SQL ÖDEVİ 3 - İSMAİL BERKEHAN GÖKDEMİR

Sorular & Cevaplar

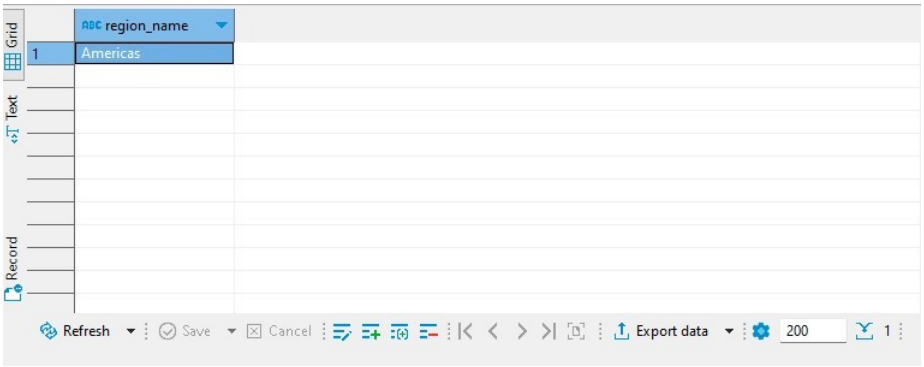
Soru 1) City içerisinde 'South' kelimesi geçen dataların **region_name**'ini benzersiz bir şekilde gösterin.

Cevap 1)

Sorgu:

```
SELECT DISTINCT hr.hr_regions.region_name
FROM hr.hr_locations
JOIN hr.hr_countries ON hr.hr_locations.country_id = hr.hr_countries.country_id
JOIN hr.hr_regions ON hr.hr_countries.region_id = hr.hr_regions.region_id
WHERE hr.hr_locations.city LIKE '%South%'
```

Çıktı:



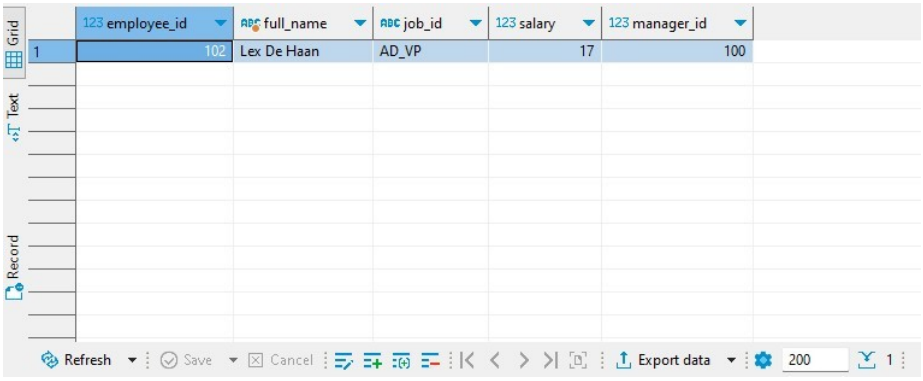
Soru 2) manager_id'si 100 olan yöneticinin altında çalışan elemanlardan, en yüksek maaş alan kimdir? Eğer birden fazla en yüksek maaş alan varsa alfabetik olarak sıralayıp ilk geleni alınız.

Cevap 2)

Sorgu:

```
SELECT employee_id, CONCAT(first_name, ' ', last_name) AS full_name,
job_id, salary, manager_id
FROM hr_employees
WHERE manager_id = 100
ORDER BY salary DESC, full_name ASC
LIMIT 1
```

Çıktı:



	123 employee_id	full_name	job_id	123 salary	123 manager_id
1	102	Lex De Haan	AD_VP	17	100

Grid Text Record

Refresh Save Cancel Export data 200 1

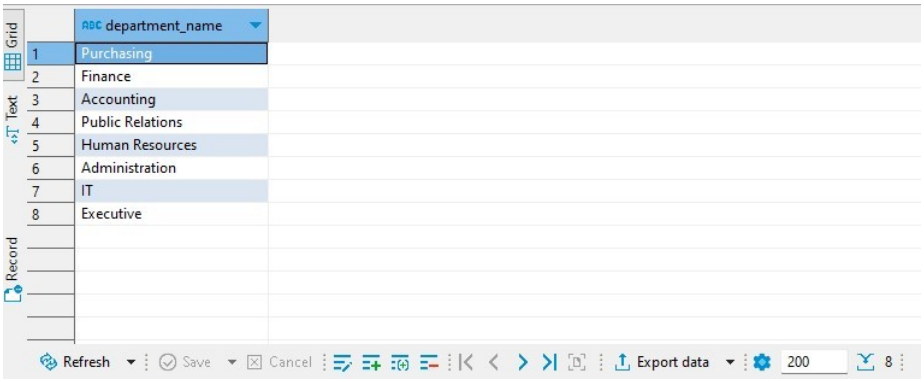
Soru 3) hr.hr_employees tablosunda, **hire_date**'i 1985 ve 1995 arasındaki kayıtların bağlı oldukları departman isimleri nelerdir?

Cevap 3)

Sorgu:

```
SELECT DISTINCT hr.hr_departments.department_name
FROM hr.hr_employees
JOIN hr.hr_departments ON hr.hr_employees.department_id = hr.hr_departments.department_id
WHERE hr.hr_employees.hire_date >= '1985-01-01' AND hr.hr_employees.hire_date <= '1994-12-31
```

Çıktı:



	department_name
1	Purchasing
2	Finance
3	Accounting
4	Public Relations
5	Human Resources
6	Administration
7	IT
8	Executive

Grid Text Record

Refresh Save Cancel Export data 200 8

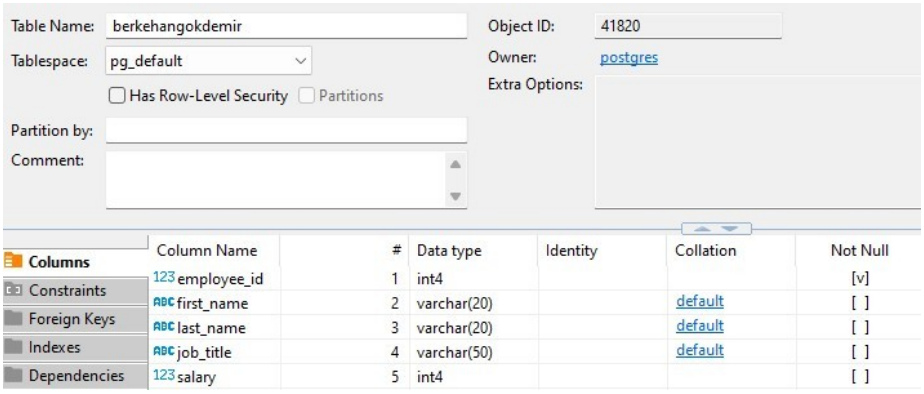
Soru 4) tbl.adsoyad olacak şekilde tablolar yaratın. Bu tablolardaki verileri **hr** şemasından çekin. Çektiğiniz verilere uygun olarak CREATE TABLE'ınızı detaylandırın (NOT NULL, UNIQUE, FK, PK, CHECK, tabloya yorum ve kolona yorum gibi). NOT: Gördüğümüz her özelliği bir kez kullanacak şekilde aktarım yapacağınız dataları belirlemeniz sizler için iyi olacaktır.

Cevap 4)

1.Adım - Tablo oluşturma sorgusu:

```
CREATE TABLE berkehangokdemir (
employee_id INTEGER PRIMARY KEY NOT NULL UNIQUE,
first_name VARCHAR(20),
last_name VARCHAR(20),
job_title VARCHAR(50),
salary INTEGER
)
```

1.Adım - Sonuç:

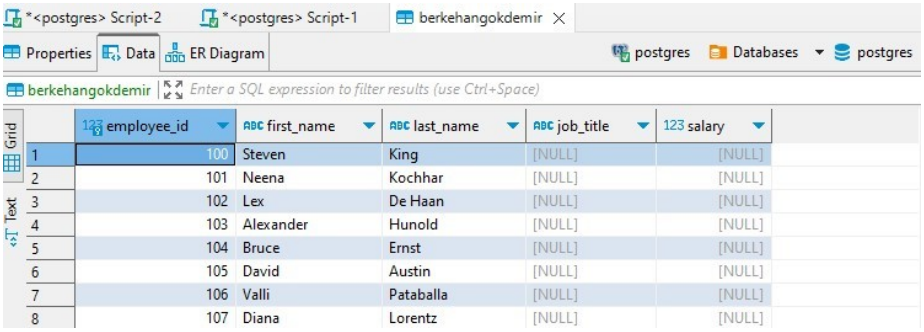


2.Adım - Veri çekme sorguları:

2.1 - **hr.hr_employees** tarafından çekilenler:

```
INSERT INTO berkehangokdemir (
employee_id,
first_name,
last_name
)
SELECT employee_id, first_name, last_name
FROM hr.hr_employees
```

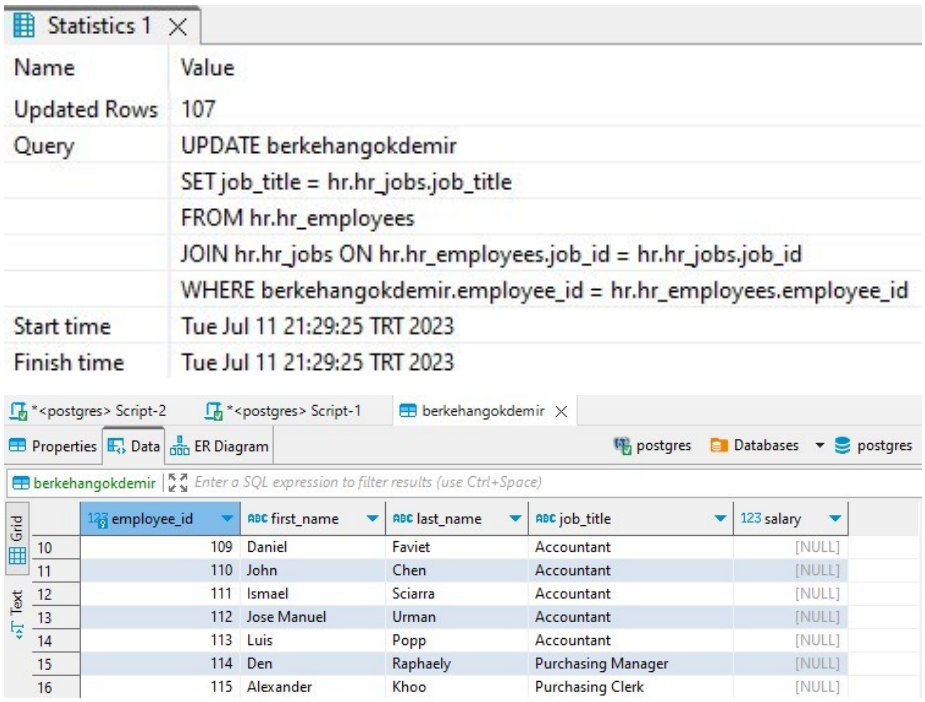
2.1 - Sonuç:



2.2 - hr.hr_jobs tarafından çekilenler:

```
UPDATE berkehangokdemir
SET job_title = hr.hr_jobs.job_title
FROM hr.hr_employees
JOIN hr.hr_jobs ON hr.hr_employees.job_id = hr.hr_jobs.job_id
WHERE berkehangokdemir.employee_id = hr.hr_employees.employee_id
```

2.2 - Sonuç:



Statistics 1

Name	Value
Updated Rows	107
Query	UPDATE berkehangokdemir
	SET job_title = hr.hr_jobs.job_title
	FROM hr.hr_employees
	JOIN hr.hr_jobs ON hr.hr_employees.job_id = hr.hr_jobs.job_id
	WHERE berkehangokdemir.employee_id = hr.hr_employees.employee_id
Start time	Tue Jul 11 21:29:25 TRT 2023
Finish time	Tue Jul 11 21:29:25 TRT 2023

*<postgres> Script-2 | *<postgres> Script-1 | berkehangokdemir

Properties | Data | ER Diagram | postgres | Databases | postgres

berkehangokdemir | Enter a SQL expression to filter results (use Ctrl+Space)

Grid | Text

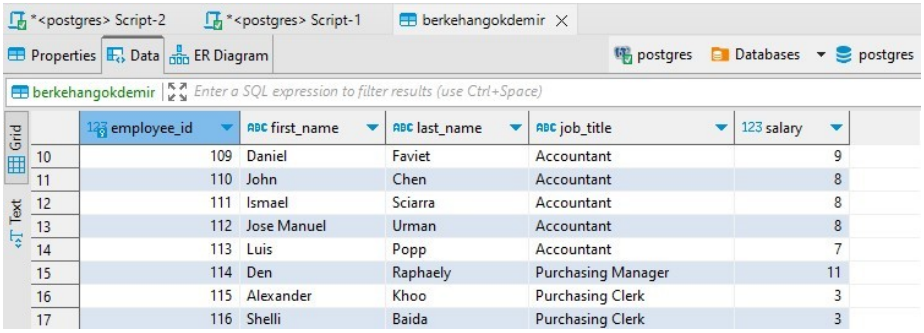
	employee_id	first_name	last_name	job_title	salary
10	109	Daniel	Faviet	Accountant	[NULL]
11	110	John	Chen	Accountant	[NULL]
12	111	Ismael	Sciarra	Accountant	[NULL]
13	112	Jose Manuel	Urman	Accountant	[NULL]
14	113	Luis	Popp	Accountant	[NULL]
15	114	Den	Raphaely	Purchasing Manager	[NULL]
16	115	Alexander	Khoo	Purchasing Clerk	[NULL]

2.3 - hr.hr_employees tarafından **salary**:

```
UPDATE berkehangokdemir
SET salary = hr.hr_employees.salary
FROM hr.hr_employees
WHERE berkehangokdemir.employee_id = hr.hr_employees.employee_id
```

Statistics 1

Name	Value
Updated Rows	107
Query	UPDATE berkehangokdemir
	SET salary = hr.hr_employees.salary
	FROM hr.hr_employees
	WHERE berkehangokdemir.employee_id = hr.hr_employees.employee_id
	--
	--
Start time	Tue Jul 11 21:40:39 TRT 2023
Finish time	Tue Jul 11 21:40:39 TRT 2023



	employee_id	first_name	last_name	job_title	salary
10	109	Daniel	Faviet	Accountant	9
11	110	John	Chen	Accountant	8
12	111	Ismael	Sciarra	Accountant	8
13	112	Jose Manuel	Urman	Accountant	8
14	113	Luis	Popp	Accountant	7
15	114	Den	Raphaely	Purchasing Manager	11
16	115	Alexander	Khoo	Purchasing Clerk	3
17	116	Shelli	Baida	Purchasing Clerk	3

3.Adım - Tablo düzeltme & ilişkili kolon ekleme sorguları

3.1 - currently_active kolonu eklenmesi & veri transferi:

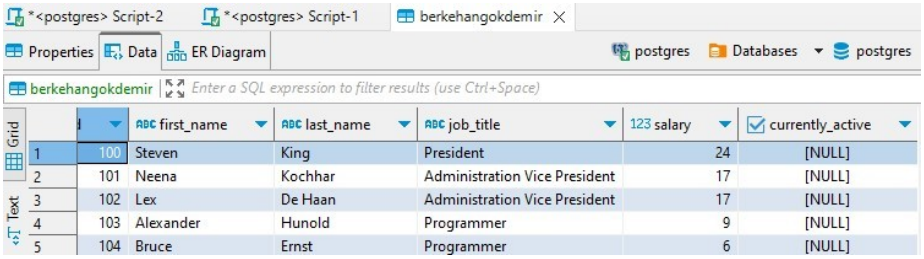
1.Sorgu:

```
ALTER TABLE berkehangokdemir
ADD currently_active BOOLEAN
```

Sonuçlar:

Statistics 1

Name	Value
Updated Rows	0
Query	ALTER TABLE berkehangokdemir
	ADD currently_active BOOLEAN
Start time	Tue Jul 11 22:34:02 TRT 2023
Finish time	Tue Jul 11 22:34:02 TRT 2023

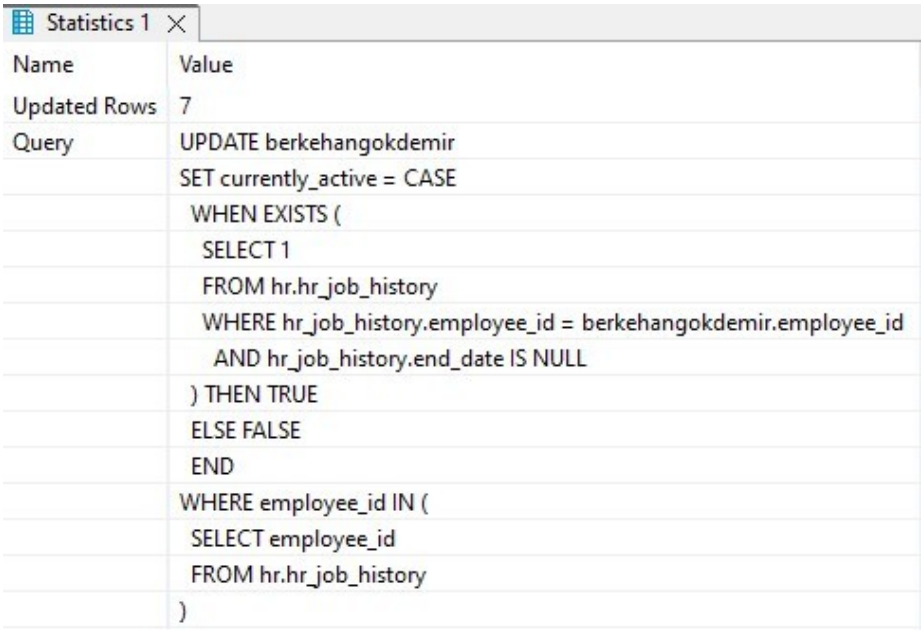


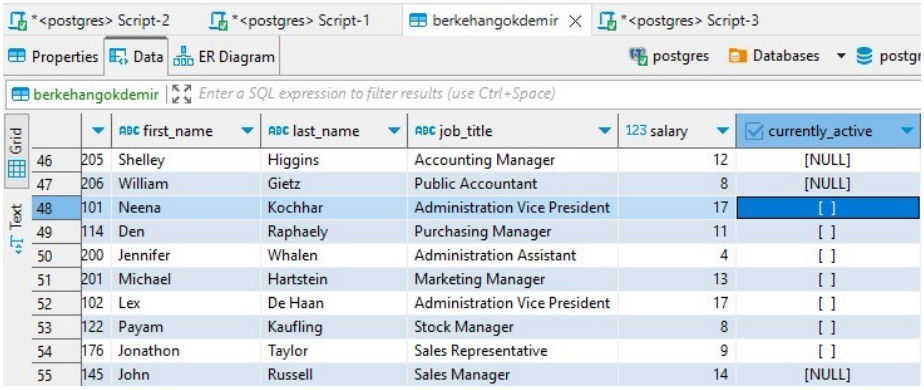
		first_name	last_name	job_title	salary	currently_active
1	100	Steven	King	President	24	[NULL]
2	101	Neena	Kochhar	Administration Vice President	17	[NULL]
3	102	Lex	De Haan	Administration Vice President	17	[NULL]
4	103	Alexander	Hunold	Programmer	9	[NULL]
5	104	Bruce	Ernst	Programmer	6	[NULL]

2.Sorgu:

```
UPDATE berkehangokdemir
SET currently_active = CASE
  WHEN EXISTS (
    SELECT 1
    FROM hr.hr_job_history
    WHERE hr_job_history.employee_id = berkehangokdemir.employee_id
      AND hr_job_history.end_date IS NULL
  ) THEN TRUE
  ELSE FALSE
  END
WHERE employee_id IN (
  SELECT employee_id
  FROM hr.hr_job_history
)
```

Sonuçlar:





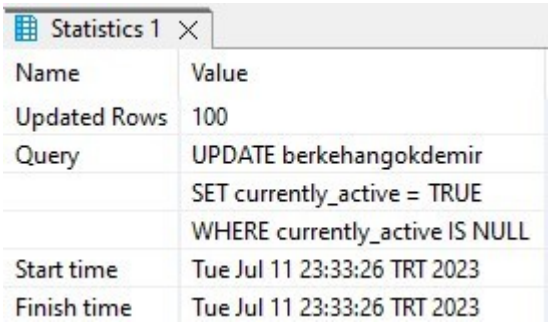
		first_name	last_name	job_title	salary	currently_active
46	205	Shelley	Higgins	Accounting Manager	12	[NULL]
47	206	William	Gietz	Public Accountant	8	[NULL]
48	101	Neena	Kochhar	Administration Vice President	17	[ ]
49	114	Den	Raphaely	Purchasing Manager	11	[ ]
50	200	Jennifer	Whalen	Administration Assistant	4	[ ]
51	201	Michael	Hartstein	Marketing Manager	13	[ ]
52	102	Lex	De Haan	Administration Vice President	17	[ ]
53	122	Payam	Kaufling	Stock Manager	8	[ ]
54	176	Jonathon	Taylor	Sales Representative	9	[ ]
55	145	John	Russell	Sales Manager	14	[NULL]

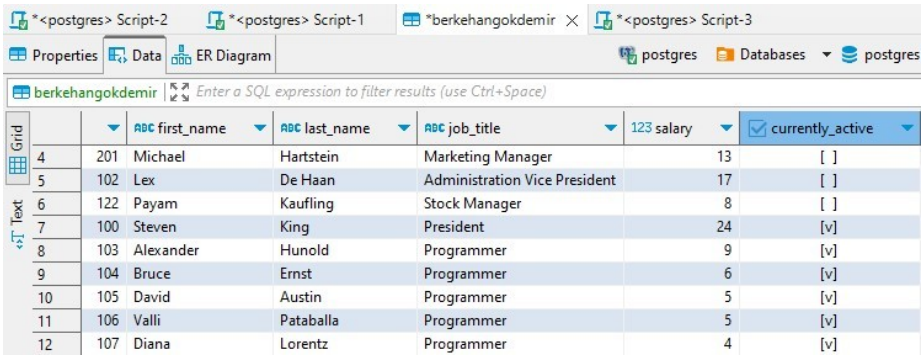
Bu aşamada sorgu yaptığımda '[ ]' şeklinde gözüken değerler false çıkmaktadır. Kalan değerler NULL olarak kaldığı için bir update daha yapacağım:

3.Sorgu:

```
UPDATE berkehangokdemir
SET currently_active = TRUE
WHERE currently_active IS NULL
```

Sonuçlar:





		first_name	last_name	job_title	salary	currently_active
4	201	Michael	Hartstein	Marketing Manager	13	[ ]
5	102	Lex	De Haan	Administration Vice President	17	[ ]
6	122	Payam	Kaufling	Stock Manager	8	[ ]
7	100	Steven	King	President	24	[v]
8	103	Alexander	Hunold	Programmer	9	[v]
9	104	Bruce	Ernst	Programmer	6	[v]
10	105	David	Austin	Programmer	5	[v]
11	106	Valli	Pataballa	Programmer	5	[v]
12	107	Diana	Lorentz	Programmer	4	[v]

3.2 - years_of_work kolonu eklenmesi & veri transferi

1.Sorgu:

```
ALTER TABLE berkehangokdemir
ADD years_of_work INTEGER
```

Sonuçlar:

Statistics 1

Name	Value
Updated Rows	0
Query	ALTER TABLE berkehangokdemir
	ADD years_of_work INTEGER
Start time	Tue Jul 11 23:42:25 TRT 2023
Finish time	Tue Jul 11 23:42:25 TRT 2023

*<postgres> Script-2 | *<postgres> Script-1 | berkehangokdemir | *<postgres> Script-3

Properties | Data | ER Diagram | postgres | Databases | postgres

berkehangokdemir | Enter a SQL expression to filter results (use Ctrl+Space)

Grid | Text

	last_name	job_title	salary	currently_active	years_of_work
1	Fripp	Stock Manager	8	[v]	[NULL]
2	Kochhar	Administration Vice President	17	[ ]	[NULL]
3	Raphaely	Purchasing Manager	11	[ ]	[NULL]
4	Whalen	Administration Assistant	4	[ ]	[NULL]
5	Hartstein	Marketing Manager	13	[ ]	[NULL]
6	De Haan	Administration Vice President	17	[ ]	[NULL]
7	Kaufling	Stock Manager	8	[ ]	[NULL]

2.Sorgu:

```
UPDATE berkehangokdemir
SET years_of_work =
  CASE
    WHEN hr.hr_job_history.end_date IS NOT NULL
    THEN
    DATE_PART('year', hr.hr_job_history.end_date)
    - DATE_PART('year', hr.hr_job_history.start_date)
    ELSE DATE_PART('year', CURRENT_DATE)
    - DATE_PART('year', hr.hr_job_history.start_date)
  END
FROM hr.hr_job_history
WHERE hr.hr_job_history.employee_id = berkehangokdemir.employee_id
```

Sonuçlar:

Statistics 1

Name	Value
Updated Rows	7
Query	UPDATE berkehangokdemir
	SET years_of_work =
	CASE
	WHEN hr.hr_job_history.end_date IS NOT NULL
	THEN DATE_PART('year', hr.hr_job_history.end_date) - DATE_PART('year', hr.hr_job_history.start_date)
	ELSE DATE_PART('year', CURRENT_DATE) - DATE_PART('year', hr.hr_job_history.start_date)
	END
	FROM hr.hr_job_history
	WHERE hr.hr_job_history.employee_id = berkehangokdemir.employee_id
Start time	Wed Jul 12 00:23:02 TRT 2023
Finish time	Wed Jul 12 00:23:02 TRT 2023

*<postgres> Script-2 | *<postgres> Script-1 | berkehangokdemir | *<postgres> Script-3

Properties | Data | ER Diagram | postgres | Databases | postgres

berkehangokdemir | Enter a SQL expression to filter results (use Ctrl+Space)

Grid | Text

	last_name	job_title	salary	currently_active	years_of_work
1	Fripp	Stock Manager	8	[v]	[NULL]
2	De Haan	Administration Vice President	17	[ ]	5
3	Kochhar	Administration Vice President	17	[ ]	4
4	Hartstein	Marketing Manager	13	[ ]	3
5	Raphaely	Purchasing Manager	11	[ ]	1
6	Kaufling	Stock Manager	8	[ ]	0
7	Whalen	Administration Assistant	4	[ ]	6
8	King	President	24	[v]	[NULL]
9	Hunold	Programmer	9	[v]	[NULL]

Kalan değerler NULL olarak kaldığı için bir update daha yapacağım:

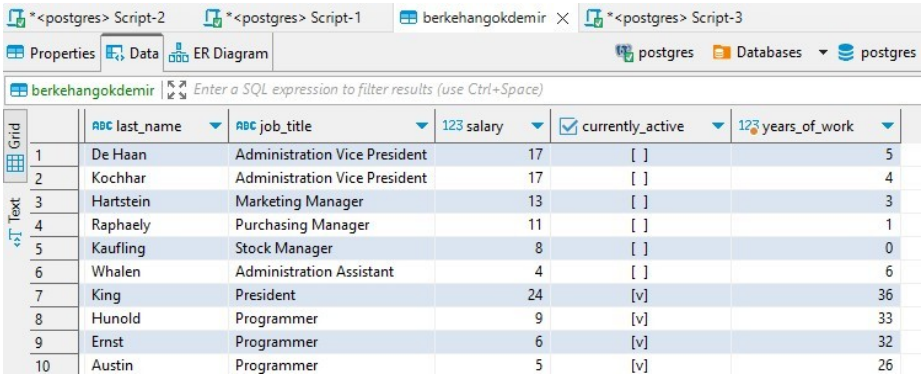
```
UPDATE berkehangokdemir
SET years_of_work = DATE_PART('year', CURRENT_DATE)
- DATE_PART('year', hr.hr_employees.hire_date)
FROM hr.hr_employees
WHERE hr.hr_employees.employee_id = berkehangokdemir.employee_id
  AND berkehangokdemir.currently_active = TRUE
```

Varsayım olarak bu veritabanını günümüzde güncel olarak düşünerek yaptım. Dolayısıyla rakamlar büyük.

Sonuçlar:

Statistics 1

Name	Value
Updated Rows	100
Query	UPDATE berkehangokdemir
	SET years_of_work = DATE_PART('year', CURRENT_DATE) - DATE_PART('year', hr.hr_employees.hire_date)
	FROM hr.hr_employees
	WHERE hr.hr_employees.employee_id = berkehangokdemir.employee_id
	AND berkehangokdemir.currently_active = TRUE
Start time	Wed Jul 12 00:36:36 TRT 2023
Finish time	Wed Jul 12 00:36:36 TRT 2023



	last_name	job_title	salary	currently_active	years_of_work
1	De Haan	Administration Vice President	17	[ ]	5
2	Kochhar	Administration Vice President	17	[ ]	4
3	Hartstein	Marketing Manager	13	[ ]	3
4	Raphaely	Purchasing Manager	11	[ ]	1
5	Kaufling	Stock Manager	8	[ ]	0
6	Whalen	Administration Assistant	4	[ ]	6
7	King	President	24	[v]	36
8	Hunold	Programmer	9	[v]	33
9	Ernst	Programmer	6	[v]	32
10	Austin	Programmer	5	[v]	26

Soru 5) Dataset'i analiz ederek daha kolay görmek istediğiniz, anlam çıkarabileceğinizi düşündüğünüz sorguları view şeması içerisinde oluşturun.

Cevap 5)

1.Sorgu:

```
CREATE VIEW hr.country_id_region_view AS
SELECT
hr.hr_countries.country_id,
hr.hr_countries.country_name,
hr.hr_regions.region_name
FROM hr.hr_countries
JOIN hr.hr_regions
ON hr.hr_countries.region_id = hr.hr_regions.region_id
```

1.Çıktı:

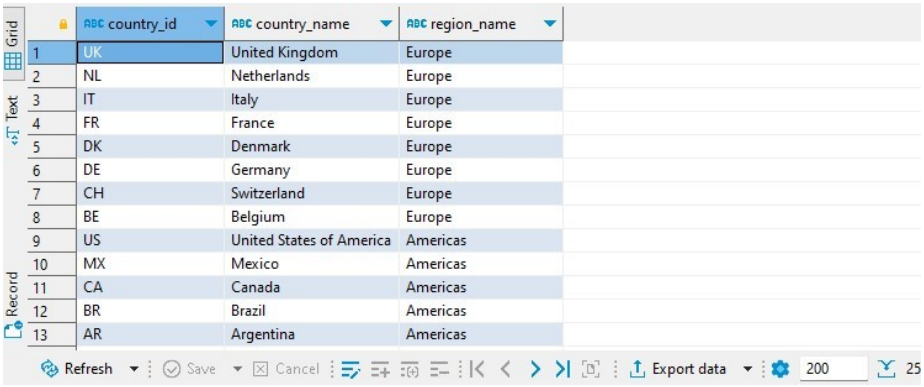
Statistics 1

Name	Value
Updated Rows	0
Query	CREATE VIEW hr.country_id_region_view AS
	SELECT
	hr.hr_countries.country_id,
	hr.hr_countries.country_name,
	hr.hr_regions.region_name
	FROM hr.hr_countries
	JOIN hr.hr_regions
	ON hr.hr_countries.region_id = hr.hr_regions.region_id
Start time	Wed Jul 12 15:57:25 TRT 2023
Finish time	Wed Jul 12 15:57:25 TRT 2023

2.Sorgu:

```
SELECT * FROM hr.country_id_region_view
```

2.Çıktı:



	country_id	country_name	region_name
1	UK	United Kingdom	Europe
2	NL	Netherlands	Europe
3	IT	Italy	Europe
4	FR	France	Europe
5	DK	Denmark	Europe
6	DE	Germany	Europe
7	CH	Switzerland	Europe
8	BE	Belgium	Europe
9	US	United States of America	Americas
10	MX	Mexico	Americas
11	CA	Canada	Americas
12	BR	Brazil	Americas
13	AR	Argentina	Americas

Soru 6) Herkes kendi ad soyadını kullanacak şekilde bir kullanıcı yaratsın Postgres DB'de ve bütün ayrıcalıkları kod kullanarak versin.

Cevap 6)

Sorgu:

```
CREATE USER berkehangokdemir WITH PASSWORD 'techbros2023'

GRANT ALL PRIVILEGES ON DATABASE postgres to berkehangokdemir

ALTER ROLE berkehangokdemir SUPERUSER CREATEDB
CREATEROLE INHERIT LOGIN REPLICATION BYPASSRLS

GRANT ALL ON SCHEMA hr TO berkehangokdemir

GRANT CREATE ON SCHEMA hr TO berkehangokdemir
```

Çıktı: