Employee Management system

1. Create an ER diagram for
   - Employee Management system – GEC

     An employee management system contains 3 entities – Employees , Department and Projects.

     Relations :

     a. Works_for

     Describes the relationship between employees and the department. An employee works for a department. Many employees work under one department.

     b. Works_on

     Describes the relationship between employees and projects. An employee works on a project. One employee can work on different projects. One project can be handled by different employees.

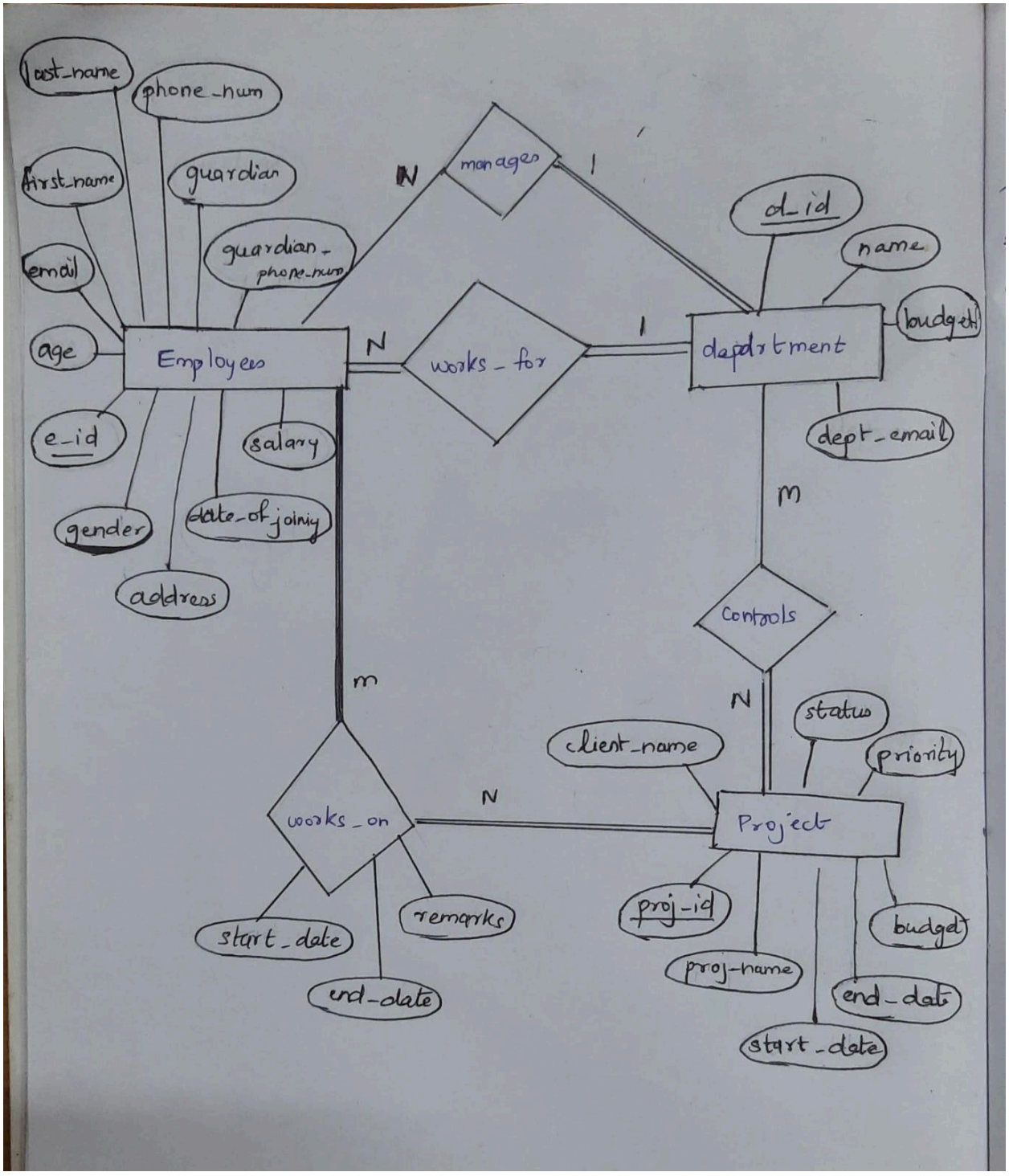
     c. Controls

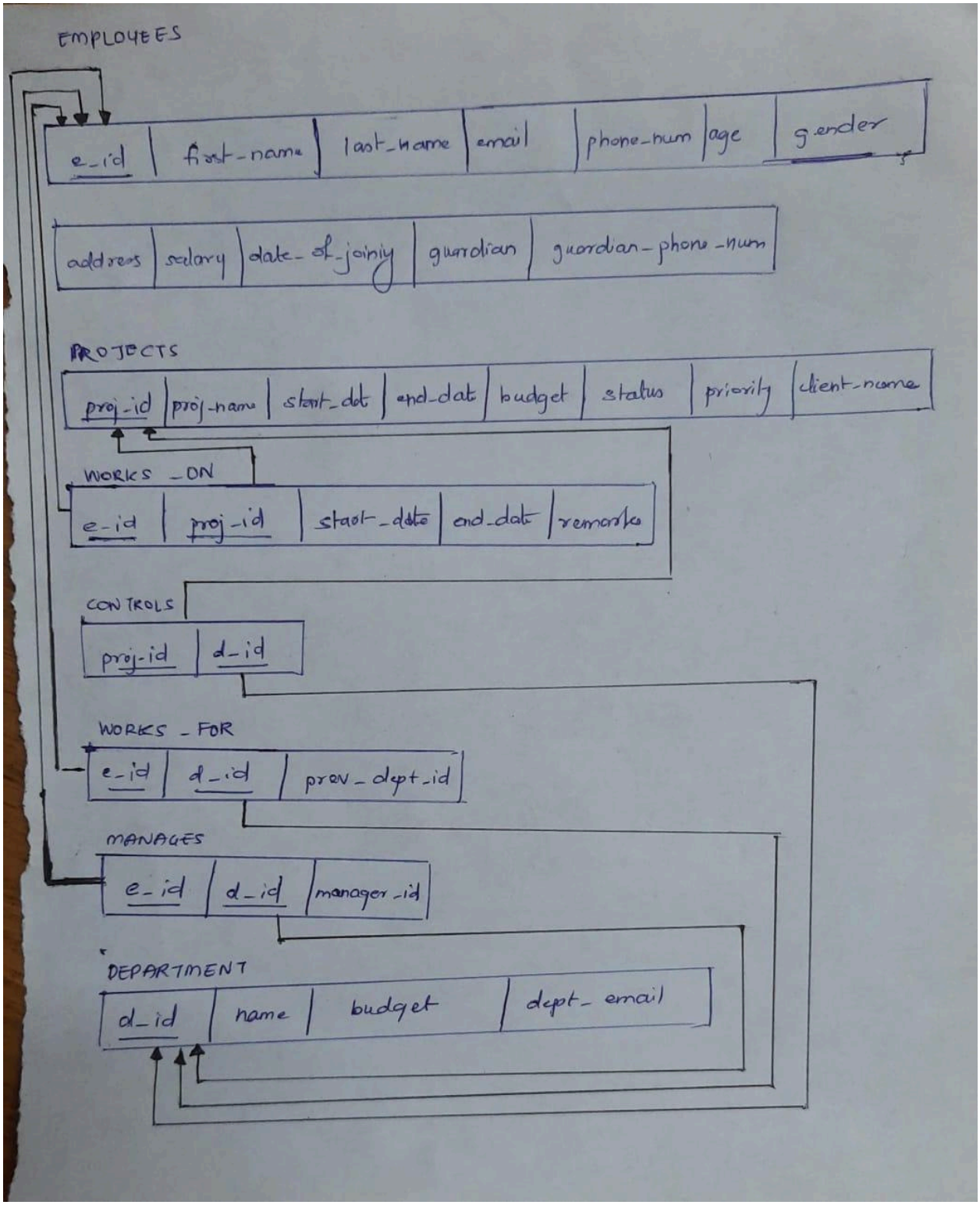
     Describes the relationship between projects and the department. A department controls a project. One department can control different projects. One project can be handled by different departments.

     d. Manages

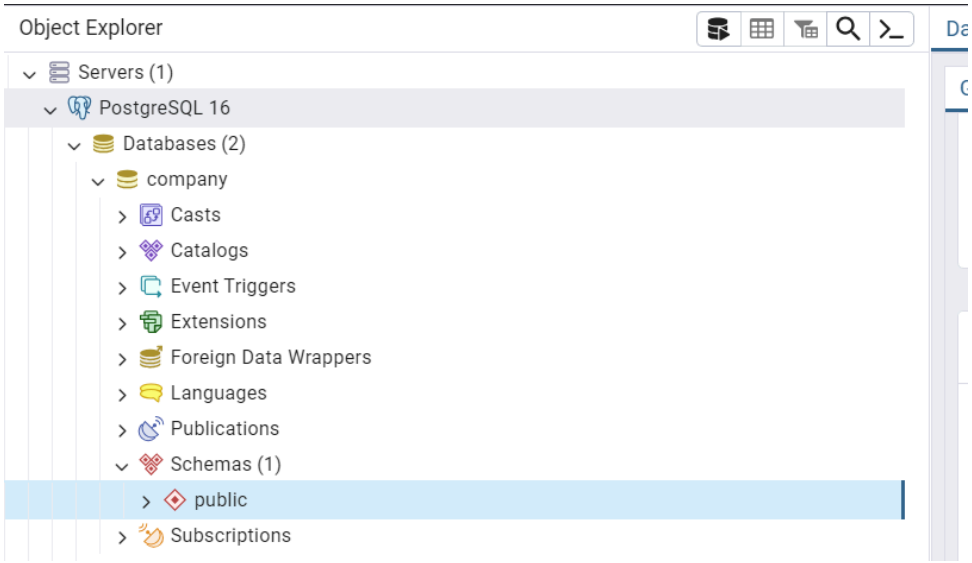
     Describes the relationship between the employee and the manager of a department. The manager is another employee of the company with a superior role and manages the entire department. Many employees work under the manager of that respective department. An employee might not have a manager (partial participation) but a department will always have one manager hence the total participation.

     Note : some employees and departments might not be working on a project at the moment hence it is shown as partial participation. (controls and works_on relations)

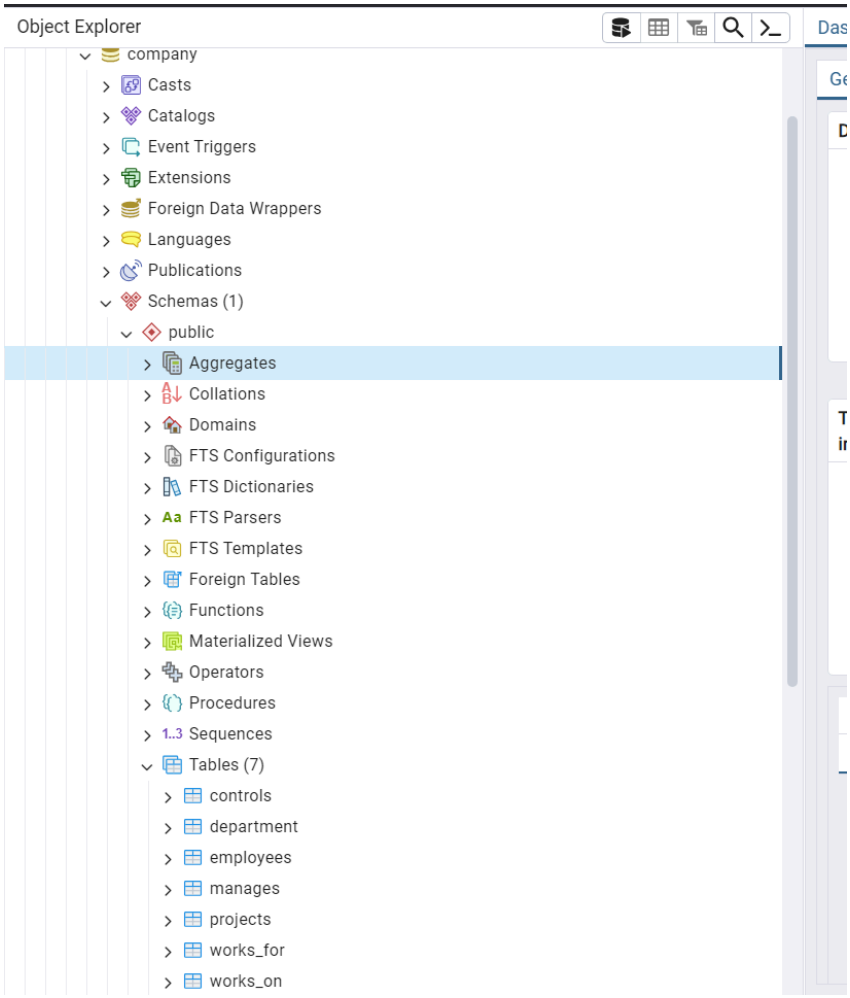

last_name
phone_num
first_name
guardian
email
guardian_phone_num
age
Employees
e_id
salary
gender
date_of_joining
address
N
manages
1
d_id
name
budget
department
N
works_for
1
dept_email
m
controls
N
status
client_name
priority
m
works_on
N
Project
start_date
remarks
end_date
proj_id
proj_name
budget
end_date
start_date


EMPLOYEES
e_id
first_name
last_name
email
phone_num
age
gender
address
salary
date_of_joining
guardian
guardian_phone_num
PROJECTS
proj_id
proj_name
start_dat
end_dat
budget
status
priority
client_name
WORKS_ON
e_id
proj_id
start_date
end_dat
remarks
CONTROLS
proj_id
d_id
WORKS_FOR
e_id
d_id
prev_dept_id
MANAGES
e_id
d_id
manager_id
DEPARTMENT
d_id
name
budget
dept_email

2. Setup the Postgre on your machine and create a DB.
Created a database named company.



3. Add tables respective to ER diagrams



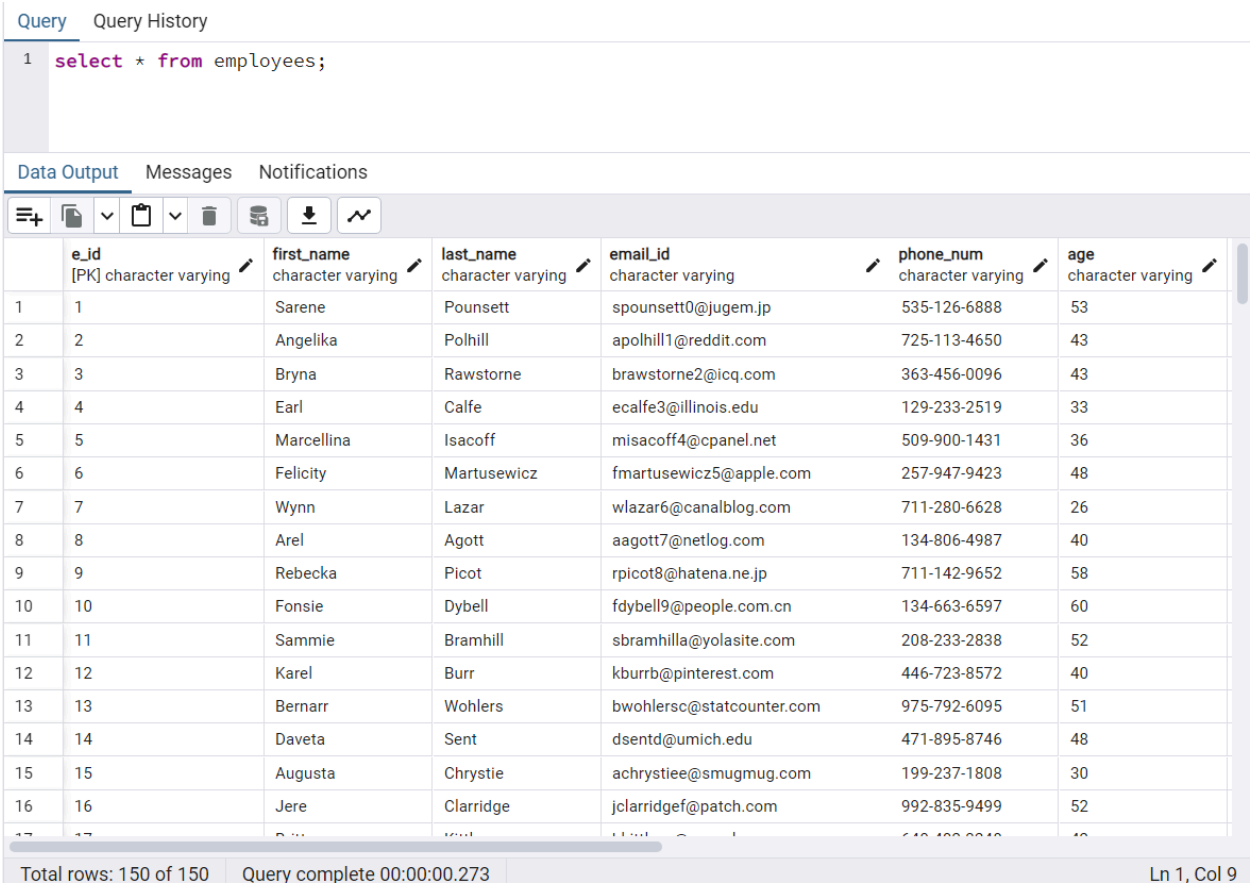
4. Add data to each table with minimum of 100 rows.
   - Data imported from csv files obtained from mockaroo website.

5. Write a Select query with and without conditions.

   a. Without condition

      SELECT column1, column2, ...
      FROM table_name;

      ‘ SELECT * ’ returns all the coloumns in the table.



Query | Query History

```
1  select * from employees;
```

Data Output | Messages | Notifications

	e_id [PK] character varying	first_name character varying	last_name character varying	email_id character varying	phone_num character varying	age character varying
1	1	Sarene	Pounsett	spounsett0@jugem.jp	535-126-6888	53
2	2	Angelika	Polhill	apolhill1@reddit.com	725-113-4650	43
3	3	Bryna	Rawstorne	brawstorne2@icq.com	363-456-0096	43
4	4	Earl	Calfe	ecalfe3@illinois.edu	129-233-2519	33
5	5	Marcellina	Isacoff	misacoff4@cpanel.net	509-900-1431	36
6	6	Felicity	Martusewicz	fmartusewicz5@apple.com	257-947-9423	48
7	7	Wynn	Lazar	wlazar6@canalblog.com	711-280-6628	26
8	8	Arel	Agott	aagott7@netlog.com	134-806-4987	40
9	9	Rebecka	Picot	rpicot8@hatena.ne.jp	711-142-9652	58
10	10	Fonsie	Dybell	fdybell9@people.com.cn	134-663-6597	60
11	11	Sammie	Bramhill	sbramhilla@yolasite.com	208-233-2838	52
12	12	Karel	Burr	kburrb@pinterest.com	446-723-8572	40
13	13	Bernarr	Wohlers	bwohlersc@statcounter.com	975-792-6095	51
14	14	Daveta	Sent	dsentd@umich.edu	471-895-8746	48
15	15	Augusta	Chrystie	achrystiee@smugmug.com	199-237-1808	30
16	16	Jere	Clarridge	jclarridgef@patch.com	992-835-9499	52

Total rows: 150 of 150 | Query complete 00:00:00.273 | Ln 1, Col 9

   b. With condition

      SELECT column1, column2, ...
      FROM table_name
      WHERE condition;

Query Query History

```
1  select e_id , first_name , date_of_joining from employees where age >'45';
```

Data Output Messages Notifications

	e_id [PK] character varying	first_name character varying	date_of_joining character varying
1	1	Sarene	4/15/2015
2	6	Felicity	09-12-2013
3	9	Rebecka	3/24/2003
4	10	Fonsie	11/18/2020
5	11	Sammie	01-11-2004
6	13	Bernarr	12/18/2021
7	14	Daveta	3/28/2018
8	16	Jere	4/17/2004
9	22	John	12-05-2010
10	27	Frederico	02-12-2018
11	29	Karlie	10-05-2022
12	32	Ellary	12/25/2003
13	38	Aleda	12/23/2006
14	40	Myrwyn	01-09-2014
15	41	Sig	11/23/2018

Total rows: 59 of 59 Query complete 00:00:00.143 Ln 1, Col 70

6. Write an insert query to add new data for all the tables

INSERT INTO table_name
VALUES (value1, value2, value3, ...);

a. Employees

Query Query History

```
1  insert into employees
2  values
3  ('151','Ashley','John','ashley@email.com','092-893-1877',
4   '24','Female','G3 Nw lane', '32000','20-10-2023','John','089-999-2222');
```

Data Output Messages Notifications

```
INSERT 0 1

Query returned successfully in 160 msec.
```

b. Department

Query Query History

```
1 insert into department
2 values
3 ('11','Design','$15000','designoff@email.com');
```

Data Output Messages Notifications

```
INSERT 0 1

Query returned successfully in 62 msec.
```

c. Projects

Query Query History

```
1 insert into projects values
2 ('51','Sandbox','12-02-2024','30-04-2025','30000','in progress','medium','Justin');
```

Data Output Messages Notifications

```
INSERT 0 1

Query returned successfully in 248 msec.
```

d. Works_on

Query Query History

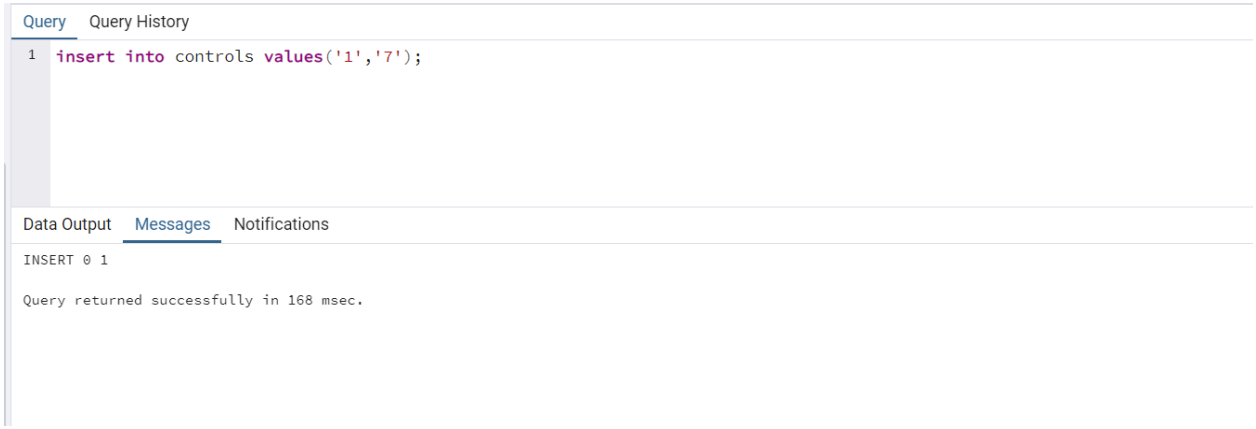
```
1 insert into works_on (e_id,proj_id,start_date) values('20','1','01-02-2024');
```

Data Output Messages Notifications

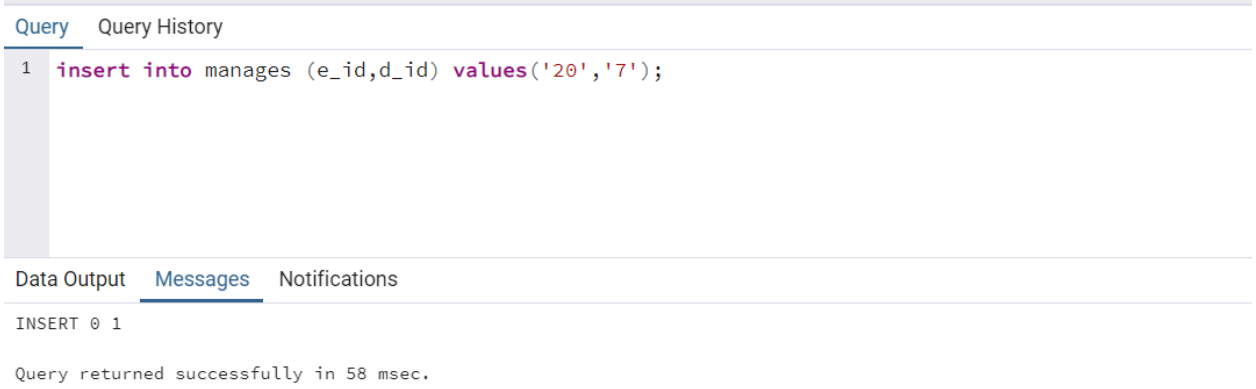
```
INSERT 0 1

Query returned successfully in 65 msec.
```

e. Works_for

f. Controls



g. Manages



7. Write a Delete query to delete any existing data for all the tables.

DELETE FROM table_name WHERE condition;

Note : all records in the table will be deleted if we omit the where clause.

a. Employees

b. Department

c. Projects

Query | Query History

```
1 delete from projects where proj_id ='1';
```

Data Output | Messages | Notifications

```
DELETE 1

Query returned successfully in 55 msec.
```

d. Works_on

Query | Query History

```
1 delete from works_on where e_id ='20';
```

Data Output | Messages | Notifications

```
DELETE 2

Query returned successfully in 66 msec.
```

e. Works_for

Query | Query History

```
1 delete from works_for where d_id ='7';
```

Data Output | Messages | Notifications

```
DELETE 17

Query returned successfully in 66 msec.
```

f. Controls

Query | Query History

```
1  delete from controls where proj_id='1';
```

Data Output | Messages | Notifications

```
DELETE 4

Query returned successfully in 58 msec.
```

g. Manages

Query | Query History

```
1  delete from manages where manager_id ='95';
```

Data Output | Messages | Notifications

```
DELETE 2

Query returned successfully in 58 msec.
```

8. Write an Update query to update any existing data for all the tables.

```
UPDATE table_name
SET column1 = value1, column2 = value2, ...
WHERE condition;
```

a. Employees

b. Department

c. Projects

Query Query History

```
1 update projects set status = 'on hold' where proj_id ='18';
```

Data Output Messages Notifications

```
UPDATE 1

Query returned successfully in 86 msec.
```

d. Works_on

Query Query History

```
1 update works_on set end_date = '13/02/2023' where proj_id ='30';
```

Data Output Messages Notifications

```
UPDATE 2

Query returned successfully in 87 msec.
```

e. Works_for

Query Query History

```
1 update works_for set prev_dept_id = d_id , d_id = '7' where d_id ='9';
```

Data Output Messages Notifications

```
UPDATE 10

Query returned successfully in 82 msec.
```

f. Controls

Query | Query History

```
1  update controls set d_id = '7' where proj_id ='8';
```

Data Output | Messages | Notifications

```
UPDATE 1

Query returned successfully in 54 msec.
```

g. Manages

Query | Query History

```
1  update manages set manager_id = '7' where e_id ='88';
```

Data Output | Messages | Notifications

```
UPDATE 3

Query returned successfully in 91 msec.
```