

DBMS ASSIGNMENT 3

SIMPLE QUERIES:

1. List of all customer feedbacks for project with projectID=10

Command Prompt - psql -U postgres

```
postgres=#  
postgres=# SELECT * FROM customerFeedback where projectID=10;  
 customerid | projectid | feedback | feedbackdate | rating  
-----  
13 | 10 | totally worth it | 2020-12-17 | 3  
13 | 10 | wonderful job | 2021-01-04 | 3  
9 | 10 | totally worth it | 2020-11-20 | 2  
(3 rows)
```

2. List of projects designed by a particular designer

Command Prompt - psql -U postgres

```
postgres=#  
postgres=# SELECT * FROM designedBy AS d WHERE employeeID=20;  
 projectid | employeeid  
-----  
9 | 20  
16 | 20  
20 | 20  
(3 rows)
```

3. Payment details for all projects

Command Prompt - psql -U postgres

```
postgres=#  
postgres=# SELECT * FROM (project as p JOIN payment as py ON p.projectID=py.projectID);  
 projectid | siteid | customerid | startdate | estimatedenddate | costprice | sellingprice | advancepaid | profit | projectid  
-----  
1 | 1 | 1 | 2020-11-05 | 2023-04-01 | 50000 | 65000 | 25000 | 15000 | 1  
2 | 2 | 2 | 2021-03-13 | 2022-02-06 | 100000 | 150000 | 30000 | 50000 | 2  
3 | 3 | 3 | 2021-10-07 | 2023-01-22 | 60000 | 80000 | 15000 | 20000 | 3  
4 | 4 | 4 | 2020-10-11 | 2023-05-23 | 150000 | 195000 | 50000 | 45000 | 4  
5 | 5 | 5 | 2021-01-16 | 2023-08-17 | 100000 | 120000 | 40000 | 20000 | 5  
6 | 6 | 6 | 2021-05-27 | 2022-01-31 | 150000 | 200000 | 30000 | 50000 | 6  
7 | 7 | 7 | 2021-05-29 | 2023-08-26 | 60000 | 80000 | 50000 | 20000 | 7  
8 | 8 | 8 | 2021-04-03 | 2023-06-15 | 200000 | 250000 | 25000 | 50000 | 8  
9 | 9 | 9 | 2021-03-26 | 2022-12-01 | 45000 | 70000 | 10000 | 25000 | 9  
10 | 10 | 10 | 2021-08-01 | 2023-07-13 | 300000 | 345000 | 40000 | 45000 | 10  
11 | 11 | 11 | 2021-07-18 | 2022-11-12 | 200000 | 225000 | 60000 | 22500 | 11  
12 | 12 | 12 | 2021-03-23 | 2022-07-03 | 120000 | 140000 | 20000 | 20000 | 12  
13 | 13 | 13 | 2021-03-12 | 2022-11-17 | 45000 | 60000 | 10000 | 15000 | 13  
14 | 14 | 14 | 2021-08-11 | 2022-10-31 | 35000 | 50000 | 10000 | 15000 | 14  
15 | 15 | 15 | 2020-12-16 | 2022-09-25 | 250000 | 280000 | 25000 | 30000 | 15  
16 | 16 | 16 | 2021-08-08 | 2022-02-18 | 60000 | 85000 | 25000 | 25000 | 16  
17 | 17 | 17 | 2020-11-03 | 2022-03-02 | 80000 | 100000 | 10000 | 20000 | 17  
18 | 18 | 18 | 2020-11-14 | 2023-04-16 | 200000 | 230000 | 45000 | 30000 | 18  
19 | 19 | 19 | 2021-08-24 | 2022-09-26 | 200000 | 250000 | 40000 | 50000 | 19  
20 | 20 | 20 | 2021-03-26 | 2022-05-26 | 300000 | 345000 | 20000 | 45000 | 20  
(20 rows)
```

4. Details of sites managed by project managers

```
Command Prompt - psql -U postgres
postgres=# SELECT proj.projectID,site.siteID,houseNo,street,pincode,city,state,length,breadth FROM managedBy AS m, project AS proj, siteDetails AS site WHERE m.projectID =
proj.projectID AND proj.siteID = site.siteID;
 projectid | siteid | houseno | street | pincode | city | state | length | breadth
-----
1 | 1 | 20 | 1 Gina Pass | 560013 | Davangere | Karnataka | 65 | 47
2 | 2 | 12 | 88053 Arapahoe Alley | 560041 | Davangere | Karnataka | 71 | 59
3 | 3 | 15 | 9 Myrtle Junction | 560029 | Davangere | Karnataka | 91 | 79
5 | 5 | 5 | 3676 Muir Junction | 560052 | Bangalore | Karnataka | 72 | 67
7 | 7 | 19 | 512 Marcy Road | 560050 | Shimoga | Karnataka | 76 | 59
8 | 8 | 17 | 73 Spohn Circle | 560007 | Shimoga | Karnataka | 94 | 63
8 | 8 | 17 | 73 Spohn Circle | 560007 | Shimoga | Karnataka | 94 | 63
8 | 8 | 17 | 73 Spohn Circle | 560007 | Shimoga | Karnataka | 94 | 63
9 | 9 | 6 | 8 Becker Way | 560019 | Mysore | Karnataka | 84 | 70
9 | 9 | 6 | 8 Becker Way | 560019 | Mysore | Karnataka | 84 | 70
9 | 9 | 6 | 8 Becker Way | 560019 | Mysore | Karnataka | 84 | 70
11 | 11 | 7 | 14788 Helena Alley | 560034 | Dhaanwad | Karnataka | 50 | 61
13 | 13 | 10 | 64 Farragut Lane | 600042 | Chennai | Tamil Nadu | 56 | 68
14 | 14 | 6 | 6 Harper Plaza | 600021 | Coimbatore | Tamil Nadu | 67 | 55
15 | 15 | 8 | 6 Tomscot Place | 600092 | Chennai | Tamil Nadu | 75 | 56
16 | 16 | 16 | 01076 Fair Oaks Pass | 600086 | Chennai | Tamil Nadu | 89 | 42
17 | 17 | 1 | 59628 Masta Drive | 600073 | Madurai | Tamil Nadu | 98 | 57
19 | 19 | 1 | 87593 Coolidge Lane | 600047 | Selam | Tamil Nadu | 58 | 51
20 | 20 | 9 | 62 Cottonwood Trail | 600007 | Chennai | Tamil Nadu | 75 | 44
(20 rows)

postgres=#
```

5. Total profit made by the company

```
Command Prompt - psql -U postgres
postgres=#
postgres=# SELECT SUM (profit) AS total FROM payment;
 total
-----
 612500
(1 row)
```

COMPLEX QUERIES:

1. Details of all projects managed by project manager with ID=5

```
Command Prompt - psql -U postgres
postgres=# SELECT * from project as p where p.projectID IN (SELECT projectID from managedBy as m where m.employeeID=5);
 projectid | siteid | customerid | startdate | estimatedenddate
-----
          1 |      1 |          1 | 2020-11-05 | 2023-04-01
          9 |      9 |          9 | 2021-03-26 | 2022-12-01
         20 |     20 |         20 | 2021-03-26 | 2022-05-26
(3 rows)
```

2. List of rooms in a project with projectID=2 and 9 with respective designs and products used in each design

```
Command Prompt - psql -U postgres
postgres=# select * from (select * from (select * from hasRoom natural join room where projectID=9) as x natural join designIncludesProducts) as y natural join product;
 roomname | productid | designid | roomid | projectid | roomsize | typename | productcost | description
-----
Kitchen   |         13 |        10 |      17 |          9 | M        | Oven      |       22420 | Turquoise
(1 row)

postgres=# select * from (select * from (select * from hasRoom natural join room where projectID=2) as x natural join designIncludesProducts) as y natural join product;
 roomname | productid | designid | roomid | projectid | roomsize | typename | productcost | description
-----
Bedroom   |          5 |        20 |        4 |          2 | S        | Bed       |       13526 | Pink
(1 row)

postgres=#
```

3. List of contractors for a project with projectID=4

```
Command Prompt - psql -U postgres
postgres=# select * from contractor where contractorID IN (select contractorID from works where projectID=4);
 contractorid | contractorname | typeofwork | contractoremail
-----
            2 | Kikellia       | Painter    | kcrichmer1@irs.gov
            4 | Ely            | Painter    | emellhuish3@commons.org
            6 | Kylynn         | Plumber    | ktimms5@hud.gov
(3 rows)

postgres=#
```

- Details of designers who are working on less than 2 projects, so that they can be assigned to new projects

```
Command Prompt - psql -U postgres
postgres=#
postgres=# select * from employee where employeeID IN (select employeeID from (select employeeID, count(projectID) from designedBy group by employeeID) AS x where count<

```

employeeid	empemailid	empaddress	designation	salary	dob	joindate	projectid
14	ggurnellf@cnn.com	045 Roxbury Way	Sr Designer	204049	1963-02-15	2015-03-24	1
17	pbassingham4@hostgator.com	3 Northland Parkway	Jr Designer	120301	1966-05-07	2014-04-19	3
19	sshillabearee@biblegateway.com	2400 Sherman Junction	Jr Designer	150038	1976-05-16	2012-05-17	14

```
(3 rows)
```

- Site details for a project on which a specific designer is working on

```
Command Prompt - psql -U postgres
postgres=#
postgres=# select * from employee where employeeID IN (select employeeID from (select employeeID, count(projectID) from designedBy group by employeeID) AS x where count<

```

employeeid	empemailid	empaddress	designation	salary	dob	joindate	projectid
14	ggurnellf@cnn.com	045 Roxbury Way	Sr Designer	204049	1963-02-15	2015-03-24	1
17	pbassingham4@hostgator.com	3 Northland Parkway	Jr Designer	120301	1966-05-07	2014-04-19	3
19	sshillabearee@biblegateway.com	2400 Sherman Junction	Jr Designer	150038	1976-05-16	2012-05-17	14

```
(3 rows)
```

CREATING MULTIPLE USERS WITH DIFFERENT ACCESS RIGHTS:

Below are the users created for the application:

```
hd=# CREATE USER projectManager WITH PASSWORD '1234' CREATEDB;
CREATE ROLE
hd=# CREATE USER designer WITH PASSWORD '1234' CREATEDB;
CREATE ROLE
hd=# CREATE USER admin WITH PASSWORD '1234' CREATEDB;
CREATE ROLE
hd=# CREATE USER companyManager WITH PASSWORD '1234' CREATEDB;
CREATE ROLE
hd=# CREATE USER accountant WITH PASSWORD '1234' CREATEDB;
CREATE ROLE
```

- Project manager:** has access to the following tables

- project
- employee
- managedBy
- empPhNo
- designedBy
- customer
- customerFeedback
- design
- room

- hasRoom
- product
- designIncludesProducts
- siteDetails
- contractor
- contractorPhNo
- Works

2. Designer: has access to the following tables

- Project
- siteDetails
- design
- room
- hasRoom
- product
- designIncludesProducts

3. Admin: has access to all the tables in the db

4. Company manager: has access to following tables

- product
- company
- companyPhNo
- Sells

5. Accountant: has access to following tables

- project
- customer
- payment

GRANTING ACCESS RIGHTS:

```
hd=# GRANT ALL ON DATABASE hd to admin;
GRANT
hd=# GRANT ALL ON project, emplo TO projectManager

hd=# GRANT ALL ON project, employee, managedBy, empPhNo, designedBy, customer, customerFeedback, design, room, hasRoom, product, designIncludesProducts, siteDetails, contractor, contractorPhNo, works TO projectManager;
GRANT
hd=# GRANT ALL ON project, design, room, hasRoom, product, designIncludesProducts, siteDetails TO designer;
GRANT
hd=# GRANT ALL ON product, company, companyPhNo, sells TO companyManager;
GRANT
hd=# GRANT ALL ON project, customer, payment TO accountant;
GRANT
hd=# █
```

SCREENSHOTS FOR DIFFERENT USERS ACCESSING TABLES:

Below are the screenshots attached for successful(displays the tables) and unsuccessful user accesses(permission-denied).

1. Designer:

```
../assignment 3 > main > psql -d hd -U designer -W
Password:
psql (13.4 (Ubuntu 13.4-1.pgdg20.04+1))
Type "help" for help.

hd=> select * from project;
 projectid | siteid | customerid | startdate | estimatedenddate
-----+-----+-----+-----+-----
          1 |      1 |           1 | 2020-11-05 | 2023-04-01
          2 |      2 |           2 | 2021-03-13 | 2022-02-06
          3 |      3 |           3 | 2021-10-07 | 2023-01-22
          4 |      4 |           4 | 2020-10-11 | 2023-05-23
          5 |      5 |           5 | 2021-01-16 | 2023-08-17
          6 |      6 |           6 | 2021-05-27 | 2022-01-31
          7 |      7 |           7 | 2021-05-29 | 2023-08-26
          8 |      8 |           8 | 2021-04-03 | 2023-06-15
          9 |      9 |           9 | 2021-03-26 | 2022-12-01
         10 |     10 |          10 | 2021-08-01 | 2023-07-13
         11 |     11 |          11 | 2021-07-18 | 2022-11-12
         12 |     12 |          12 | 2021-03-23 | 2022-07-03
         13 |     13 |          13 | 2021-03-12 | 2022-11-17
         14 |     14 |          14 | 2021-08-11 | 2022-10-31
         15 |     15 |          15 | 2020-12-16 | 2022-09-25
         16 |     16 |          16 | 2021-08-08 | 2022-02-18
         17 |     17 |          17 | 2020-11-03 | 2022-03-02
         18 |     18 |          18 | 2020-11-14 | 2023-04-16
         19 |     19 |          19 | 2021-08-24 | 2022-09-26
         20 |     20 |          20 | 2021-03-26 | 2022-05-26
(20 rows)

hd=> select * from employee;
ERROR:  permission denied for table employee
hd=>
```

2. Company Manager

```
../assignment 3 > main > psql -d hd -U companymanager -W
Password:
psql (13.4 (Ubuntu 13.4-1.pgdg20.04+1))
Type "help" for help.

hd=> select * from product;
 productid |  typename  | roomname  | productcost | description
-----+-----+-----+-----+-----
          1 | Study Table | Bedroom   |         14905 | Purple
          2 | Study Table | Bedroom   |         22896 | Green
          3 | Study Table | Bedroom   |         16270 | Orange
          4 | Bed         | Bedroom   |         17183 | Teal
          5 | Bed         | Bedroom   |         13526 | Pink
          6 | Tile        | Bathroom  |         12262 | Goldenrod
          7 | Bathtub     | Bathroom  |         21665 | Crimson
          8 | Tap         | Bathroom  |         15325 | Green
          9 | Tap         | Bathroom  |         21819 | Blue
         10 | Shower      | Bathroom  |         10686 | Khaki
         11 | Exhaust Fan | Kitchen   |         12149 | Red
         12 | Chimney     | Kitchen   |         13887 | Crimson
         13 | Oven        | Kitchen   |         22420 | Turquoise
         14 | Dining table | Dining Hall |         25594 | Crimson
         15 | Dining table | Dining Hall |         27014 | Turquoise
         16 | TV Stand    | Living Hall |         17483 | Turquoise
         17 | Sofa        | Living Hall |         20860 | Pink
         18 | Teapoy      | Living Hall |         22373 | Red
         19 | Teapoy      | Living Hall |         17933 | Turquoise
         20 | TV Stand    | Living Hall |         17234 | Violet
(20 rows)

hd=> select * from payment ;
ERROR:  permission denied for table payment
hd=> 
```

3. Accountant

```
../assignment 3 > main ☐ > psql -d hd -U accountant -W
Password:
psql (13.4 (Ubuntu 13.4-1.pgdg20.04+1))
Type "help" for help.

hd=> select * from customer;
 customerid | customername | customerphno | customeremailid | customeraddress
-----+-----+-----+-----+-----
          1 | Chrissie Abrashkov | 3807494004 | cabrashkov0@shinystat.com | 2348 Mosinee Terrace
          2 | Cecile Larver | 9018134954 | clarver1@cnet.com | 356 Corben Drive
          3 | Lissie Stoven | 1116433068 | lstoven2@japanpost.jp | 2 Mitchell Park
          4 | Laure Hodcroft | 1284421832 | lhodcroft3@prnewswire.com | 0944 Doe Crossing Terrace
          5 | Caro Tye | 1991655175 | ctye4@examiner.com | 82 Nevada Way
          6 | Fayth Pallin | 4718119269 | fpallin5@booking.com | 0970 Pine View Avenue
          7 | Frank Dever | 5678798062 | fdever6@examiner.com | 074 Graceland Circle
          8 | Shea Harmon | 6491223571 | sharmon7@addtoany.com | 5 Crest Line Drive
          9 | Marcello Macon | 2723889983 | mmacon8@wikimedia.org | 1801 Harper Road
         10 | Maxie Vicary | 5466203517 | mvicary9@hatena.ne.jp | 74333 Mallard Road
         11 | Rayshell Cashin | 2027998159 | rcashina@wsj.com | 674 Sachtjen Plaza
         12 | Arabelle Squibbes | 6551228731 | asquibbesb@woothemes.com | 612 Hudson Road
         13 | Bren Chessel | 7992513221 | bchesselc@vk.com | 2793 Spohn Junction
         14 | Kathryn Sinkin | 1559144223 | ksinkind@github.com | 3 Dapin Crossing
         15 | Corette Cass | 2346219271 | ccasse@rambler.ru | 4183 1st Street
         16 | Loleta Sutliff | 8479403715 | lsutliff@slideshare.net | 838 Bobwhite Junction
         17 | Noel Lovekin | 9271883243 | nloveking@flavors.me | 1 Bartelt Crossing
         18 | Sally Allcoat | 7619735980 | sallcoat@nhs.uk | 65 Scott Place
         19 | Rosalinda Boord | 8514148789 | rboordi@imageshack.us | 57243 Fuller Place
         20 | Phaedra Monk | 7342930039 | pmonkj@creativecommons.org | 6041 Nobel Park
(20 rows)

hd=> select * from employee;
ERROR: permission denied for table employee
hd=> ☐
```


4. Project Manager

```
../assignment 3 > main ☐ > psql -d hd -U projectmanager -W
Password:
psql (13.4 (Ubuntu 13.4-1.pgdg20.04+1))
Type "help" for help.

hd=> select * from design;
 designid | designcost
-----+-----
        1 | 106876.79
        2 |  99621.92
        3 | 112222.62
        4 | 105331.83
        5 |  30450.01
        6 |  36424.46
        7 | 138053.00
        8 |  79800.57
        9 |  24396.51
       10 |  54567.82
       11 | 120758.99
       12 | 123396.30
       13 |  76152.35
       14 |  52593.58
       15 | 136907.16
       16 | 135680.30
       17 |  78143.61
       18 |  31012.67
       19 | 130554.53
       20 | 102232.04
(20 rows)

hd=> select * from payment;
ERROR:  permission denied for table payment
hd=> ☐
```

CONTRIBUTION OF EACH MEMBER:

- Initial plan and outline of the assignment - Our team got on call and discussed for about 2 hours
- Simple and complex queries - We spent 2 hours on this
- Final execution - We got on a call and completed pending tasks and user access rights / privileges - 5 hours.