

Day2

1) Alter Table:

- Add a new column linkedin_profile to employees table to store LinkedIn URLs as varchar.

```
ALTER TABLE employees  
ADD COLUMN linkedin_profile varchar(100);
```

Data Output	Messages	Notifications
ALTER TABLE		
Query returned successfully in 38 msec.		

- Change the linkedin_profile column data type from VARCHAR to TEXT.

```
ALTER TABLE employees  
ALTER COLUMN linkedin_profile SET DATA TYPE TEXT;
```

ALTER TABLE		
Query returned successfully in 34 msec.		

- Add unique, not null constraint to linkedin_profile

```
ALTER TABLE EMPLOYEES  
ALTER COLUMN linkedin_profile SET NOT NULL;
```

Data Output	Messages	Notifications
ALTER TABLE		
Query returned successfully in 31 msec.		

```
ALTER TABLE EMPLOYEES  
ADD CONSTRAINT linkedin_unique UNIQUE (linkedin_profile);
```

Data Output Messages Notifications

ALTER TABLE

Query returned successfully in 30 msec.

- Drop column linkedin_profile

```
ALTER TABLE EMPLOYEES  
DROP COLUMN linkedin_profile;
```

Data Output Messages Notifications

ALTER TABLE

Query returned successfully in 35 msec.

2) Querying (Select)

- Retrieve the employee name and title of all employees

```
SELECT employee_name, title from employees;
```

Data Output Messages Notifications

	employee_name character varying (20)	title character varying (30)
1	Nancy Davolio	Sales Representative
2	Andrew Fuller	Vice President Sales
3	Janet Leverling	Sales Representative
4	Margaret Peacock	Sales Representative
5	Steven Buchanan	Sales Manager
6	Michael Suyama	Sales Representative
Total rows: 9		Query complete 00:00:00.170

- Find all unique unit prices of products

`SELECT DISTINCT unit_price from products;`

Data Output		Messages	Notifications
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	unit_price real		
1	15		
2	12.75		
3	26		
4	38		
5	9		
6	18.7		
Total rows: 64		Query complete 00:00:00.235	

- List all customers sorted by company name in ascending order

`SELECT customer_id,company_name FROM customers
ORDER BY company_name;`

Data Output		Messages	Notifications
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	customer_id [PK] character	company_name character varying (40)	
1	ALFKI	Alfreds Futterkiste	
2	ANATR	Ana Trujillo Emparedados y helad...	
3	ANTON	Antonio Moreno Taquería	
4	AROUT	Around the Horn	
5	BSBEV	B's Beverages	
6	BFRGS	Beralunds snabbköp	
Total rows: 91		Query complete 00:00:00.209	

- Display product name and unit price, but rename the unit_price column as price_in_usd

`SELECT product_name, unit_price as price_in_usd FROM products;`

Data Output Messages Notifications		
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	product_name character varying (40)	price_in_usd real
1	Chai	18
2	Chang	19
3	Uncle Bob's Organic Dried Pears	30
4	Mishi Kobe Niku	97
5	Ikura	31
6	Oueso Cabrales	21
Total rows: 77		Query complete 00:00:00.178

3) Filtering

- Get all customers from Germany.

```
SELECT company_name, country FROM customers WHERE country = 'Germany'
ORDER BY company_name;
```

Data Output Messages Notifications		
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	company_name character varying (40)	country character varying (15)
1	Alfreds Futterkiste	Germany
2	Blauer See Delikatessen	Germany
3	Die Wandernde Kuh	Germany
4	Drachenblut Delikatessen	Germany
5	Frankenversand	Germany
6	Königlich Essen	Germany
Total rows: 11		Query complete 00:00:00.137

- Find all customers from France or Spain

```
SELECT company_name, country FROM customers WHERE country = 'France' or
country = 'Spain' ORDER BY company_name;
```

Data Output Messages Notifications		
	company_name character varying (40)	country character varying (15)
1	Blondesddsl père et fils	France
2	Bólido Comidas preparadas	Spain
3	Bon app'	France
4	Du monde entier	France
5	FISSA Fabrica Inter. Salchichas S.A.	Spain
6	Folies gourmandes	France
Total rows: 16		Query complete 00:00:00.177

- Retrieve all orders placed in 2014(based on order_date), and either have freight greater than 50 or the shipped date available (i.e., non-NULL) (Hint: EXTRACT(YEAR FROM order_date))

SELECT * FROM orders where EXTRACT(YEAR FROM order_date) = 2014 AND (freight > 50 or shipped_date IS NOT NULL);

Data Output Messages Notifications									
	order_id [PK] smallint	customer_id character	employee_id smallint	order_date date	required_date date	shipped_date date	shipper_id smallint	freight real	
1	10400	EASTC	1	2014-01-01	2014-01-29	2014-01-16	3	83.93	
2	10401	RATTC	1	2014-01-01	2014-01-29	2014-01-10	1	12.51	
3	10402	ERNSH	8	2014-01-02	2014-02-13	2014-01-10	2	67.88	
4	10403	ERNSH	4	2014-01-03	2014-01-31	2014-01-09	3	73.79	
5	10404	MAGAA	2	2014-01-03	2014-01-31	2014-01-08	1	155.97	
6	10405	LINOD	1	2014-01-06	2014-02-03	2014-01-22	1	34.82	
Total rows: 408		Query complete 00:00:00.175							

4) Filtering

- Retrieve the product_id, product_name, and unit_price of products where the unit_price is greater than 15.

SELECT product_id,product_name,unit_price FROM products WHERE unit_price > 15;

Data Output

Messages

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SQL

	product_id [PK] smallint	product_name character varying (40)	unit_price real
1	1	Chai	18
2	2	Chang	19
3	7	Uncle Bob's Organic Dried Pears	30
4	9	Mishi Kobe Niku	97
5	10	Ikura	31
6	11	Oueso Cabrales	21

Total rows: 51

Query complete 00:00:00.160

- List all employees who are located in the USA and have the title "Sales Representative".

SELECT employee_name, country, title from employees WHERE country = 'USA' and title = 'Sales Representative';

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SQL

	<div>employee_name</div> <div>character varying (20)</div> <div>🔒</div>	<div>country</div> <div>character varying (15)</div> <div>🔒</div>	<div>title</div> <div>character varying (30)</div> <div>🔒</div>
1	Nancy Davolio	USA	Sales Representative
2	Janet Leverling	USA	Sales Representative
3	Margaret Peacock	USA	Sales Representative

- Retrieve all products that are not discontinued and priced greater than 30.

SELECT * FROM products where discontinued = 0 and unit_price > 30 order by product_id;

Data Output

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SQL

Show

	product_id [PK] smallint	product_name character varying (40)	quantity_per_unit character varying (20)	unit_price real	discontinued integer	category_id smallint
1	8	Northwoods Cranberry Sauce	12 - 12 oz jars	44	0	2
2	10	Ikura	12 - 200 ml jars	31	0	8
3	12	Queso Manchego La Pastora	10 - 500 g pkgs.	38	0	4
4	18	Carnarvon Tigers	16 kg pkg.	62.5	0	8
5	20	Sir Rodney's Marmalade	30 gift boxes	81	0	3
6	26	Gumbär Gummibärchen	100 - 250 g bags	31.23	0	3
Total rows: 20		Query complete 00:00:00.129				

5) LIMIT/FETCH

- Retrieve the first 10 orders from the orders table.

```
SELECT * FROM ORDERS ORDER BY order_id
LIMIT 10;
```

Data Output Messages Notifications

	order_id [PK] smallint	customer_id character	employee_id smallint	order_date date	required_date date	shipped_date date	shipper_id smallint	freight real
1	10248	VINET	5	2013-07-04	2013-08-01	2013-07-16	3	32.38
2	10249	TOMSP	6	2013-07-05	2013-08-16	2013-07-10	1	11.61
3	10250	HANAR	4	2013-07-08	2013-08-05	2013-07-12	2	65.83
4	10251	VICTE	3	2013-07-08	2013-08-05	2013-07-15	1	41.34
5	10252	SUPRD	4	2013-07-09	2013-08-06	2013-07-11	2	51.3
6	10253	HANAR	3	2013-07-10	2013-07-24	2013-07-16	2	58.17

Total rows: 10 Query complete 00:00:00.148

- Retrieve orders starting from the 11th order, fetching 10 rows (i.e., fetch rows 11-20).

```
SELECT * FROM ORDERS ORDER BY order_id
OFFSET 10
LIMIT 10;
```

Data Output Messages Notifications

	order_id [PK] smallint	customer_id character	employee_id smallint	order_date date	required_date date	shipped_date date	shipper_id smallint	freight real
1	10258	ERNSH	1	2013-07-17	2013-08-14	2013-07-23	1	140.51
2	10259	CENTC	4	2013-07-18	2013-08-15	2013-07-25	3	3.25
3	10260	OTTIK	4	2013-07-19	2013-08-16	2013-07-29	1	55.09
4	10261	QUEDE	4	2013-07-19	2013-08-16	2013-07-30	2	3.05
5	10262	RATTC	8	2013-07-22	2013-08-19	2013-07-25	3	48.29
6	10263	FRNSH	9	2013-07-23	2013-08-20	2013-07-31	3	146.06

Total rows: 10 Query complete 00:00:00.150

6) Filtering (IN, BETWEEN)

- List all customers who are either Sales Representative, Owner

```
SELECT * FROM customers WHERE contact_title in ('Sales Representative', 'Owner');
```

Data Output

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SQL

Show

	product_id [PK] smallint	product_name character varying (40)	quantity_per_unit character varying (20)	unit_price real	discontinued integer	category_id smallint
1	7	Uncle Bob's Organic Dried Pears	12 - 1 lb pkgs.	30	0	7
2	9	Mishi Kobe Niku	18 - 500 g pkgs.	97	1	6
3	10	Ikura	12 - 200 ml jars	31	0	8
4	11	Queso Cabrales	1 kg pkg.	21	0	4
5	12	Queso Manchego La Pastora	10 - 500 g pkgs.	38	0	4
6	13	Konbu	2 kg box	6	0	8
Total rows: 40		Query complete 00:00:00.105				

- Find customers whose company name starts with "A".

```
SELECT * FROM customers WHERE company_name like 'A%';
```

Data Output Messages Notifications

Showing rows: 1 to 4

	customer_id [PK] character	company_name character varying (40)	contact_name character varying (30)	contact_title character varying (30)	city character varying (15)	country character varying (15)
1	ALFKI	Alfreds Futterkiste	Maria Anders	Sales Representative	Berlin	Germany
2	ANATR	Ana Trujillo Emparedados y helados	Ana Trujillo	Owner	Mexico City	Mexico
3	ANTON	Antonio Moreno Taquería	Antonio Moreno	Owner	Mexico City	Mexico
4	AROUT	Around the Horn	Thomas Hardy	Sales Representative	London	UK

Total rows: 4 Query complete 00:00:00.125

8) INSERT into orders table:

Task: Add a new order to the orders table with the following details:

Order ID: 11078

Customer ID: ALFKI

Employee ID: 5

Order Date: 2025-04-23

Required Date: 2025-04-30

Shipped Date: 2025-04-25

shipperID:2

Freight: 45.50

```
INSERT INTO orders VALUES ( 11078, 'ALFKI', 5, '2025-04-23', '2025-04-30','2025-04-25',2,45.50);
```

```
SELECT * FROM ORDERS WHERE ORDER_ID = 11078;
```

Data Output Messages Notifications

	order_id [PK] smallint	customer_id character	employee_id smallint	order_date date	required_date date	shipped_date date	shipper_id smallint	freight real
1	11078	ALFKI	5	2025-04-23	2025-04-30	2025-04-25	2	45.5

9) Increase(Update) the unit price of all products in category_id =2 by 10%.
(HINT: unit_price =unit_price * 1.10)

```
UPDATE products SET unit_price = unit_price * 1.10 WHERE category_id = 2;
```

SELECT * FROM products where category_id = 2;

Data Output Messages Notifications

Showing

	product_id [PK] smallint	product_name character varying (40)	quantity_per_unit character varying (20)	unit_price real	discontinued integer	category_id smallint
1	3	Aniseed Syrup	12 - 550 ml bottles	11	0	2
2	4	Chef Anton's Cajun Seasoning	48 - 6 oz jars	24.2	0	2
3	5	Chef Anton's Gumbo Mix	36 boxes	23.485	1	2
4	6	Grandma's Boysenberry Spread	12 - 8 oz jars	27.5	0	2
5	8	Northwoods Cranberry Sauce	12 - 12 oz jars	44	0	2
6	15	Genen Shouviu	24 - 250 ml bottles	17.05	0	2
Total rows: 12		Query complete 00:00:00.134				

10) Sample Northwind database:

Download

- I. Download northwind.sql from below link into your local. Sign in to Git first
https://github.com/ptthom/northwind_psql
- II. Manually Create the database using pgAdmin:
 - A. Right-click on "Databases" → Create → Database
 - B. Give name as 'northwind' (all small letters)
 - C. Click 'Save'

Import database:

- I. Open pgAdmin and connect to your server
- II. Select the database 'northwind'
- III. Right Click-> Query tool.
- IV. Click the folder icon to open your northwind.sql file
- V. Press F5 or click the Execute button.
- VI. You will see total 14 tables loaded
- VII. Databases → your database → Schemas → public → Tables

pgAdmin 4

File Object Tools Edit View Window Help

Object Explorer

- > Foreign Tables
- > Functions
- > Materialized Views
- > Operators
- > Procedures
- > 1.3 Sequences
- ✓ Tables (14)
 - > categories
 - > customer_customer_demo
 - > customer_demographics
 - > customers
 - > employee_territories
 - > employees
 - > order_details
 - > orders
 - > products
 - > region
 - > shippers
 - > suppliers
 - > territories
 - > us_states

Query Editor: northwind/postgres@Local

Query

```
1  --
2  -- PostgreSQL database dump
3  --
4
5  SET statement_timeout = 0;
6  SET lock_timeout = 0;
7  SET client_encoding = 'UTF8';
8  SET standard_conforming_strings = on;
9  SET check_function_bodies = false;
10 SET client_min_messages = warning;
11
12
13
14 SET default_tablespace = '';
15
16 SET default_with_oids = false;
17
18
19 ---
20 --- drop tables
21 ---
```