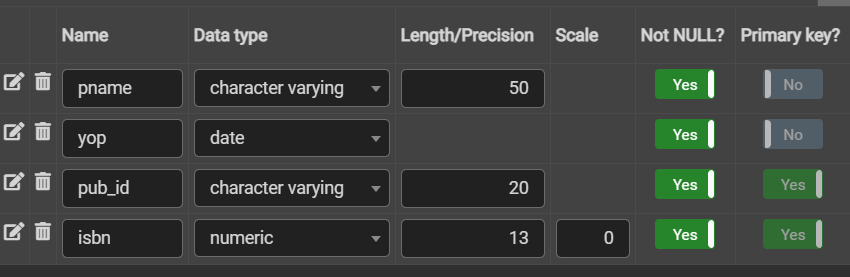
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**Return/Issue**

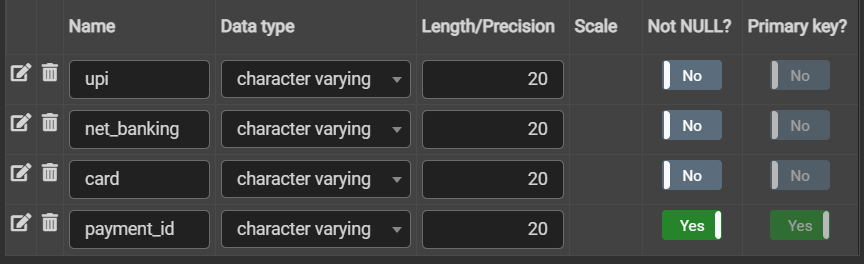
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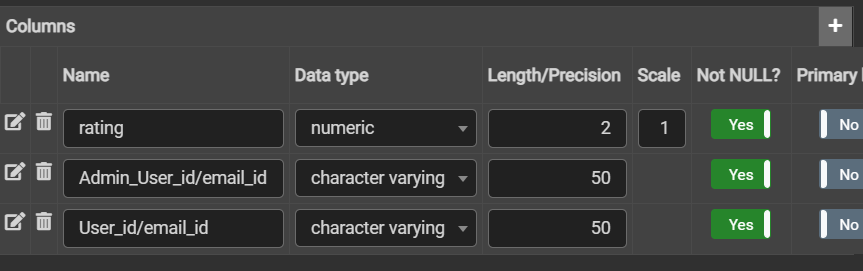
**Quantity**

**Publisher**

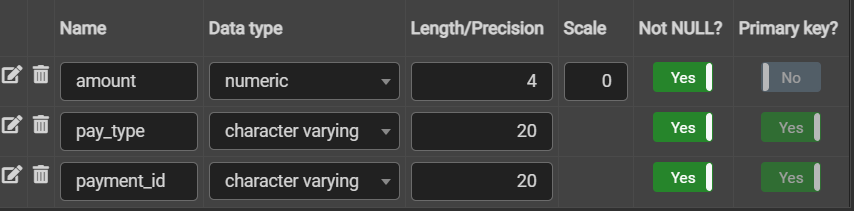
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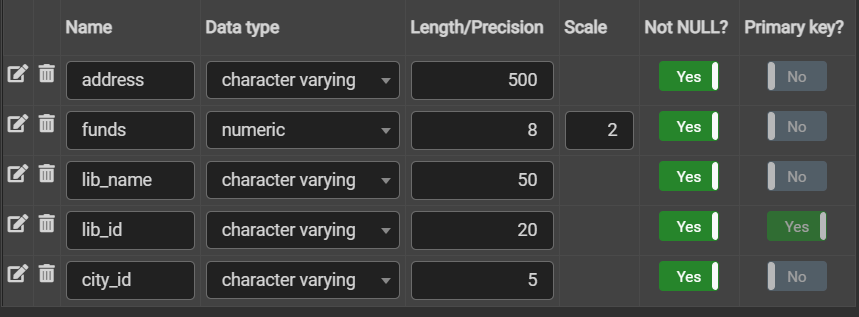
**Payment**

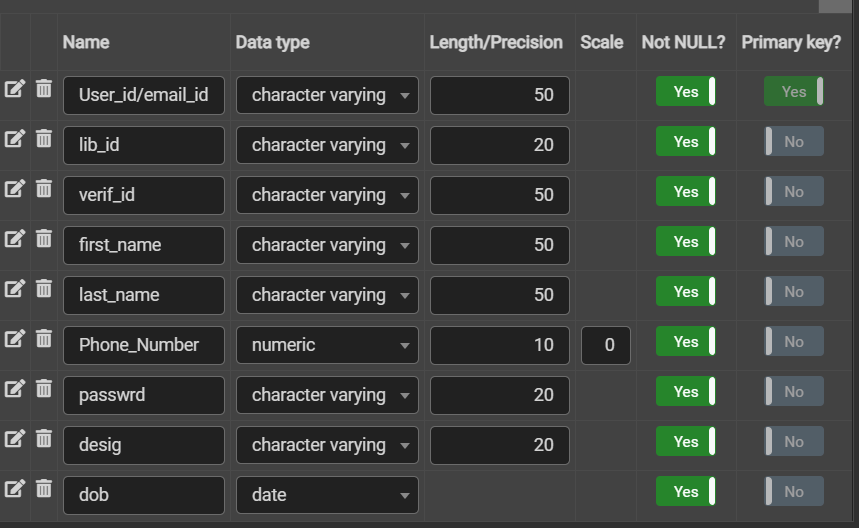
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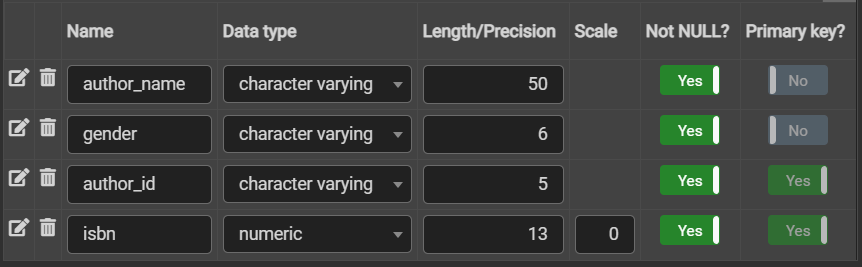
**Merits/Demerits**

**Membership**

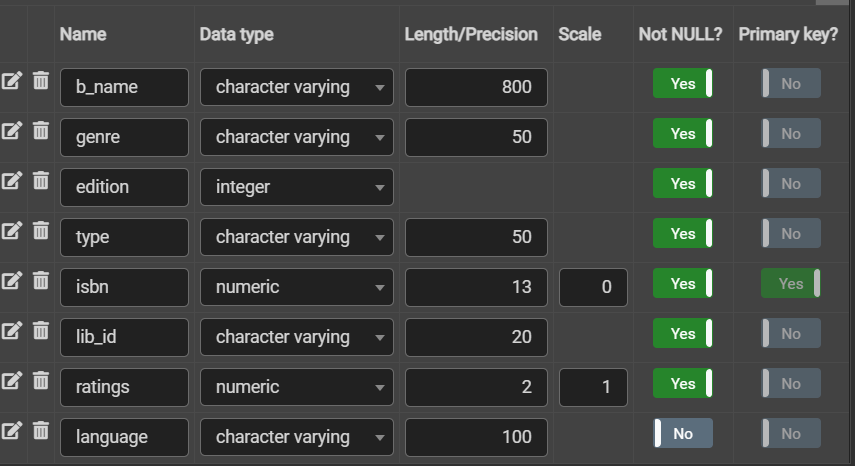
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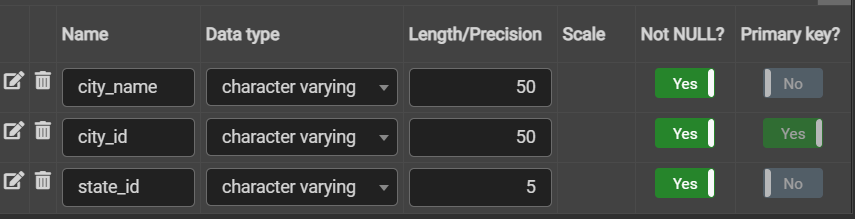
**Library**

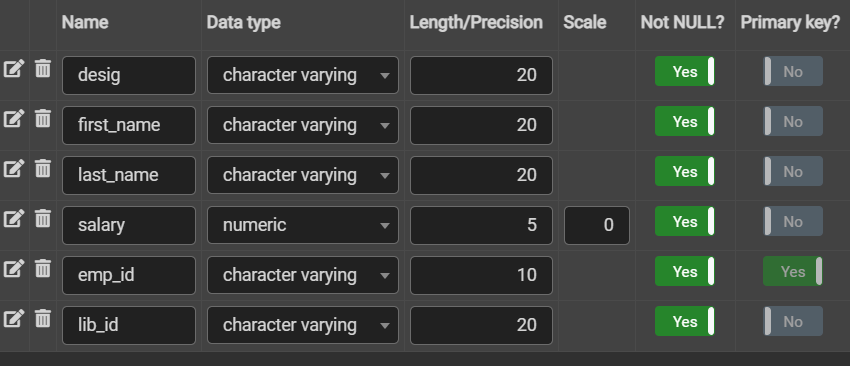
**Admin**

**Author**

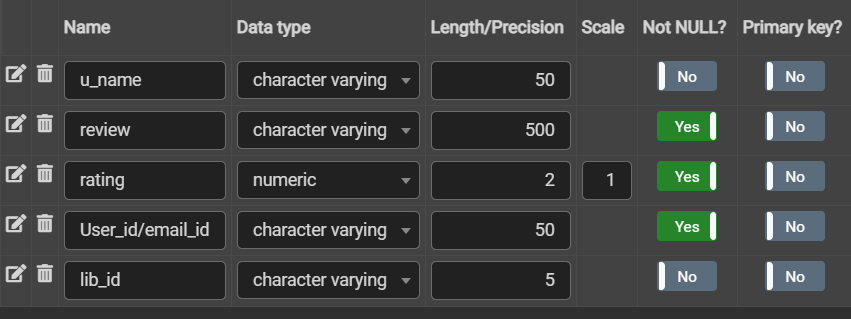
**Book**

****

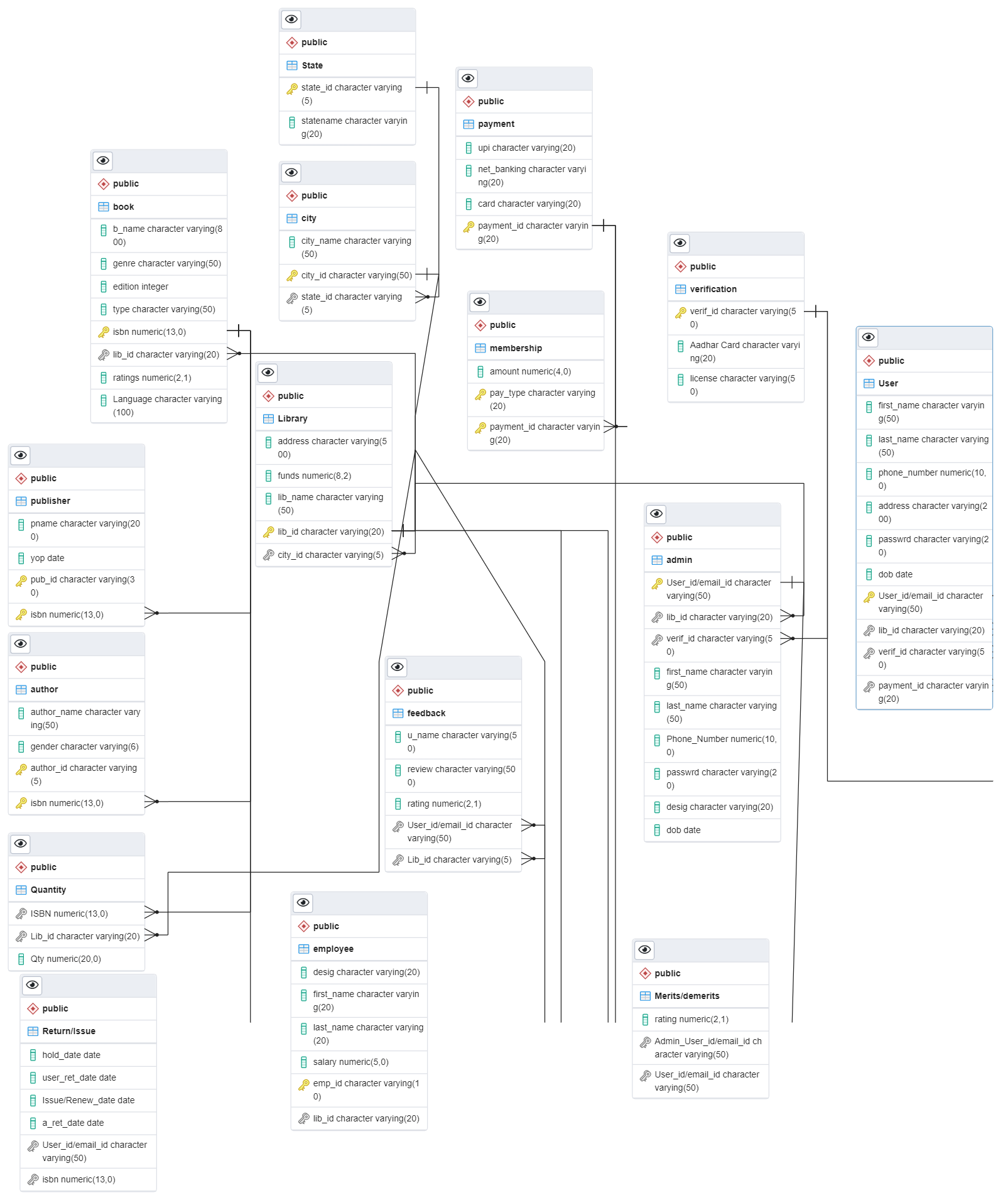
**City**

**Employee**

**Feedback**

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**4.Schema Diagram**

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**5.Database Implementation**

**5.1 Queries for Table Creation**

**CREATE SCHEMA**

**1)Verification**

CREATE TABLE Verification

(

Verif\_id varchar(50) NOT NULL,

"Aadhar Card" varchar(20) NULL,

License varchar(50) NULL,

CONSTRAINT PK\_215 PRIMARY KEY ( Verif\_id )

);

**2) State**

CREATE TABLE "State"

(

State\_id varchar(5) NOT NULL,

Statename varchar(50) NOT NULL,

CONSTRAINT PK\_159 PRIMARY KEY ( State\_id ));

**3)City**

CREATE TABLE City

(

City\_name varchar(50) NOT NULL,

City\_id varchar(50) NOT NULL,

State\_id varchar(5) NOT NULL,

CONSTRAINT PK\_163 PRIMARY KEY ( City\_id),

CONSTRAINT FK\_165 FOREIGN KEY ( State\_id ) REFERENCES "State" ( State\_id )

);

CREATE INDEX fkIdx\_167 ON City

(

State\_id

);

**4) Library**

CREATE TABLE "Library"

(

Address varchar(500) NOT NULL,

Funds numeric(8,2) NOT NULL,

Lib\_name varchar(50) NOT NULL,

Lib\_id varchar(20) NOT NULL,

City\_id varchar(5) NOT NULL,

CONSTRAINT PK\_52 PRIMARY KEY ( Lib\_id),

CONSTRAINT FK\_181 FOREIGN KEY ( City\_id ) REFERENCES "State" ( City\_id )

);

CREATE INDEX fkIdx\_183 ON "Library"

(

City\_id

);

**5) Admin**

CREATE TABLE Admin

(

"User\_id/email\_id" varchar(50) NOT NULL,

Lib\_id varchar(20) NOT NULL,

Verif\_id varchar(50) NOT NULL,

First\_name varchar(50) NOT NULL,

Last\_name varchar(50) NOT NULL,

"Phone\_Number" numeric(10,0) NOT NULL,

Passwrd varchar(20) NOT NULL,

Desig varchar(20) NOT NULL,

DOB date NOT NULL,

CONSTRAINT PK\_191 PRIMARY KEY ( "User\_id/email\_id"),

CONSTRAINT FK\_121 FOREIGN KEY ( Lib\_id) REFERENCES "Library" ( Lib\_id),

CONSTRAINT FK\_231 FOREIGN KEY ( Verif\_id ) REFERENCES Verification ( Verif\_id )

);

CREATE INDEX fkIdx\_124 ON Admin

(

Lib\_id

);

CREATE INDEX fkIdx\_233 ON Admin

(

Verif\_id

);

**6) Employee**

CREATE TABLE Employee

(

Desig varchar(20) NOT NULL,

First\_name varchar(20) NOT NULL,

Last\_name varchar(20) NOT NULL,

Salary numeric(5,0) NOT NULL,

Emp\_id varchar(10) NOT NULL,

Lib\_id varchar(20) NOT NULL,

CONSTRAINT PK\_187 PRIMARY KEY ( Emp\_id),

CONSTRAINT FK\_56 FOREIGN KEY ( Lib\_id) REFERENCES "Library" ( Lib\_id)

);

CREATE INDEX fkIdx\_58 ON Employee

(

Lib\_id

);

**7) Book**

CREATE TABLE Book

(

B\_name varchar(800) NOT NULL,

Genre varchar(50) NOT NULL,

Edition int NOT NULL,

Type varchar(50) NOT NULL,

ISBN decimal(13,0) NOT NULL,

Lib\_id varchar(20) NOT NULL,

Ratings numeric(2,1) NOT NULL,

Language varchar(100) NULL,

CONSTRAINT PK\_185 PRIMARY KEY ( ISBN ),

CONSTRAINT FK\_59 FOREIGN KEY ( Lib\_id) REFERENCES "Library" ( Lib\_id)

);

CREATE INDEX fkIdx\_61 ON Book

(

Lib\_id

);

**8) Publisher**

CREATE TABLE Publisher

(

Pname varchar(20) NOT NULL,

YOP date NOT NULL,

Pub\_id varchar(20) NOT NULL,

ISBN decimal(13,0) NOT NULL,

CONSTRAINT PK\_193 PRIMARY KEY ( Pub\_id,ISBN),

CONSTRAINT FK\_15 FOREIGN KEY ( ISBN) REFERENCES Book (ISBN)

);

CREATE INDEX fkIdx\_17 ON Publisher

(

ISBN

);

**9) Author**

CREATE TABLE Author

(

Author\_name varchar(50) NOT NULL,

Gender varchar(6) NOT NULL,

Author\_id varchar(5) NOT NULL,

ISBN decimal(13,0) NOT NULL,

CONSTRAINT PK\_195 PRIMARY KEY ( Author\_id,ISBN),

CONSTRAINT FK\_23 FOREIGN KEY ( ISBN) REFERENCES Book ( ISBN)

);

CREATE INDEX fkIdx\_25 ON Author

(

ISBN

);

**10) Payment**

CREATE TABLE Payment

(

UPI varchar(20) NULL,

Net\_Banking varchar(20) NULL,

Card varchar(20) NULL,

Payment\_id varchar(20) NOT NULL,

CONSTRAINT PK\_230 PRIMARY KEY ( Payment\_id )

);

**11) Membership**

CREATE TABLE Membership

(

Amount numeric(4,0) NOT NULL,

Pay\_Type varchar(20) NOT NULL,

Payment\_id varchar(20) NOT NULL,

CONSTRAINT PK\_222 PRIMARY KEY ( Pay\_Type, Payment\_id ),

CONSTRAINT FK\_237 FOREIGN KEY ( Payment\_id ) REFERENCES Payment ( Payment\_id )

);

CREATE INDEX fkIdx\_239 ON Membership

(

Payment\_id

);

**12) User**

CREATE TABLE "User"

(

First\_name varchar(50) NOT NULL,

Last\_name varchar(50) NOT NULL,

Phone\_Number numeric(10,0) NOT NULL,

Address varchar(200) NOT NULL,

Passwrd varchar(20) NOT NULL,

DOB date NOT NULL,

"User\_id/email\_id" varchar(50) NOT NULL,

Lib\_id varchar(20) NOT NULL,

Verif\_id varchar(50) NOT NULL,

Payment\_id varchar(20) NOT NULL,

CONSTRAINT PK\_189 PRIMARY KEY ( "User\_id/email\_id"),

CONSTRAINT FK\_131 FOREIGN KEY ( Lib\_id) REFERENCES "Library" ( Lib\_id),

CONSTRAINT FK\_218 FOREIGN KEY ( Verif\_id ) REFERENCES Verification ( Verif\_id ),

CONSTRAINT FK\_240 FOREIGN KEY ( Payment\_id ) REFERENCES Payment ( Payment\_id )

);

CREATE INDEX fkIdx\_133 ON "User"

(

Lib\_id

);

CREATE INDEX fkIdx\_220 ON "User"

(

Verif\_id

);

CREATE INDEX fkIdx\_242 ON "User"

(

Payment\_id

);

**13) Return/Issue**

CREATE TABLE "Return/Issue"

(

Hold\_date date NOT NULL,

User\_Ret\_date date NOT NULL,

"Issue/Renew\_date" date NOT NULL,

A\_Ret\_date date NOT NULL,

"User\_id/email\_id" varchar(50) NOT NULL,

ISBN decimal(13,0) NOT NULL,

CONSTRAINT FK\_102 FOREIGN KEY ( "User\_id/email\_id") REFERENCES "User" ( "User\_id/email\_id"),

CONSTRAINT FK\_106 FOREIGN KEY ( ISBN) REFERENCES Book ( ISBN)

);

CREATE INDEX fkIdx\_104 ON "Return/Issue"

(

"User\_id/email\_id"

);

CREATE INDEX fkIdx\_110 ON "Return/Issue"

(

ISBN

);

**14) Feedback**

CREATE TABLE Feedback

(

U\_name varchar(50) NULL,

Review varchar(500) NOT NULL,

Rating numeric(2,1) NOT NULL,

"User\_id/email\_id" varchar(50) NOT NULL,

Lib\_id varchar(5) NULL,

CONSTRAINT FK\_75 FOREIGN KEY ( "User\_id/email\_id") REFERENCES "User" ( "User\_id/email\_id")

CONSTRAINT FK\_111 FOREIGN KEY ( "Lib\_id") REFERENCES "Library" ( "Lib\_id ")

);

CREATE INDEX fkIdx\_77 ON Feedback

(

"User\_id/email\_id"

);

CREATE INDEX fkldx\_113 ON Feedback

(

"Lib\_id"

);

**15) Merits/Demerits**

CREATE TABLE "Merits/demerits"

(

Rating numeric(2,1) NOT NULL,

"Admin\_User\_id/email\_id" varchar(50) NOT NULL,

"User\_id/email\_id" varchar(50) NOT NULL,

CONSTRAINT FK\_144 FOREIGN KEY ( "Admin\_User\_id/email\_id") REFERENCES Admin ( "User\_id/email\_id"),

CONSTRAINT FK\_153 FOREIGN KEY ( "User\_id/email\_id") REFERENCES "User" ( "User\_id/email\_id")

);

CREATE INDEX fkIdx\_147 ON "Merits/demerits"

(

"Admin\_User\_id/email\_id"

);

CREATE INDEX fkIdx\_156 ON "Merits/demerits"

(

"User\_id/email\_id"

);

**16) Quantity**

CREATE TABLE public."Quantity"

(

"ISBN" numeric(13, 0) NOT NULL,

"Lib\_id" character varying(20) NOT NULL,

"Qty" numeric(20, 0) NOT NULL

);

ALTER TABLE Quantity"

ADD FOREIGN KEY ("ISBN")

REFERENCES book (isbn);

ALTER TABLE "Quantity"

ADD FOREIGN KEY ("Lib\_id")

REFERENCES Library" (lib\_id);

**5.2 Insert Table Queries**

**1)State Table**

Insert into "State" values('S2','Arunachal Pradesh');

Insert into "State" values('S3','Assam');

Insert into "State" values('S4','Bihar');

Insert into "State" values('S5','Chhattisgarh');

Insert into "State" values('S6','Goa');

Insert into "State" values('S7','Gujarat');

Insert into "State" values('S8','Haryana');

Insert into "State" values('S9','Himachal Pradesh');

Insert into "State" values('S10','Jharkhand');

Insert into "State" values('S11','Karnataka');

Insert into "State" values('S12','Kerala');

Insert into "State" values('S13','Madhya Pradesh');

Insert into "State" values('S14','Maharashtra');

Insert into "State" values('S15','Manipur');

Insert into "State" values('S16','Meghalaya');

Insert into "State" values('S17','Mizoram');

Insert into "State" values('S18','Nagaland');

Insert into "State" values('S19','Odisha');

Insert into "State" values('S20','Punjab');

Insert into "State" values('S21','Rajasthan');

Insert into "State" values('S22','Sikkim');

Insert into "State" values('S23','Tamil Nadu');

Insert into "State" values('S24','Telangana');

Insert into "State" values('S25','Tripura');

Insert into "State" values('S26','Uttar Pradesh');

Insert into "State" values('S27','Uttarakhand');

Insert into "State" values('S28','West Bengal');

Insert into "State" values('U1','Andaman & Nicobar');

Insert into "State" values('U2','Chandigarh');

Insert into "State" values('U3','Dadra & Nagar Haveli');

Insert into "State" values('U4','Daman & Diu');

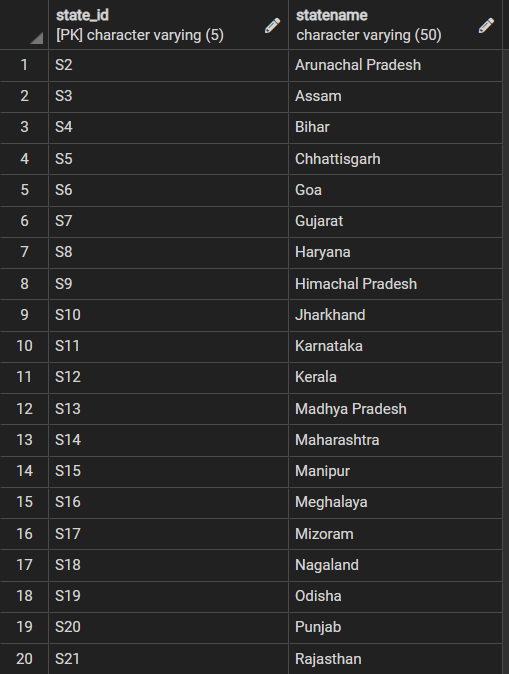
Insert into "State" values('U5','Delhi');

Insert into "State" values('U6','Jammu and Kashmir');

Insert into "State" values('U7','Lakshadweep');

Insert into "State" values('U8','Ladakh');

Insert into "State" values('U9','Puducherry');

**2) City Table**

INSERT INTO city(city\_id,city\_name,state\_id) VALUES('C101','Amaravati','S1'),('C102','Vishakhapatnam','S1'),('C103','Guntur','S1'),

('C201','Itanagar','S2'),

('C301','Dispur','S3'),

('C401','Patna','S4'),

('C501','Raipur','S5'),

('C601','Panaji','S6'),

('C701','Gandhinagar','S7'),

('C702','Ahmedabad','S7'),

('C703','Surat','S7'),

('C704','Rajkot','S7'),

('C705','Nadiad','S7'),

('C706','Ankleshwar','S7'),

('C707','Vadodara','S7'),

('C801','Chandigarh','S8'),

('C901','Shimla','S9'),

('C1001','Ranchi','S10'),

('C1101','Bengaluru','S11'),

('C1201','Thiruvananthapuram','S12'),

('C1301','Bhopal','S13'),

('C1401','Mumbai','S14'),

('C1501','Imphal','S15'),

('C1601','Shilong','S16'),

('C1701','Aizawl','S17'),

('C1801','Kohima','S18'),

('C1901','Bhubaneshwar','S19'),

('C2001','Chandigarh','S20'),

('C2101','Jaipur','S21'),

('C2201','Gangtok','S22'),

('C2301','Chennai','S23'),

('C2401','Hyderabad','S24'),

('C2501','Agartala','S25'),

('C2601','Lucknow','S26'),

('C2701','Dehradun','S27'),

('C2801','Kolkata','S28'),

('U101','Port Blair','U1'),

('U201','Chandigarh','U2'),

('U301','D&N Haveli','U3'),

('U401','Daman','U4'),

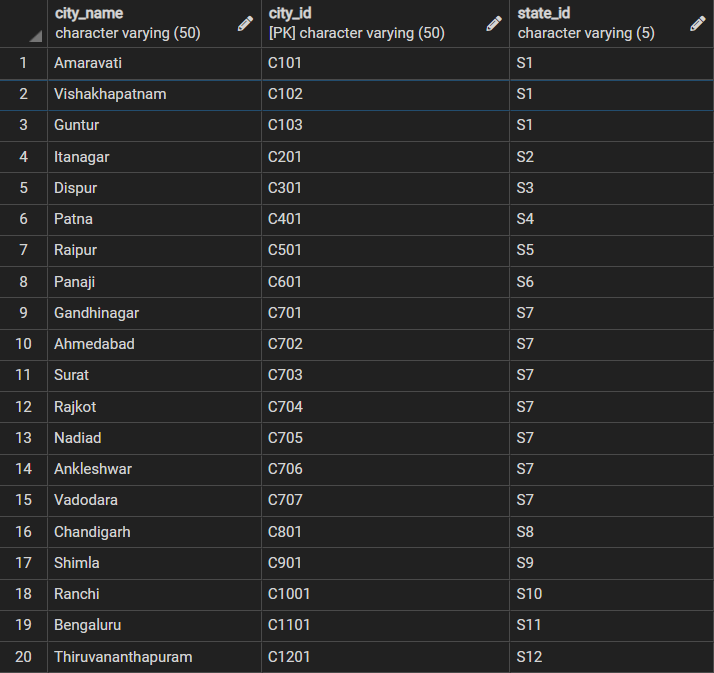
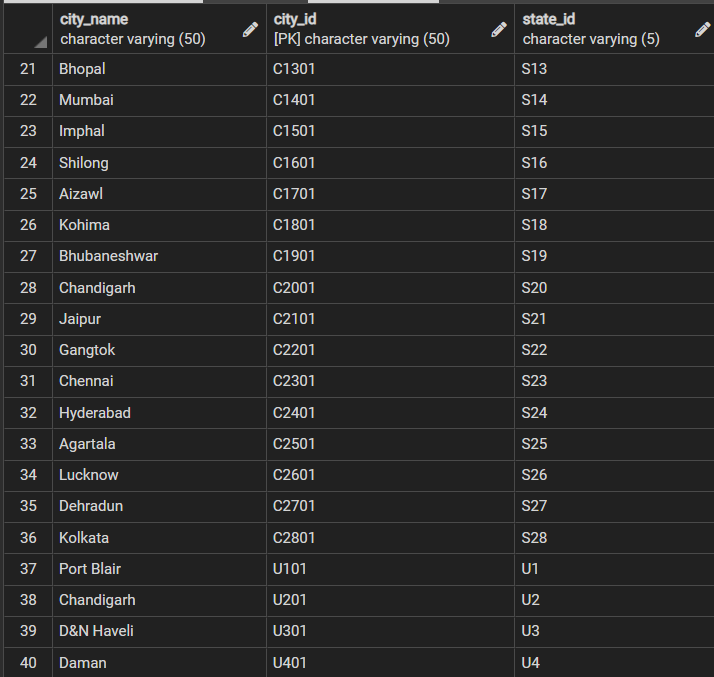
('U501','New Delhi','U5'),

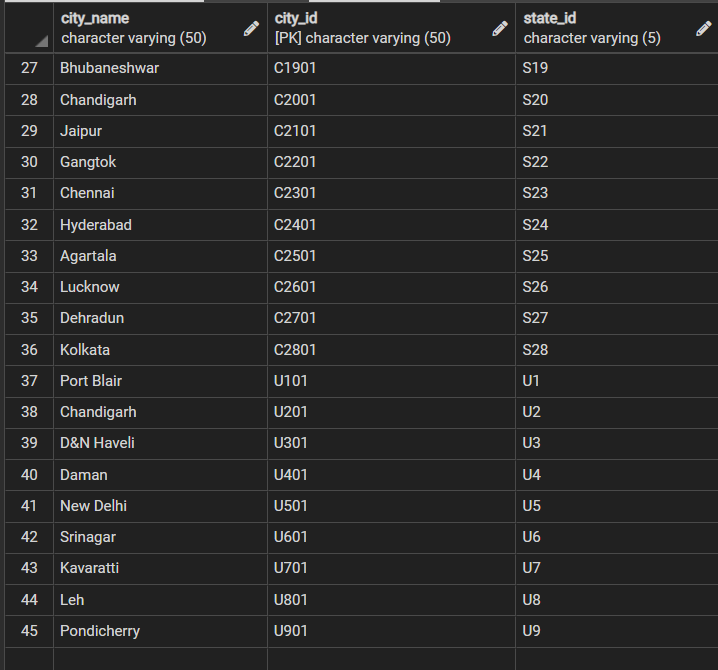
('U601','Srinagar','U6'),

('U701','Kavaratti','U7'),

('U801','Leh','U8'),

('U901','Pondicherry','U9');



**3)Verification Table**

INSERT INTO verification(verif\_id,"Aadhar Card",license) VALUES('V1','1234123412341200','AP0120201234567'),

('V2','1234123412341201','GJ0120191234567'),

('V3','1234123412341202','MH0120181234567'),

('V4','1234123412341203','PN0120171234567'),

('V5','1234123412341204','UP0120201234567'),

('V6','1234123412341205','TN0120211234567'),

('V7','1234123412341206','KN0120161234567'),

('V8','1234123412341207','MP0120001234567'),

('V9','1234123412341208','RJ0120191234567'),

INSERT INTO verification VALUES('V11','1234123412341210',' GJ0120191234576');

INSERT INTO verification VALUES('V12','1234123412341211',' GJ0120191233456');

INSERT INTO verification VALUES('V13','1234123412341212',' GJ0120211234123');

INSERT INTO verification VALUES('V14','1234123412341213',' GJ0120171237340');

INSERT INTO verification VALUES('V15','1234123412341214',' MH0120211234867');

INSERT INTO "verification" values('V16','1234123412341288','AP0120201234568');

INSERT INTO "verification" values('V17','1234123412341204','GJ0120191234561');

INSERT INTO "verification" values('V18','1234123412341205','MH0120181234565');

INSERT INTO "verification" values('V19','1234123412341207','PN0120171234564');

INSERT INTO "verification" values('V20','1234123412341208','UP0120201234568');

INSERT INTO "verification" values('V21','1234123412341209','TN0120211234561');

INSERT INTO "verification" values('V22','1234123412341202','KN0120161234534');

INSERT INTO "verification" values('V23','1234123412341203','MP0120001234556');

INSERT INTO "verification" values('V24','1234123412341204','RJ0120191234598');

INSERT INTO "verification" values('V25','1234123412341205','OR0120141234521');

INSERT INTO "verification" values('V26','1234123412341216',' GJ0120191264579');

INSERT INTO "verification" values('V27','1234123412341217',' GJ0120191293498');

INSERT INTO "verification" values('V28','1234123412341218',' GJ0120211214127');

INSERT INTO "verification" values('V29','1234123412341214',' GJ0120171247342');

INSERT INTO "verification" values('V30','1234123412341211',' MH0120211234861');

INSERT INTO "verification" values('V31','1234123672341288','AP0120261234568');

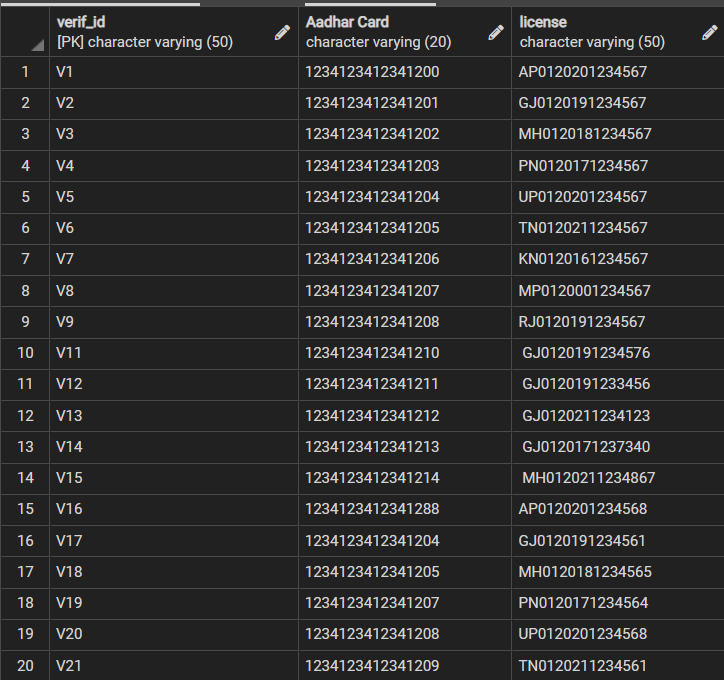
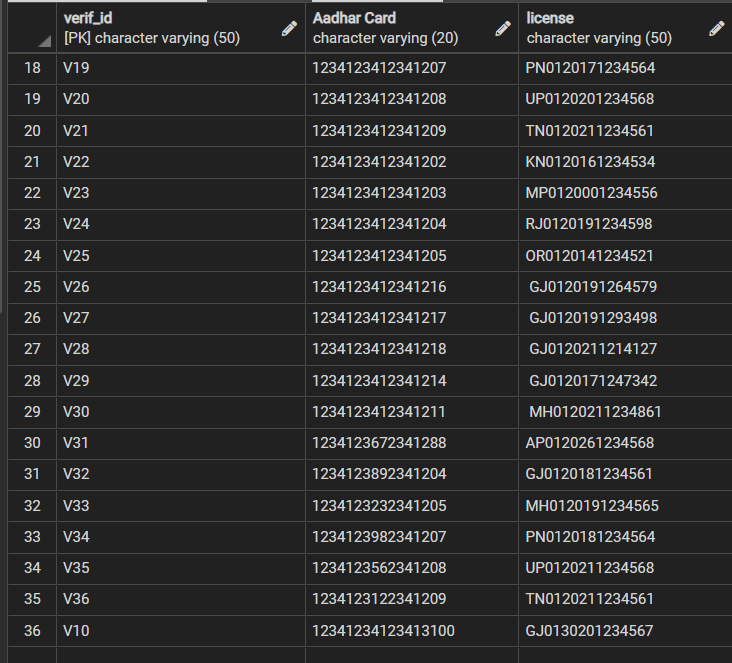
INSERT INTO "verification" values('V32','1234123892341204','GJ0120181234561');

INSERT INTO "verification" values('V33','1234123232341205','MH0120191234565');

INSERT INTO "verification" values('V34','1234123982341207','PN0120181234564');

INSERT INTO "verification" values('V35','1234123562341208','UP0120211234568');

INSERT INTO "verification" values('V36','1234123122341209','TN0120211234561');

**4)Library Table**

Insert INTO "Library" VALUES('Bank Rd, Beside Bank of, Bajwada, Mandvi, Vadodara', 5000, 'Central Library Mandvi Baroda', 'L101','C707'),

('Station Rd, M.S.U. Compound, M.S.U. University, Maharaja Sayajirao University, Sayajiganj, Vadodara', 17000,'Sir Sayajirao Memorial Trust Library', 'L102','C707'),

('SMES, Gujarat Vidyapith Rd, Sattar Taluka Society, Usmanpura, Ahmedabad', 5500,'Gujarat Vidyapith Library','L103','C702'),

('3046, Gandhi Rd, Old City, Dhalgarwad, Khadia, Ahmedabad',16900,'Dadabhai Navroji Library','L104','C702'),

('SVNIT Surat, Keval Chowk, Surat',20000,'New Central Library SVNIT','L105','C703'),

('6V27+H3X, Near Archana School, Ranujadham Society, Varachha, Surat',2500,'Jhaverchandmeghani Library','L106','C703'),

('7QX6+GXX, Indian Park, Rajkot',4000,'Rajkot Municipal Corporation Library','L107','C704'),

('9, University Road, Jala Ram Nagar, Rajkot',8900,'Shri Ram Reading Room','L108','C704'),

('312, Dr Dadabhai Naoroji Rd, Azad Maidan, Fort, Mumbai, Maharashtra',7000,'J. N. Petit Library','L109','C1401'),

('near Bandra Gymkhana, Mumbai, Maharashtra',11000,'Maharashtra Mitra Mandal Library','L110','C1401'),

('Sai Nagri Society, Shop No A2, Near Nagarwala School, Kalyani Nagar, Bhopal, Ma',16700,'Bookaholic Library','L111','C1301'),

('Kumthekar Road, Sadashiv Peth, near Chitrashala Chowk, Bhopal, Madhya Pradesh',15400,'The Phoenix Library','L112','C1301'),

('Ramakrishna Math Marg, Domalguda, Himayatnagar, Hyderabad, Telangana',13000,'Vivekanand Institute & Library','L113','C2401'),

('8GW9+49R, Sai Ram Nagar, Champapet, Telangana',12300,'City Central Library','L114','C2401'),

('G-9, Blue Cross Chambers, Behind-Safina Plaza, Infantry Rd, Bengaluru, Karnataka',12200,'Eloor Lending Libraries','L115','C1101'),

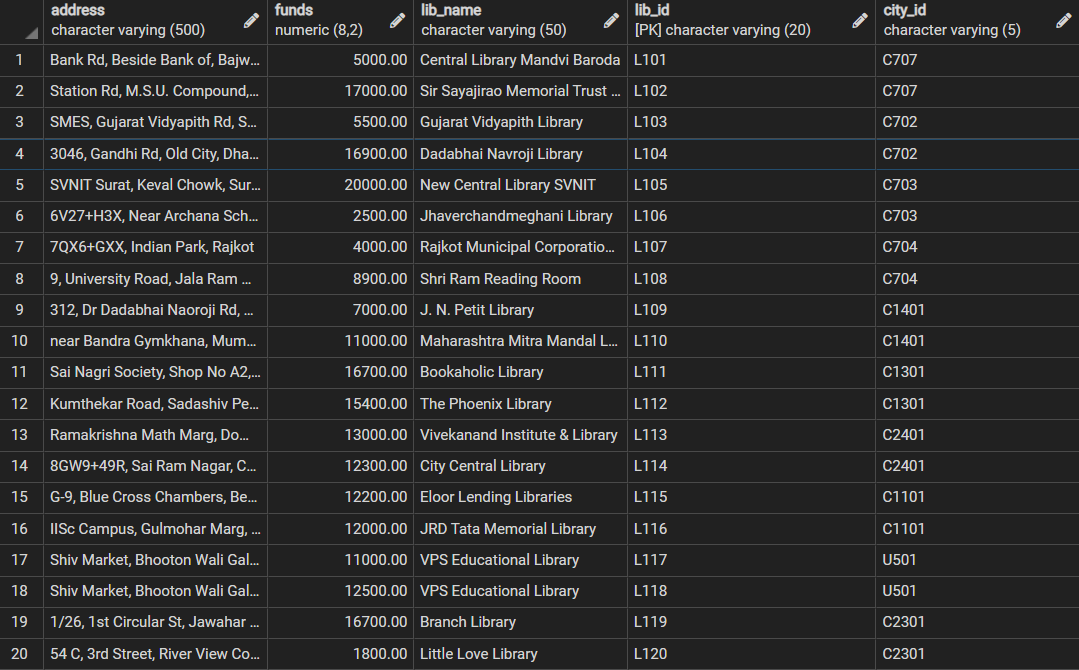
('IISc Campus, Gulmohar Marg, Devasandra Layout, Bengaluru, Karnataka',12000,'JRD Tata Memorial Library','L116','C1101'),

('Shiv Market, Bhooton Wali Gali, near RWA, Ashok Mohalla, Nangloi Jat, Nangloi, Delhi',11000,'VPS Educational Library','L117','U501'),

('Shiv Market, Bhooton Wali Gali, near RWA, Ashok Mohalla, Nangloi Jat, Nangloi, Delhi',12500,'VPS Educational Library','L118','U501'),

('1/26, 1st Circular St, Jawahar Nagar, Perambur, Chennai, Tamil Nadu',16700,'Branch Library','L119','C2301'),

('54 C, 3rd Street, River View Colony, Block AG, Opp. K3 Police Station, Anna Nagar, Chennai, Tamil Nadu',1800,'Little Love Library','L120','C2301');



**5) Payment Table**

Insert into Payment values('9392348212@sbi','-','1234 5678 9543 5435','PM00101');

Insert into Payment values('8392348212@icici','-','1234 5678 5623 5435','PM00102');

Insert into Payment values('9392348212@yes','-','4531 5678 9543 5435','PM00103');

Insert into Payment values('-','-','1234 5034 5932 5435','PM00104');

Insert into Payment values('-','-','7565 5678 9543 8664','PM00105');

Insert into Payment values('9912372729@icici','-','1234 5678 9543 8064','PM00106');

Insert into Payment values('9912345678@hdfc','-','6355 5678 9543 5435','PM00107');

Insert into Payment values('9392348212@kotak','-','8644 5678 9543 5435','PM00108');

Insert into Payment values('9392897045@sbi','-','3453 5678 9543 5435','PM00109');

Insert into Payment values('9456734523@bob','-','1753 5678 9543 5435','PM00110');

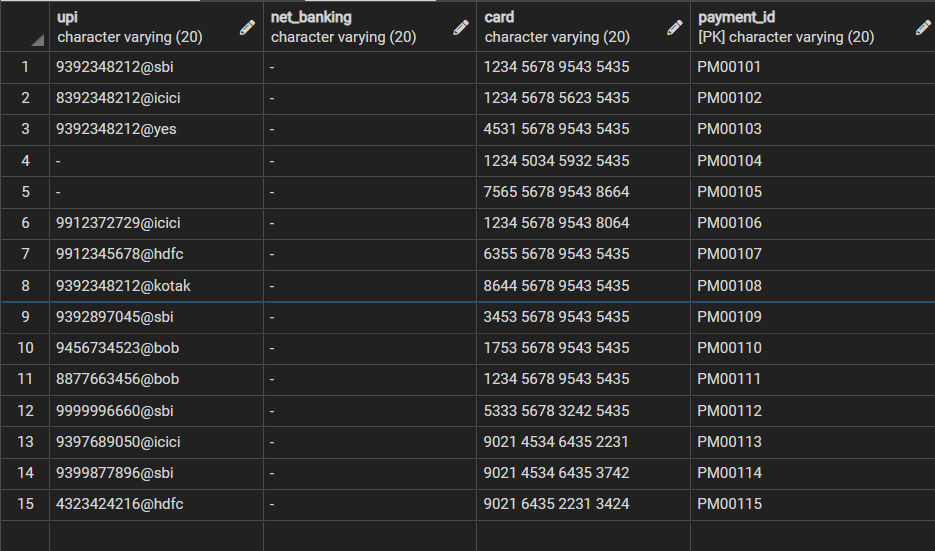
Insert into Payment values('8877663456@bob','-','1234 5678 9543 5435','PM00111');

Insert into Payment values('9999996660@sbi','-','5333 5678 3242 5435','PM00112');

Insert into Payment values('9397689050@icici','-','9021 4534 6435 2231','PM00113');

Insert into Payment values('9399877896@sbi','-','9021 4534 6435 3742','PM00114');

Insert into Payment values('4323424216@hdfc','-','9021 6435 2231 3424','PM00115');



**6)User Table**

Insert into "User" values('Dinky','Lakhani',9392348212,'A101 ,Platinium Towers , University Road , Rajkot - 360001','fjjdsnkd','24-06-2001','gyeoroo24@gmail.com','L107','V2','PM101');

Insert into "User" values('Sharvari','Gadkari',8392348212,'"Heaven" ,Nityaprabaha Street ,Delhi','kdflgmdfk','14-02-2001','sharvarigad14@gmail.com','L117','V1','PM00102');

Insert into "User" values('Nirupama','Das',9392348212,'"Paradise Villa" , Block D ,Dr. Chopra Road,New Delhi','kgmfgkwq','04-07-2000','nirupamadas123@gmail.com','L118','V3','PM00103');

Insert into "User" values('Suresh','Agarwal',9392322222,'Sai Nagri Society, Shop No A2, Near Nagarwala School, Kalyani Nagar , Bhopal','ghkkfskfd','24-12-1999','sureshagarwal54@yahoo.com','L111','V5','PM00104');

Insert into "User" values('Nitya','Chaudhary',9392313121,'Kumthekar Road, Sadashiv Peth, near Chitrashala Chowk, Bhopal , M.P.','2392&203kfsk','02-01-1993','nityachaudhary65@gmail.com','L112','V4','PM00105');

Insert into "User" values('Aastha','Modi',9912372729,'701,Shanti Heights,Opposite SNK School, , University Road , Rajkot','4349jfnjf\*jfs','02-02-2001','aasthamodi02@gmail.com','L107','V7','PM00106');

Insert into "User" values('Yami','Gautam',9912345678,'A101 , Jalaram Tower ,Navrangpura Main Road , Ahmedabad','fkfklq139da','14-03-2010','yamigautam1410@hotmail.com','L104','V6','PM00107');

Insert into "User" values('Varshita','Goti',9392897045,'C301 ,Varday Residency,L.P. Savani Road, Surat','hllte032mf','15-09-2000','varshi15@gmail.com','L105','V8','PM00108');

Insert into "User" values('Gurvinder','Singh',9456734523,'S123 ,Silver Plaaza,Gotri Road, Vadodara','fknkf0023d','10-06-2001','gurvinders1221@gmail.com','L101','V9','PM00109');

Insert into "User" values('Yasin','Sheikh',8877663456,'"Shanti Niketan",M.S University Road,Saiyajignaj, Vadodara','rktekt3995','13-04-1996','yasinsheikh786@gmail.com','L102','V10','PM00110');

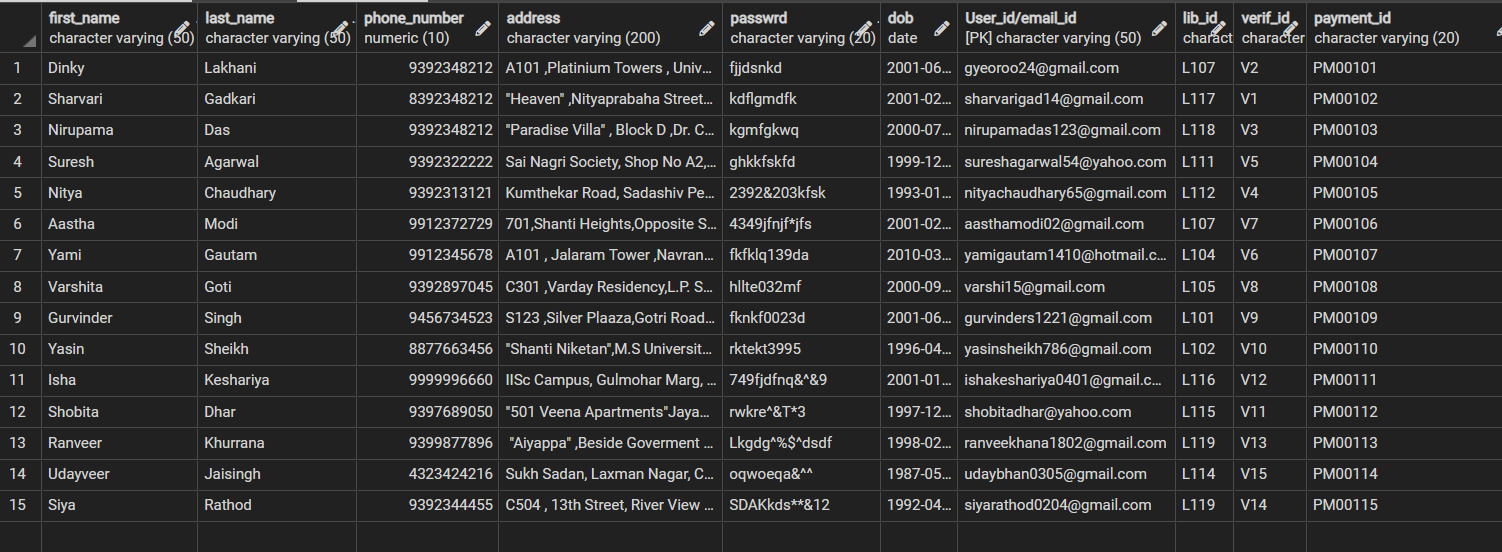
Insert into "User" values('Isha','Keshariya',9999996660,'IISc Campus, Gulmohar Marg, Devasandra Layout, Bengaluru, Karnataka 560012','749fjdfnq&^&9','04-01-2001','ishakeshariya0401@gmail.com','L116','V12','PM00111');

Insert into "User" values('Shobita','Dhar',9397689050,'"501 Veena Apartments"Jayanagar 3rd Block, South End Circle, Opposite Vivek Showroom, Bengaluru, Karnataka 560011','rwkre^&T\*3','12-12-1997','shobitadhar@yahoo.com','L115','V11','PM00112');

Insert into "User" values('Ranveer','Khurrana',9399877896,' "Aiyappa" ,Beside Goverment Maternity Hospital , Pantheon Road , Chennai','Lkgdg^%$^dsdf','18-02-1998','ranveekhana1802@gmail.com','L119','V13','PM00113');

Insert into "User" values('Udayveer','Jaisingh',4323424216,'Sukh Sadan, Laxman Nagar, Champapet, Telangana','oqwoeqa&^^','03-05-1987','udaybhan0305@gmail.com','L114','V15','PM00114');

Insert into "User" values('Siya','Rathod',9392344455,'C504 , 13th Street, River View Colony, Block AG, Opp. K3 Police Station, Anna Nagar , Chennai , Tamil Nadu','SDAKkds\*\*&12','02-04-1992','siyarathod0204@gmail.com','L119','V14','PM00115');



**7)Membership Table**

Insert into membership values(1000,'UPI','PM00101');

Insert into membership values(1000,'UPI','PM00102');

Insert into membership values(750,'UPI','PM00103');

Insert into membership values(3000,'Debit Card','PM00104');

Insert into membership values(1000,'Rupay Card','PM00105');

Insert into membership values(1000,'UPI','PM00106');

Insert into membership values(400,'UPI','PM00107');

Insert into membership values(1000,'UPI','PM00108');

Insert into membership values(750,'Debit Card','PM00109');

Insert into membership values(1000,'UPI','PM00110');

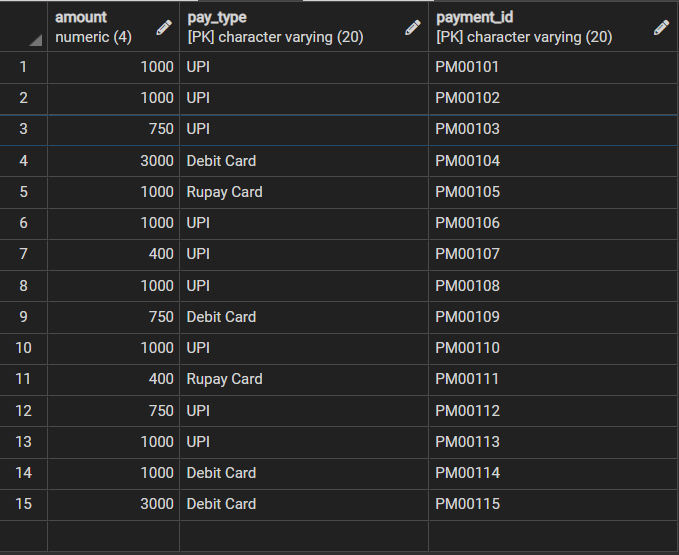
Insert into membership values(400,'Rupay Card','PM00111');

Insert into membership values(750,'UPI','PM00112');

Insert into membership values(1000,'UPI','PM00113');

Insert into membership values(1000,'Debit Card','PM00114');

Insert into membership values(3000,'Debit Card','PM00115');



**8)Feedback Table**

Insert into feedback values('Dinky','Amazing collection of books !!! The library gives a proper study vibe. The staff is very cooperative',4.0,'gyeoroo24@gmail.com');

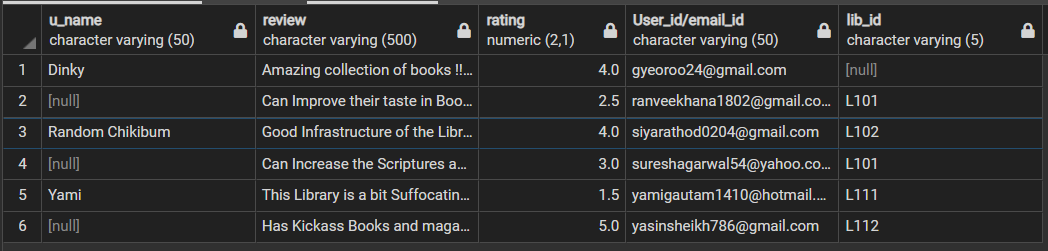
Insert into feedback(review,rating,"User\_id/email\_id","Lib\_id") values('Can Improve their taste in Book Collection.Many of the popular books and best-sellers are not even displayed or mentioned for e.g. Sudha Murty',2.5,'ranveekhana1802@gmail.com','L101');

Insert into feedback values('Random Chikibum','Good Infrastructure of the Library',4.0,'siyarathod0204@gmail.com','L102');

Insert into feedback(review,rating,"User\_id/email\_id","Lib\_id") values('Can Increase the Scriptures and Historical/Religious Books for the Elderly',3.0,'sureshagarwal54@yahoo.com','L101');

Insert into feedback values('Yami','This Library is a bit Suffocating. Can improve the infrasturcture and greenary around',1.5,'yamigautam1410@hotmail.com','L111');

Insert into feedback(review,rating,"User\_id/email\_id","Lib\_id") values('Has Kickass Books and magazines. Must Visist !!!',5.0,'yasinsheikh786@gmail.com','L112');



**9) Book Table**

INSERT INTO book(isbn,b\_name,genre,edition,type,lib\_id,ratings,"Language") VALUES(9788129104595,'Five Point Someone','Fiction',1,'Paperback','L101',3.4,'English'),

(9780143103295,'Mahashweta','Fiction',1,'Paperback','L101',4.1,'English'),

(9788186172810,'Dollar Bahu','Domestic Fiction',1,'Paperback','L102',3.7,'English'),

(9780143422259,'The Mother I Never Knew','Fiction',1,'Paperback','L102',3.7,'English'),

(9780143444343,'Here , There And Everywhere','Autobiography',1,'Paperback','L103',4.3,'English'),

(9788184004328,'Ex','Fiction',1,'Paperback','L103',3.9,'English'),

(9783785756003,'Origins','Mystery thriller Fiction',1,'Paperback','L104',4.2,'English'),

(9780142414934,'Paper Towns','Fiction',1,'Paperback','L104',4.0,'English'),

(9780747507420,'Word Power Made Easy','Self-Help',1,'Hardcover','L105',4.4,'English'),

(9789381841181,'Till the Last Breath','Romantic Fantasy',1,'Hardcover','L106',4.0,'English'),

(9781565115187,'The Story of my Experiments with Truth','Autobiography',1,'Paperback','L106',4.1,'English'),

(9780141345659,'The Fault in Our Stars','Young Adult Fiction',1,'Paperback','L105',4.2,'English'),

(9783954713851,'Predictably Irrational','Non-fition',1,'Paperback','L107',4.1,'English'),

(9783442315536,'12 Rules for Life','Self-Help',1,'Hardcover','L107',3.9,'English'),

(9783863524586,'Moby Dick','Adventure Fiction',1,'Hardcover','L108',3.5,'English'),

(9788809810570,'Little Women','Children Literature',1,'Hardcover','L108',4.1,'English'),

(9781101524275,'Drive: The Surprising Truth About What Motivates Us','Self-Help',1,'Hardcover','L109',3.9,'English'),

(9780716726180,'The Social Animal','Non-Fiction',12,'Paperback','L109',3.9,'English'),

(9780141182704,'Animal Farm','Political Satire',1,'Paperback','L110',4.0,'English'),

(9780143130727,'Ikigai','Self-Help',1,'Paperback','L110',3.7,'English'),

(9780007617012,'The God of Small Things','Psychological Fiction',1,'Paperback','L111',3.9,'English'),

(9780143441984,'The Best Couple Ever ','Fiction',1,'Paperback','L111',4.5,'English'),

(9780143442691,'Half Torn Hearts','Fiction',1,'Paperback','L112',4.5,'English'),

(9788184007906,'Black Suits You','Fiction',1,'Paperback','L113',4.4,'English'),

(9780143427490,'Forever is a Lie','Fiction',1,'Hardcover','L113',4.5,'English'),

(9780143427506,'Forever is True','Fiction',2,'Hardcover','L114',4.4,'English'),

(9781612680194,'Rich Dad Poor Dad','Finance',1,'Hardcover','L114',4.6,'English'),

(9789387944893,'The 5 AM Club','Non-Fiction',1,'Hardcover','L115',4.5,'English'),

(9780091929114,'The 4-Hour Work Week','Reference',1,'Hardcover','L115',4.4,'English'),

(9780753555194,'Zero to One','Economics',1,'Hardcover','L116',4.2,'English'),

(9780143109099,'Your One Word','Self-Help',1,'Hardcover','L116',4.8,'English'),

(9789353336899,'How to Become Rich','Personal Transformation',1,'Paperback','L117',4.3,'English'),

(9788129137708,'My Gita','Historical Fiction',1,'Hardcover','L117',4.4,'English'),

(9789385152146,'Ram - Scion of Ikshvaku','Historical Fiction',1,'Paperback','L118',4.4,'English'),

(9780143449522,'Whisper to Me Your Lies ','Fiction',1,'Hardcover','L119',4.1,'English'),

(9781637455081,'Wandering Wheels','Travel Writing',1,'Hardcover','L118',4.9,'English'),

(9789380741116,'The Treasured Thief: A Graphic Novel','Comics',1,'Paperback','L119',4.0,'English'),

(9781449474195,'Adulthood Is a Myth','Humour',1,'Comics','L120',4.7,'English'),

(9781408855652,'Harry Potter and the Philosophers Stone','Contemporary Fiction',2011,'Paperback','L120',4.7,'English'),

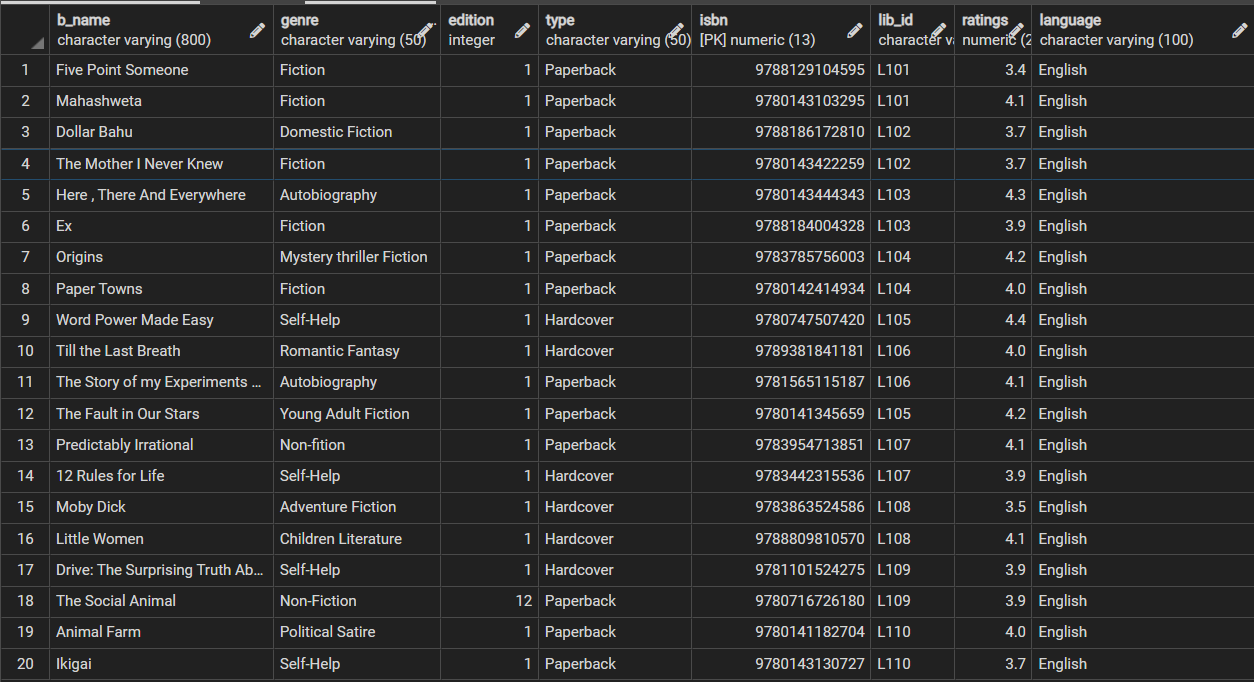
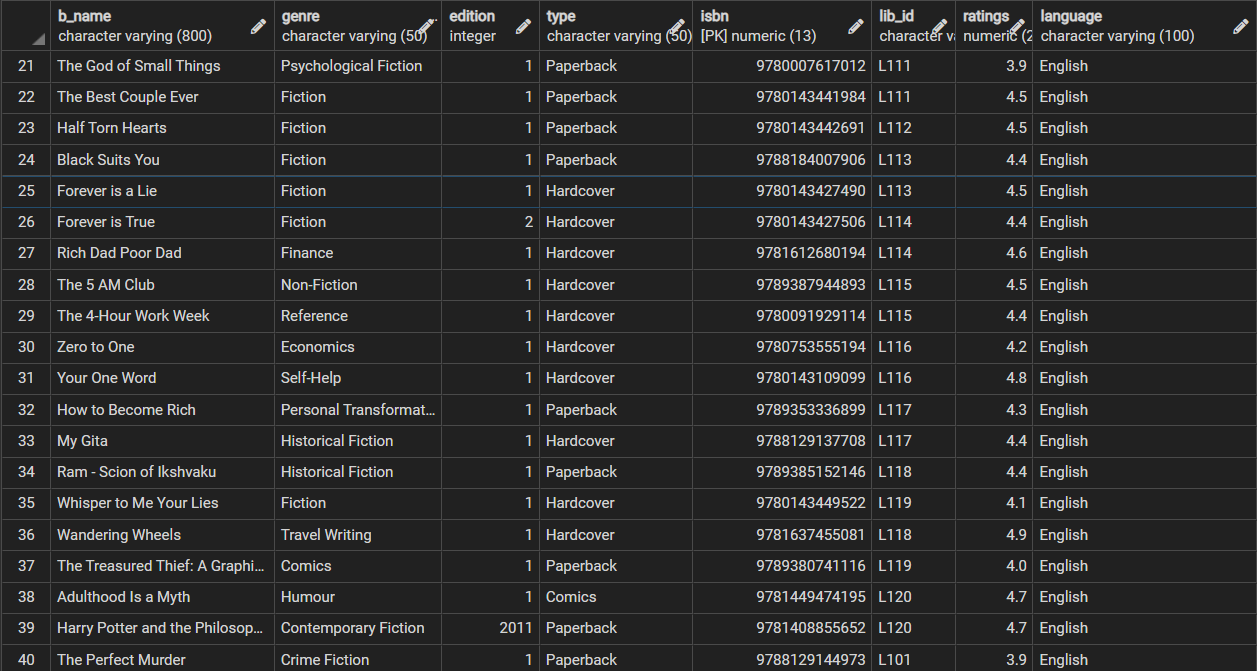
(9788129144973,'The Perfect Murder','Crime Fiction',1,'Paperback','L101',3.9,'English'),

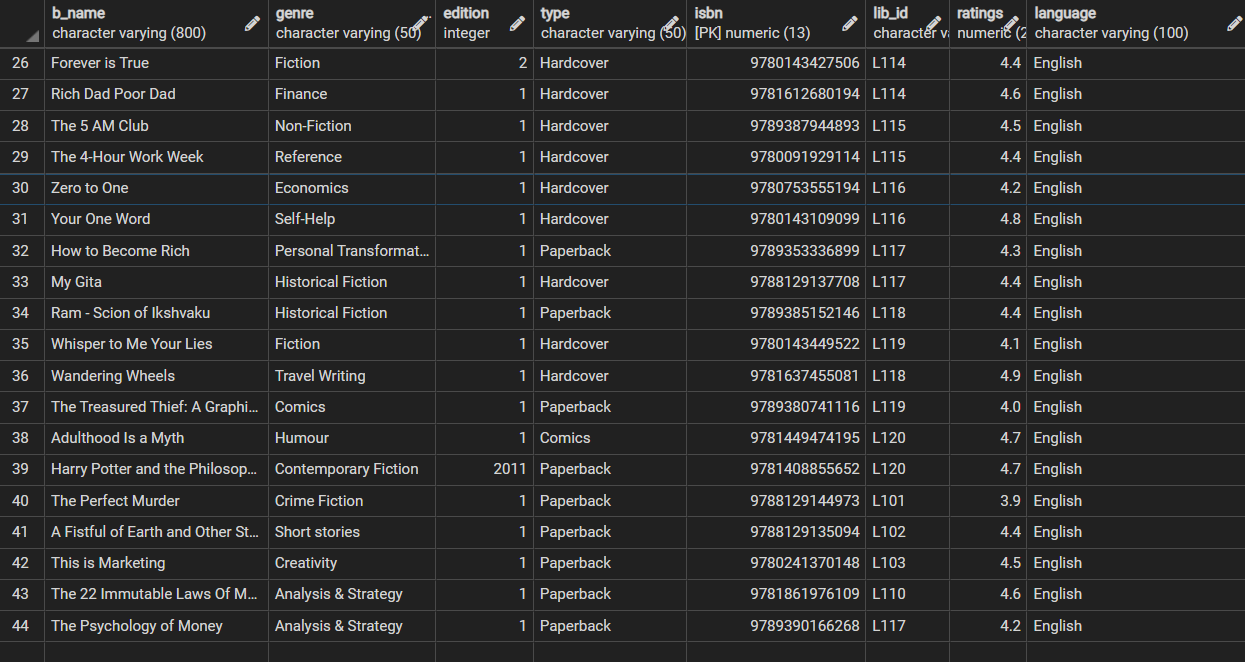
(9788129135094,'A Fistful of Earth and Other Stories','Short stories',1,'Paperback','L102',4.4,'English'),

(9780241370148,'This is Marketing','Creativity',1,'Paperback','L103',4.5,'English'),

(9781861976109,'The 22 Immutable Laws Of Marketing','Analysis & Strategy',1,'Paperback','L110',4.6,'English'),

(9789390166268,'The Psychology of Money','Analysis & Strategy',1,'Paperback','L117',4.2,'English');



**10)Author Table**

INSERT INTO author(author\_id,author\_name,gender,isbn) VALUES('A1','Chetan Bhagat','M',9788129104595),

('A2','Sudha Murty','F',9780143103295),

('A3','Dan Brown','M',9783785756003),

('A4','Sudha Murty','F',9788186172810),

('A5','Sudha Murty','F',9780143422259),

('A6','Sudha Murty','F',9780143444343),

('A7','Novoneel Chakraborty','M',9788184004328),

('A8','John Green','M',9780142414934),

('A9','Norman Lewis','M',9780747507420),

('A10','Durjoy Dutta','M',9789381841181),

('A11','Mahatma Gandhi','M',9781565115187),

('A12','John Green','M',9780141345659),

('A13','Dan Areily','M',9783954713851),

('A14','Jordan Peterson','M',9783442315536),

('A15','Herman Melville','M',9783863524586),

('A16','Louisa May Alcott','F',9788809810570),

('A17','Daneil H. Pink','M',9781101524275),

('A18','Elliot Aronson','M',9780716726180),

('A19','George Orwell','M',9780141182704),

('A20','Hector Garcia','M',9780143130727),

('A21','Francesc Miralles','M',9780143130727),

('A22','Novoneel Chakraborty','M',9780143441984),

('A23','Novoneel Chakraborty','M',9780143442691),

('A24','Novoneel Chakraborty','M',9788184007906),

('A25','Novoneel Chakraborty','M',9780143427490),

('A26','Novoneel Chakraborty','M',9780143427506),

('A27','Robert T. Kiyosaki','M',9781612680194),

('A28','Robin Sharma','M',9789387944893),

('A29','Timothy Ferriss','M',9780091929114),

('A30','Blake Masters','M',9780753555194),

('A31','Peter Thiel','M',9780753555194),

('A32','Evan Carmicheal','M',9780143109099),

('A33','Devdutt Pattnaik','M',9789353336899),

('A34','Devdutt Pattnaik','M',9788129137708),

('A35','Amish Tripathi','M',9789385152146),

('A36','Novoneel Chakraborty','M',9780143449522),

('A37','Sushant Kaushik','M',9781637455081),

('A38','Ryan Foley','M',9789380741116),

('A39','Sarah Anderson','F',9781449474195),

('A40','J.K. Rowling','F',9781408855652),

('A41','Ruskin Bond','M',9788129144973),

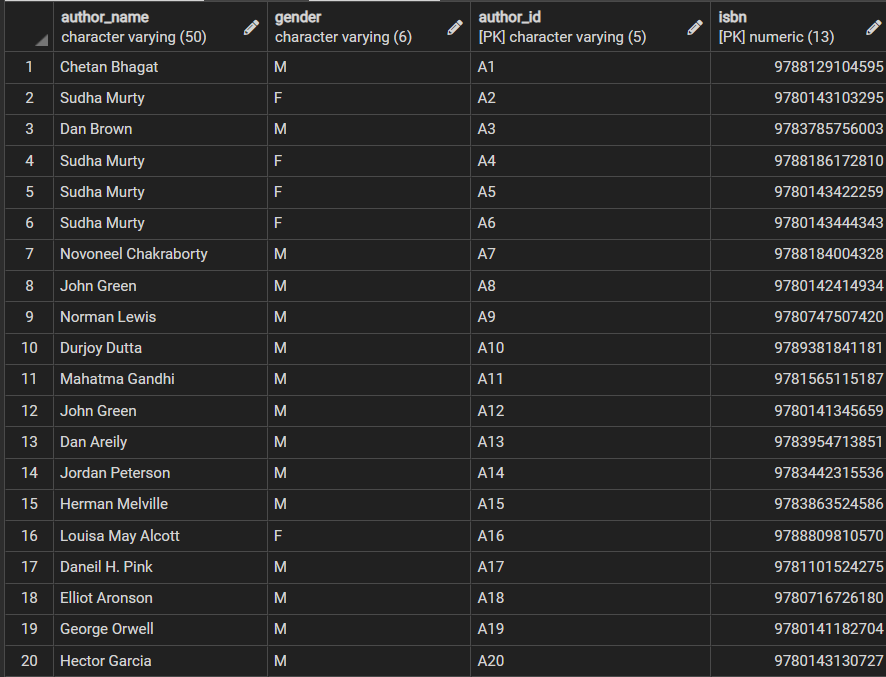
('A42','Siddhartha Gigoo','M',9788129135094),

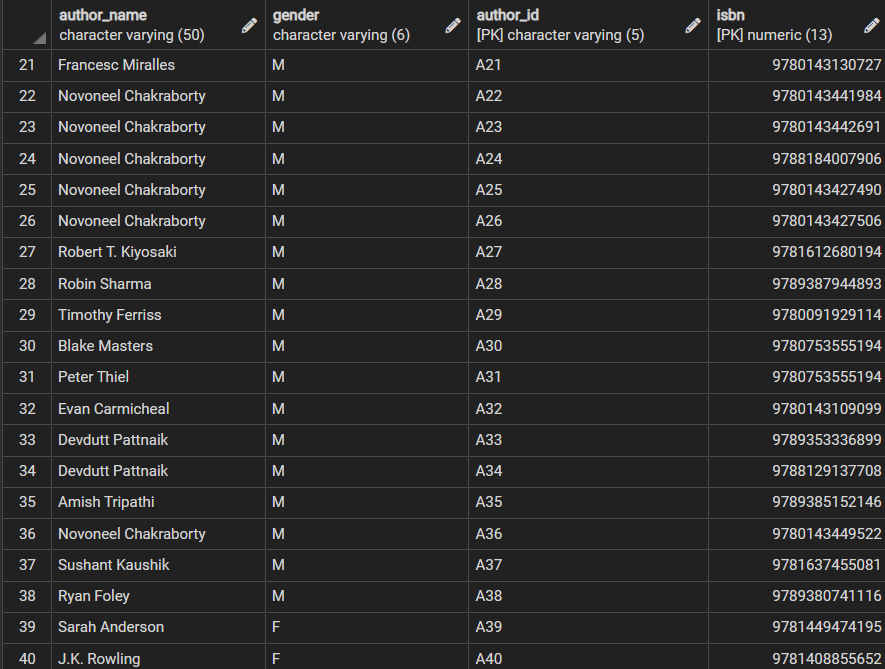
('A43','Seth Godin','M',9780241370148),

('A44','Joao Bosco Medeires','M',9780241370148),

('A45','Al Ries','M',9781861976109),

('A46','Morgan Housel','M',9789390166268);





**11) Publisher table**

INSERT into publisher(pub\_id,pname,yop,isbn) VALUES('P1','Rupa Publications','2004-10-13',9788129104595),

('P2','Penguin Random House','2000-09-12',9780143103295),

('P3','Penguin Random House','2003-08-11',9788186172810),

('P4','Penguin Random House','2014-07-10',9780143422259),

('P5','Penguin Random House','2018-06-09',9780143444343),

('P6','Penguin Random House','2016-05-08',9788184004328),

('P7','Double Day','2017-04-07',9783785756003),

('P8','Dutton Books','2008-03-06',9780142414934),

('P9','Penguin Books','1949-02-05',9780747507420),

('P10','Penguin Random House','2012-01-04',9789381841181),

('P11','Jaico Publishing House','2019-02-03',9781565115187),

('P12','Dutton Books','2012-03-02',9780141345659),

('P13','Halper Collins','2008-04-01',9783954713851),

('P14','Random House Canada Penguin Allen Lane','2018-05-30',9783442315536),

('P15','Richard Bentley (England) Harper & Brothers (US)','1851-06-29',9783863524586),

('P16','Robert Brothers','1868-07-28',9788809810570),

('P17','RiverHead Books','2009-08-27',9781101524275),

('P18','Random House','1972-09-26',9780716726180),

('P19','Simon & Schuster','1945-10-25',9780141182704),

('P20','penguin random house','2016-11-24',9780143130727),

('P21','Penguin Metro Reads','2018-12-23',9780143441984),

('P22','Penguin','2019-11-22',9780143442691),

('P23','penguin random house','2016-10-21',9788184007906),

('P24','penguin random house','2017-09-20',9780143427490),

('P26','penguin random house','2017-08-19',9780143427506),

('P27','Plata Publishing','2017-07-18',9781612680194),

('P28','Jaico Publishing House','2018-06-17',9789387944893),

('P29','RHUK','2011-05-16',9780091929114),

('P30','Random House','2014-04-15',9780753555194),

('P31','Penguin','2017-03-14',9780143109099),

('P32','Rupa Publications','2019-02-13',9789353336899),

('P33','Rupa Publications','2015-01-12',9788129137708),

('P34','Westland Limited','2015-02-11',9789385152146),

('P35','Penguin Metro Reads','2021-03-10',9780143449522),

('P36','Notion Press','2021-04-09',9781637455081),

('P37','Campfire','2012-05-08',9789380741116),

('P38','Andrews McMeel Publishing','2016-06-07',9781449474195),

('P39','Bloomsbury Childrens Books','2014-07-06',9781408855652),

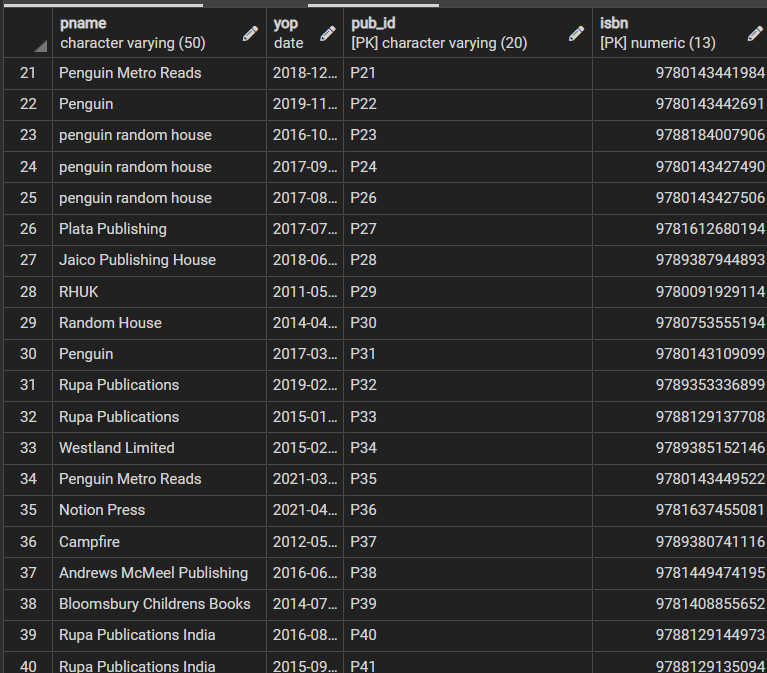
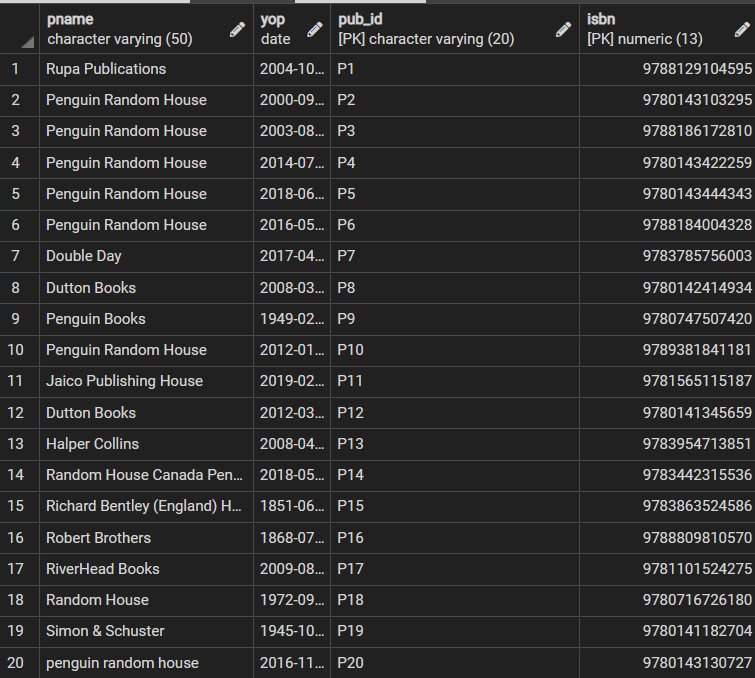
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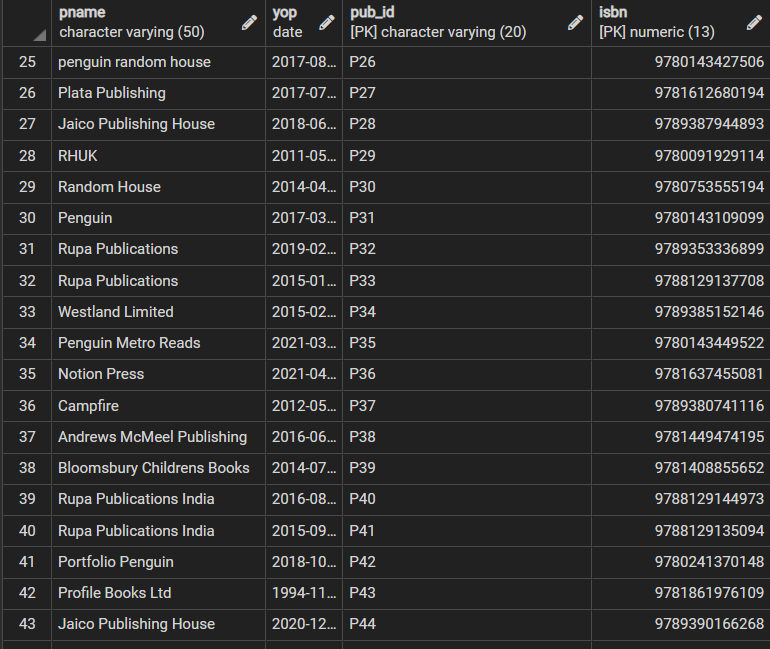
('P41','Rupa Publications India','2015-09-04',9788129135094),

('P42','Portfolio Penguin','2018-10-03',9780241370148),

('P43','Profile Books Ltd','1994-11-02',9781861976109),

('P44','Jaico Publishing House','2020-12-01',9789390166268);





**12)Return/Issue Table**

Insert into "Return/Issue"("Issue/Renew\_date",a\_ret\_date,"User\_id/email\_id",isbn) values('17-09-2021','01-10-2021','gyeoroo24@gmail.com',9783954713851);

Insert into "Return/Issue"(hold\_date,"User\_id/email\_id",isbn) values('18-09-2021','gyeoroo24@gmail.com',9783442315536);

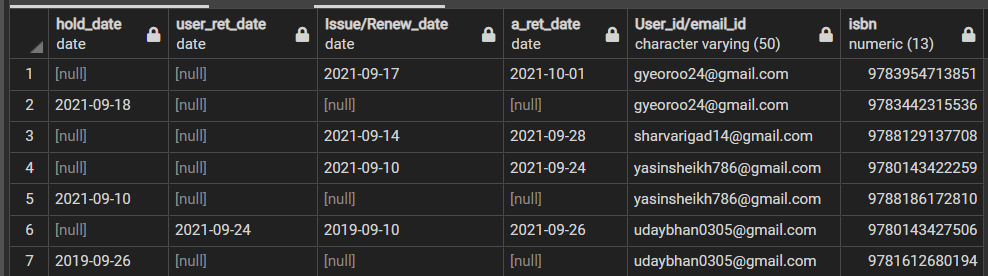
Insert into "Return/Issue"("Issue/Renew\_date",a\_ret\_date,"User\_id/email\_id",isbn) values('14-09-2021','28-09-2021','sharvarigad14@gmail.com',9788129137708);

Insert into "Return/Issue"("Issue/Renew\_date",a\_ret\_date,"User\_id/email\_id",isbn) values('10-09-2021','24-09-2021','yasinsheikh786@gmail.com',9780143422259);

Insert into "Return/Issue"(hold\_date,"User\_id/email\_id",isbn) values('10-09-2021','yasinsheikh786@gmail.com',9788186172810);

Insert into "Return/Issue"("Issue/Renew\_date",user\_ret\_date,a\_ret\_date,"User\_id/email\_id",isbn) values('10-09-2019','24-09-2021','26-09-2021','udaybhan0305@gmail.com',9780143427506);

Insert into "Return/Issue"(hold\_date,"User\_id/email\_id",isbn) values('26-09-2019','udaybhan0305@gmail.com',9781612680194);



**13)Employee Table**

Insert INTO Employee values('librarian','Yash','Parmar',25000,'E101','L101');

Insert INTO Employee values('staff','Binal','Modi',30000,'E102','L102');

Insert INTO Employee values('watchman','Ketan','Khare',21000,'E103','L110');

Insert INTO Employee values('librarian','Kamlesh','Mehta',23000,'E104','L111');

Insert INTO Employee values('librarian','Darshan','Mali',26000,'E105','L112');

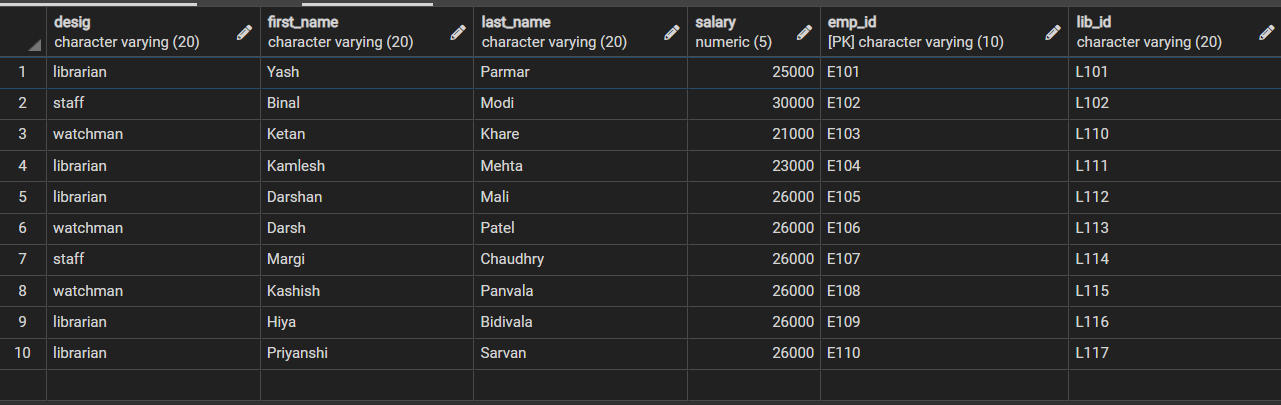
Insert INTO Employee values('watchman','Darsh','Patel',26000,'E106','L113');

Insert INTO Employee values('staff','Margi','Chaudhry',26000,'E107','L114');

Insert INTO Employee values('watchman','Kashish','Panvala',26000,'E108','L115');

Insert INTO Employee values('librarian','Hiya','Bidivala',26000,'E109','L116');

Insert INTO Employee values('librarian','Priyanshi','Sarvan',26000,'E110','L117');



**14)Admin Table**

Insert INTO admin values('kenilmodi10@gmail.com','L101','V16','Kenil','Modi',1234567892,'kenil@123','country Admin', '10/01/1998');

Insert INTO admin values('vrajmodi11@gmail.com','L101','V17','Vraj','Modi',3425678297,'vraj@123','city Admin', '11/03/1998');

Insert INTO admin values('aasthamodi22@gmail.com','L102','V18','Aastha','Modi',8903420091,'aastha@123','state Admin','02/02/1996');

Insert INTO admin values('ketulmodi7977@gmail.com','L103','V19','Ketul','Modi',9034330056,'ketul@123','city Admin','07/09/1987');

Insert INTO admin values('chelsipatel22@gmail.com','L104','V20','Chelsi','Patel','6782380167','chelsi@123','city Admin','24/06/1988');

Insert INTO admin values('gurvisingh45@yahoo.com','L105','V21','Gurvindr','Singh',7830088453,'gurvi@123','State Admin','05/02/1999');

Insert INTO admin values('nileshmodi34@yahoo.com','L106','V22','Nilesh','Modi',6549920821,'nilesh@123','city Admin','29/03/1979');

Insert INTO admin values('riya34parmar@gmail.com','L107','V23','Riya','Parmar',6598055275,'riya@123','city Admin','20/09/1992');

Insert INTO admin values('rishimehta1101@gmail.com','L108','V24','Rishi','Mehta',604581442,'rishi@123','state Admin','11/01/1990');

Insert INTO admin values('vinit2903@gmail.com','L109','V25','Vinit','Patel',5043175001,'vinit@123','city Admin','29/03/1989');

Insert INTO admin values('sudhirpatel12@gmail.com','L110','V26','Sudhir','Patel',7830180399,'sudhir@123','city Admin','13/10/1989');

Insert INTO admin values('shivani786hal@gmail.com','L111','V27','Shivani','Haldariya',9925143657,'shivani@123','city Admin','27/01/1984');

Insert INTO admin values('riya89modi@yahoo.com','L112','V28','Riya','Modi',9265320156,'riya@891','city Admin','24/08/1996');

Insert INTO admin values('ranjanguvaliwala56@yahoo.com','L113','V29','Ranjan','Guvaliwala',7820065964,'ranjan@123','city Admin','01/06/1987');

Insert INTO admin values('deepakguvaliwala@gmail.com','L114','V30','Deepak','Guvali',8934992316,'deepak@123','state Admin','07/06/1988');

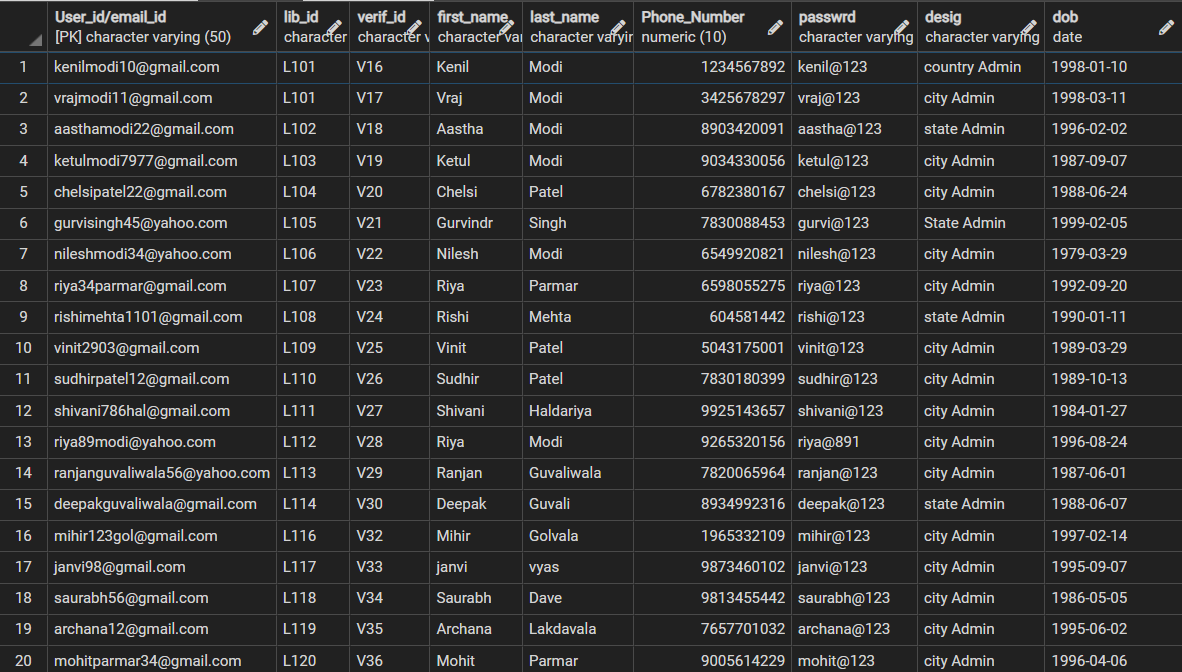
Insert INTO admin values('mihir123gol@gmail.com','L116','V32','Mihir','Golvala',1965332109,'mihir@123','city Admin','14/02/1997');

Insert INTO admin values('janvi98@gmail.com','L117','V33','janvi','vyas',9873460102,'janvi@123','city Admin','07/09/1995');

Insert INTO admin values('saurabh56@gmail.com','L118','V34','Saurabh','Dave',9813455442,'saurabh@123','city Admin','05/05/1986');

Insert INTO admin values('archana12@gmail.com','L119','V35','Archana','Lakdavala',7657701032,'archana@123','city Admin','02/06/1995');

Insert INTO admin values('mohitparmar34@gmail.com','L120','V36','Mohit','Parmar',9005614229,'mohit@123','city Admin','06/04/1996');



**15) Merits/Demerits Table**

INSERT INTO "Merits/demerits" values(4.5,'archana12@gmail.com','ranveekhana1802@gmail.com'),

(3.0,'saurabh56@gmail.com','nirupamadas123@gmail.com'),

(3.1,'mihir123gol@gmail.com','ishakeshariya0401@gmail.com'),

(3.2,'deepakguvaliwala@gmail.com','udaybhan0305@gmail.com'),

(2.2,'chelsipatel22@gmail.com','yamigautam1410@hotmail.com'),

(3.5,'riya34parmar@gmail.com','gyeoroo24@gmail.com'),

(3.0,'janvi98@gmail.com','sharvarigad14@gmail.com'),

(3.2,'nileshmodi34@yahoo.com','nirupamadas123@gmail.com'),

(3.1,'shivani786hal@gmail.com','sureshagarwal54@yahoo.com'),

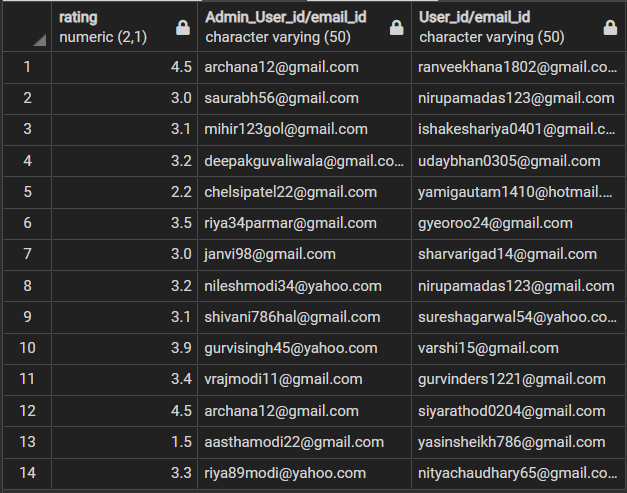
(3.9,'gurvisingh45@yahoo.com','varshi15@gmail.com'),

(3.4,'vrajmodi11@gmail.com','gurvinders1221@gmail.com'),

(4.5,'archana12@gmail.com','siyarathod0204@gmail.com'),

(1.5,'aasthamodi22@gmail.com','yasinsheikh786@gmail.com'),

(3.3,'riya89modi@yahoo.com','nityachaudhary65@gmail.com');



**16)Quantity Table**

Insert into "Quantity" values(9788129104595,'L101',5),

(9780143103295,'L101',7),

(9788186172810,'L102',9),

(9780143422259,'L102',11),

(9780143444343,'L103',3),

(9788184004328,'L103',4),

(9783785756003,'L104',2),

(9780142414934,'L104',1),

(9780747507420,'L105',10),

(9789381841181,'L106',3),

(9781565115187,'L106',5),

(9780141345659,'L105',6),

(9783954713851,'L107',8),

(9783442315536,'L107',9),

(9783863524586,'L108',12),

(9788809810570,'L108',13),

(9781101524275,'L109',11),

(9780716726180,'L109',15),

(9780141182704,'L110',20),

(9780143130727,'L110',10),

(9780007617012,'L111',2),

(9780143441984,'L111',3),

(9780143442691,'L112',4),

(9788184007906,'L113',6),

(9780143427490,'L113',7),

(9780143427506,'L114',8),

(9781612680194,'L114',8),

(9789387944893,'L115',1),

(9780091929114,'L115',2),

(9780753555194,'L116',2),

(9780143109099,'L116',5),

(9789353336899,'L117',5),

(9788129137708,'L117',11),

(9789385152146,'L118',12),

(9780143449522,'L119',15),

(9781637455081,'L118',10),

(9789380741116,'L119',5),

(9781449474195,'L120',6),

(9781408855652,'L120',6),

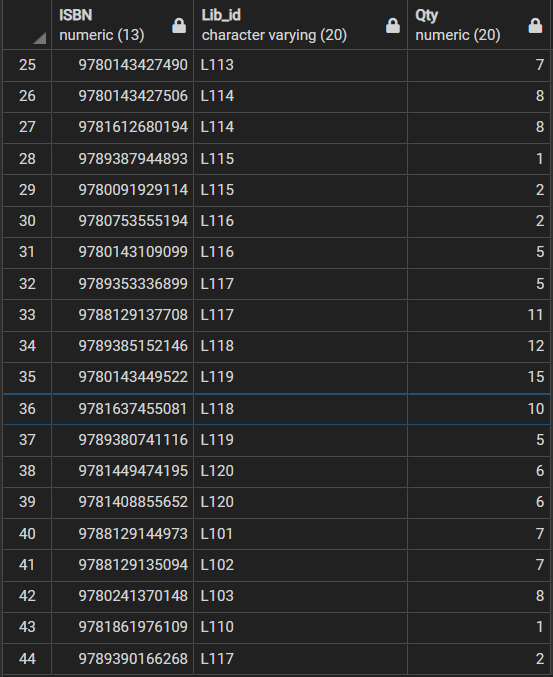
(9788129144973,'L101',7),

(9788129135094,'L102',7),

(9780241370148,'L103',8),

(9781861976109,'L110',1),

(9789390166268,'L117',2);

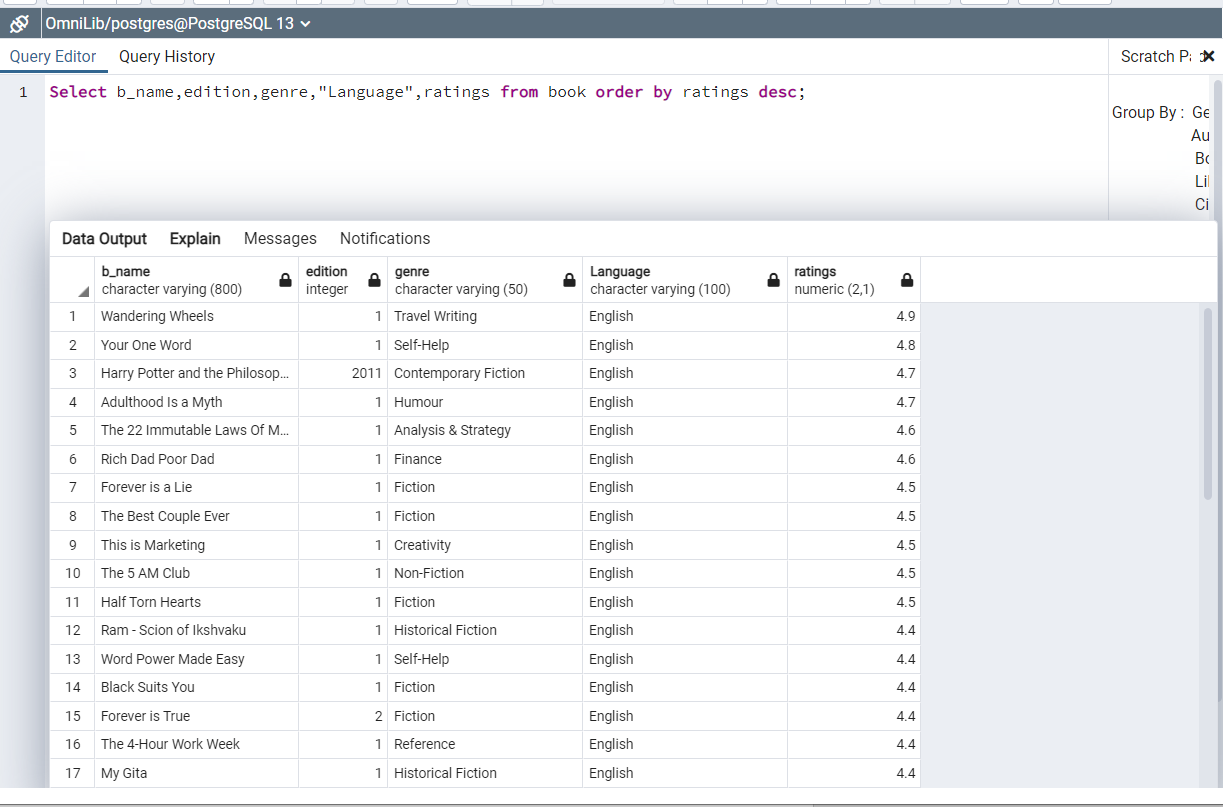
 

**5.3 Basic Queries**

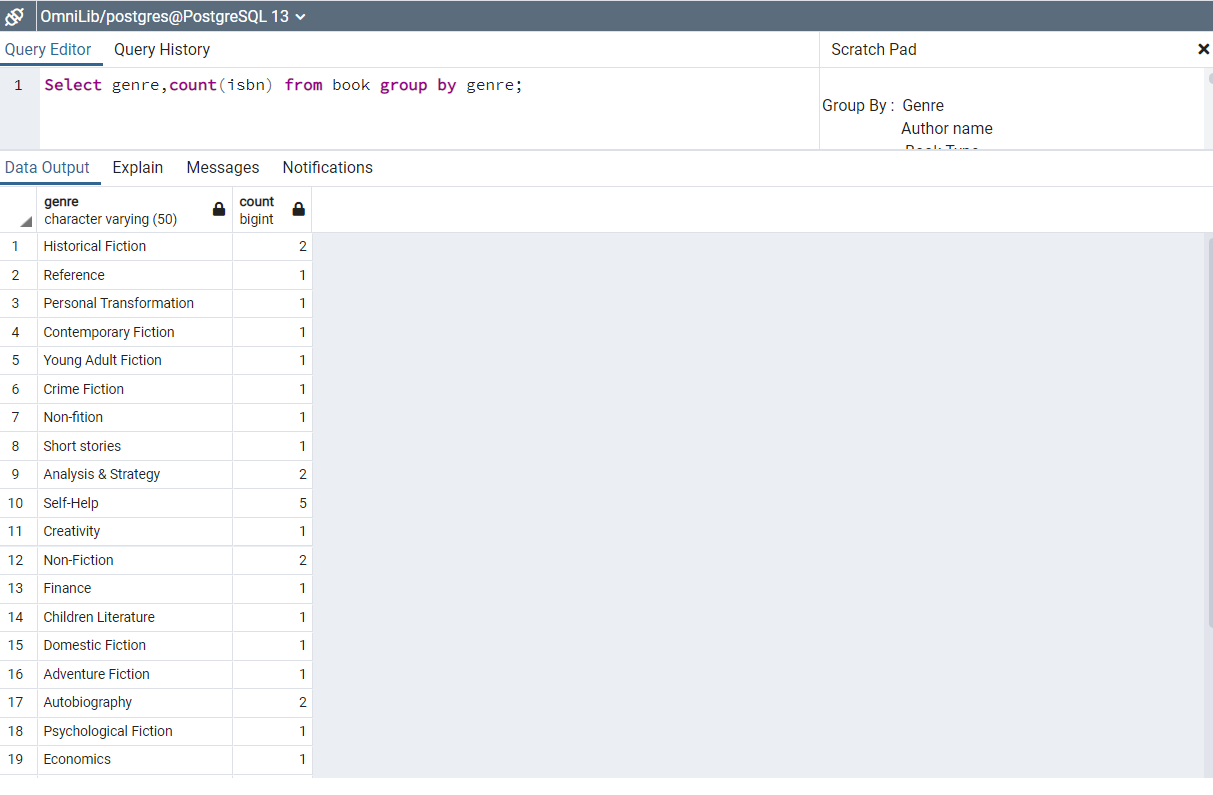
**1) Select isbn,yop,pname from publisher order by yop;**

****

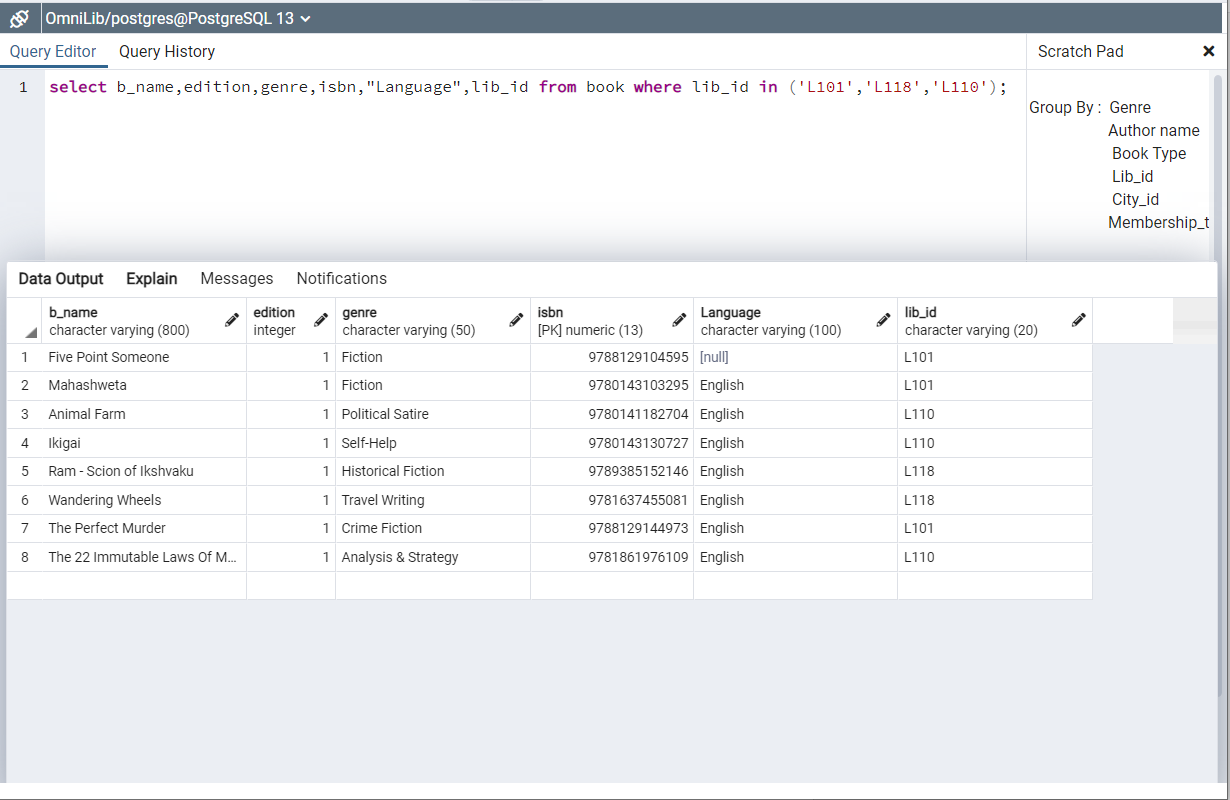
**2) Select b\_name,edition,genre,"Language",ratings from book order by ratings desc;**

****

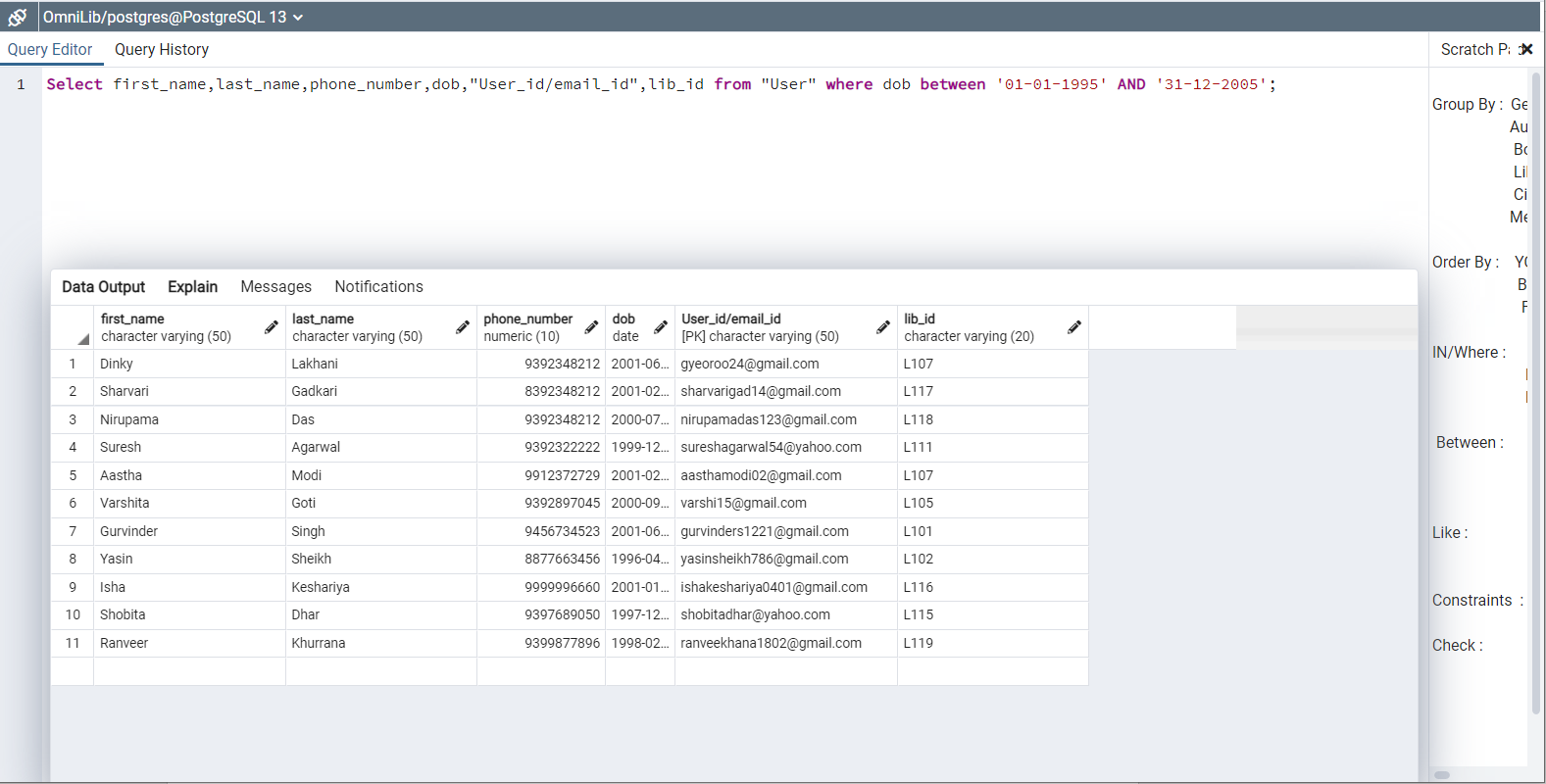
**3) Select genre,count(isbn) from book group by genre;**

****

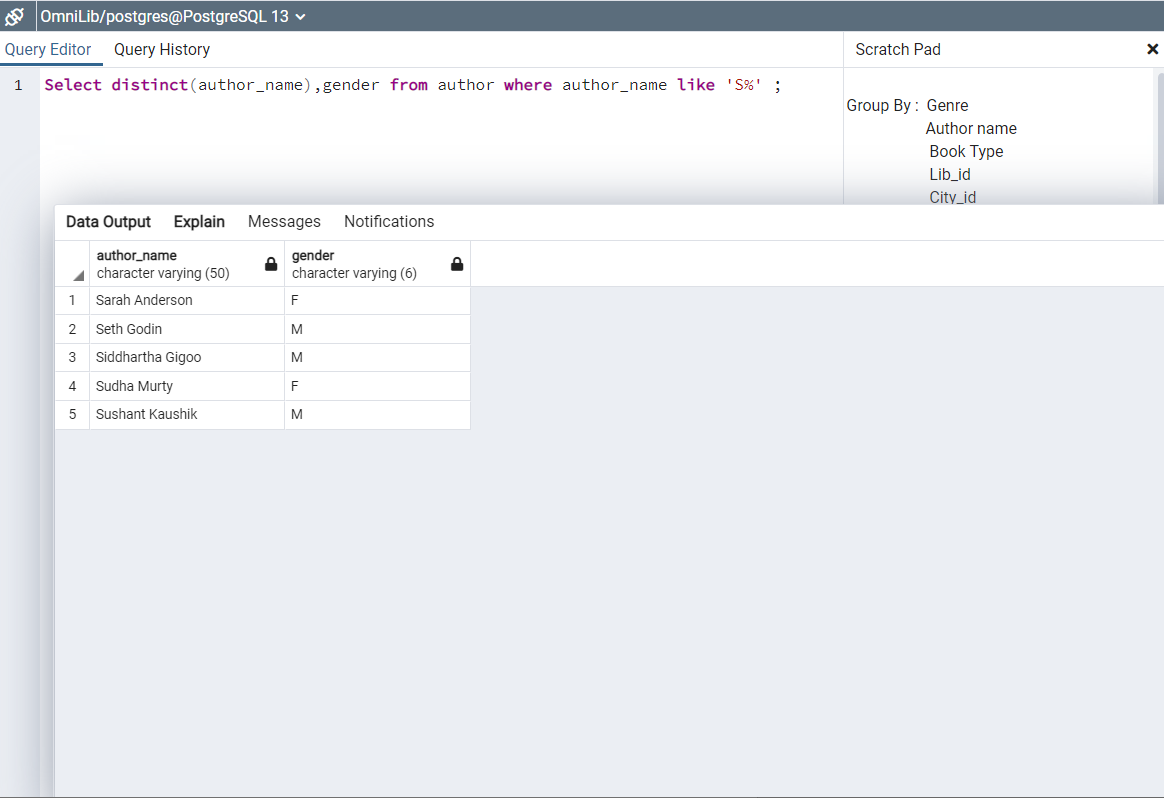
**4) select b\_name,edition,genre,isbn,"Language",lib\_id from book where lib\_id in ('L101','L118','L110');**

****

**5)Select first\_name,last\_name,phone\_number,dob,"User\_id/email\_id",lib\_id from "User" where dob between '01-01-1995' AND '31-12-2005';**

****

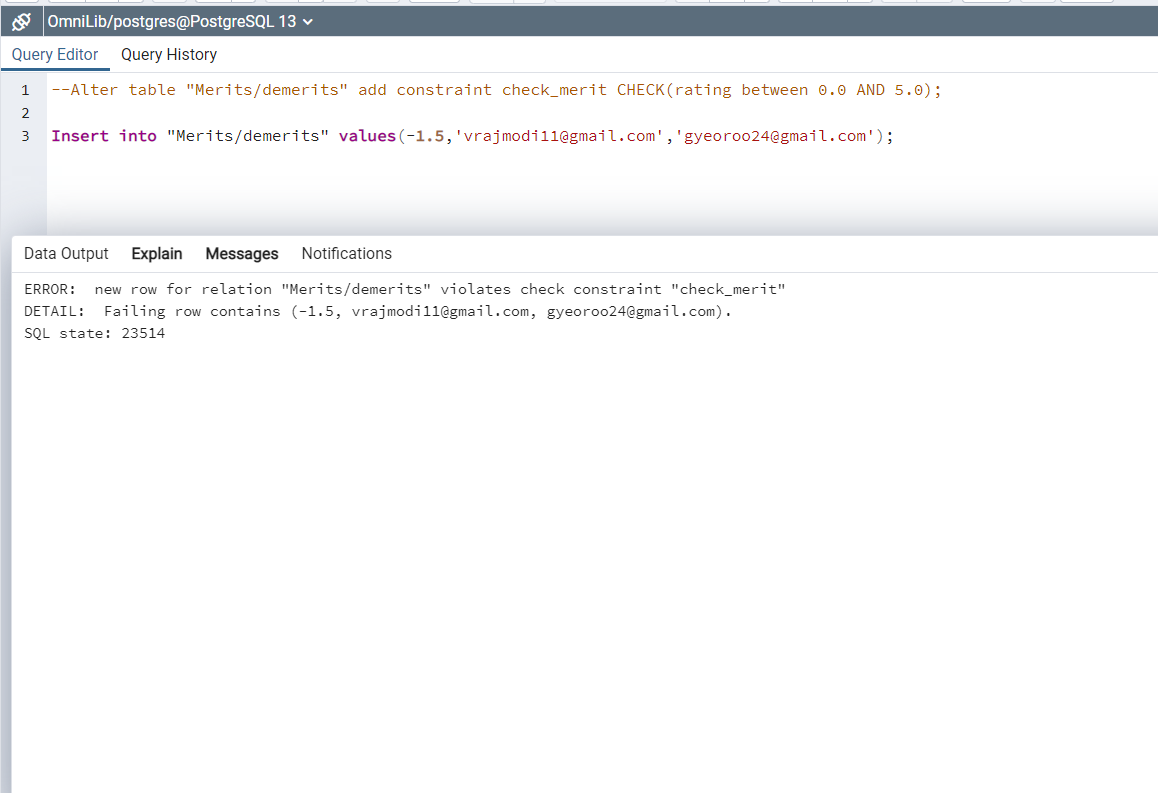
**6) Select distinct(author\_name),gender from author where author\_name like 'S%' ;**

****

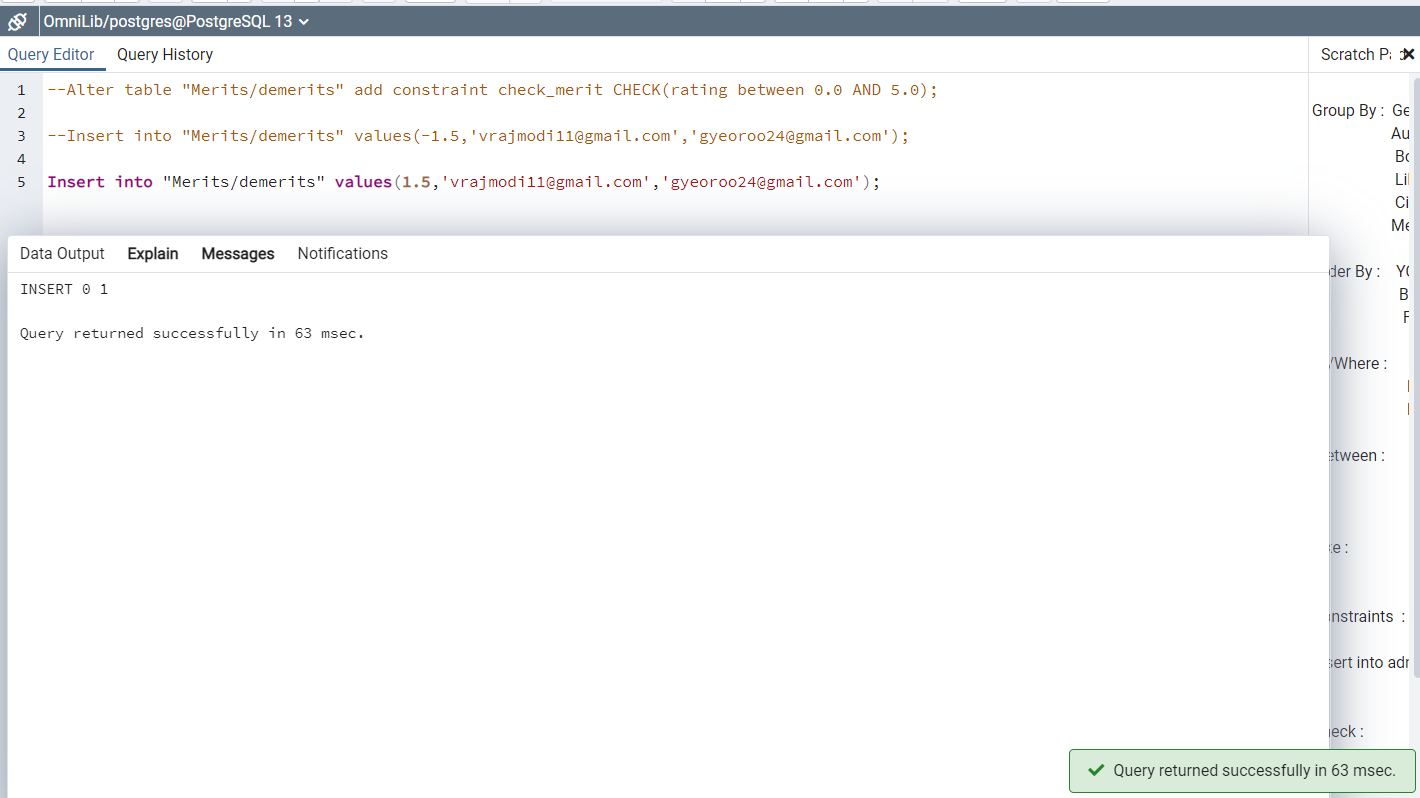
**7) Alter table "Merits/demerits" add constraint check\_merit CHECK(rating between 0.0 AND 5.0);**

**Insert into "Merits/demerits" values**

**(-1.5,'vrajmodi11@gmail.com','gyeoroo24@gmail.com');**

****

**Insert into "Merits/demerits" values (1.5,'vrajmodi11@gmail.com','gyeoroo24@gmail.com');**

****

**8) Alter table "admin" add constraint check\_email CHECK("User\_id/email\_id" LIKE '%@%.%');**

**Insert into admin values ('ashvathama1234.com','L101','V36','Ashvathama','Yadav',9382942333,'ksdflnskna','Admin Assistant','21-03-2001');**



**5.4 Joins and Subqueries**

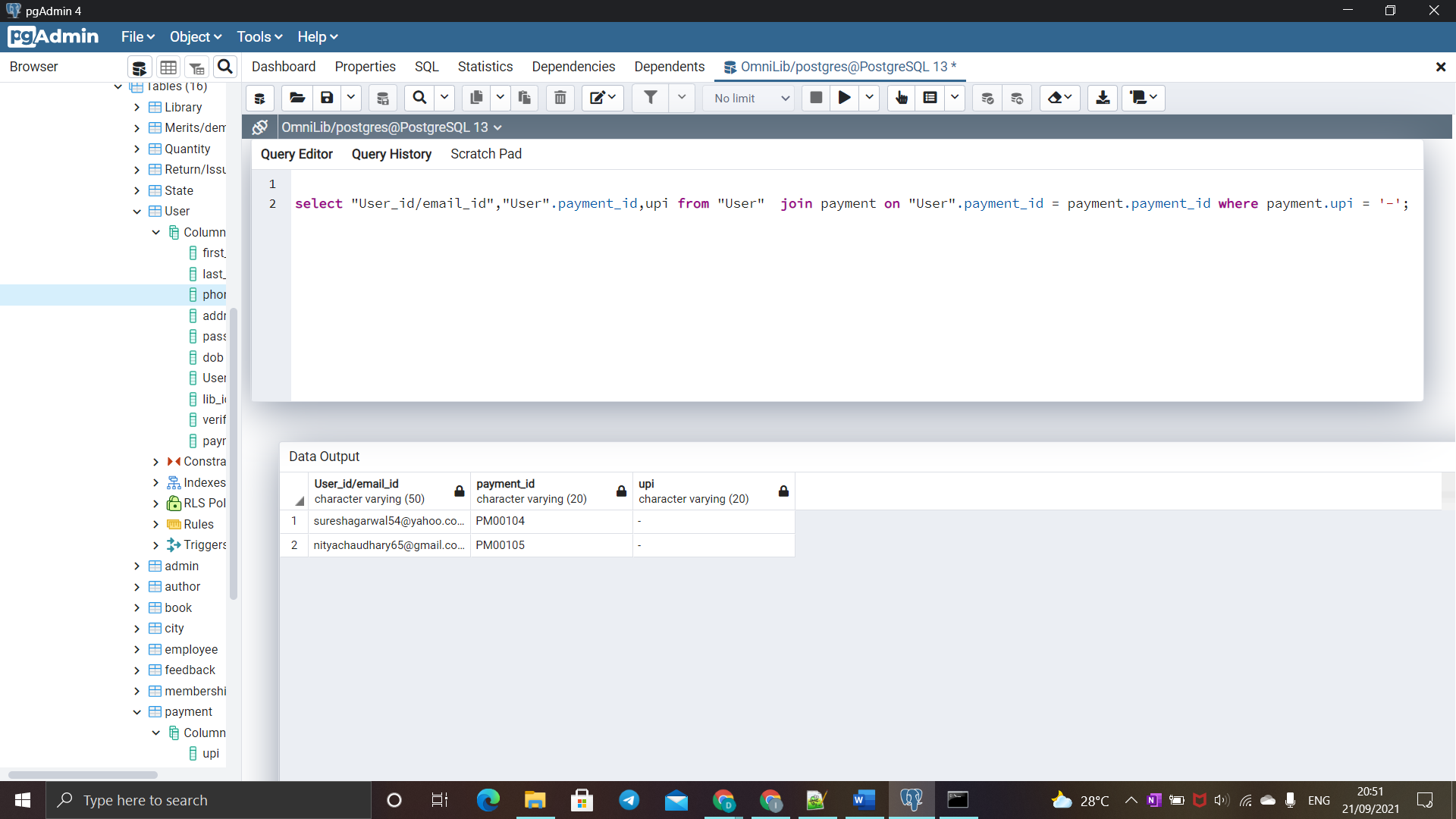
**Inner join**

**Users who haven’t paid through UPI**

**1)select "User\_id/email\_id","User".payment\_id,upi from**

**"User" join payment on "User".payment\_id = payment.payment\_id**

**where payment.upi = '-';**

****

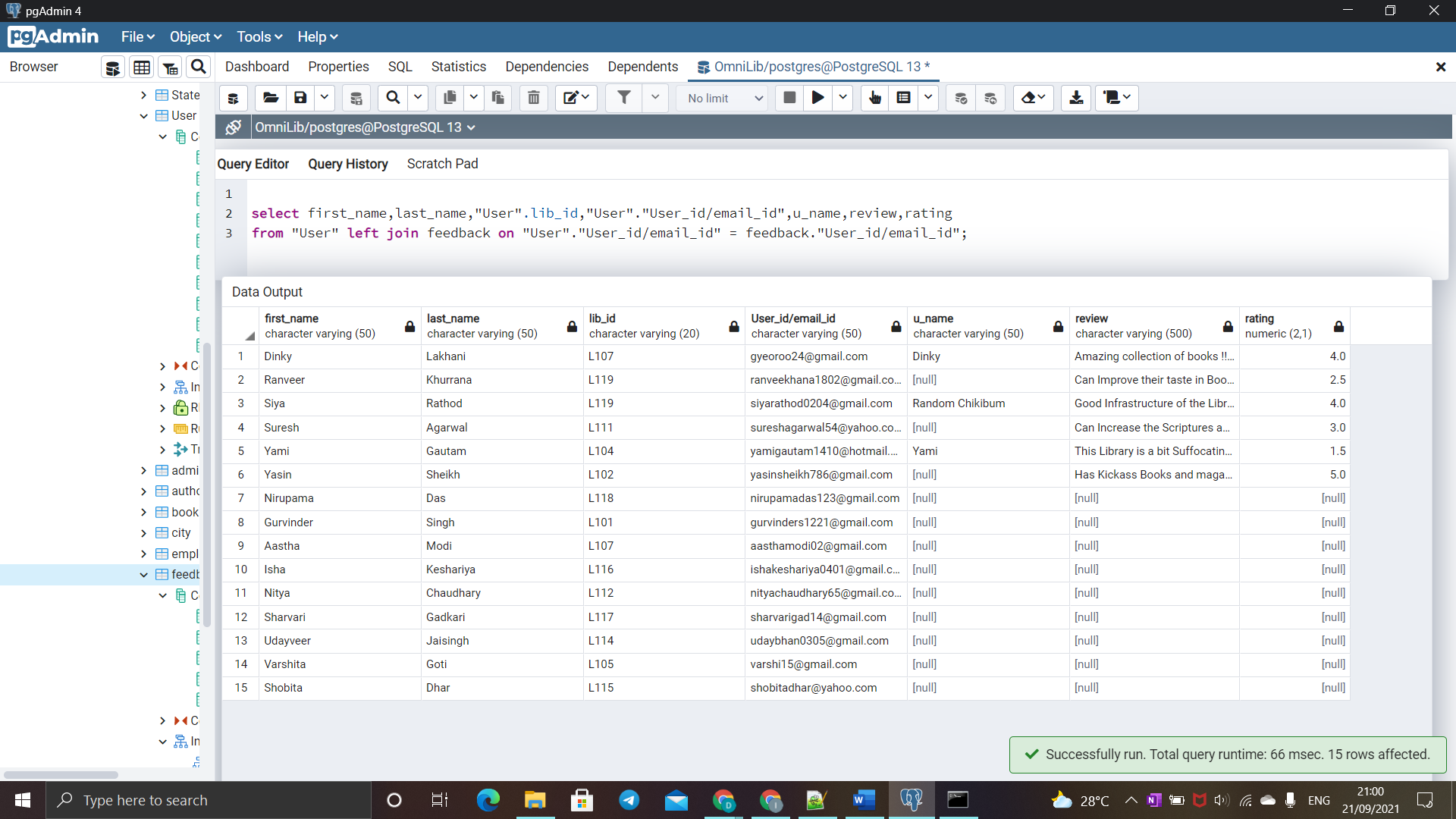
**Left Join**

**2) select first\_name,last\_name,"User".lib\_id,"User"."User\_id/email\_id",**

**u\_name,review,rating**

**from "User" left join feedback on**

**"User"."User\_id/email\_id" = feedback."User\_id/email\_id";**

****

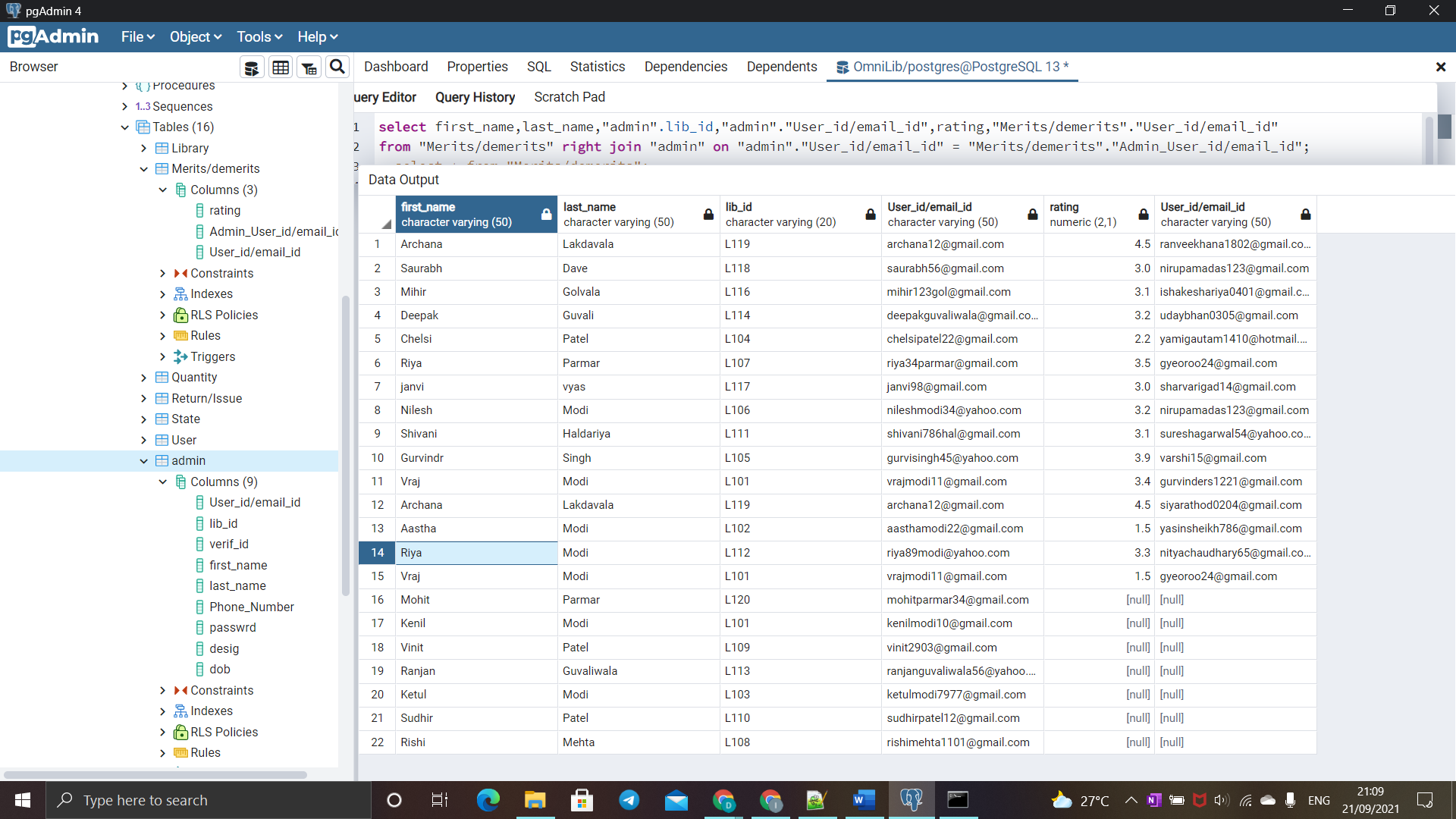
**Right Join**

**3) select first\_name,last\_name,"admin".lib\_id,"admin"."User\_id/email\_id",rating,**

**"Merits/demerits"."User\_id/email\_id"**

**from "Merits/demerits" right join "admin"**

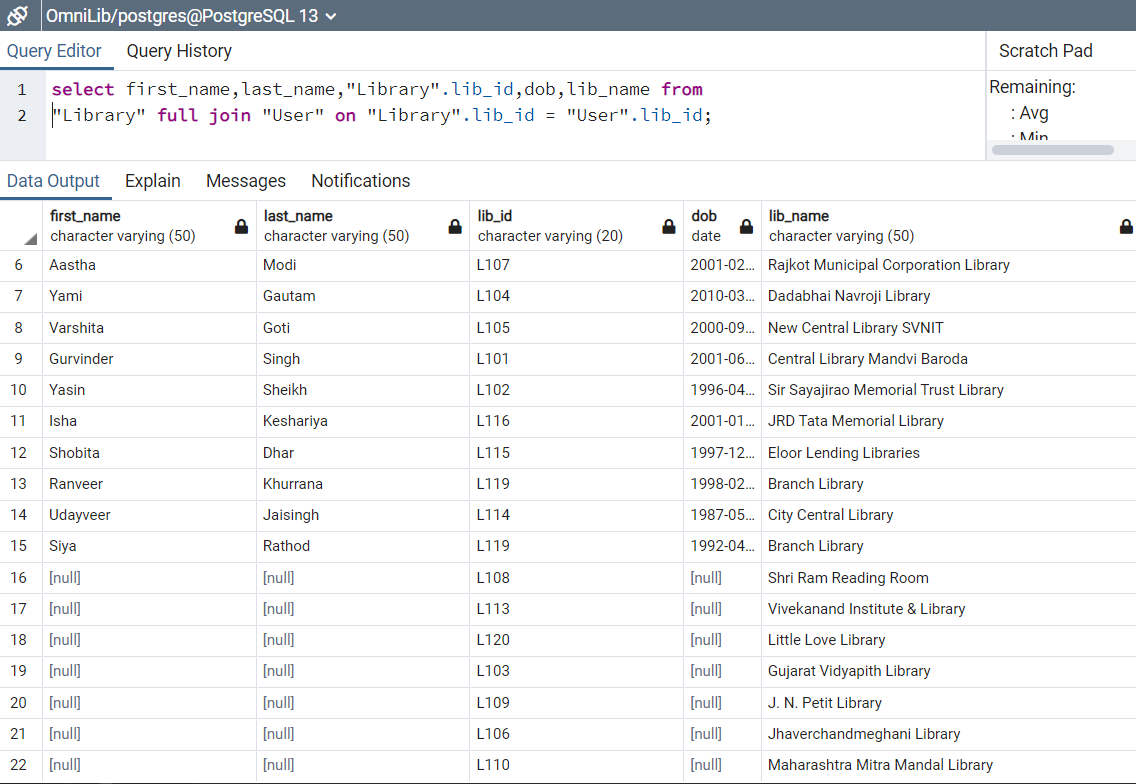
**on "admin"."User\_id/email\_id" = "Merits/demerits"."Admin\_User\_id/email\_id";**



**Full join**

**4) select first\_name,last\_name,"Library".lib\_id,dob,lib\_name from**

**"Library" full join "User" on "Library".lib\_id = "User".lib\_id;**

****

**Self Join**

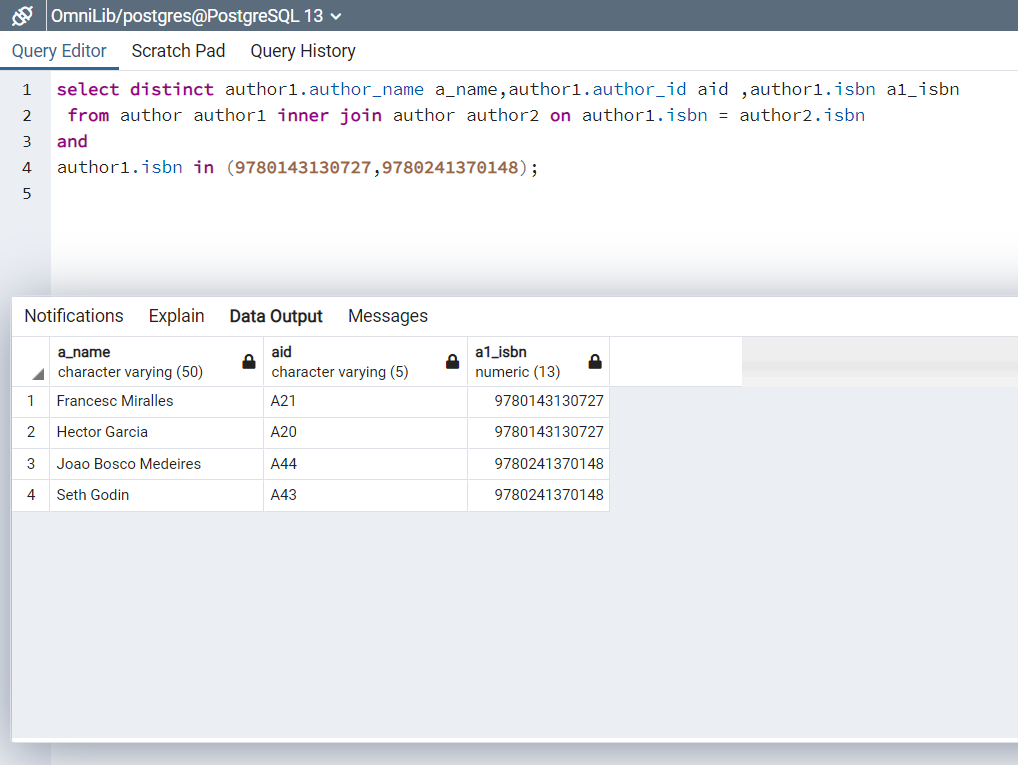
**Authors having certain ISBN**

**5) select distinct author1.author\_name a\_name,author1.author\_id aid ,author1.isbn a1\_isbn**

**from author author1 inner join author author2 on author1.isbn = author2.isbn**

**and**

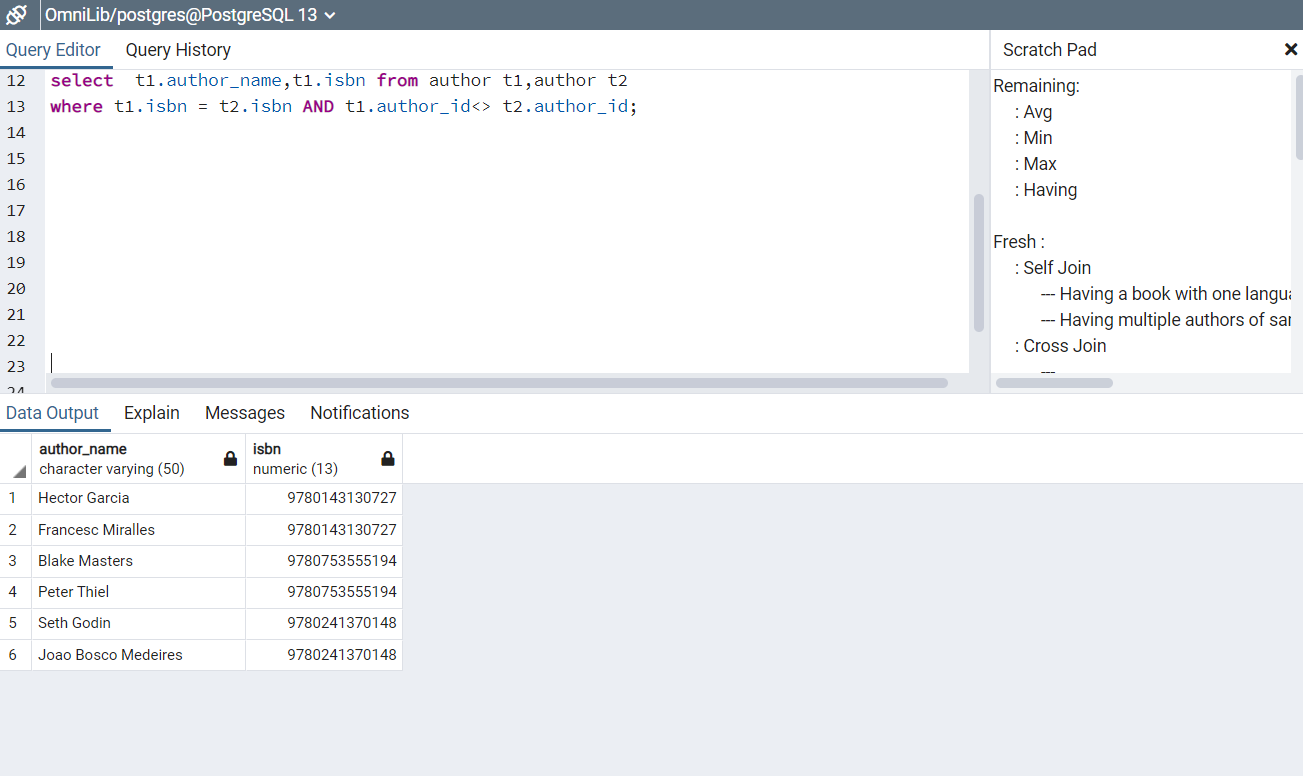
**author1.isbn in (9780143130727,9780241370148);**

****

**Books having multiple authors**

**6) select t1.author\_name,t1.isbn from author t1 , author t2**

**where t1.isbn = t2.isbn AND t1.author\_id<> t2.author\_id;**



**Sub queries**

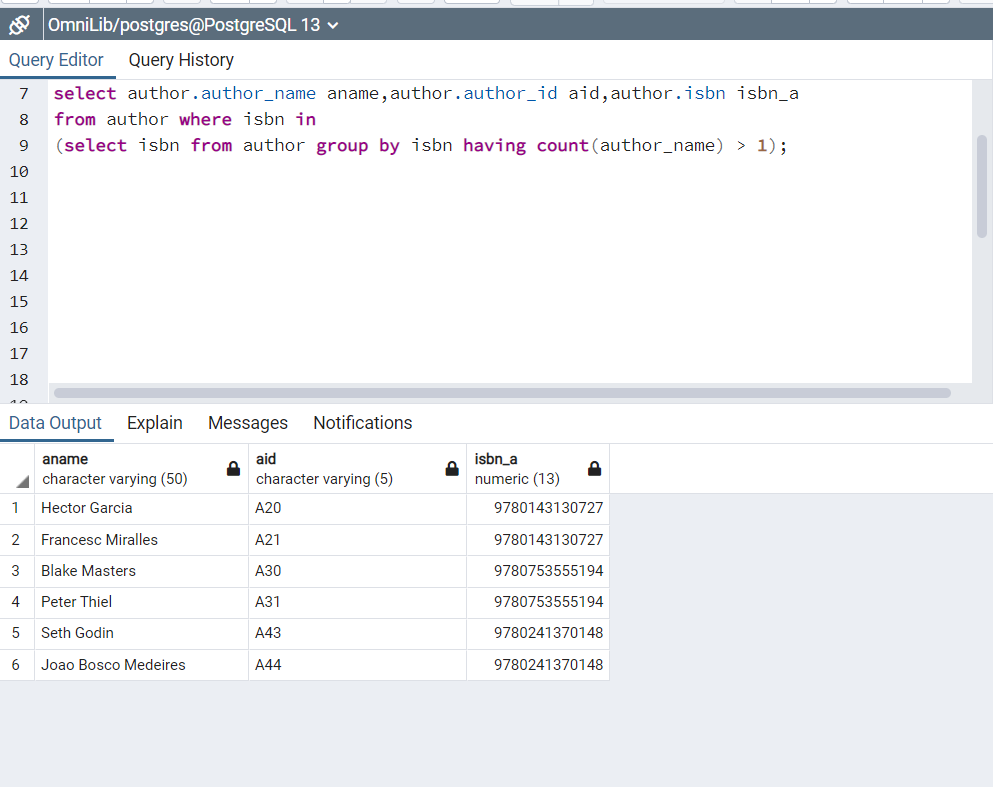
**Correlated**

**Books having multiple authors**

**7) select author.author\_name aname,author.author\_id aid,author.isbn isbn\_a**

**from author where isbn in**

**(select isbn from author group by isbn having count(author\_name) > 1);**



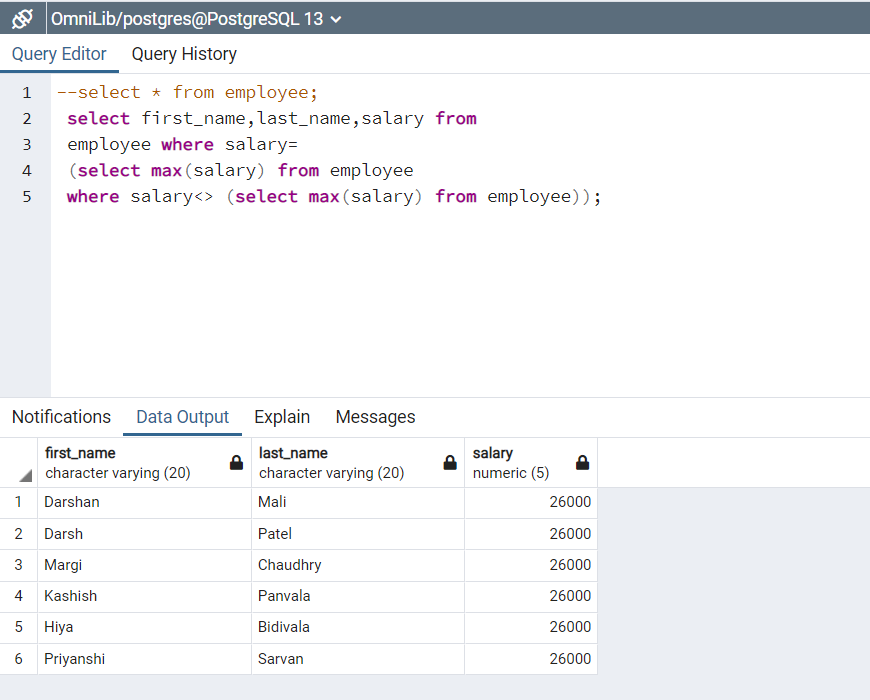
**Employees of library having Second Maximum Salary**

**8) select first\_name,last\_name,salary from**

**employee where salary=**

**(select max(salary) from employee**

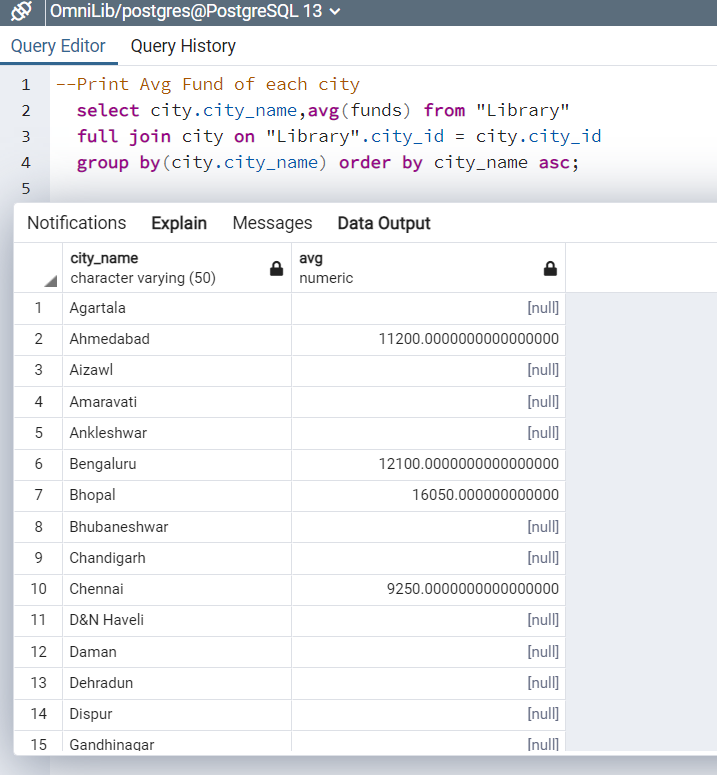
**where salary<> (select max(salary) from employee));**



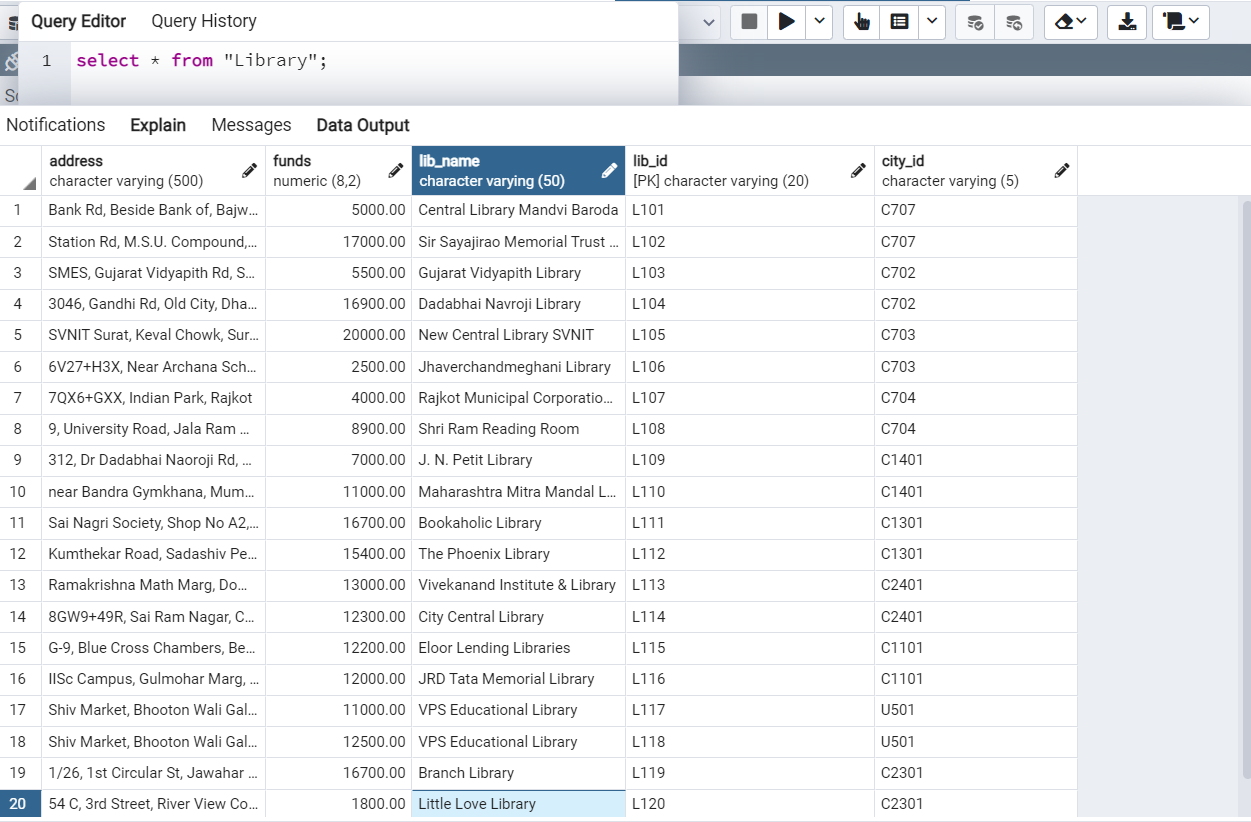
**Average fund of cities**

**9) select city.city\_name,avg(funds) from "Library"**

**full join city on "Library".city\_id = city.city\_id group by(city.city\_name) order by city\_name asc;**

****

**Select \* from “Library”;**

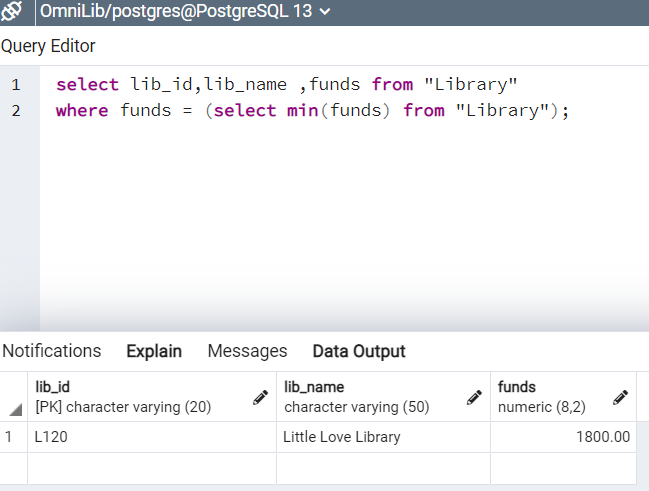
****

**Independent**

**Library having minimum fund**

**10) select lib\_id,lib\_name ,funds from "Library"**

**where funds = (select min(funds) from "Library");**

****

**5.5 PL/SQL**

**1) PL/SQL**

**Checks if Payment Amount is from 400,750,1000,300**

**DO $$**

**DECLARE**

**payment\_amount INTEGER :=100;**

**BEGIN**

**if payment\_amount = 400 then**

**elsif payment\_amount = 750 then**

**elsif payment\_amount = 1000 then**

**elsif payment\_amount = 3000 then**

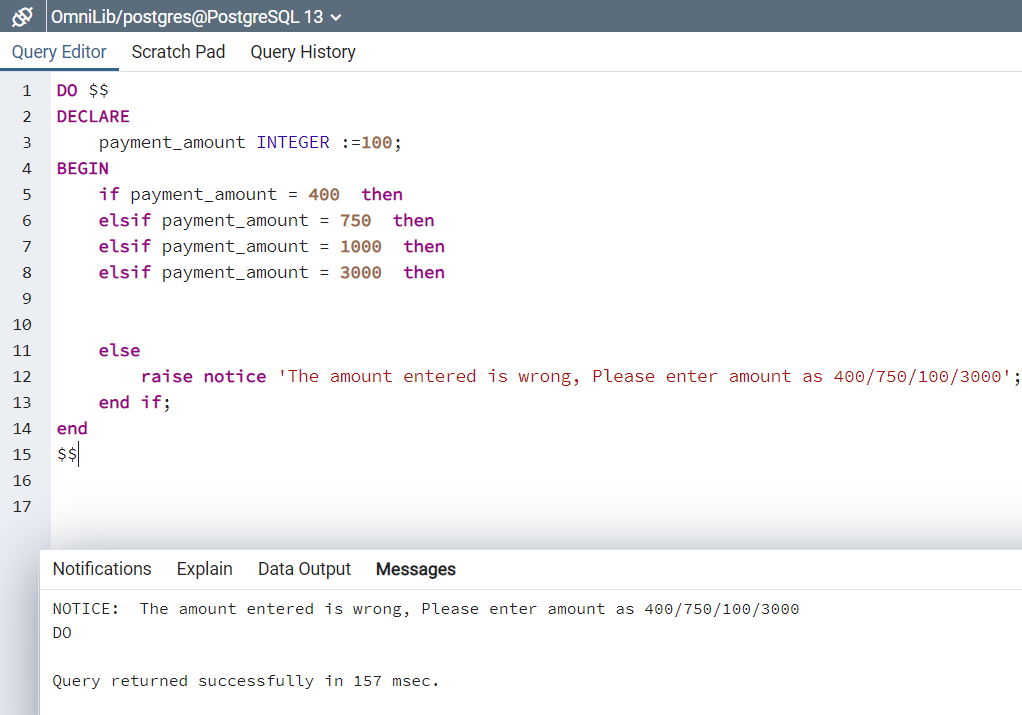
**else**

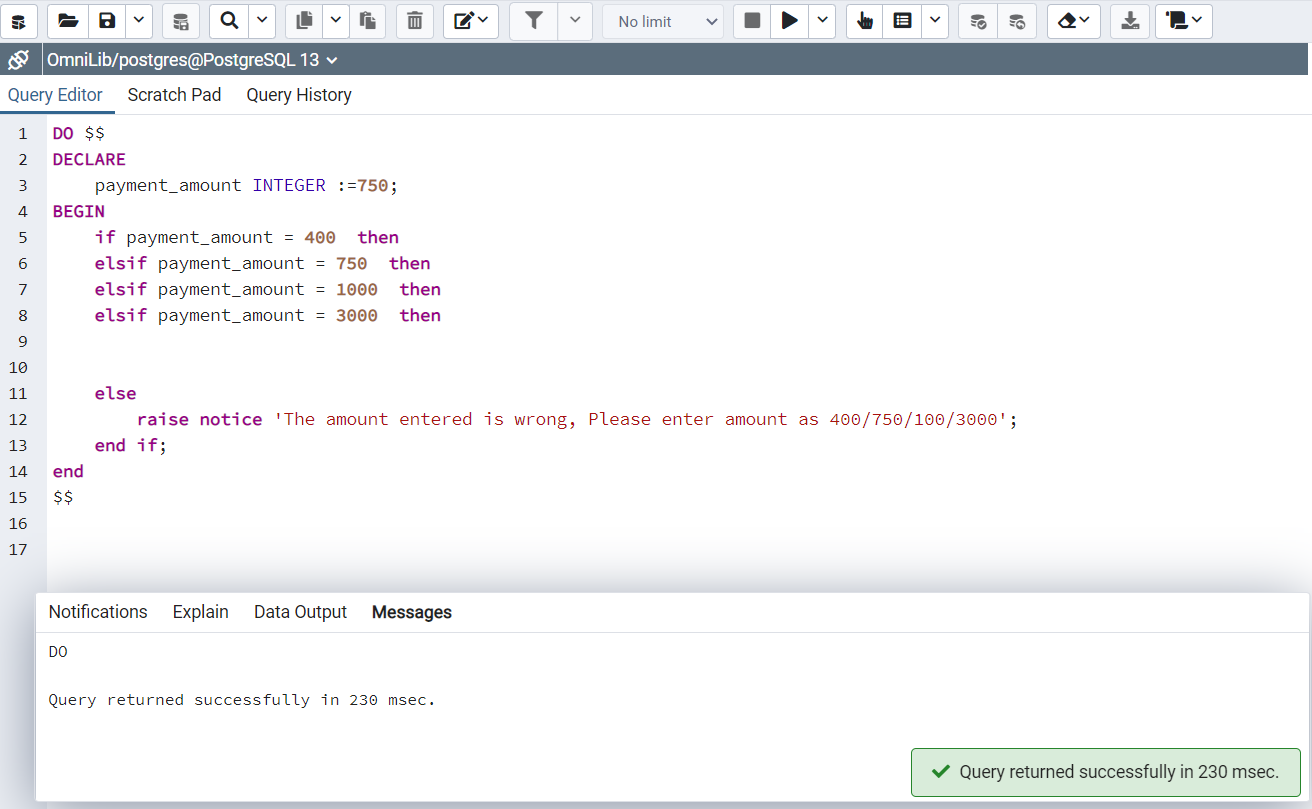
**raise notice 'The amount entered is wrong, Please enter amount as 400/750/100/3000';**

**end if;**

**end**

**$$**

****

****

**5.6 Functions**

**2) Function**

**Function get\_record displays the payment amount as well as name and payment\_type of a user**

**Function**

**create or replace function get\_record (**

**pid varchar(20)**

**)**

**returns table (**

**amt numeric(4,0),**

**pay\_ty varchar(20),**

**user\_f varchar(50),**

**user\_l varchar(50)**

**)**

**language plpgsql**

**as $$**

**begin**

**return query**

**select**

**amount,**

**pay\_type::varchar(20),**

**first\_name,**

**last\_name**

**from**

**membership join "User" on membership.payment\_id = "User".payment\_id**

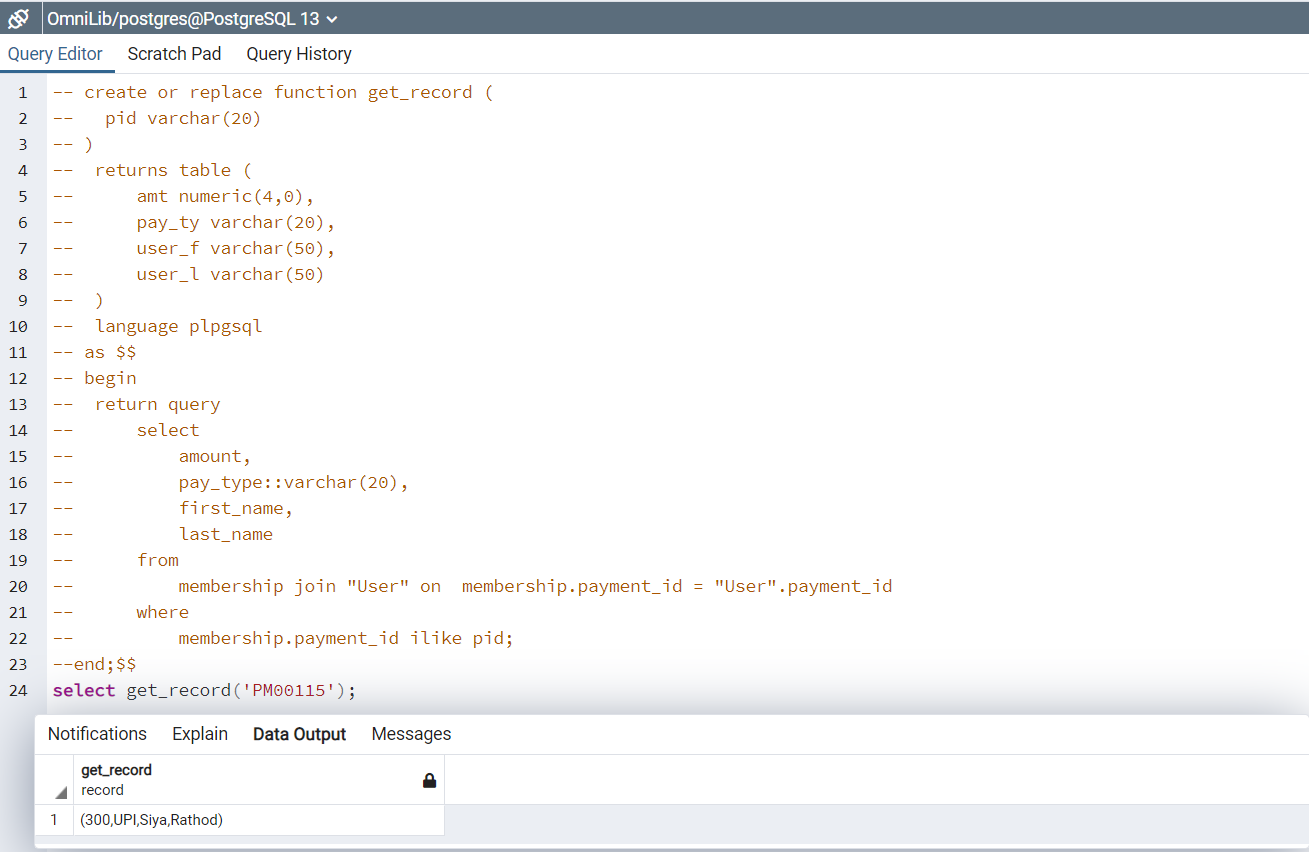
**where**

**membership.payment\_id ilike pid;**

**end;$$**

***Run:***

**select get\_record('PM00115');**

****

**5.7 Triggers**

**5.7.1)Trigger**

**Function check\_Qty() checks the quantity of a book and if its value becomes equal to zero or lesser , it triggers and exception.**

**-- create or replace function check\_Qty() returns trigger as $$**

**-- BEGIN**

**-- if NEW."Qty" <=0 then**

**-- raise exception 'Book Not available at the moment';**

**-- end if;**

**-- return NEW;**

**-- END;**

**-- $$**

**-- LANGUAGE plpgsql;**

**-- create trigger Qty\_check**

**-- BEFORE INSERT OR UPDATE**

**-- ON "Quantity"**

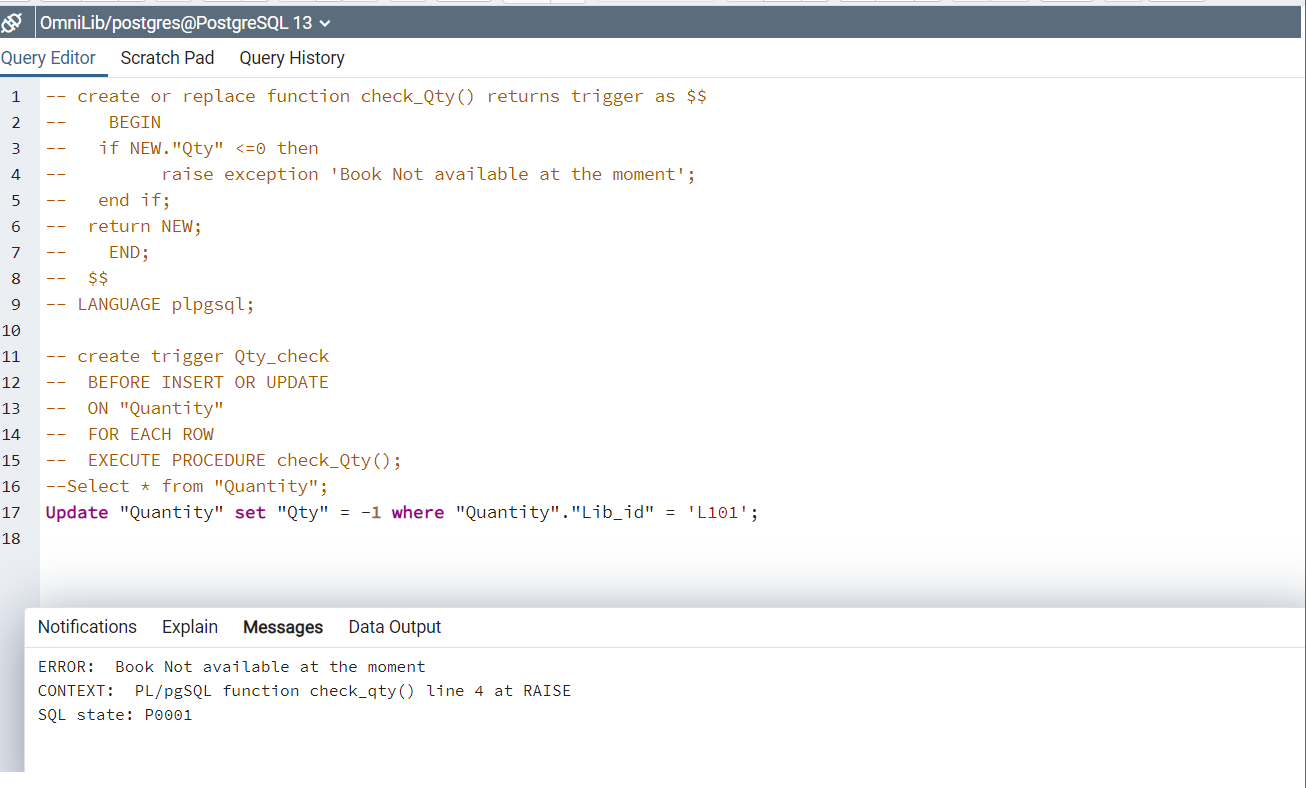
**-- FOR EACH ROW**

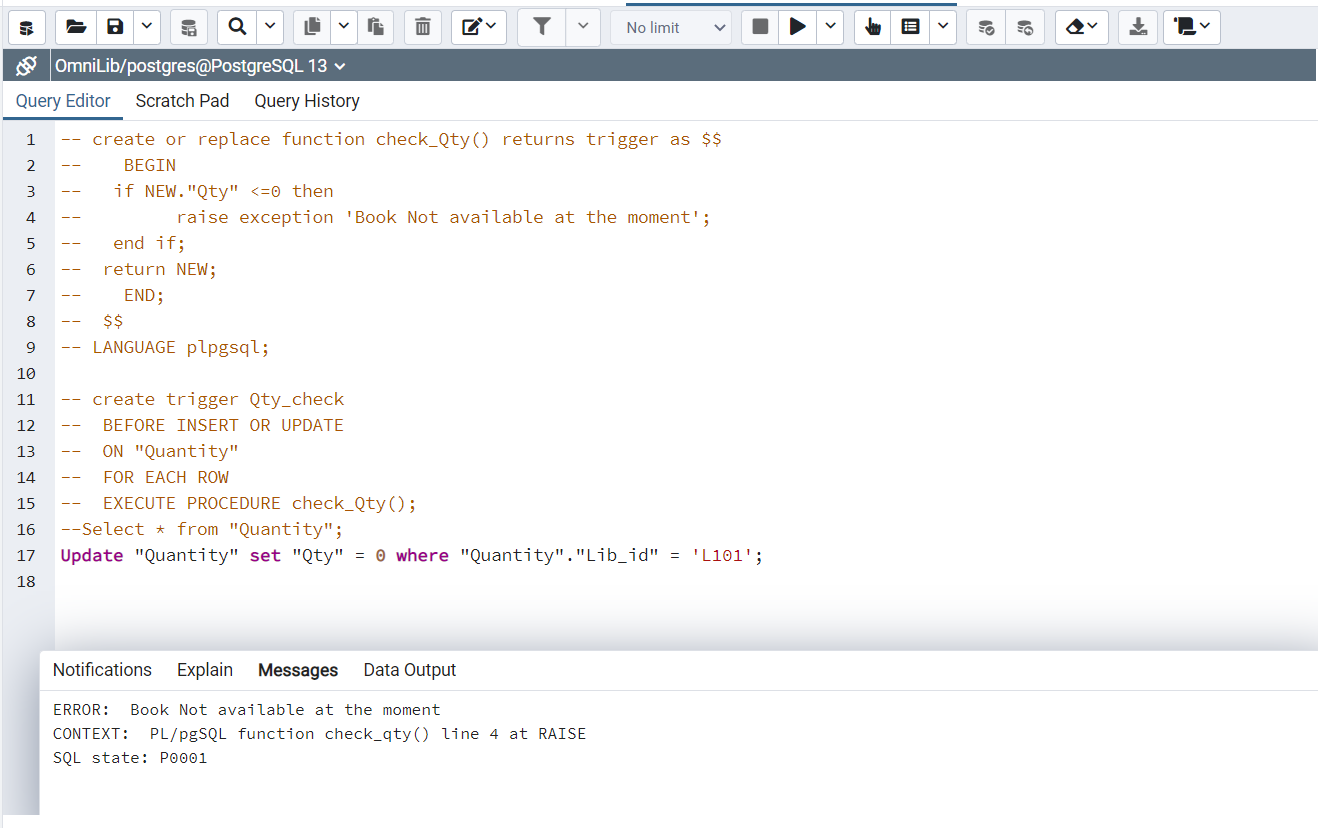
**-- EXECUTE PROCEDURE check\_Qty();**

***Run:***

**--Select \* from "Quantity";**

**Update "Quantity" set "Qty" = 0 where "Quantity"."Lib\_id" = 'L101';**

****

****

**5.7.2)Trigger**

**Checks if any particular field that is required is empty in employee table**

**CREATE OR REPLACE FUNCTION emp\_record() RETURNS trigger AS $emp\_record$**

**Declare**

**fl int := 0;**

**BEGIN**

**-- Check that empname and salary are given**

**IF NEW.first\_name IS NULL THEN**

**RAISE EXCEPTION 'First name cannot be null';**

**fl:=1;**

**END IF;**

**IF NEW.salary IS NULL THEN**

**RAISE EXCEPTION 'Cannot have null salary';**

**fl:=1;**

**END IF;**

**IF NEW.desig NOT IN ('librarian','watchman','staff') THEN**

**RAISE EXCEPTION 'not allowed for %', NEW.desig;**

**fl:=1;**

**END IF;**

**IF NEW.salary < 15000 THEN**

**RAISE EXCEPTION 'Cannot have a salary less than 15000 of %', NEW.first\_name;**

**fl:=1;**

**END IF;**

**-- IF fl=0 then**

**-- INSERT INTO employee VALUES(NEW.desig,NEW.first\_name,NEW.last\_name,NEW.salary,NEW.emp\_id,NEW.lib\_id);**

**-- End if;**

**RETURN NEW;**

**END;**

**$emp\_record$ LANGUAGE plpgsql;**

**-- Who**

**-- CREATE TRIGGER emp\_rec**

**-- BEFORE**

**-- INSERT OR UPDATE ON employee**

**-- FOR EACH ROW EXECUTE FUNCTION emp\_record();**

***Run:***

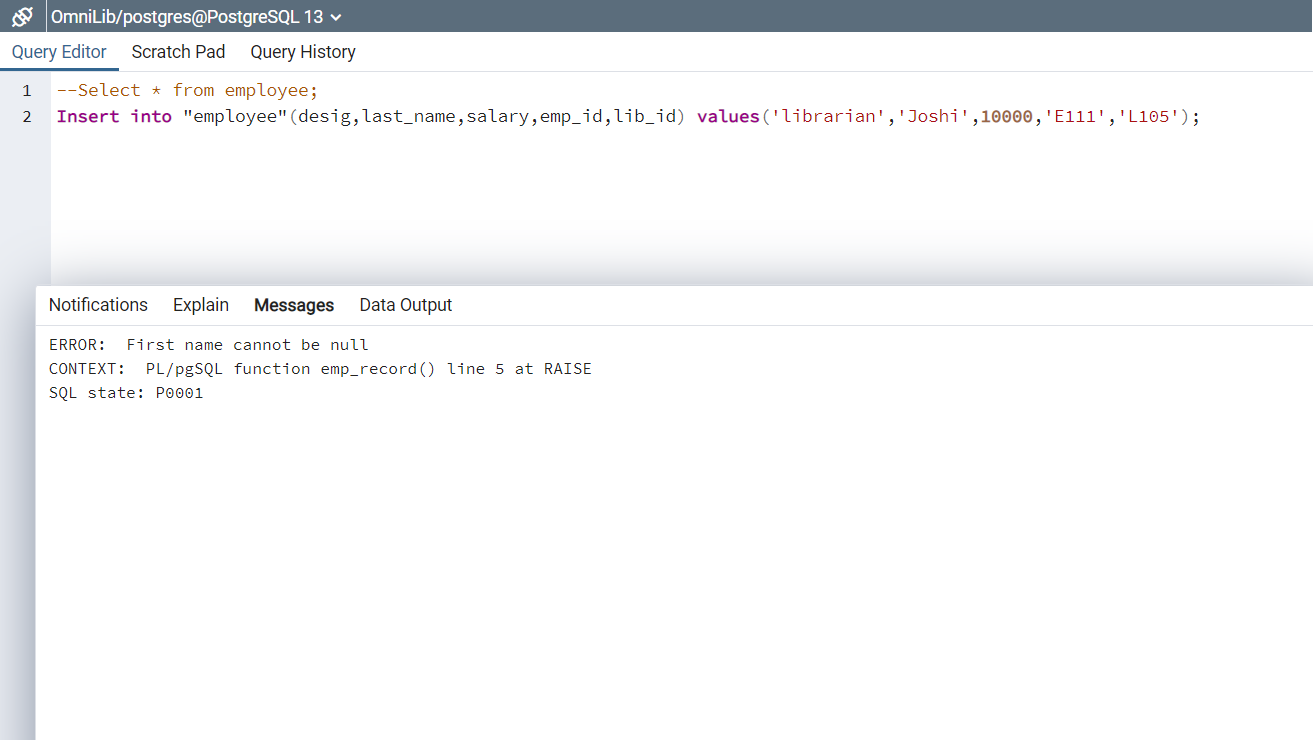
**--Select \* from employee;**

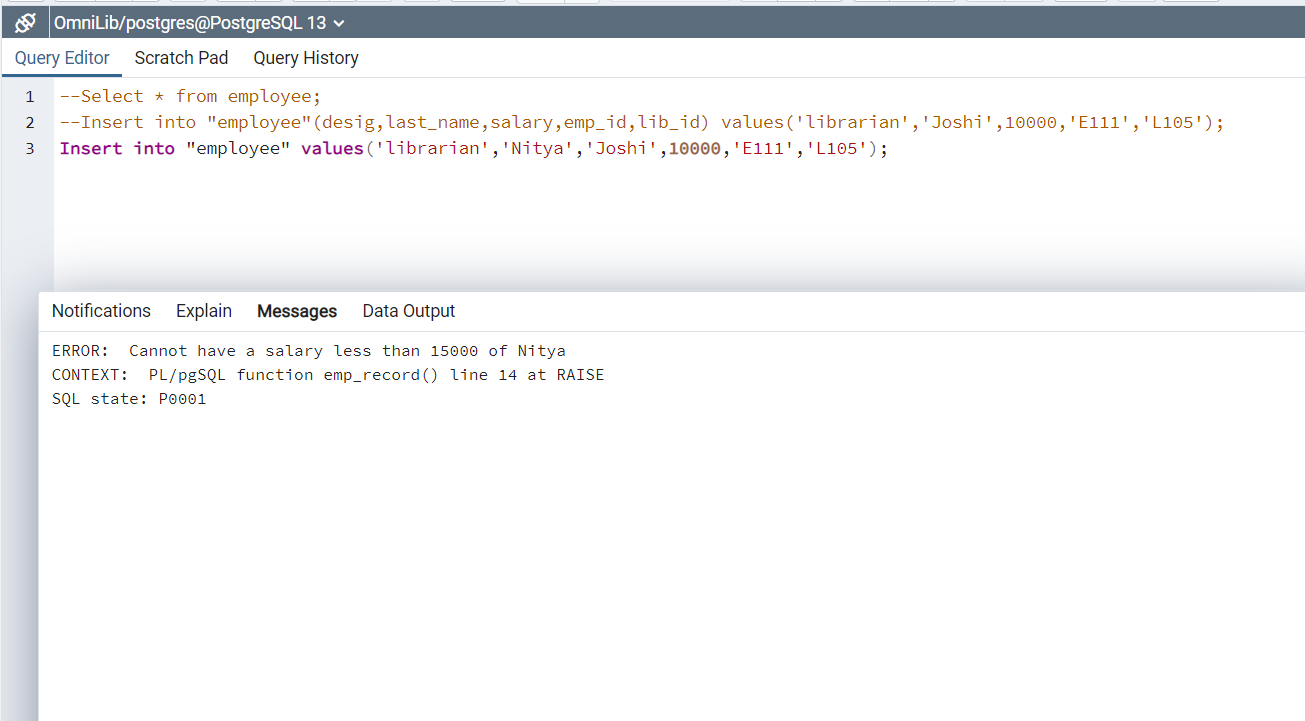
**--Insert into "employee" values('teacher','Nitya','Joshi',10000,'E111','L105');**

**--Insert into "employee"(desig,last\_name,salary,emp\_id,lib\_id) values('librarian','Joshi',10000,'E111','L105');**

**--Insert into "employee" values('librarian','Nitya','Joshi',10000,'E111','L105');**

**--Insert into "employee" values('librarian','Nitya','Joshi',20000,'E111','L105');**

****

****

**5.8 Cursors**

**1)Cursor**

**To display which book is issued by a user at this time**

**create or replace function book\_issued(uid varchar(50)) returns text as $$**

**declare**

**name text default '';**

**emprec record;**

**booki cursor(uid varchar(50))**

**for select first\_name,last\_name,"User"."User\_id/email\_id",isbn**

**from "User" join "Return/Issue" on**

**"User"."User\_id/email\_id" = "Return/Issue"."User\_id/email\_id" and "User"."User\_id/email\_id" = uid;**

**begin**

**open booki(uid);**

**loop**

**fetch booki into emprec;**

**exit when not found;**

**name := emprec.first\_name || ' , ' || emprec.last\_name || ' , ' || emprec."User\_id/email\_id" || ' , ' || emprec.isbn;**

**end loop;**

**close booki;**

**return name;**

**end; $$**

**language plpgsql;**

***Run:***

**select book\_issued('sharvarigad14@gmail.com');**

****

**6.FUTURE ENHANCEMENTS OF THE SYSTEM**

This system aspires to advance in the following areas:

* Graphical User Interface(GUI) for easy access.
* Security of the current Database System.
* Recommendation system , which will recommend users books according to their past purchases or interests.
* Allow users to change cities without hassle by simply changing their city\_id in their E-card and new libraries will be available to them.
* Allow delivery of the rented books to the users.
* Advance into E-books category.
* Aspires to increase the employment rate in tech-industry.

**7.BIBLIOGRAPHY**

* For the successful implementation of this project, we referred to a few websites and books.
* We created the ER Diagram on “**ERDPlus.com**” and Schema Diagram on “**pgAdmin4**”.
* Mostly we referred to the online material as well as academic material for the syntax of procedures, triggers, cursors and queries in general.

**Reference book:**

**Data Base System Concepts -Henry F. Korth & A. Silberschatz 2nd Ed. McGraw-Hill 1991**

**Reference Websites:**

* [www.ERDplus.com/help](http://www.ERDplus.com/help)
* <https://stackoverflow.com/>