public

regions
- 🔑 region_id integer
- region_name character varying(25)

public

countries
- 🔑 country_id character(2)
- country_name character varying(40)
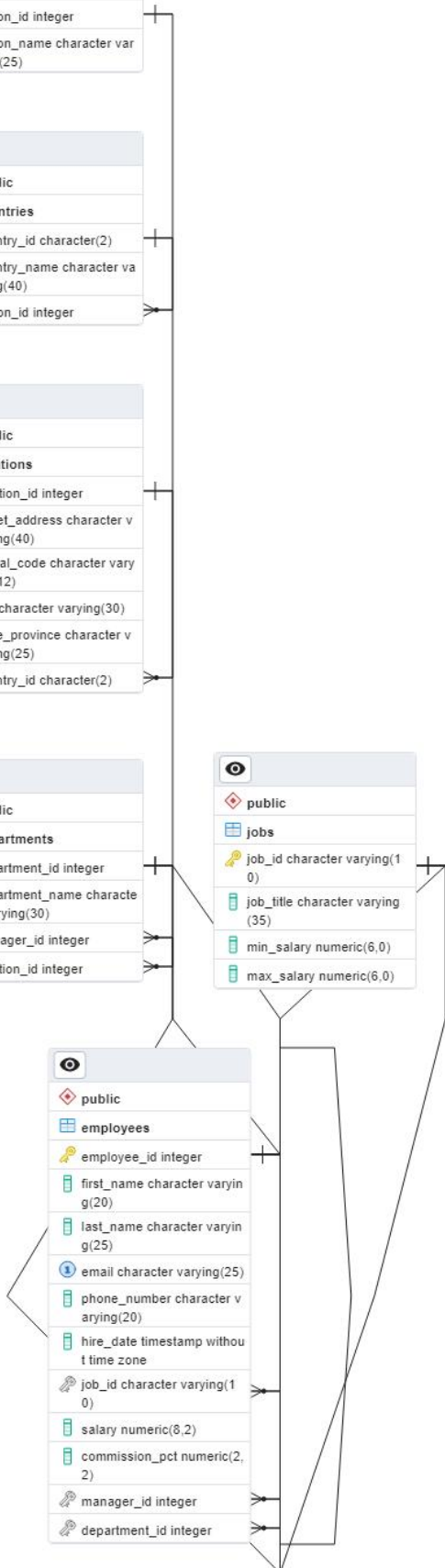- 🔑 region_id integer

public

locations
- 🔑 location_id integer
- street_address character varying(40)
- postal_code character varying(12)
- city character varying(30)
- state_province character varying(25)
- 🔑 country_id character(2)

public

departments
- 🔑 department_id integer
- department_name character varying(30)
- 🔑 manager_id integer
- 🔑 location_id integer

public

jobs
- 🔑 job_id character varying(10)
- job_title character varying(35)
- min_salary numeric(6,0)
- max_salary numeric(6,0)

public

employees
- 🔑 employee_id integer
- first_name character varying(20)
- last_name character varying(25)
- ① email character varying(25)
- phone_number character varying(20)
- hire_date timestamp without time zone
- 🔑 job_id character varying(10)
- salary numeric(8,2)
- commission_pct numeric(2,2)
- 🔑 manager_id integer
- 🔑 department_id integer

public

job_history
- 🔑 employee_id integer
- 🔑 start_date timestamp without time zone
- end_date timestamp without time zone
- 🔑 job_id character varying(10)
- 🔑 department_id integer

```
 employee_id | first_name  |  last_name  |  email   |  phone_number  |     hire_date       |   job_id    |  salary  | commission_pct | manager_id | department_id
-------------+-------------+-------------+----------+----------------+---------------------+-------------+----------+----------------+------------+---------------
         100 | Steven      | King        | SKING    | 515.123.4567   | 1987-06-17 00:00:00 | AD_PRES     | 24000.00 |                |            |            90
         101 | Neena       | Kochhar     | NKOCHHAR | 515.123.4568   | 1989-09-21 00:00:00 | AD_VP       | 17000.00 |                |        100 |            90
         102 | Lex         | De Haan     | LDEHAAN  | 515.123.4569   | 1993-01-13 00:00:00 | AD_VP       | 17000.00 |                |        100 |            90
         103 | Alexander   | Hunold      | AHUNOLD  | 590.423.4567   | 1990-01-03 00:00:00 | IT_PROG     |  9000.00 |                |        102 |            60
         104 | Bruce       | Ernst       | BERNST   | 590.423.4568   | 1991-05-21 00:00:00 | IT_PROG     |  6000.00 |                |        103 |            60
         105 | David       | Austin      | DAUSTIN  | 590.423.4569   | 1997-06-25 00:00:00 | IT_PROG     |  4800.00 |                |        103 |            60
         106 | Valli       | Pataballa   | VPATABAL | 590.423.4560   | 1998-02-05 00:00:00 | IT_PROG     |  4800.00 |                |        103 |            60
         107 | Diana       | Lorentz     | DLORENTZ | 590.423.5567   | 1999-02-07 00:00:00 | IT_PROG     |  4200.00 |                |        103 |            60
         108 | Nancy       | Greenberg   | NGREENBE | 515.124.4569   | 1994-08-17 00:00:00 | FI_MGR      | 12000.00 |                |        101 |           100
         109 | Daniel      | Faviet      | DFAVIET  | 515.124.4169   | 1994-08-16 00:00:00 | FI_ACCOUNT  |  9000.00 |                |        108 |           100
         110 | John        | Chen        | JCHEN    | 515.124.4269   | 1997-09-28 00:00:00 | FI_ACCOUNT  |  8200.00 |                |        108 |           100
         111 | Ismael      | Sciarra     | ISCIARRA | 515.124.4369   | 1997-09-30 00:00:00 | FI_ACCOUNT  |  7700.00 |                |        108 |           100
         112 | Jose Manuel | Urman       | JMURMAN  | 515.124.4469   | 1998-03-07 00:00:00 | FI_ACCOUNT  |  7800.00 |                |        108 |           100
         113 | Luis        | Popp        | LPOPP    | 515.124.4567   | 1999-12-07 00:00:00 | FI_ACCOUNT  |  6900.00 |                |        108 |           100
         114 | Den         | Raphaely    | DRAPHEAL | 515.127.4561   | 1994-12-07 00:00:00 | PU_MAN      | 11000.00 |                |        100 |            30
         115 | Alexander   | Khoo        | AKHOO    | 515.127.4562   | 1995-05-18 00:00:00 | PU_CLERK    |  3100.00 |                |        114 |            30
         116 | Shelli      | Baida       | SBAIDA   | 515.127.4563   | 1997-12-24 00:00:00 | PU_CLERK    |  2900.00 |                |        114 |            30
         117 | Sigal       | Tobias      | STOBIAS  | 515.127.4564   | 1997-07-24 00:00:00 | PU_CLERK    |  2800.00 |                |        114 |            30
         118 | Guy         | Himuro      | GHIMURO  | 515.127.4565   | 1998-11-15 00:00:00 | PU_CLERK    |  2600.00 |                |        114 |            30
         119 | Karen       | Colmenares  | KCOLMENA | 515.127.4566   | 1999-08-10 00:00:00 | PU_CLERK    |  2500.00 |                |        114 |            30
         120 | Matthew     | Weiss       | MWEISS   | 650.123.1234   | 1996-07-18 00:00:00 | ST_MAN      |  8000.00 |                |        100 |            50
         121 | Adam        | Fripp       | AFRIPP   | 650.123.2234   | 1997-04-10 00:00:00 | ST_MAN      |  8200.00 |                |        100 |            50
         122 | Payam       | Kaufling    | PKAUFLIN | 650.123.3234   | 1995-05-01 00:00:00 | ST_MAN      |  7900.00 |                |        100 |            50
         123 | Shanta      | Vollman     | SVOLLMAN | 650.123.4234   | 1997-10-10 00:00:00 | ST_MAN      |  6500.00 |                |        100 |            50
         124 | Kevin       | Mourgos     | KMOURGOS | 650.123.5234   | 1999-11-16 00:00:00 | ST_MAN      |  5800.00 |                |        100 |            50
         125 | Julia       | Nayer       | JNAYER   | 650.124.1214   | 1997-07-16 00:00:00 | ST_CLERK    |  3200.00 |                |        120 |            50
         126 | Irene       | Mikkilineni | IMIKKILI | 650.124.1224   | 1998-09-28 00:00:00 | ST_CLERK    |  2700.00 |                |        120 |            50
         127 | James       | Landry      | JLANDRY  | 650.124.1334   | 1999-01-14 00:00:00 | ST_CLERK    |  2400.00 |                |        120 |            50
         128 | Steven      | Markle      | SMARKLE  | 650.124.1434   | 2000-03-08 00:00:00 | ST_CLERK    |  2200.00 |                |        120 |            50
         129 | Laura       | Bissot      | LBISSOT  | 650.124.5234   | 1997-08-20 00:00:00 | ST_CLERK    |  3300.00 |                |        121 |            50
         130 | Mozhe       | Atkinson    | MATKINSO | 650.124.6234   | 1997-10-30 00:00:00 | ST_CLERK    |  2800.00 |                |        121 |            50
         131 | James       | Marlow      | JAMRLOW  | 650.124.7234   | 1997-02-16 00:00:00 | ST_CLERK    |  2500.00 |                |        121 |            50
         132 | TJ          | Olson       | TJOLSON  | 650.124.8234   | 1999-04-10 00:00:00 | ST_CLERK    |  2100.00 |                |        121 |            50
         133 | Jason       | Mallin      | JMALLIN  | 650.127.1934   | 1996-06-14 00:00:00 | ST_CLERK    |  3300.00 |                |        122 |            50
         134 | Michael     | Rogers      | MROGERS  | 650.127.1834   | 1998-08-26 00:00:00 | ST_CLERK    |  2900.00 |                |        122 |            50
         135 | Ki          | Gee         | KGEE     | 650.127.1734   | 1999-12-12 00:00:00 | ST_CLERK    |  2400.00 |                |        122 |            50
         136 | Hazel       | Philtanker  | HPHILTAN | 650.127.1634   | 2000-02-06 00:00:00 | ST_CLERK    |  2200.00 |                |        122 |            50
         137 | Renske      | Ladwig      | RLADWIG  | 650.121.1234   | 1995-07-14 00:00:00 | ST_CLERK    |  3600.00 |                |        123 |            50
         138 | Stephen     | Stiles      | SSTILES  | 650.121.2034   | 1997-10-26 00:00:00 | ST_CLERK    |  3200.00 |                |        123 |            50
         139 | John        | Seo         | JSEO     | 650.121.2019   | 1998-02-12 00:00:00 | ST_CLERK    |  2700.00 |                |        123 |            50
         140 | Joshua      | Patel       | JPATEL   | 650.121.1834   | 1998-04-06 00:00:00 | ST_CLERK    |  2500.00 |                |        123 |            50
postgres=# SELECT first_name,last_name,salary FROM employees WHERE salary>6000;
```

```
 first_name   | last_name  |  salary
--------------+------------+----------
 Steven       | King       | 24000.00
 Neena        | Kochhar    | 17000.00
 Lex          | De Haan    | 17000.00
 Alexander    | Hunold     |  9000.00
 Nancy        | Greenberg  | 12000.00
 Daniel       | Faviet     |  9000.00
 John         | Chen       |  8200.00
 Ismael       | Sciarra    |  7700.00
 Jose Manuel  | Urman      |  7800.00
 Luis         | Popp       |  6900.00
 Den          | Raphaely   | 11000.00
 Matthew      | Weiss      |  8000.00
 Adam         | Fripp      |  8200.00
 Payam        | Kaufling   |  7900.00
 Shanta       | Vollman    |  6500.00
 John         | Russell    | 14000.00
 Karen        | Partners   | 13500.00
 Alberto      | Errazuriz  | 12000.00
 Gerald       | Cambrault  | 11000.00
 Eleni        | Zlotkey    | 10500.00
 Peter        | Tucker     | 10000.00
 David        | Bernstein  |  9500.00
 Peter        | Hall       |  9000.00
 Christopher  | Olsen      |  8000.00
 Nanette      | Cambrault  |  7500.00
 Oliver       | Tuvault    |  7000.00
 Janette      | King       | 10000.00
 Patrick      | Sully      |  9500.00
 Allan        | McEwen     |  9000.00
 Lindsey      | Smith      |  8000.00
 Louise       | Doran      |  7500.00
 Sarath       | Sewall     |  7000.00
 Clara        | Vishney    | 10500.00
 Danielle     | Greene     |  9500.00
 Mattea       | Marvins    |  7200.00
 David        | Lee        |  6800.00
 Sundar       | Ande       |  6400.00
 Amit         | Banda      |  6200.00
 Lisa         | Ozer       | 11500.00
 Harrison     | Bloom      | 10000.00
 Tayler       | Fox        |  9600.00
-- More  --
```

```
postgres=# SELECT employee_id,first_name,last_name,email,phone_number,hire_date,job_id,salary,commission_pct,manager_id,department_id FROM employees WHERE employee_id=N
ULL;
 employee_id | first_name | last_name | email | phone_number | hire_date | job_id | salary | commission_pct | manager_id | department_id
-------------+------------+-----------+-------+--------------+-----------+--------+--------+----------------+------------+---------------
(0 rows)


postgres=#
```

```
(0 rows)


postgres=# SELECT * FROM departments WHERE department_name='Marketing';
 department_id | department_name | manager_id | location_id
---------------+-----------------+------------+-------------
            20 | Marketing       |        201 |        1800
(1 row)


postgres=#
```

```
Randall     | Matos       | 1998-03-15 00:00:00 |  2600.00 |            50
postgres=# SELECT first_name,last_name,hire_date,salary,department_id FROM employees
postgres-# WHERE first_name NOT LIKE '%M%' ORDER BY department_id ASC;
 first_name |  last_name  |       hire_date      |  salary  | department_id
------------+-------------+----------------------+----------+---------------
 Jennifer   | Whalen      | 1987-09-17 00:00:00 |  4400.00 |            10
 Pat        | Fay         | 1997-08-17 00:00:00 |  6000.00 |            20
 Karen      | Colmenares  | 1999-08-10 00:00:00 |  2500.00 |            30
 Shelli     | Baida       | 1997-12-24 00:00:00 |  2900.00 |            30
 Alexander  | Khoo        | 1995-05-18 00:00:00 |  3100.00 |            30
 Den        | Raphaely    | 1994-12-07 00:00:00 | 11000.00 |            30
 Sigal      | Tobias      | 1997-07-24 00:00:00 |  2800.00 |            30
 Guy        | Himuro      | 1998-11-15 00:00:00 |  2600.00 |            30
 Susan      | Mavris      | 1994-06-07 00:00:00 |  6500.00 |            40
 Steven     | Markle      | 2000-03-08 00:00:00 |  2200.00 |            50
 Laura      | Bissot      | 1997-08-20 00:00:00 |  3300.00 |            50
 James      | Marlow      | 1997-02-16 00:00:00 |  2500.00 |            50
 TJ         | Olson       | 1999-04-10 00:00:00 |  2100.00 |            50
 Jason      | Mallin      | 1996-06-14 00:00:00 |  3300.00 |            50
 Ki         | Gee         | 1999-12-12 00:00:00 |  2400.00 |            50
 Vance      | Jones       | 1999-03-17 00:00:00 |  2800.00 |            50
 Hazel      | Philtanker  | 2000-02-06 00:00:00 |  2200.00 |            50
 Winston    | Taylor      | 1998-01-24 00:00:00 |  3200.00 |            50
 Jean       | Fleaur      | 1998-02-23 00:00:00 |  3100.00 |            50
 Girard     | Geoni       | 2000-02-03 00:00:00 |  2800.00 |            50
 Nandita    | Sarchand    | 1996-01-27 00:00:00 |  4200.00 |            50
 Alexis     | Bull        | 1997-02-20 00:00:00 |  4100.00 |            50
 Julia      | Dellinger   | 1998-06-24 00:00:00 |  3400.00 |            50
 Anthony    | Cabrio      | 1999-02-07 00:00:00 |  3000.00 |            50
 Kelly      | Chung       | 1997-06-14 00:00:00 |  3800.00 |            50
 Jennifer   | Dilly       | 1997-08-13 00:00:00 |  3600.00 |            50
 Timothy    | Gates       | 1998-07-11 00:00:00 |  2900.00 |            50
 Randall    | Perkins     | 1999-12-19 00:00:00 |  2500.00 |            50
 Sarah      | Bell        | 1996-02-04 00:00:00 |  4000.00 |            50
 Britney    | Everett     | 1997-03-03 00:00:00 |  3900.00 |            50
 Samuel     | McCain      | 1998-07-01 00:00:00 |  3200.00 |            50
 Renske     | Ladwig      | 1995-07-14 00:00:00 |  3600.00 |            50
 Stephen    | Stiles      | 1997-10-26 00:00:00 |  3200.00 |            50
 Joshua     | Patel       | 1998-04-06 00:00:00 |  2500.00 |            50
 Trenna     | Rajs        | 1995-10-17 00:00:00 |  3500.00 |            50
 Curtis     | Davies      | 1997-01-29 00:00:00 |  3100.00 |            50
 Randall    | Matos       | 1998-03-15 00:00:00 |  2600.00 |            50
 Peter      | Vargas      | 1998-07-09 00:00:00 |  2500.00 |            50
 John       | Seo         | 1998-02-12 00:00:00 |  2700.00 |            50
```

```
SQL Shell (psql)                                                                          —    □    ×

postgres=# SELECT first_name,last_name,hire_date,job_id FROM employees
postgres-# WHERE hire_date BETWEEN '2007-11-05' AND '2009-07-05';
 first_name | last_name | hire_date | job_id
------------+-----------+-----------+--------
(0 rows)


postgres=# _
```

```
SQL Shell (psql)                                                                    —    ☐    ×

postgres=# SELECT job_id, COUNT(*), SUM(salary),
postgres-# MAX(salary)-MIN(salary) AS salary_difference
postgres-# FROM employees
postgres-# GROUP BY job_id;
   job_id   | count |   sum    | salary_difference
------------+-------+----------+-------------------
 SH_CLERK   |    20 | 64300.00 |           1700.00
 AD_VP      |     2 | 34000.00 |              0.00
 SA_MAN     |     5 | 61000.00 |           3500.00
 PU_MAN     |     1 | 11000.00 |              0.00
 IT_PROG    |     5 | 28800.00 |           4800.00
 ST_CLERK   |    20 | 55700.00 |           1500.00
 FI_MGR     |     1 | 12000.00 |              0.00
 PU_CLERK   |     5 | 13900.00 |            600.00
 HR_REP     |     1 |  6500.00 |              0.00
 ST_MAN     |     5 | 36400.00 |           2400.00
 MK_MAN     |     1 | 13000.00 |              0.00
 AC_MGR     |     1 | 12000.00 |              0.00
 SA_REP     |    30 | 250500.00 |          5400.00
 AD_ASST    |     1 |  4400.00 |              0.00
 PR_REP     |     1 | 10000.00 |              0.00
 MK_REP     |     1 |  6000.00 |              0.00
 AD_PRES    |     1 | 24000.00 |              0.00
 FI_ACCOUNT |     5 | 39600.00 |           2100.00
 AC_ACCOUNT |     1 |  8300.00 |              0.00
(19 rows)


postgres=#
```

```
postgres=# SELECT department_id
postgres-# FROM employees
postgres-# WHERE commission_pct IS NOT NULL
postgres-# GROUP BY department_id
postgres-# HAVING COUNT(commission_pct)>10;
 department_id
---------------
            80
(1 row)


postgres=#
```

```
         140 | Joshua        | Patel        | JPATEL  | 650.121.1834      | 1998-04-06 00:00:00 | ST_CLERK   | 2500.00 |        |       123 |          50 |
postgres=# SELECT first_name,last_name,department_id FROM employees WHERE salary IN
postgres-# (SELECT MIN(salary) FROM employees GROUP BY employee_id);
 first_name  |  last_name  | department_id
-------------+-------------+---------------
 Steven      | King        |            90
 Neena       | Kochhar     |            90
 Lex         | De Haan     |            90
 Alexander   | Hunold      |            60
 Bruce       | Ernst       |            60
 David       | Austin      |            60
 Valli       | Pataballa   |            60
 Diana       | Lorentz     |            60
 Nancy       | Greenberg   |           100
 Daniel      | Faviet      |           100
 John        | Chen        |           100
 Ismael      | Sciarra     |           100
 Jose Manuel | Urman       |           100
 Luis        | Popp        |           100
 Den         | Raphaely    |            30
 Alexander   | Khoo        |            30
 Shelli      | Baida       |            30
 Sigal       | Tobias      |            30
 Guy         | Himuro      |            30
 Karen       | Colmenares  |            30
 Matthew     | Weiss       |            50
 Adam        | Fripp       |            50
 Payam       | Kaufling    |            50
 Shanta      | Vollman     |            50
 Kevin       | Mourgos     |            50
 Julia       | Nayer       |            50
 Irene       | Mikkilineni |            50
 James       | Landry      |            50
 Steven      | Markle      |            50
 Laura       | Bissot      |            50
 Mozhe       | Atkinson    |            50
 James       | Marlow      |            50
 TJ          | Olson       |            50
 Jason       | Mallin      |            50
 Michael     | Rogers      |            50
 Ki          | Gee         |            50
 Hazel       | Philtanker  |            50
 Renske      | Ladwig      |            50
 Stephen     | Stiles      |            50
```

```
SQL Shell (psql)                                                                    —  □  ✕

postgres=#
postgres=# SELECT e.department_id,e.first_name,e.job_id,d.department_name FROM employees e, departments d
postgres-# WHERE d.department_name='Finance';
 department_id | first_name  |   job_id   | department_name
---------------+-------------+------------+-----------------
            90 | Steven      | AD_PRES    | Finance
            90 | Neena       | AD_VP      | Finance
            90 | Lex         | AD_VP      | Finance
            60 | Alexander   | IT_PROG    | Finance
            60 | Bruce       | IT_PROG    | Finance
            60 | David       | IT_PROG    | Finance
            60 | Valli       | IT_PROG    | Finance
            60 | Diana       | IT_PROG    | Finance
           100 | Nancy       | FI_MGR     | Finance
           100 | Daniel      | FI_ACCOUNT | Finance
           100 | John        | FI_ACCOUNT | Finance
           100 | Ismael      | FI_ACCOUNT | Finance
           100 | Jose Manuel | FI_ACCOUNT | Finance
           100 | Luis        | FI_ACCOUNT | Finance
            30 | Den         | PU_MAN     | Finance
            30 | Alexander   | PU_CLERK   | Finance
            30 | Shelli      | PU_CLERK   | Finance
            30 | Sigal       | PU_CLERK   | Finance
            30 | Guy         | PU_CLERK   | Finance
            30 | Karen       | PU_CLERK   | Finance
            50 | Matthew     | ST_MAN     | Finance
            50 | Adam        | ST_MAN     | Finance
            50 | Payam       | ST_MAN     | Finance
            50 | Shanta      | ST_MAN     | Finance
            50 | Kevin       | ST_MAN     | Finance
            50 | Julia       | ST_CLERK   | Finance
            50 | Irene       | ST_CLERK   | Finance
            50 | James       | ST_CLERK   | Finance
            50 | Steven      | ST_CLERK   | Finance
            50 | Laura       | ST_CLERK   | Finance
            50 | Mozhe       | ST_CLERK   | Finance
            50 | James       | ST_CLERK   | Finance
            50 | TJ          | ST_CLERK   | Finance
            50 | Jason       | ST_CLERK   | Finance
            50 | Michael     | ST_CLERK   | Finance
            50 | Ki          | ST_CLERK   | Finance
            50 | Hazel       | ST_CLERK   | Finance
            50 | Renske      | ST_CLERK   | Finance
            50 | Stephen     | ST_CLERK   | Finance
```

```
SQL Shell (psql)                                                                                    —    □    ×

postgres=#
postgres=#
postgres=# SELECT * FROM employees WHERE employee_id IN (SELECT employee_id FROM employees WHERE salary=(SELECT MAX(salary)
postgres(# FROM employees WHERE salary < (SELECT MAX(salary) FROM employees)));
 employee_id | first_name | last_name |  email   | phone_number |      hire_date      | job_id |  salary  | commission_pct | manager_id | department_id
-------------+------------+-----------+----------+--------------+---------------------+--------+----------+----------------+------------+---------------
         101 | Neena      | Kochhar   | NKOCHHAR | 515.123.4568 | 1989-09-21 00:00:00 | AD_VP  | 17000.00 |                |        100 |            90
         102 | Lex        | De Haan   | LDEHAAN  | 515.123.4569 | 1993-01-13 00:00:00 | AD_VP  | 17000.00 |                |        100 |            90
(2 rows)


postgres=#
```

```
SQL Shell (psql)                                                              —    □    ✕

postgres=# SELECT employee_id,first_name,salary FROM employees WHERE salary>(SELECT AVG (salary) FROM employees)
postgres-# AND department_id IN (SELECT department_id FROM employees WHERE first_name LIKE '%J%');
 employee_id | first_name  |  salary
-------------+-------------+----------
         108 | Nancy       | 12000.00
         109 | Daniel      |  9000.00
         110 | John        |  8200.00
         111 | Ismael      |  7700.00
         112 | Jose Manuel |  7800.00
         113 | Luis        |  6900.00
         120 | Matthew     |  8000.00
         121 | Adam        |  8200.00
         122 | Payam       |  7900.00
         123 | Shanta      |  6500.00
         145 | John        | 14000.00
         146 | Karen       | 13500.00
         147 | Alberto     | 12000.00
         148 | Gerald      | 11000.00
         149 | Eleni       | 10500.00
         150 | Peter       | 10000.00
         151 | David       |  9500.00
         152 | Peter       |  9000.00
         153 | Christopher |  8000.00
         154 | Nanette     |  7500.00
         155 | Oliver      |  7000.00
         156 | Janette     | 10000.00
         157 | Patrick     |  9500.00
         158 | Allan       |  9000.00
         159 | Lindsey     |  8000.00
         160 | Louise      |  7500.00
         161 | Sarath      |  7000.00
         162 | Clara       | 10500.00
         163 | Danielle    |  9500.00
         164 | Mattea      |  7200.00
         165 | David       |  6800.00
         168 | Lisa        | 11500.00
         169 | Harrison    | 10000.00
         170 | Tayler      |  9600.00
         171 | William     |  7400.00
         172 | Elizabeth   |  7300.00
         174 | Ellen       | 11000.00
         175 | Alyssa      |  8800.00
         176 | Jonathon    |  8600.00
```

```
SQL Shell (psql)

postgres=# SELECT e.first_name,e.last_name,d.department_name,c.city,c.state_province FROM employees e JOIN departments d ON d.department_id=e.department_id
postgres-# JOIN locations c ON d.location_id=c.location_id;
 first_name  |  last_name   | department_name |         city         | state_province
-------------+--------------+-----------------+----------------------+----------------
 Steven      | King         | Executive       | Seattle              | Washington
 Neena       | Kochhar      | Executive       | Seattle              | Washington
 Lex         | De Haan      | Executive       | Seattle              | Washington
 Alexander   | Hunold       | IT              | Southlake            | Texas
 Bruce       | Ernst        | IT              | Southlake            | Texas
 David       | Austin       | IT              | Southlake            | Texas
 Valli       | Pataballa    | IT              | Southlake            | Texas
 Diana       | Lorentz      | IT              | Southlake            | Texas
 Nancy       | Greenberg    | Finance         | Seattle              | Washington
 Daniel      | Faviet       | Finance         | Seattle              | Washington
 John        | Chen         | Finance         | Seattle              | Washington
 Ismael      | Sciarra      | Finance         | Seattle              | Washington
 Jose Manuel | Urman        | Finance         | Seattle              | Washington
 Luis        | Popp         | Finance         | Seattle              | Washington
 Den         | Raphaely     | Purchasing      | Seattle              | Washington
 Alexander   | Khoo         | Purchasing      | Seattle              | Washington
 Shelli      | Baida        | Purchasing      | Seattle              | Washington
 Sigal       | Tobias       | Purchasing      | Seattle              | Washington
 Guy         | Himuro       | Purchasing      | Seattle              | Washington
 Karen       | Colmenares   | Purchasing      | Seattle              | Washington
 Matthew     | Weiss        | Shipping        | South San Francisco  | California
 Adam        | Fripp        | Shipping        | South San Francisco  | California
 Payam       | Kaufling     | Shipping        | South San Francisco  | California
 Shanta      | Vollman      | Shipping        | South San Francisco  | California
 Kevin       | Mourgos      | Shipping        | South San Francisco  | California
 Julia       | Nayer        | Shipping        | South San Francisco  | California
 Irene       | Mikkilineni  | Shipping        | South San Francisco  | California
 James       | Landry       | Shipping        | South San Francisco  | California
 Steven      | Markle       | Shipping        | South San Francisco  | California
 Laura       | Bissot       | Shipping        | South San Francisco  | California
 Mozhe       | Atkinson     | Shipping        | South San Francisco  | California
 James       | Marlow       | Shipping        | South San Francisco  | California
 TJ          | Olson        | Shipping        | South San Francisco  | California
 Jason       | Mallin       | Shipping        | South San Francisco  | California
 Michael     | Rogers       | Shipping        | South San Francisco  | California
 Ki          | Gee          | Shipping        | South San Francisco  | California
 Hazel       | Philtanker   | Shipping        | South San Francisco  | California
 Renske      | Ladwig       | Shipping        | South San Francisco  | California
 Stephen     | Stiles       | Shipping        | South San Francisco  | California
```

```
postgres=# SELECT d.department_name,c.city,c.state_province FROM departments d JOIN locations c ON d.location_id=c.location_id;
   department_name    |        city         | state_province
----------------------+---------------------+----------------
 Administration       | Seattle             | Washington
 Marketing            | Toronto             | Ontario
 Purchasing           | Seattle             | Washington
 Human Resources      | London              |
 Shipping             | South San Francisco | California
 IT                   | Southlake           | Texas
 Public Relations     | Munich              | Bavaria
 Sales                | Oxford              | Oxford
 Executive            | Seattle             | Washington
 Finance              | Seattle             | Washington
 Accounting           | Seattle             | Washington
 Treasury             | Seattle             | Washington
 Corporate Tax        | Seattle             | Washington
 Control And Credit   | Seattle             | Washington
 Shareholder Services | Seattle             | Washington
 Benefits             | Seattle             | Washington
 Manufacturing        | Seattle             | Washington
 Construction         | Seattle             | Washington
 Contracting          | Seattle             | Washington
 Operations           | Seattle             | Washington
 IT Support           | Seattle             | Washington
 NOC                  | Seattle             | Washington
 IT Helpdesk          | Seattle             | Washington
 Government Sales     | Seattle             | Washington
 Retail Sales         | Seattle             | Washington
 Recruiting           | Seattle             | Washington
 Payroll              | Seattle             | Washington
(27 rows)


postgres=#
```

```
postgres-# JOIN locations c USING (location_id);
ERROR:  relation "department" does not exist
LINE 1: ...irst_name ||' '|| last_name AS manager ,city FROM department...
                                                               ^
postgres=# SELECT department_name,first_name ||' '|| last_name AS manager ,city FROM departments d JOIN employees e ON (d.manager_id=e.employee_id)
postgres-# JOIN locations c USING (location_id);
 department_name  |       manager       |         city
------------------+---------------------+---------------------
 Executive        | Steven King         | Seattle
 IT               | Alexander Hunold    | Southlake
 Finance          | Nancy Greenberg     | Seattle
 Purchasing       | Den Raphaely        | Seattle
 Shipping         | Adam Fripp          | South San Francisco
 Sales            | John Russell        | Oxford
 Administration   | Jennifer Whalen     | Seattle
 Marketing        | Michael Hartstein   | Toronto
 Human Resources  | Susan Mavris        | London
 Public Relations | Hermann Baer        | Munich
 Accounting       | Shelley Higgins     | Seattle
(11 rows)


postgres=#
```

```
SQL Shell (psql)                                                                          —    □    ×

postgres=#
postgres=#
postgres=# SELECT employee_id,job_title,end_date-start_date DAYS FROM job_history NATURAL JOIN jobs WHERE department_id=80;
 employee_id |      job_title       |   days
-------------+----------------------+----------
         176 | Sales Representative | 282 days
         176 | Sales Manager        | 364 days
(2 rows)


postgres=#
```