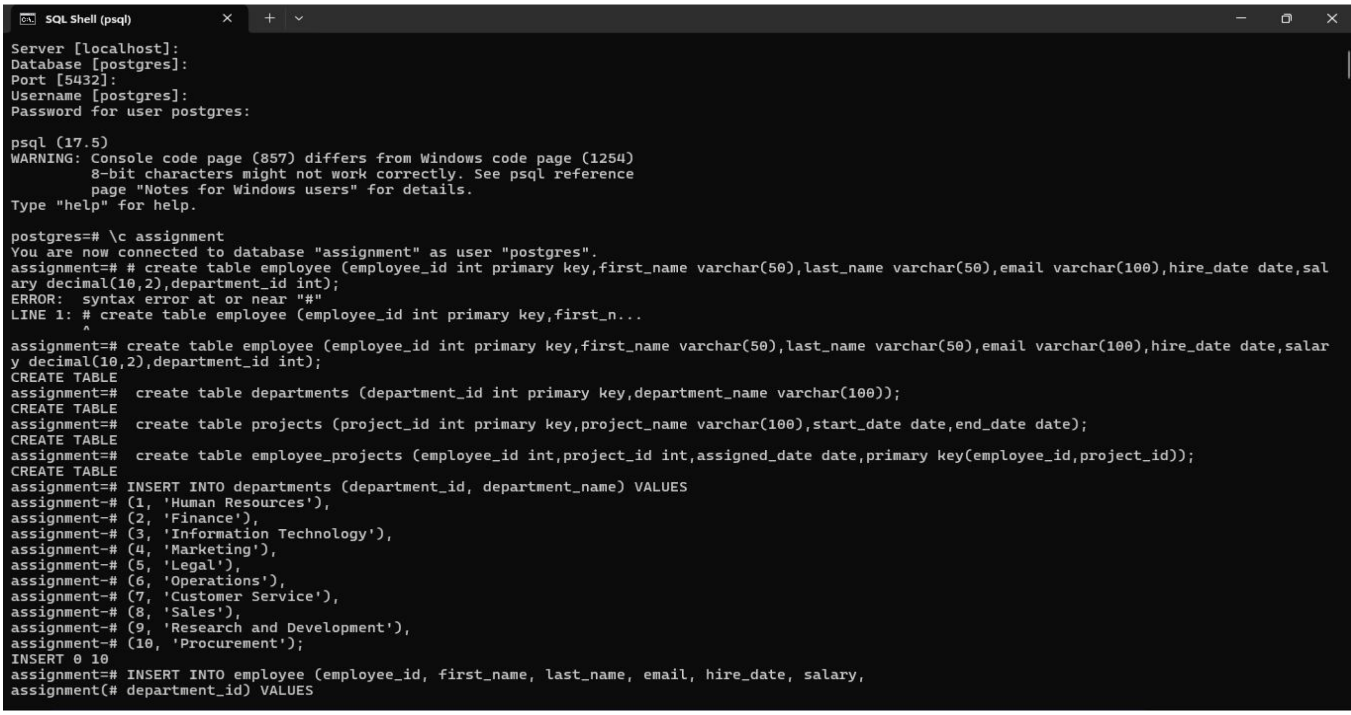
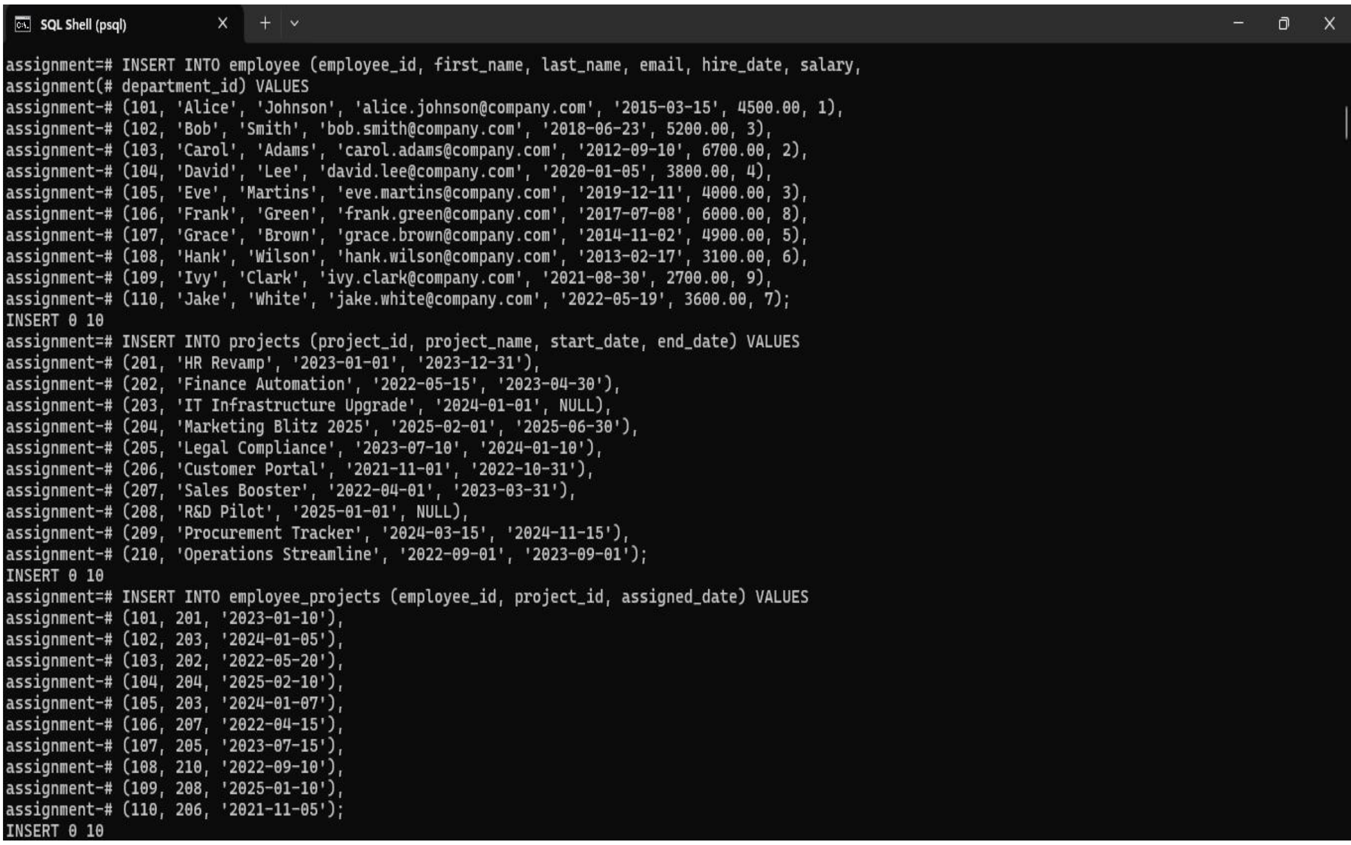
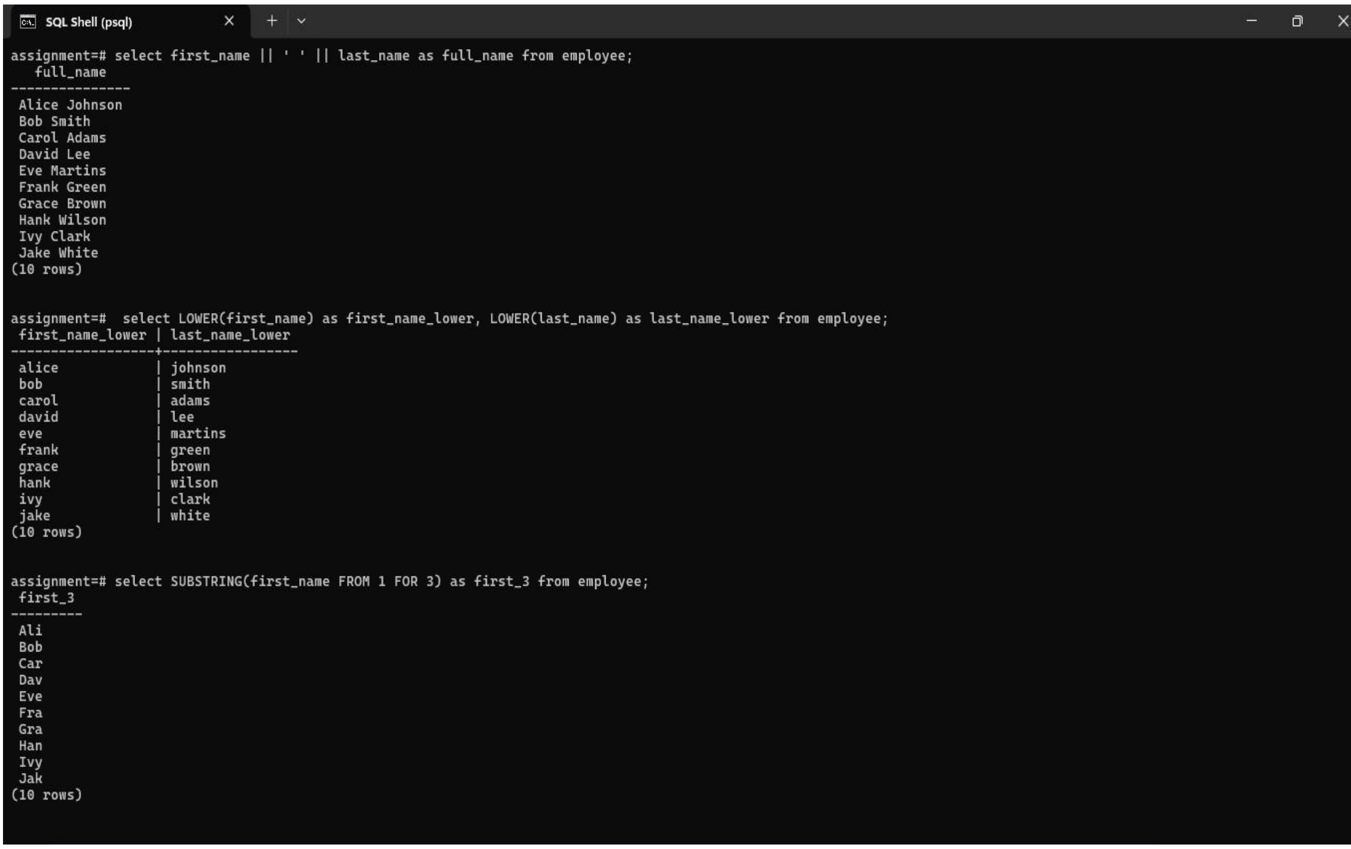
IREMBERE Olivier
ID:28392
DBMS ASSIGNMENT



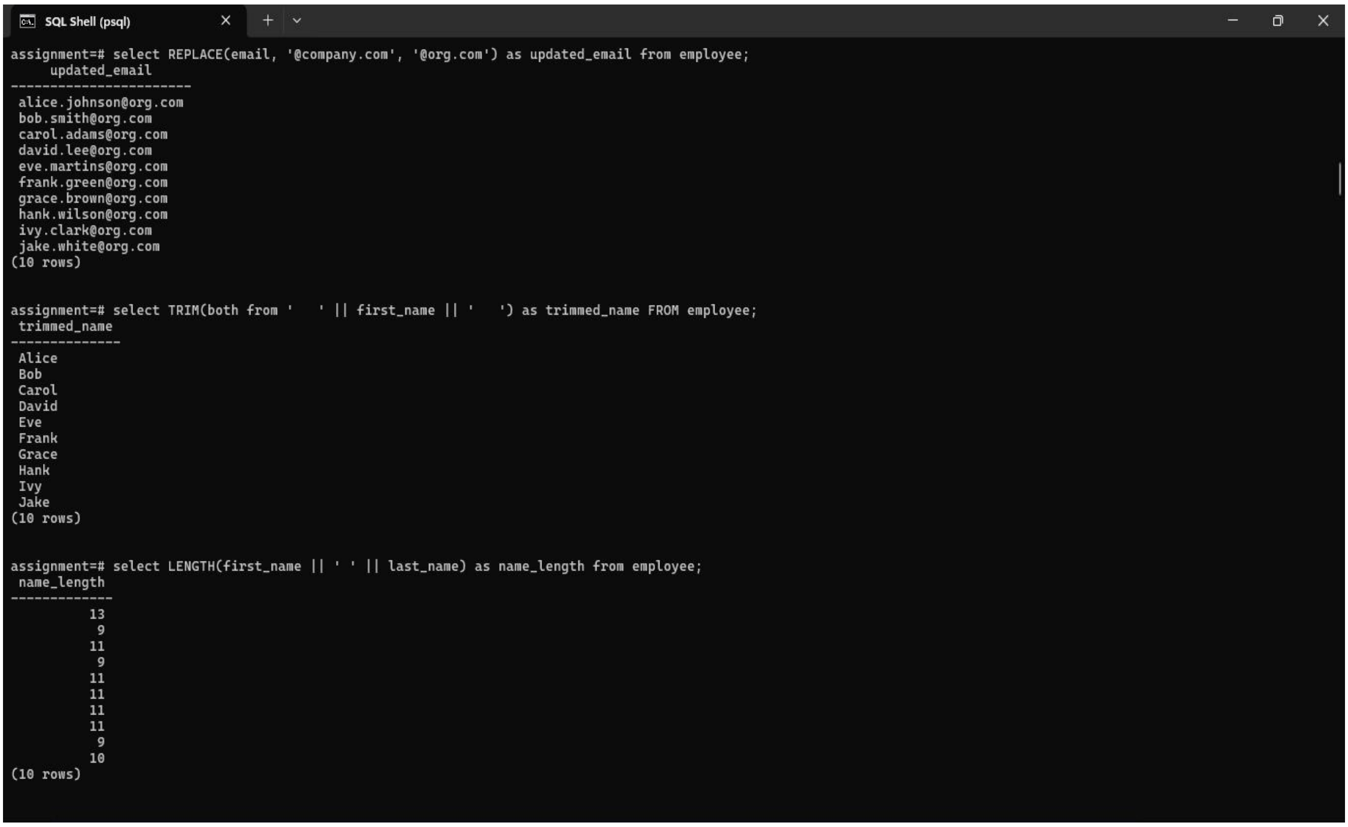
```
Server [localhost]:
Database [postgres]:
Port [5432]:
Username [postgres]:
Password for user postgres:

psql (17.5)
WARNING: Console code page (857) differs from Windows code page (1254)
         8-bit characters might not work correctly. See psql reference
         page "Notes for Windows users" for details.
Type "help" for help.

postgres=# \c assignment
You are now connected to database "assignment" as user "postgres".
assignment=# # create table employee (employee_id int primary key,first_name varchar(50),last_name varchar(50),email varchar(100),hire_date date,sal
ary decimal(10,2),department_id int);
ERROR:  syntax error at or near "#"
LINE 1: # create table employee (employee_id int primary key,first_n...
        ^
assignment=# create table employee (employee_id int primary key,first_name varchar(50),last_name varchar(50),email varchar(100),hire_date date,salar
y decimal(10,2),department_id int);
CREATE TABLE
assignment=#  create table departments (department_id int primary key,department_name varchar(100));
CREATE TABLE
assignment=#  create table projects (project_id int primary key,project_name varchar(100),start_date date,end_date date);
CREATE TABLE
assignment=#  create table employee_projects (employee_id int,project_id int,assigned_date date,primary key(employee_id,project_id));
CREATE TABLE
assignment=# INSERT INTO departments (department_id, department_name) VALUES
assignment-# (1, 'Human Resources'),
assignment-# (2, 'Finance'),
assignment-# (3, 'Information Technology'),
assignment-# (4, 'Marketing'),
assignment-# (5, 'Legal'),
assignment-# (6, 'Operations'),
assignment-# (7, 'Customer Service'),
assignment-# (8, 'Sales'),
assignment-# (9, 'Research and Development'),
assignment-# (10, 'Procurement');
INSERT 0 10
assignment=# INSERT INTO employee (employee_id, first_name, last_name, email, hire_date, salary,
assignment(# department_id) VALUES
```



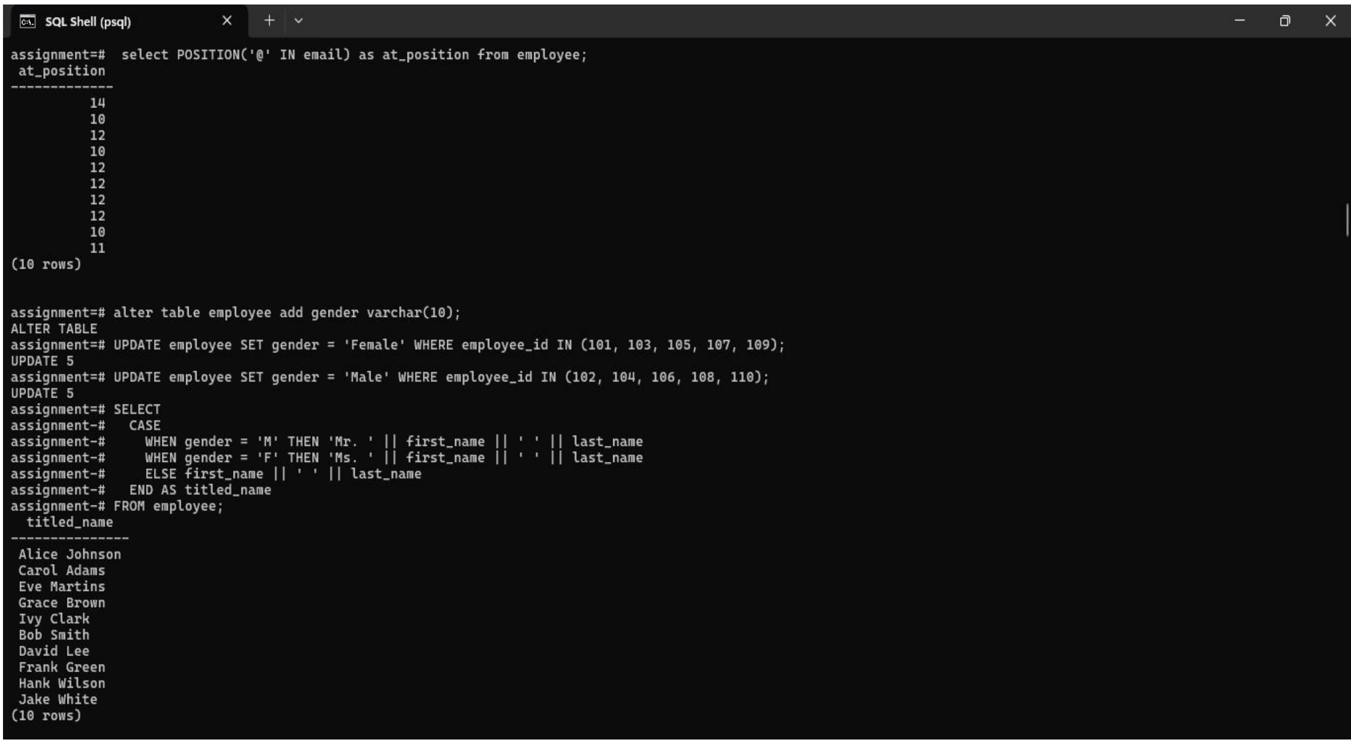
```
assignment=# INSERT INTO employee (employee_id, first_name, last_name, email, hire_date, salary,
assignment(# department_id) VALUES
assignment-# (101, 'Alice', 'Johnson', 'alice.johnson@company.com', '2015-03-15', 4500.00, 1),
assignment-# (102, 'Bob', 'Smith', 'bob.smith@company.com', '2018-06-23', 5200.00, 3),
assignment-# (103, 'Carol', 'Adams', 'carol.adams@company.com', '2012-09-10', 6700.00, 2),
assignment-# (104, 'David', 'Lee', 'david.lee@company.com', '2020-01-05', 3800.00, 4),
assignment-# (105, 'Eve', 'Martins', 'eve.martins@company.com', '2019-12-11', 4000.00, 3),
assignment-# (106, 'Frank', 'Green', 'frank.green@company.com', '2017-07-08', 6000.00, 8),
assignment-# (107, 'Grace', 'Brown', 'grace.brown@company.com', '2014-11-02', 4900.00, 5),
assignment-# (108, 'Hank', 'Wilson', 'hank.wilson@company.com', '2013-02-17', 3100.00, 6),
assignment-# (109, 'Ivy', 'Clark', 'ivy.clark@company.com', '2021-08-30', 2700.00, 9),
assignment-# (110, 'Jake', 'White', 'jake.white@company.com', '2022-05-19', 3600.00, 7);
INSERT 0 10
assignment=# INSERT INTO projects (project_id, project_name, start_date, end_date) VALUES
assignment-# (201, 'HR Revamp', '2023-01-01', '2023-12-31'),
assignment-# (202, 'Finance Automation', '2022-05-15', '2023-04-30'),
assignment-# (203, 'IT Infrastructure Upgrade', '2024-01-01', NULL),
assignment-# (204, 'Marketing Blitz 2025', '2025-02-01', '2025-06-30'),
assignment-# (205, 'Legal Compliance', '2023-07-10', '2024-01-10'),
assignment-# (206, 'Customer Portal', '2021-11-01', '2022-10-31'),
assignment-# (207, 'Sales Booster', '2022-04-01', '2023-03-31'),
assignment-# (208, 'R&D Pilot', '2025-01-01', NULL),
assignment-# (209, 'Procurement Tracker', '2024-03-15', '2024-11-15'),
assignment-# (210, 'Operations Streamline', '2022-09-01', '2023-09-01');
INSERT 0 10
assignment=# INSERT INTO employee_projects (employee_id, project_id, assigned_date) VALUES
assignment-# (101, 201, '2023-01-10'),
assignment-# (102, 203, '2024-01-05'),
assignment-# (103, 202, '2022-05-20'),
assignment-# (104, 204, '2025-02-10'),
assignment-# (105, 203, '2024-01-07'),
assignment-# (106, 207, '2022-04-15'),
assignment-# (107, 205, '2023-07-15'),
assignment-# (108, 210, '2022-09-10'),
assignment-# (109, 208, '2025-01-10'),
assignment-# (110, 206, '2021-11-05');
INSERT 0 10
```



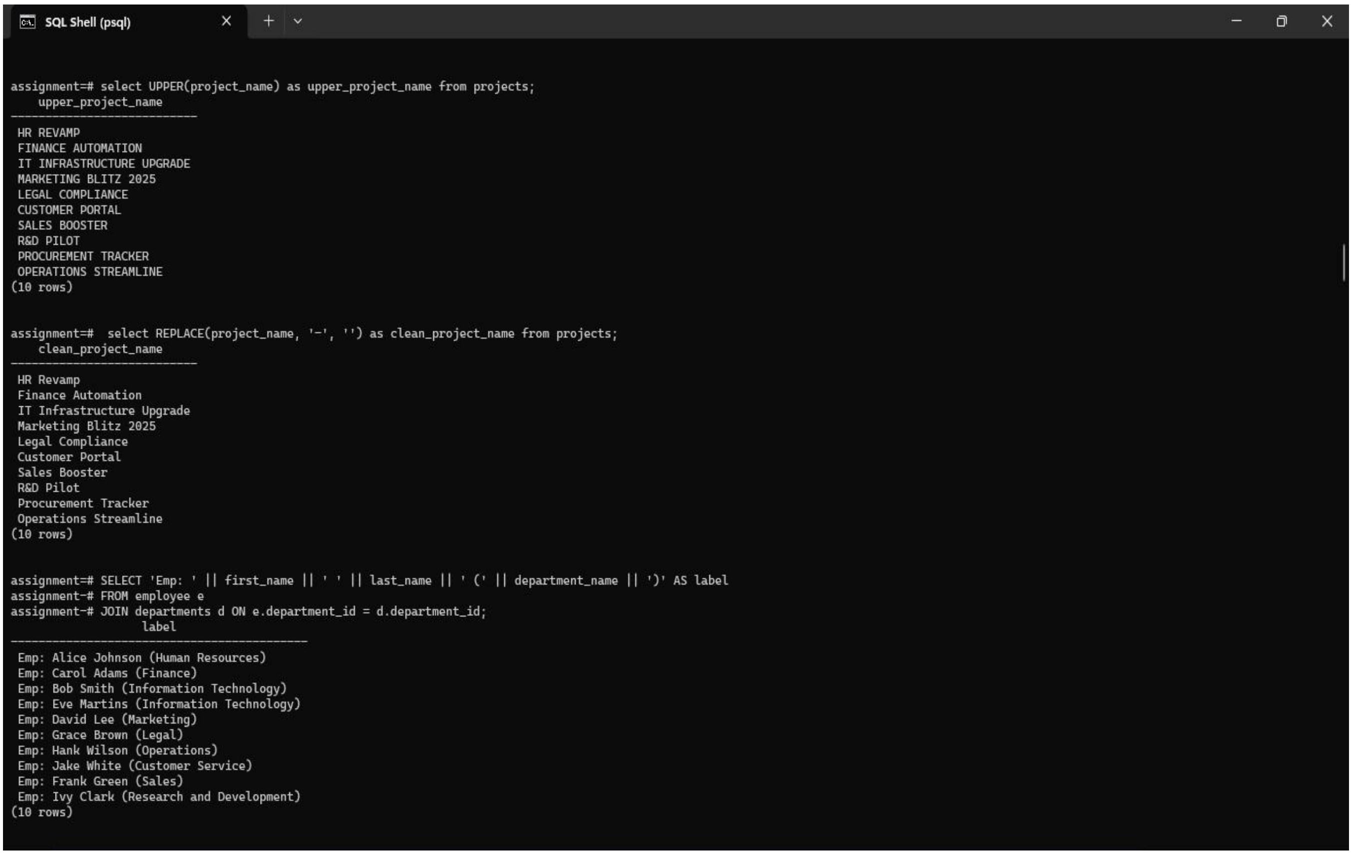
```
assignment=# select first_name || ' ' || last_name as full_name from employee;
   full_name
---------------
 Alice Johnson
 Bob Smith
 Carol Adams
 David Lee
 Eve Martins
 Frank Green
 Grace Brown
 Hank Wilson
 Ivy Clark
 Jake White
(10 rows)


assignment=#  select LOWER(first_name) as first_name_lower, LOWER(last_name) as last_name_lower from employee;
 first_name_lower | last_name_lower
------------------+-----------------
 alice            | johnson
 bob              | smith
 carol            | adams
 david            | lee
 eve              | martins
 frank            | green
 grace            | brown
 hank             | wilson
 ivy              | clark
 jake             | white
(10 rows)


assignment=# select SUBSTRING(first_name FROM 1 FOR 3) as first_3 from employee;
 first_3
---------
 Ali
 Bob
 Car
 Dav
 Eve
 Fra
 Gra
 Han
 Ivy
 Jak
(10 rows)
```



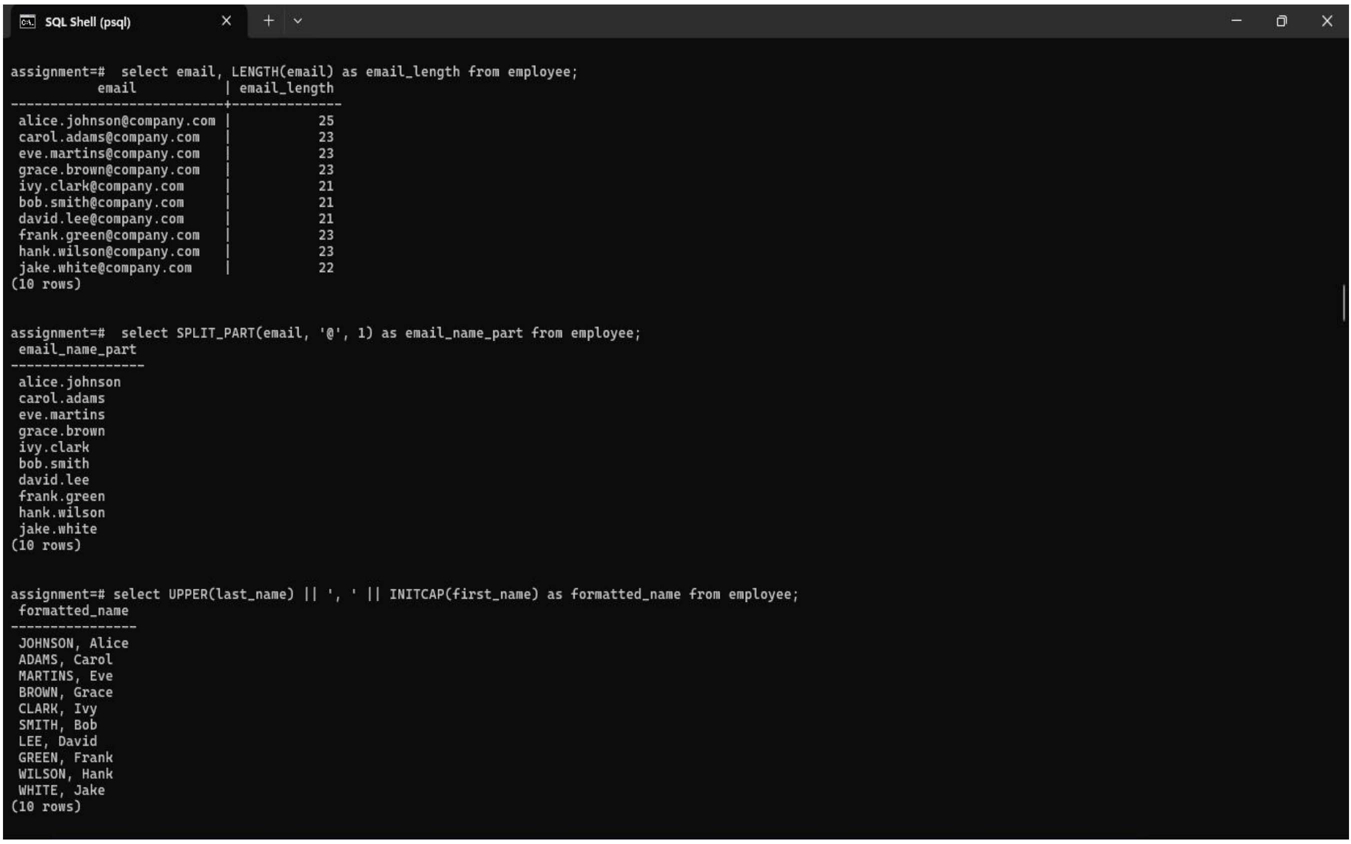
```
assignment=# select REPLACE(email, '@company.com', '@org.com') as updated_email from employee;
     updated_email
------------------------
 alice.johnson@org.com
 bob.smith@org.com
 carol.adams@org.com
 david.lee@org.com
 eve.martins@org.com
 frank.green@org.com
 grace.brown@org.com
 hank.wilson@org.com
 ivy.clark@org.com
 jake.white@org.com
(10 rows)


assignment=# select TRIM(both from '   ' || first_name || '   ') as trimmed_name FROM employee;
 trimmed_name
--------------
 Alice
 Bob
 Carol
 David
 Eve
 Frank
 Grace
 Hank
 Ivy
 Jake
(10 rows)


assignment=# select LENGTH(first_name || ' ' || last_name) as name_length from employee;
 name_length
-------------
          13
           9
          11
           9
          11
          11
          11
          11
           9
          10
(10 rows)
```



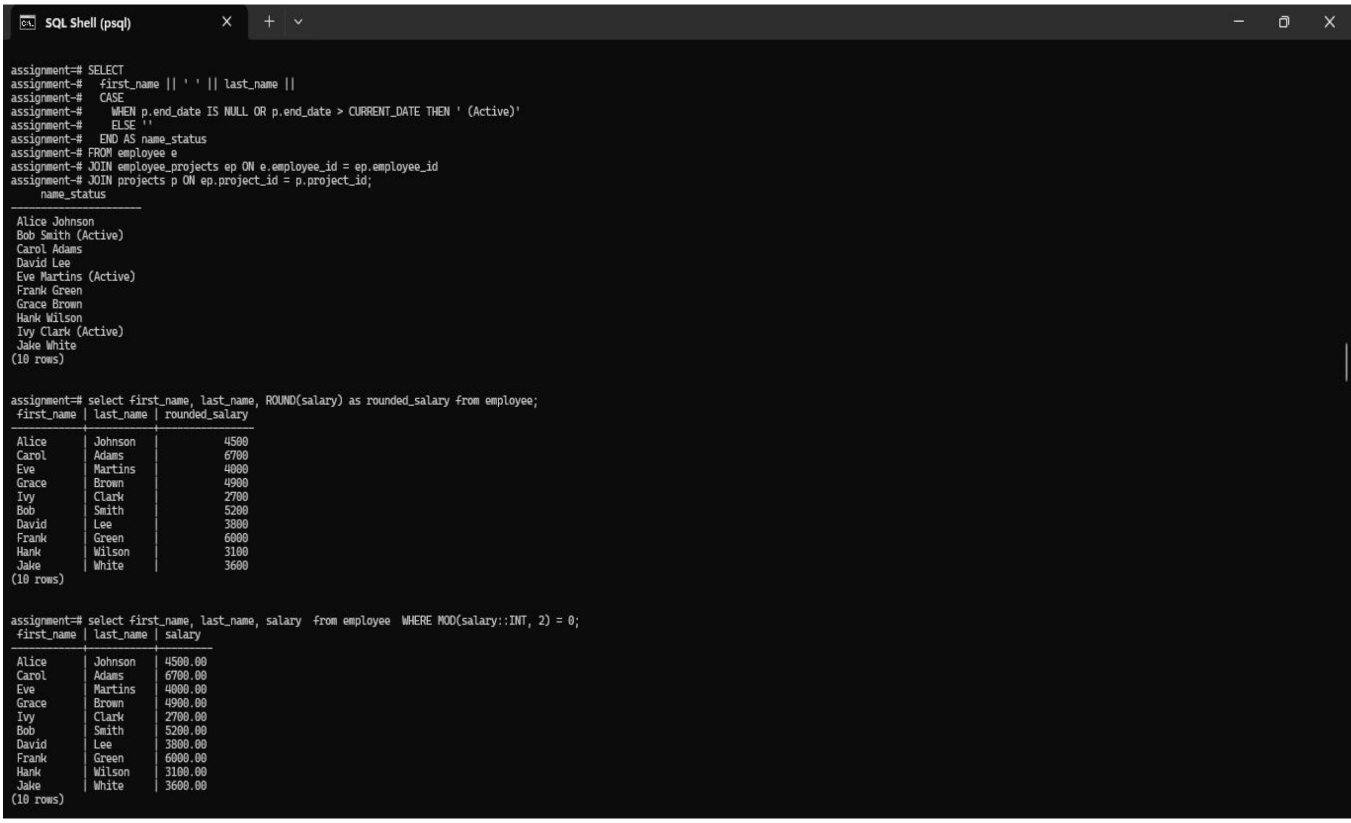
```
assignment=#  select POSITION('@' IN email) as at_position from employee;
 at_position
-------------
          14
          10
          12
          10
          12
          12
          12
          12
          10
          11
(10 rows)


assignment=# alter table employee add gender varchar(10);
ALTER TABLE
assignment=# UPDATE employee SET gender = 'Female' WHERE employee_id IN (101, 103, 105, 107, 109);
UPDATE 5
assignment=# UPDATE employee SET gender = 'Male' WHERE employee_id IN (102, 104, 106, 108, 110);
UPDATE 5
assignment=# SELECT
assignment-#   CASE
assignment-#     WHEN gender = 'M' THEN 'Mr. ' || first_name || ' ' || last_name
assignment-#     WHEN gender = 'F' THEN 'Ms. ' || first_name || ' ' || last_name
assignment-#     ELSE first_name || ' ' || last_name
assignment-#   END AS titled_name
assignment-# FROM employee;
  titled_name
---------------
 Alice Johnson
 Carol Adams
 Eve Martins
 Grace Brown
 Ivy Clark
 Bob Smith
 David Lee
 Frank Green
 Hank Wilson
 Jake White
(10 rows)
```



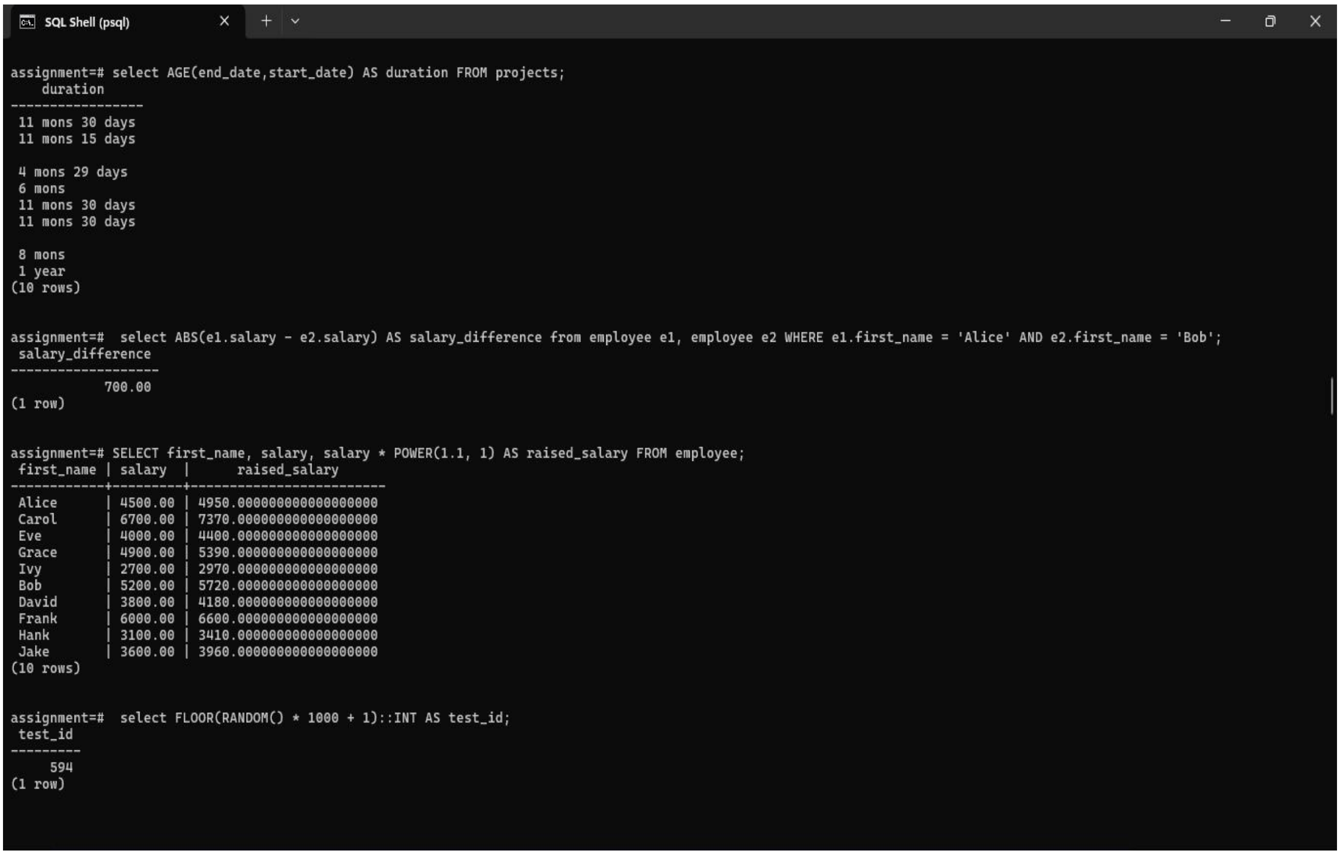
```
assignment=# select UPPER(project_name) as upper_project_name from projects;
    upper_project_name
---------------------------
 HR REVAMP
 FINANCE AUTOMATION
 IT INFRASTRUCTURE UPGRADE
 MARKETING BLITZ 2025
 LEGAL COMPLIANCE
 CUSTOMER PORTAL
 SALES BOOSTER
 R&D PILOT
 PROCUREMENT TRACKER
 OPERATIONS STREAMLINE
(10 rows)


assignment=#  select REPLACE(project_name, '-', '') as clean_project_name from projects;
    clean_project_name
---------------------------
 HR Revamp
 Finance Automation
 IT Infrastructure Upgrade
 Marketing Blitz 2025
 Legal Compliance
 Customer Portal
 Sales Booster
 R&D Pilot
 Procurement Tracker
 Operations Streamline
(10 rows)


assignment=# SELECT 'Emp: ' || first_name || ' ' || last_name || ' (' || department_name || ')' AS label
assignment-# FROM employee e
assignment-# JOIN departments d ON e.department_id = d.department_id;
                   label
-------------------------------------------
 Emp: Alice Johnson (Human Resources)
 Emp: Carol Adams (Finance)
 Emp: Bob Smith (Information Technology)
 Emp: Eve Martins (Information Technology)
 Emp: David Lee (Marketing)
 Emp: Grace Brown (Legal)
 Emp: Hank Wilson (Operations)
 Emp: Jake White (Customer Service)
 Emp: Frank Green (Sales)
 Emp: Ivy Clark (Research and Development)
(10 rows)
```



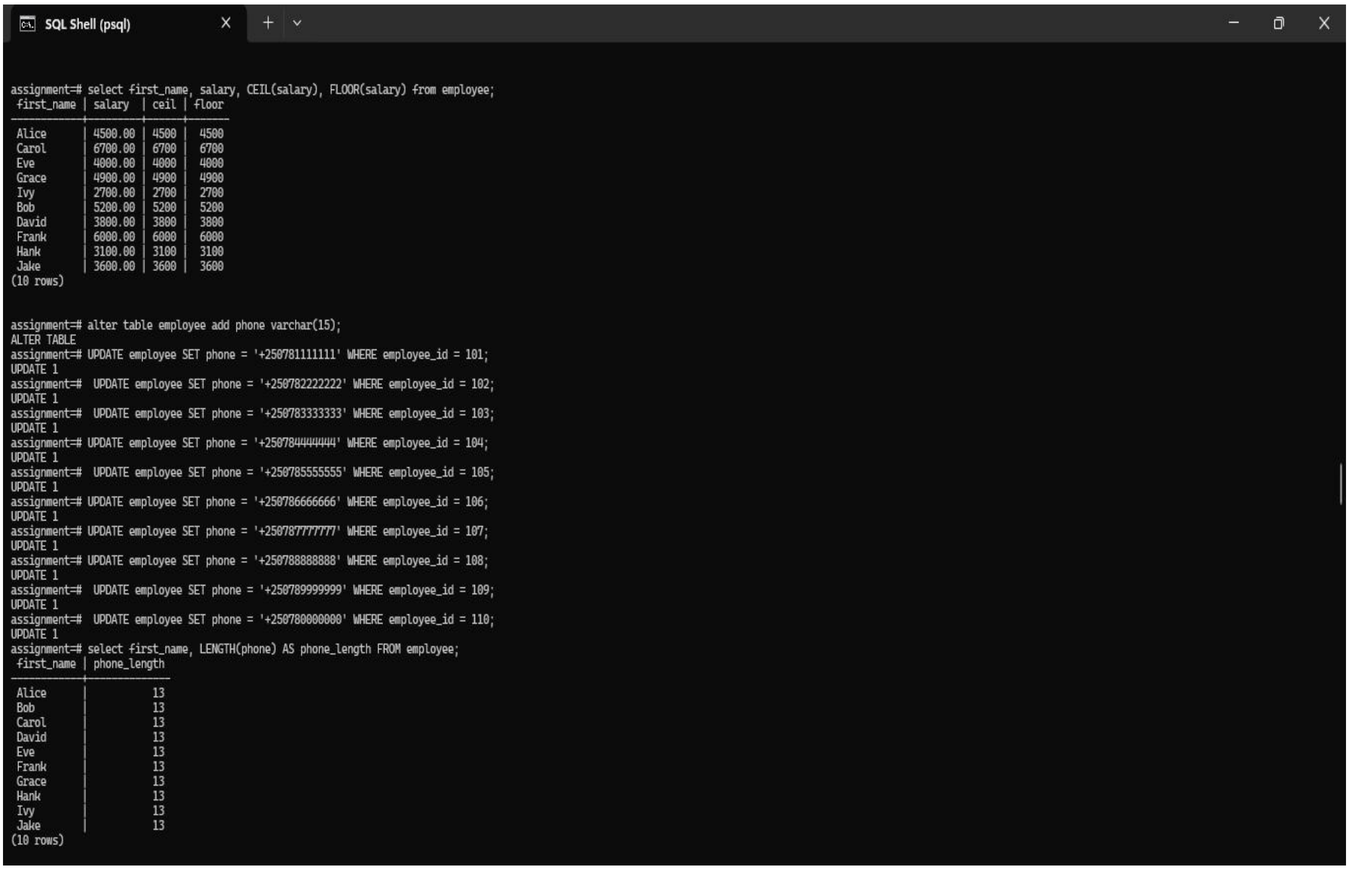
```
assignment=#  select email, LENGTH(email) as email_length from employee;
           email            | email_length
----------------------------+--------------
 alice.johnson@company.com |           25
 carol.adams@company.com   |           23
 eve.martins@company.com   |           23
 grace.brown@company.com   |           23
 ivy.clark@company.com     |           21
 bob.smith@company.com     |           21
 david.lee@company.com     |           21
 frank.green@company.com   |           23
 hank.wilson@company.com   |           23
 jake.white@company.com    |           22
(10 rows)


assignment=#  select SPLIT_PART(email, '@', 1) as email_name_part from employee;
 email_name_part
-----------------
 alice.johnson
 carol.adams
 eve.martins
 grace.brown
 ivy.clark
 bob.smith
 david.lee
 frank.green
 hank.wilson
 jake.white
(10 rows)


assignment=# select UPPER(last_name) || ', ' || INITCAP(first_name) as formatted_name from employee;
 formatted_name
----------------
 JOHNSON, Alice
 ADAMS, Carol
 MARTINS, Eve
 BROWN, Grace
 CLARK, Ivy
 SMITH, Bob
 LEE, David
 GREEN, Frank
 WILSON, Hank
 WHITE, Jake
(10 rows)
```



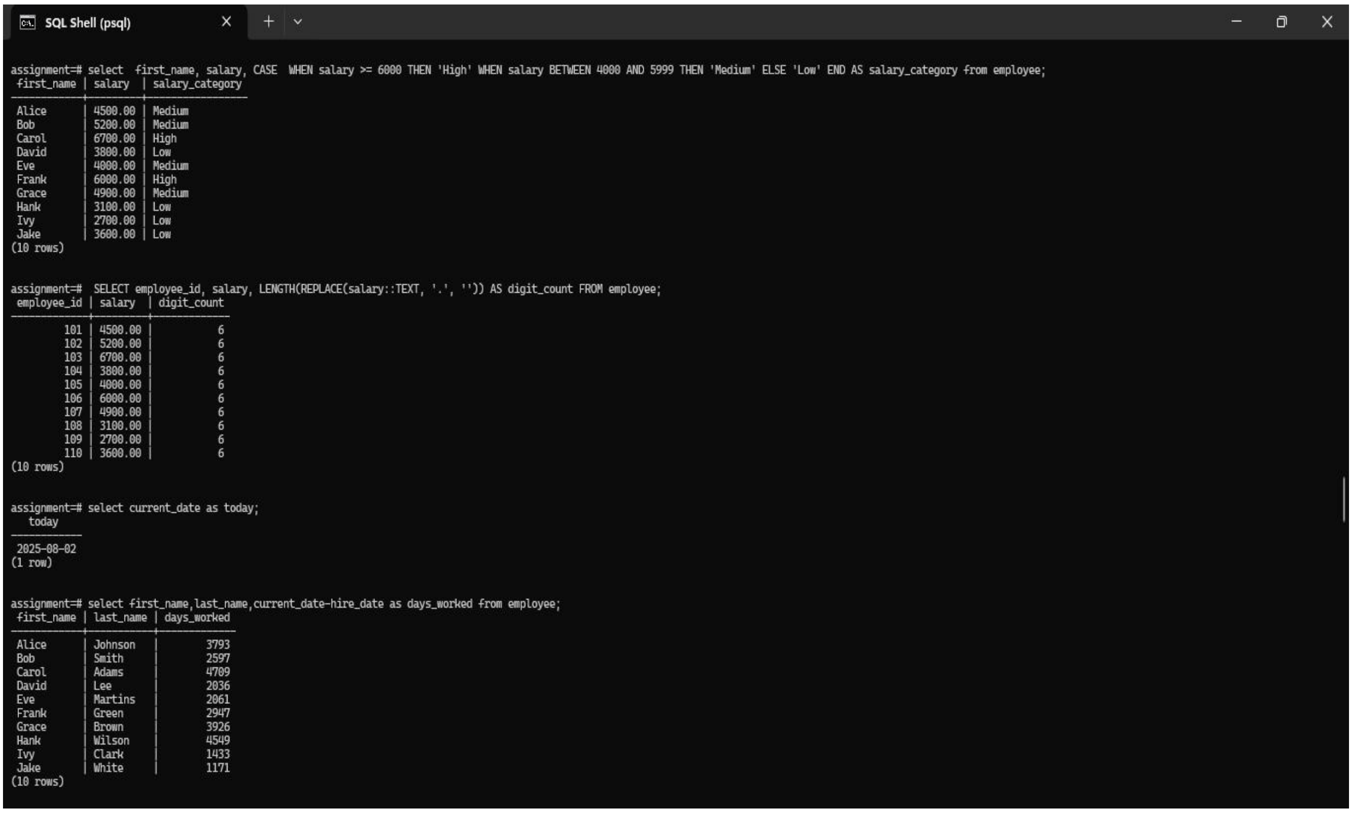
```
assignment=# SELECT
assignment-#   first_name || ' ' || last_name ||
assignment-#   CASE
assignment-#     WHEN p.end_date IS NULL OR p.end_date > CURRENT_DATE THEN ' (Active)'
assignment-#     ELSE ''
assignment-#   END AS name_status
assignment-# FROM employee e
assignment-# JOIN employee_projects ep ON e.employee_id = ep.employee_id
assignment-# JOIN projects p ON ep.project_id = p.project_id;
     name_status
----------------------
 Alice Johnson
 Bob Smith (Active)
 Carol Adams
 David Lee
 Eve Martins (Active)
 Frank Green
 Grace Brown
 Hank Wilson
 Ivy Clark (Active)
 Jake White
(10 rows)


assignment=# select first_name, last_name, ROUND(salary) as rounded_salary from employee;
 first_name | last_name | rounded_salary
------------+-----------+----------------
 Alice      | Johnson   |           4500
 Carol      | Adams     |           6700
 Eve        | Martins   |           4000
 Grace      | Brown     |           4900
 Ivy        | Clark     |           2700
 Bob        | Smith     |           5200
 David      | Lee       |           3800
 Frank      | Green     |           6000
 Hank       | Wilson    |           3100
 Jake       | White     |           3600
(10 rows)


assignment=# select first_name, last_name, salary  from employee  WHERE MOD(salary::INT, 2) = 0;
 first_name | last_name | salary
------------+-----------+---------
 Alice      | Johnson   | 4500.00
 Carol      | Adams     | 6700.00
 Eve        | Martins   | 4000.00
 Grace      | Brown     | 4900.00
 Ivy        | Clark     | 2700.00
 Bob        | Smith     | 5200.00
 David      | Lee       | 3800.00
 Frank      | Green     | 6000.00
 Hank       | Wilson    | 3100.00
 Jake       | White     | 3600.00
(10 rows)
```



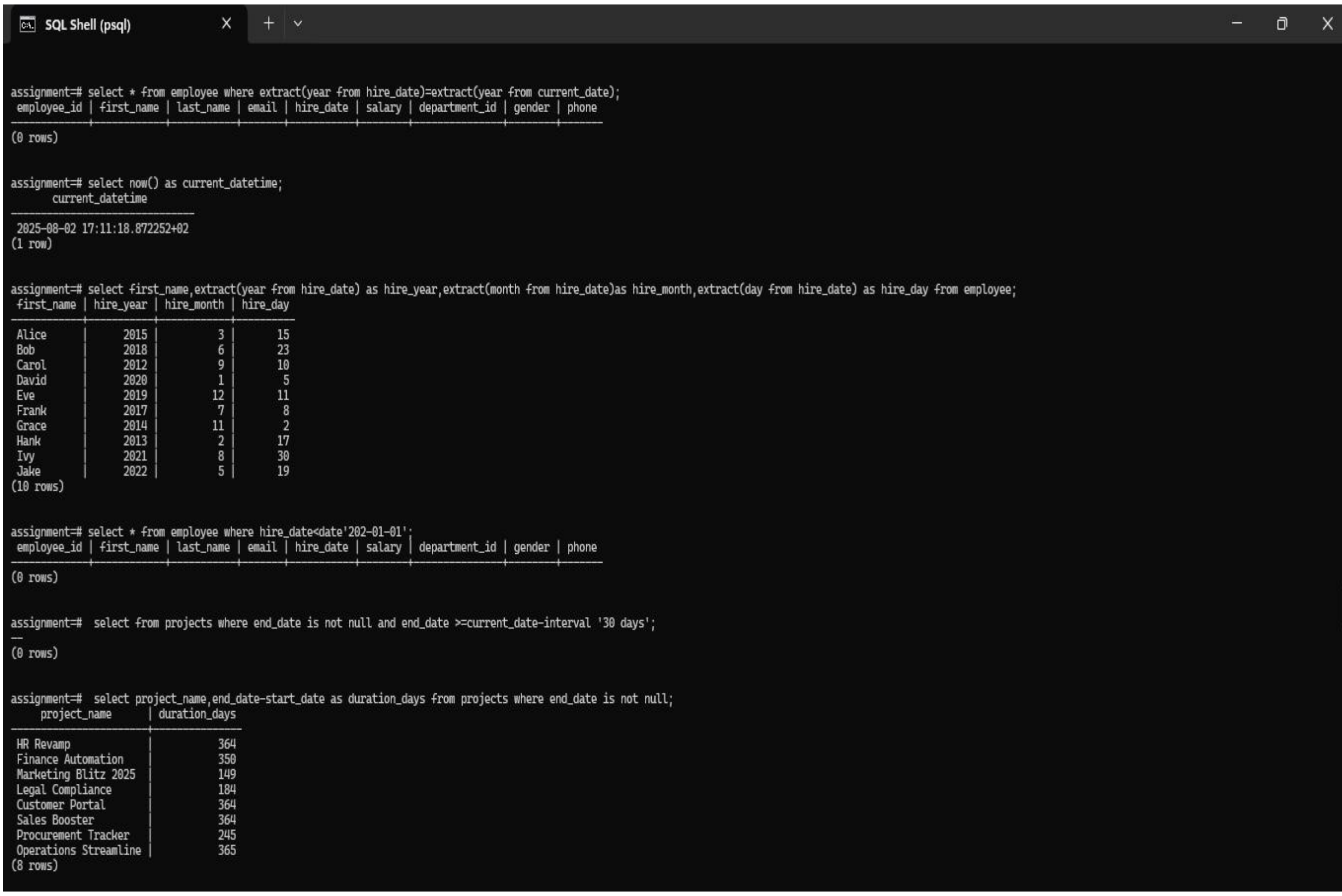
```
assignment=# select AGE(end_date,start_date) AS duration FROM projects;
    duration
-----------------
 11 mons 30 days
 11 mons 15 days

 4 mons 29 days
 6 mons
 11 mons 30 days
 11 mons 30 days

 8 mons
 1 year
(10 rows)


assignment=#  select ABS(e1.salary - e2.salary) AS salary_difference from employee e1, employee e2 WHERE e1.first_name = 'Alice' AND e2.first_name = 'Bob';
 salary_difference
-------------------
            700.00
(1 row)


assignment=# SELECT first_name, salary, salary * POWER(1.1, 1) AS raised_salary FROM employee;
 first_name | salary  |      raised_salary
------------+---------+-------------------------
 Alice      | 4500.00 | 4950.000000000000000000
 Carol      | 6700.00 | 7370.000000000000000000
 Eve        | 4000.00 | 4400.000000000000000000
 Grace      | 4900.00 | 5390.000000000000000000
 Ivy        | 2700.00 | 2970.000000000000000000
 Bob        | 5200.00 | 5720.000000000000000000
 David      | 3800.00 | 4180.000000000000000000
 Frank      | 6000.00 | 6600.000000000000000000
 Hank       | 3100.00 | 3410.000000000000000000
 Jake       | 3600.00 | 3960.000000000000000000
(10 rows)


assignment=#  select FLOOR(RANDOM() * 1000 + 1)::INT AS test_id;
 test_id
---------
     594
(1 row)
```



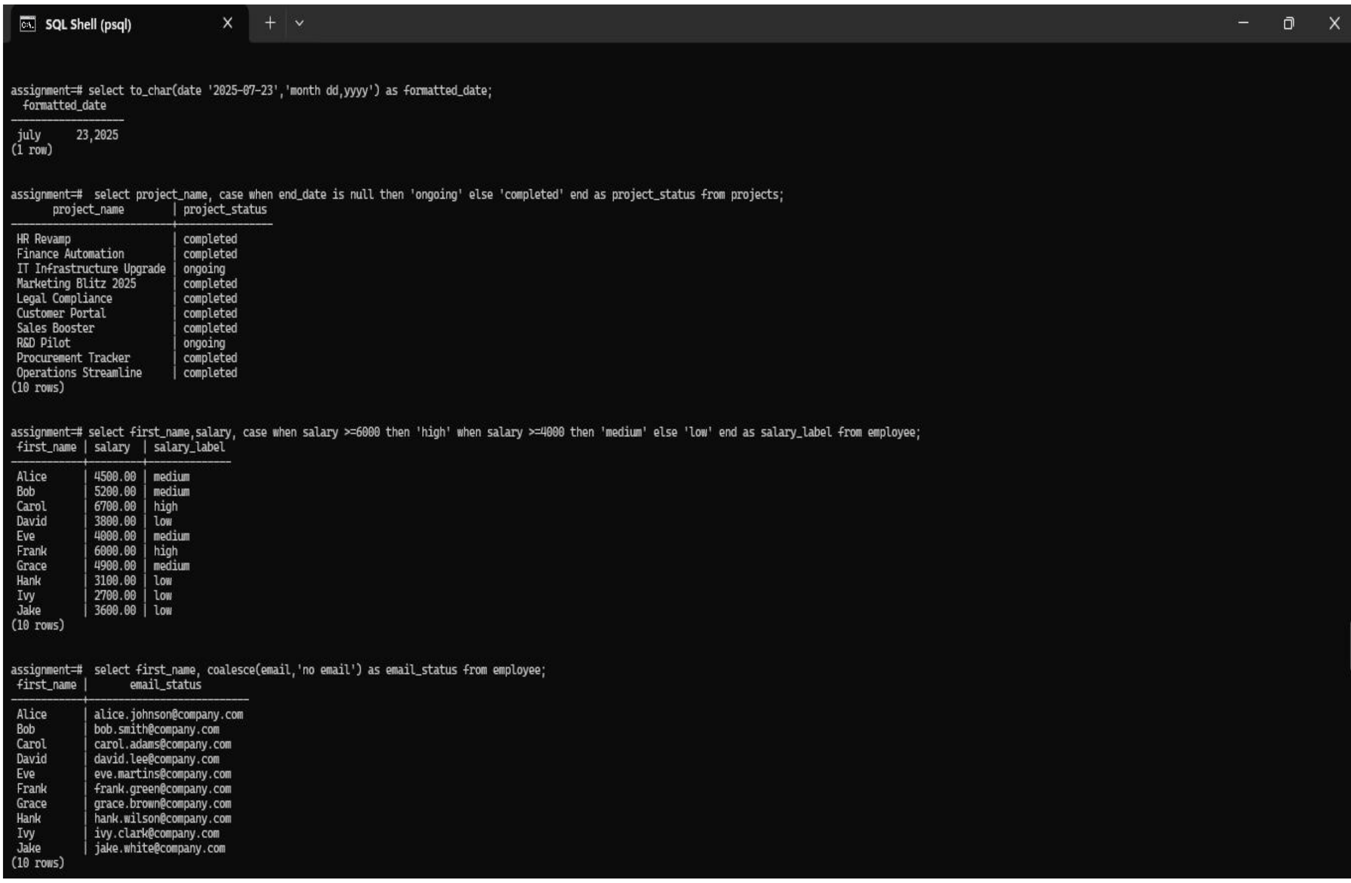
```
assignment=# select first_name, salary, CEIL(salary), FLOOR(salary) from employee;
 first_name | salary  | ceil | floor
------------+---------+------+-------
 Alice      | 4500.00 | 4500 |  4500
 Carol      | 6700.00 | 6700 |  6700
 Eve        | 4000.00 | 4000 |  4000
 Grace      | 4900.00 | 4900 |  4900
 Ivy        | 2700.00 | 2700 |  2700
 Bob        | 5200.00 | 5200 |  5200
 David      | 3800.00 | 3800 |  3800
 Frank      | 6000.00 | 6000 |  6000
 Hank       | 3100.00 | 3100 |  3100
 Jake       | 3600.00 | 3600 |  3600
(10 rows)


assignment=# alter table employee add phone varchar(15);
ALTER TABLE
assignment=# UPDATE employee SET phone = '+250781111111' WHERE employee_id = 101;
UPDATE 1
assignment=#  UPDATE employee SET phone = '+250782222222' WHERE employee_id = 102;
UPDATE 1
assignment=#  UPDATE employee SET phone = '+250783333333' WHERE employee_id = 103;
UPDATE 1
assignment=# UPDATE employee SET phone = '+250784444444' WHERE employee_id = 104;
UPDATE 1
assignment=#  UPDATE employee SET phone = '+250785555555' WHERE employee_id = 105;
UPDATE 1
assignment=# UPDATE employee SET phone = '+250786666666' WHERE employee_id = 106;
UPDATE 1
assignment=# UPDATE employee SET phone = '+250787777777' WHERE employee_id = 107;
UPDATE 1
assignment=# UPDATE employee SET phone = '+250788888888' WHERE employee_id = 108;
UPDATE 1
assignment=#  UPDATE employee SET phone = '+250789999999' WHERE employee_id = 109;
UPDATE 1
assignment=#  UPDATE employee SET phone = '+250780000000' WHERE employee_id = 110;
UPDATE 1
assignment=# select first_name, LENGTH(phone) AS phone_length FROM employee;
 first_name | phone_length
------------+--------------
 Alice      |           13
 Bob        |           13
 Carol      |           13
 David      |           13
 Eve        |           13
 Frank      |           13
 Grace      |           13
 Hank       |           13
 Ivy        |           13
 Jake       |           13
(10 rows)
```



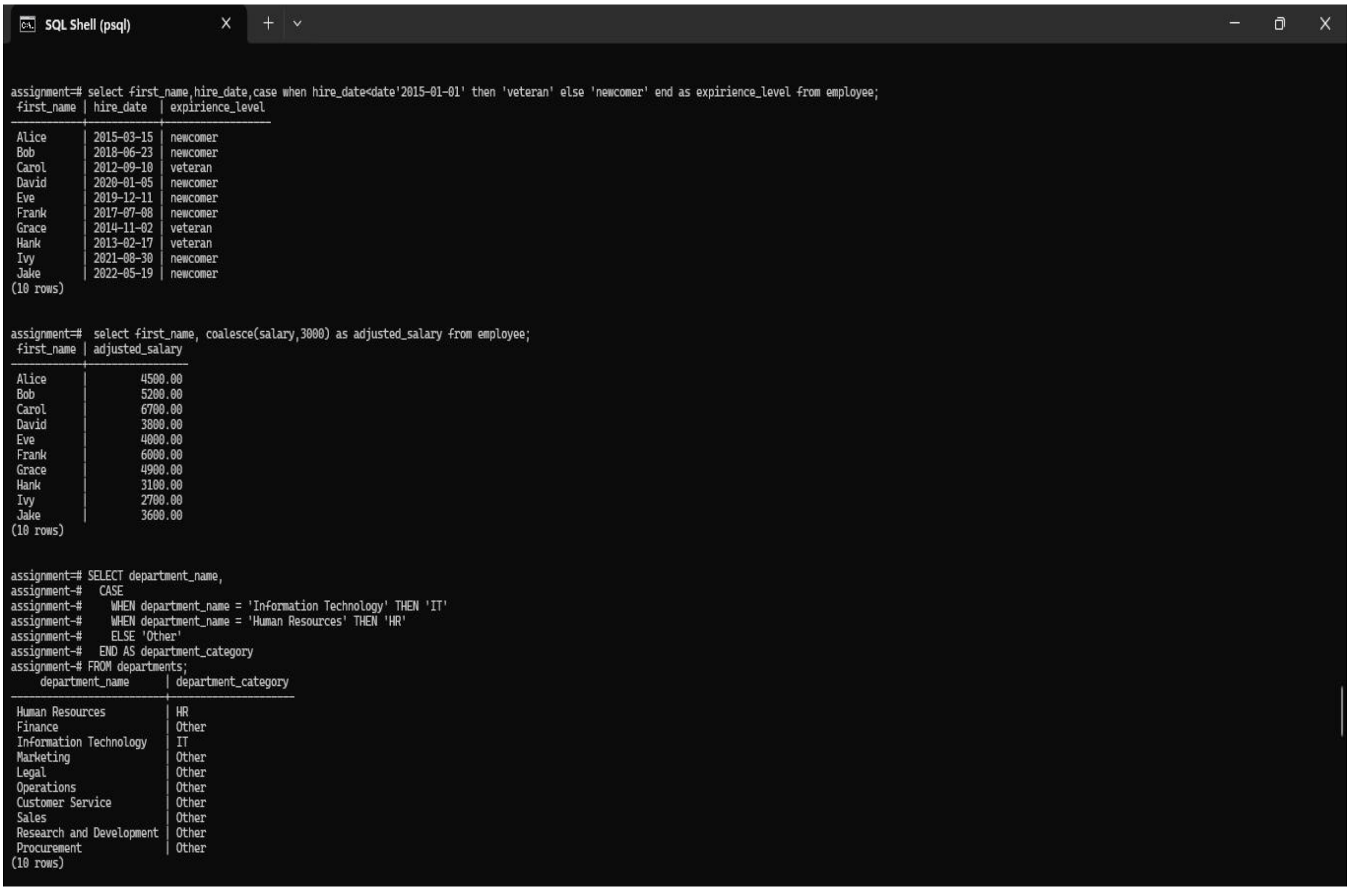
```
assignment=# select  first_name, salary, CASE  WHEN salary >= 6000 THEN 'High' WHEN salary BETWEEN 4000 AND 5999 THEN 'Medium' ELSE 'Low' END AS salary_category from employee;
 first_name | salary  | salary_category
------------+---------+-----------------
 Alice      | 4500.00 | Medium
 Bob        | 5200.00 | Medium
 Carol      | 6700.00 | High
 David      | 3800.00 | Low
 Eve        | 4000.00 | Medium
 Frank      | 6000.00 | High
 Grace      | 4900.00 | Medium
 Hank       | 3100.00 | Low
 Ivy        | 2700.00 | Low
 Jake       | 3600.00 | Low
(10 rows)


assignment=#  SELECT employee_id, salary, LENGTH(REPLACE(salary::TEXT, '.', '')) AS digit_count FROM employee;
 employee_id | salary  | digit_count
-------------+---------+-------------
         101 | 4500.00 |           6
         102 | 5200.00 |           6
         103 | 6700.00 |           6
         104 | 3800.00 |           6
         105 | 4000.00 |           6
         106 | 6000.00 |           6
         107 | 4900.00 |           6
         108 | 3100.00 |           6
         109 | 2700.00 |           6
         110 | 3600.00 |           6
(10 rows)


assignment=# select current_date as today;
   today
------------
 2025-08-02
(1 row)


assignment=# select first_name,last_name,current_date-hire_date as days_worked from employee;
 first_name | last_name | days_worked
------------+-----------+-------------
 Alice      | Johnson   |        3793
 Bob        | Smith     |        2597
 Carol      | Adams     |        4709
 David      | Lee       |        2036
 Eve        | Martins   |        2061
 Frank      | Green     |        2947
 Grace      | Brown     |        3926
 Hank       | Wilson    |        4549
 Ivy        | Clark     |        1433
 Jake       | White     |        1171
(10 rows)
```



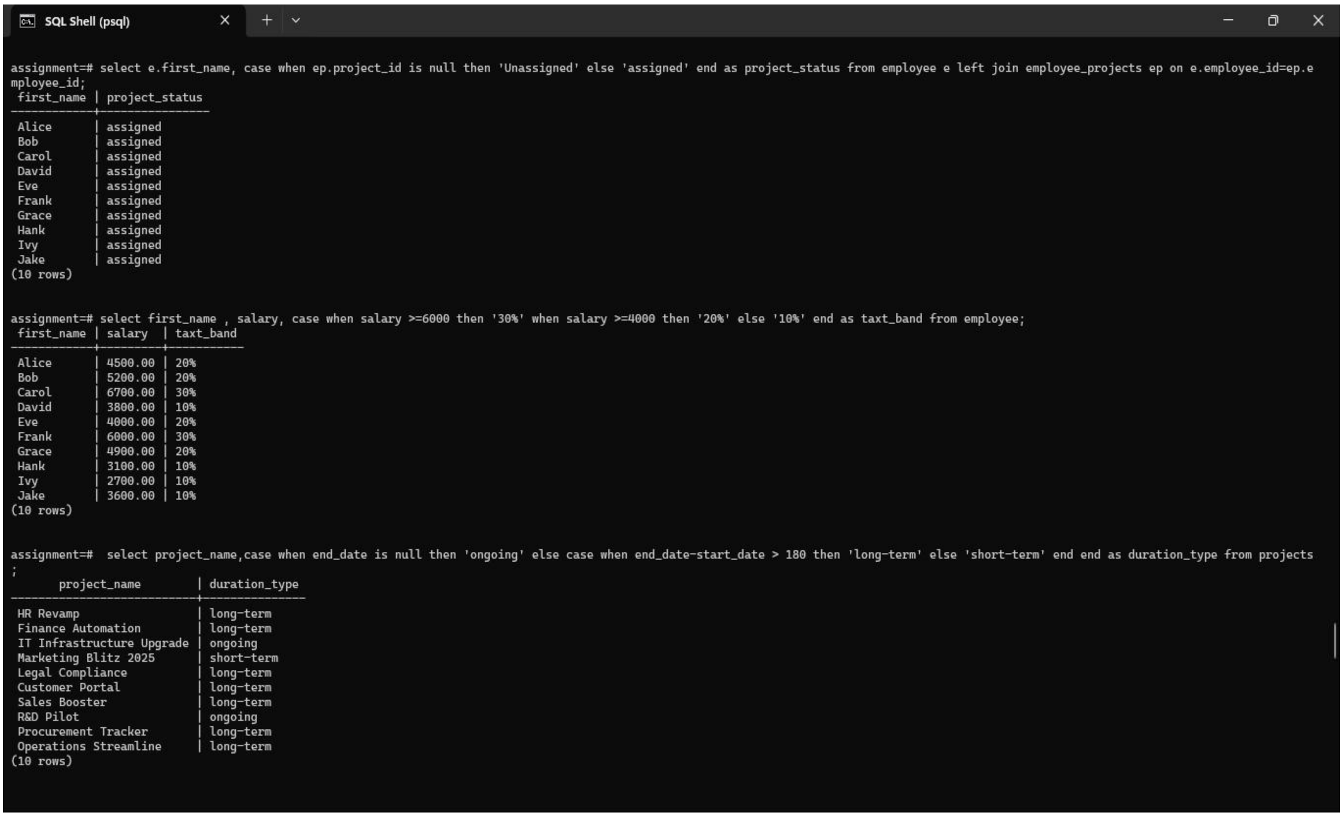
```
assignment=# select * from employee where extract(year from hire_date)=extract(year from current_date);
 employee_id | first_name | last_name | email | hire_date | salary | department_id | gender | phone
-------------+------------+-----------+-------+-----------+--------+---------------+--------+-------
(0 rows)


assignment=# select now() as current_datetime;
       current_datetime
-------------------------------
 2025-08-02 17:11:18.872252+02
(1 row)


assignment=# select first_name,extract(year from hire_date) as hire_year,extract(month from hire_date)as hire_month,extract(day from hire_date) as hire_day from employee;
 first_name | hire_year | hire_month | hire_day
------------+-----------+------------+----------
 Alice      |      2015 |          3 |       15
 Bob        |      2018 |          6 |       23
 Carol      |      2012 |          9 |       10
 David      |      2020 |          1 |        5
 Eve        |      2019 |         12 |       11
 Frank      |      2017 |          7 |        8
 Grace      |      2014 |         11 |        2
 Hank       |      2013 |          2 |       17
 Ivy        |      2021 |          8 |       30
 Jake       |      2022 |          5 |       19
(10 rows)


assignment=# select * from employee where hire_date<date'202-01-01';
 employee_id | first_name | last_name | email | hire_date | salary | department_id | gender | phone
-------------+------------+-----------+-------+-----------+--------+---------------+--------+-------
(0 rows)


assignment=#  select from projects where end_date is not null and end_date >=current_date-interval '30 days';
--
(0 rows)


assignment=#  select project_name,end_date-start_date as duration_days from projects where end_date is not null;
     project_name      | duration_days
-----------------------+---------------
 HR Revamp             |           364
 Finance Automation    |           350
 Marketing Blitz 2025  |           149
 Legal Compliance      |           184
 Customer Portal       |           364
 Sales Booster         |           364
 Procurement Tracker   |           245
 Operations Streamline |           365
(8 rows)
```



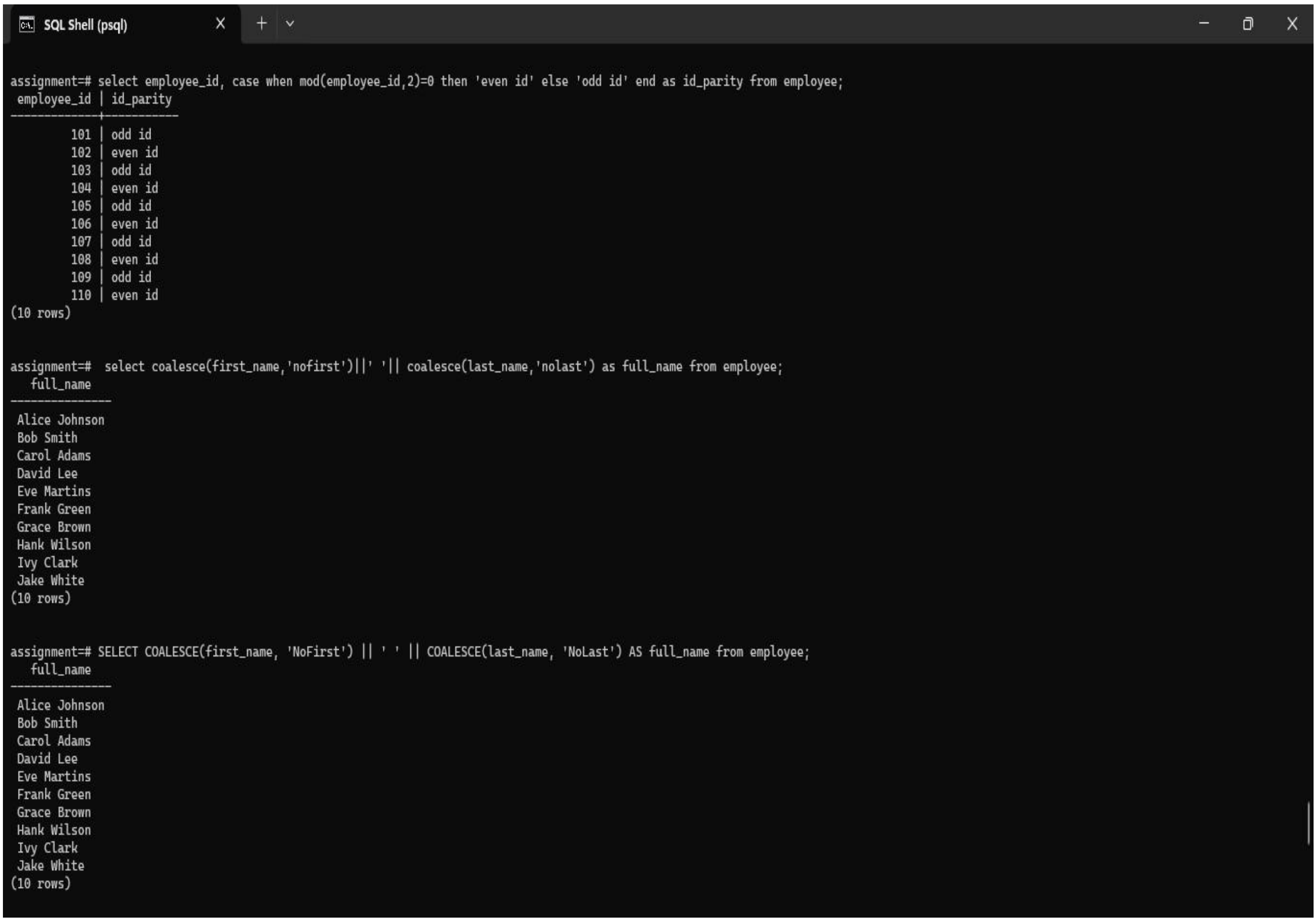
```
assignment=# select to_char(date '2025-07-23','month dd,yyyy') as formatted_date;
  formatted_date
-----------------
 july      23,2025
(1 row)


assignment=#  select project_name, case when end_date is null then 'ongoing' else 'completed' end as project_status from projects;
       project_name        | project_status
---------------------------+----------------
 HR Revamp                 | completed
 Finance Automation        | completed
 IT Infrastructure Upgrade | ongoing
 Marketing Blitz 2025      | completed
 Legal Compliance          | completed
 Customer Portal           | completed
 Sales Booster             | completed
 R&D Pilot                 | ongoing
 Procurement Tracker       | completed
 Operations Streamline     | completed
(10 rows)


assignment=# select first_name,salary, case when salary >=6000 then 'high' when salary >=4000 then 'medium' else 'low' end as salary_label from employee;
 first_name | salary  | salary_label
------------+---------+--------------
 Alice      | 4500.00 | medium
 Bob        | 5200.00 | medium
 Carol      | 6700.00 | high
 David      | 3800.00 | low
 Eve        | 4000.00 | medium
 Frank      | 6000.00 | high
 Grace      | 4900.00 | medium
 Hank       | 3100.00 | low
 Ivy        | 2700.00 | low
 Jake       | 3600.00 | low
(10 rows)


assignment=#  select first_name, coalesce(email,'no email') as email_status from employee;
 first_name |       email_status
------------+---------------------------
 Alice      | alice.johnson@company.com
 Bob        | bob.smith@company.com
 Carol      | carol.adams@company.com
 David      | david.lee@company.com
 Eve        | eve.martins@company.com
 Frank      | frank.green@company.com
 Grace      | grace.brown@company.com
 Hank       | hank.wilson@company.com
 Ivy        | ivy.clark@company.com
 Jake       | jake.white@company.com
(10 rows)
```



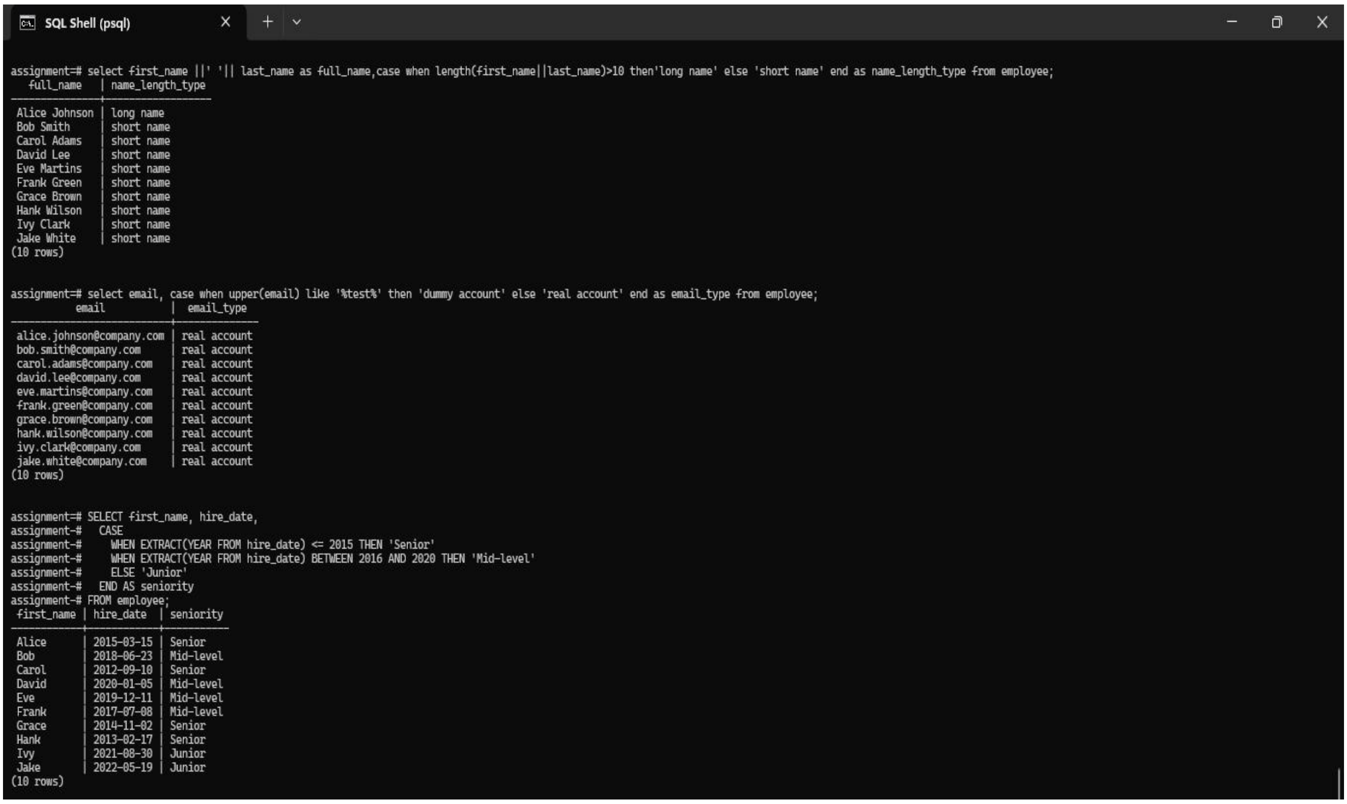
```
assignment=# select first_name,hire_date,case when hire_date<date'2015-01-01' then 'veteran' else 'newcomer' end as expirience_level from employee;
 first_name | hire_date  | expirience_level
------------+------------+------------------
 Alice      | 2015-03-15 | newcomer
 Bob        | 2018-06-23 | newcomer
 Carol      | 2012-09-10 | veteran
 David      | 2020-01-05 | newcomer
 Eve        | 2019-12-11 | newcomer
 Frank      | 2017-07-08 | newcomer
 Grace      | 2014-11-02 | veteran
 Hank       | 2013-02-17 | veteran
 Ivy        | 2021-08-30 | newcomer
 Jake       | 2022-05-19 | newcomer
(10 rows)


assignment=#  select first_name, coalesce(salary,3000) as adjusted_salary from employee;
 first_name | adjusted_salary
------------+-----------------
 Alice      |         4500.00
 Bob        |         5200.00
 Carol      |         6700.00
 David      |         3800.00
 Eve        |         4000.00
 Frank      |         6000.00
 Grace      |         4900.00
 Hank       |         3100.00
 Ivy        |         2700.00
 Jake       |         3600.00
(10 rows)


assignment=# SELECT department_name,
assignment-#   CASE
assignment-#     WHEN department_name = 'Information Technology' THEN 'IT'
assignment-#     WHEN department_name = 'Human Resources' THEN 'HR'
assignment-#     ELSE 'Other'
assignment-#   END AS department_category
assignment-# FROM departments;
     department_name      | department_category
--------------------------+---------------------
 Human Resources          | HR
 Finance                  | Other
 Information Technology   | IT
 Marketing                | Other
 Legal                    | Other
 Operations               | Other
 Customer Service         | Other
 Sales                    | Other
 Research and Development | Other
 Procurement              | Other
(10 rows)
```



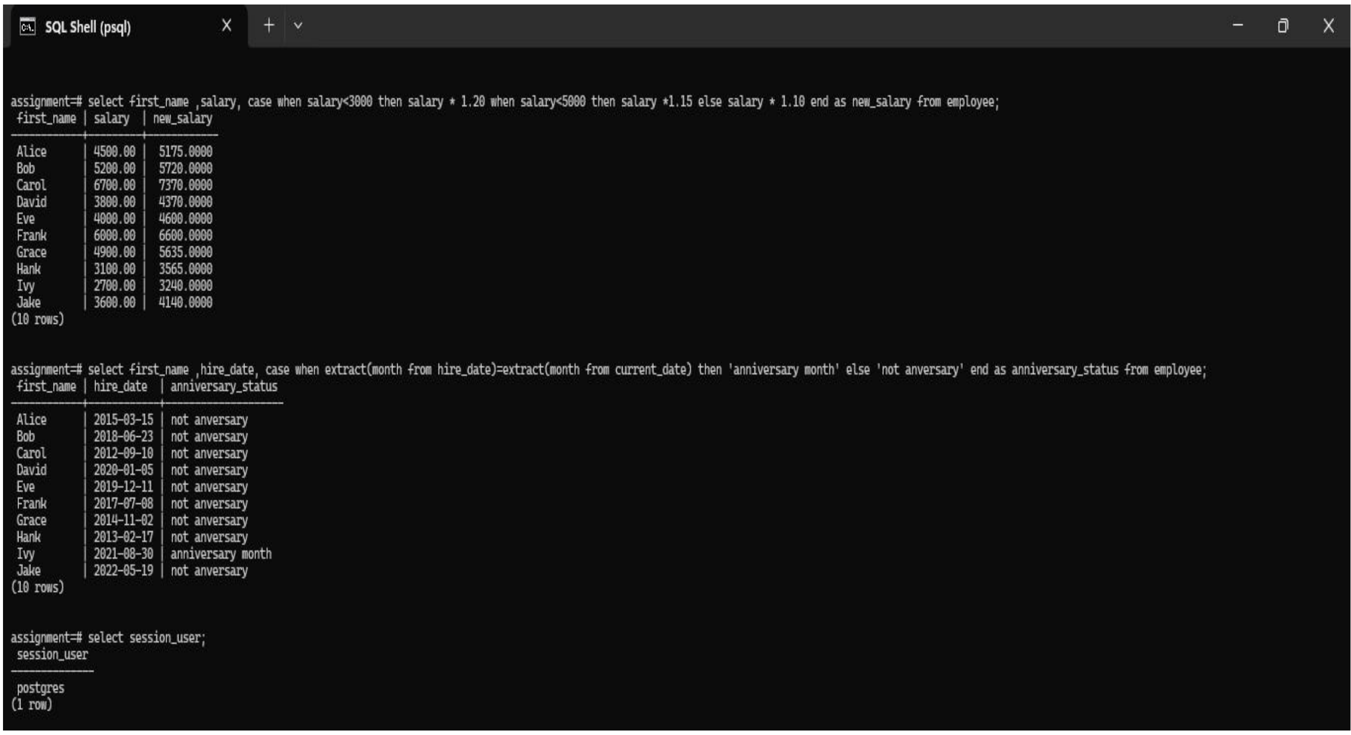
```
assignment=# select e.first_name, case when ep.project_id is null then 'Unassigned' else 'assigned' end as project_status from employee e left join employee_projects ep on e.employee_id=ep.e
mployee_id;
 first_name | project_status
------------+----------------
 Alice      | assigned
 Bob        | assigned
 Carol      | assigned
 David      | assigned
 Eve        | assigned
 Frank      | assigned
 Grace      | assigned
 Hank       | assigned
 Ivy        | assigned
 Jake       | assigned
(10 rows)


assignment=# select first_name , salary, case when salary >=6000 then '30%' when salary >=4000 then '20%' else '10%' end as taxt_band from employee;
 first_name | salary  | taxt_band
------------+---------+-----------
 Alice      | 4500.00 | 20%
 Bob        | 5200.00 | 20%
 Carol      | 6700.00 | 30%
 David      | 3800.00 | 10%
 Eve        | 4000.00 | 20%
 Frank      | 6000.00 | 30%
 Grace      | 4900.00 | 20%
 Hank       | 3100.00 | 10%
 Ivy        | 2700.00 | 10%
 Jake       | 3600.00 | 10%
(10 rows)


assignment=#  select project_name,case when end_date is null then 'ongoing' else case when end_date-start_date > 180 then 'long-term' else 'short-term' end end as duration_type from projects
;
       project_name        | duration_type
---------------------------+---------------
 HR Revamp                 | long-term
 Finance Automation        | long-term
 IT Infrastructure Upgrade | ongoing
 Marketing Blitz 2025      | short-term
 Legal Compliance          | long-term
 Customer Portal           | long-term
 Sales Booster             | long-term
 R&D Pilot                 | ongoing
 Procurement Tracker       | long-term
 Operations Streamline     | long-term
(10 rows)
```



```
assignment=# select employee_id, case when mod(employee_id,2)=0 then 'even id' else 'odd id' end as id_parity from employee;
 employee_id | id_parity
-------------+-----------
         101 | odd id
         102 | even id
         103 | odd id
         104 | even id
         105 | odd id
         106 | even id
         107 | odd id
         108 | even id
         109 | odd id
         110 | even id
(10 rows)


assignment=#  select coalesce(first_name,'nofirst')||' '|| coalesce(last_name,'nolast') as full_name from employee;
   full_name
---------------
 Alice Johnson
 Bob Smith
 Carol Adams
 David Lee
 Eve Martins
 Frank Green
 Grace Brown
 Hank Wilson
 Ivy Clark
 Jake White
(10 rows)


assignment=# SELECT COALESCE(first_name, 'NoFirst') || ' ' || COALESCE(last_name, 'NoLast') AS full_name from employee;
   full_name
---------------
 Alice Johnson
 Bob Smith
 Carol Adams
 David Lee
 Eve Martins
 Frank Green
 Grace Brown
 Hank Wilson
 Ivy Clark
 Jake White
(10 rows)
```



```
assignment=# select first_name ||' '|| last_name as full_name,case when length(first_name||last_name)>10 then'long name' else 'short name' end as name_length_type from employee;
   full_name   | name_length_type
---------------+------------------
 Alice Johnson | long name
 Bob Smith     | short name
 Carol Adams   | short name
 David Lee     | short name
 Eve Martins   | short name
 Frank Green   | short name
 Grace Brown   | short name
 Hank Wilson   | short name
 Ivy Clark     | short name
 Jake White    | short name
(10 rows)


assignment=# select email, case when upper(email) like '%test%' then 'dummy account' else 'real account' end as email_type from employee;
          email           |  email_type
--------------------------+--------------
 alice.johnson@company.com | real account
 bob.smith@company.com     | real account
 carol.adams@company.com   | real account
 david.lee@company.com     | real account
 eve.martins@company.com   | real account
 frank.green@company.com   | real account
 grace.brown@company.com   | real account
 hank.wilson@company.com   | real account
 ivy.clark@company.com     | real account
 jake.white@company.com    | real account
(10 rows)


assignment=# SELECT first_name, hire_date,
assignment-#   CASE
assignment-#     WHEN EXTRACT(YEAR FROM hire_date) <= 2015 THEN 'Senior'
assignment-#     WHEN EXTRACT(YEAR FROM hire_date) BETWEEN 2016 AND 2020 THEN 'Mid-level'
assignment-#     ELSE 'Junior'
assignment-#   END AS seniority
assignment-# FROM employee;
 first_name | hire_date  | seniority
------------+------------+-----------
 Alice      | 2015-03-15 | Senior
 Bob        | 2018-06-23 | Mid-level
 Carol      | 2012-09-10 | Senior
 David      | 2020-01-05 | Mid-level
 Eve        | 2019-12-11 | Mid-level
 Frank      | 2017-07-08 | Mid-level
 Grace      | 2014-11-02 | Senior
 Hank       | 2013-02-17 | Senior
 Ivy        | 2021-08-30 | Junior
 Jake       | 2022-05-19 | Junior
(10 rows)
```



```
assignment=# select first_name ,salary, case when salary<3000 then salary * 1.20 when salary<5000 then salary *1.15 else salary * 1.10 end as new_salary from employee;
 first_name | salary  | new_salary
------------+---------+------------
 Alice      | 4500.00 |  5175.0000
 Bob        | 5200.00 |  5720.0000
 Carol      | 6700.00 |  7370.0000
 David      | 3800.00 |  4370.0000
 Eve        | 4000.00 |  4600.0000
 Frank      | 6000.00 |  6600.0000
 Grace      | 4900.00 |  5635.0000
 Hank       | 3100.00 |  3565.0000
 Ivy        | 2700.00 |  3240.0000
 Jake       | 3600.00 |  4140.0000
(10 rows)


assignment=# select first_name ,hire_date, case when extract(month from hire_date)=extract(month from current_date) then 'anniversary month' else 'not anversary' end as anniversary_status from employee;
 first_name | hire_date  | anniversary_status
------------+------------+--------------------
 Alice      | 2015-03-15 | not anversary
 Bob        | 2018-06-23 | not anversary
 Carol      | 2012-09-10 | not anversary
 David      | 2020-01-05 | not anversary
 Eve        | 2019-12-11 | not anversary
 Frank      | 2017-07-08 | not anversary
 Grace      | 2014-11-02 | not anversary
 Hank       | 2013-02-17 | not anversary
 Ivy        | 2021-08-30 | anniversary month
 Jake       | 2022-05-19 | not anversary
(10 rows)


assignment=# select session_user;
 session_user
--------------
 postgres
(1 row)
```