SQL Day 2 Assignment

1.a) 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(255);

Data Output   Messages   Notifications

	employeeid [PK] integer	employeename character varying (100)	title character varying (100)	city character varying (50)	country character varying (50)	reportsto integer	linkedin_profile character varying (255)
1	1	Nancy Davolio	Sales Representative	New York	USA	8	[null]
2	2	Andrew Fuller	Vice President Sales	New York	USA	[null]	[null]
3	3	Janet Leverling	Sales Representative	New York	USA	8	[null]
4	4	Margaret Peacock	Sales Representative	New York	USA	8	[null]
5	5	Steven Buchanan	Sales Manager	London	UK	2	[null]
6	6	Michael Suyama	Sales Representative	London	UK	5	[null]
7	7	Robert King	Sales Representative	London	UK	5	[null]
8	8	Laura Callahan	Sales Manager	New York	USA	2	[null]
9	9	Anne Dodsworth	Sales Representative	London	UK	5	[null]

1.b) Change the linkedin_profile column data type from VARCHAR to TEXT

ALTER TABLE employees

ALTER COLUMN linkedin_profile TYPE TEXT;

Data Output   Messages   Notifications

	employeeid [PK] integer	employeename character varying (100)	title character varying (100)	city character varying (50)	country character varying (50)	reportsto integer	linkedin_profile text
1	1	Nancy Davolio	Sales Representative	New York	USA	8	[null]
2	2	Andrew Fuller	Vice President Sales	New York	USA	[null]	[null]
3	3	Janet Leverling	Sales Representative	New York	USA	8	[null]
4	4	Margaret Peacock	Sales Representative	New York	USA	8	[null]
5	5	Steven Buchanan	Sales Manager	London	UK	2	[null]
6	6	Michael Suyama	Sales Representative	London	UK	5	[null]
7	7	Robert King	Sales Representative	London	UK	5	[null]
8	8	Laura Callahan	Sales Manager	New York	USA	2	[null]
9	9	Anne Dodsworth	Sales Representative	London	UK	5	[null]

1.c) Add unique, not null constraint to linkedin_profile

ALTER TABLE employees

ADD CONSTRAINT unique_linkedin_profile UNIQUE (linkedin_profile);

ALTER TABLE employees

ALTER COLUMN linkedin_profile SET NOT NULL;

The given order Id 11078 already exists in the dataset. Order id should be unique so its shows an error.

1.d) Drop column linkedin_profile

ALTER TABLE employees

DROP COLUMN linkedin_profile;

After dropping column

	employeeid [PK] integer	employeename character varying (100)	title character varying (100)	city character varying (50)	country character varying (50)	reportsto integer
1	1	Nancy Davolio	Sales Representative	New York	USA	8
2	2	Andrew Fuller	Vice President Sales	New York	USA	[null]
3	3	Janet Leverling	Sales Representative	New York	USA	8
4	4	Margaret Peacock	Sales Representative	New York	USA	8
5	5	Steven Buchanan	Sales Manager	London	UK	2
6	6	Michael Suyama	Sales Representative	London	UK	5
7	7	Robert King	Sales Representative	London	UK	5
8	8	Laura Callahan	Sales Manager	New York	USA	2
9	9	Anne Dodsworth	Sales Representative	London	UK	5

2.a) Querying (Select)

Retrieve the first name, last name, and title of all employees

SELECT

  split_part(employeeName, ' ', 1) AS first_name,

  split_part(employeeName, ' ', 2) AS last_name,

  title

FROM employees;

Data Output   Messages   Notifications

	first_name text	last_name text	title character varying (100)
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
7	Robert	King	Sales Representative
8	Laura	Callahan	Sales Manager
9	Anne	Dodsworth	Sales Representative

2.b) Retrieve the employee's name, and title of all employees

SELECT

  employeeName,

  title

FROM employees;

employeename character varying (100)	title character varying (100)
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
7	Robert King	Sales Representative
8	Laura Callahan	Sales Manager
9	Anne Dodsworth	Sales Representative

2.b) Find all unique unit prices of products

select distinct unitPrice

from products

order by 1;

unitprice numeric (10,2)
1	2.50
2	4.50
3	6.00
4	7.00
5	7.45
6	7.75
7	9.00
8	9.20
9	9.50

Total rows: 64   Query complete 00:00:00.724

2.c) List all customers sorted by company name in ascending order

select customerid,companyname

from customers

order by 2;

2.d) Display product name and unit price, but rename the unit_price column as price_in_usd

SELECT

 productName,

 unitPrice AS price_in_usd

FROM products;

3.a) Filtering

Get all customers from Germany

SELECT *

FROM Customers

WHERE Country = 'Germany';

3.b) Find all customers from France or Spain

SELECT *

FROM Customers

WHERE Country IN ('France', 'Spain');

	customerid [PK] character varying (10)	companyname character varying (100)	contactname character varying (100)	contacttitle character varying (100)	city character varying (50)	country character varying (50)
1	BLONP	Blondesddsl père et fils	Frédérique Citeaux	Marketing Manager	Strasbourg	France
2	BOLID	Bólido Comidas preparadas	Martín Sommer	Owner	Madrid	Spain
3	BONAP	Bon app'	Laurence Lebihan	Owner	Marseille	France
4	DUMON	Du monde entier	Janine Labrune	Owner	Nantes	France
5	FISSA	FISSA Fabrica Inter. Salchichas S.A.	Diego Roel	Accounting Manager	Madrid	Spain
6	FOLIG	Folies gourmandes	Martine Rancé	Assistant Sales Agent	Lille	France
7	FRANR	France restauration	Carine Schmitt	Marketing Manager	Nantes	France
8	GALED	Galería del gastrónomo	Eduardo Saavedra	Marketing Manager	Barcelona	Spain
9	GODOS	Godos Cocina Típica	José Pedro Freyre	Sales Manager	Sevilla	Spain

Total rows: 16   Query complete 00:00:00.269

3.c) 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 OrderDate) = 2014

 AND (Freight > 50 OR ShippedDate IS NOT NULL);

	orderid [PK] integer	customerid character varying (10)	employeeid integer	orderdate date	requireddate date	shippeddate date	shipperid integer	freight numeric (10,2)
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
7	10406	QUEEN	7	2014-01-07	2014-02-18	2014-01-13	1	108.04
8	10407	OTTIK	2	2014-01-07	2014-02-04	2014-01-30	2	91.48
9	10408	FOLIG	8	2014-01-08	2014-02-05	2014-01-14	1	11.26

Total rows: 408   Query complete 00:00:00.298

4) Filtering-Retrieve the product_id, product_name, and unit_price of products where the unit_price is greater than 15

SELECT ProductID, ProductName, UnitPrice

FROM Products

WHERE UnitPrice > 15;

	productid [PK] integer	productname character varying (100)	unitprice numeric (10,2)
1	1	Chai	18.00
2	2	Chang	19.00
3	7	Uncle Bob's Organic Dried Pears	30.00
4	9	Mishi Kobe Niku	97.00
5	10	Ikura	31.00
6	11	Queso Cabrales	21.00
7	12	Queso Manchego La Pastora	38.00
8	14	Tofu	23.25
9	16	Pavlova	17.45

Total rows: 51   Query complete 00:00:00.182

4.b) List all employees who are in the USA and have the title "Sales Representative".

SELECT *

FROM Employees

WHERE Country = 'USA' AND Title = 'Sales Representative';

	employeeid [PK] integer	employeename character varying (100)	title character varying (100)	city character varying (50)	country character varying (50)	reportsto integer
1	1	Nancy Davolio	Sales Representative	New York	USA	8
2	3	Janet Leverling	Sales Representative	New York	USA	8
3	4	Margaret Peacock	Sales Representative	New York	USA	8

Total rows: 3   Query complete 00:00:00.187

4.c) Retrieve all products that are not discontinued and priced greater than 30.

SELECT *

FROM Products

WHERE Discontinued = FALSE AND UnitPrice > 30;

	productid [PK] integer	productname character varying (100)	quantityperunit character varying (100)	unitprice numeric (10,2)	discontinued boolean	categoryid integer
1	10	Ikura	12 - 200 ml jars	31.00	false	8
2	12	Queso Manchego La Pastora	10 - 500 g pkgs.	38.00	false	4
3	18	Carnarvon Tigers	16 kg pkg.	62.50	false	8
4	20	Sir Rodney's Marmalade	30 gift boxes	81.00	false	3
5	26	Gumbär Gummibärchen	100 - 250 g bags	31.23	false	3
6	27	Schoggi Schokolade	100 - 100 g pieces	43.90	false	3
7	32	Mascarpone Fabioli	24 - 200 g pkgs.	32.00	false	4
8	38	Côte de Blaye	12 - 75 cl bottles	263.50	false	1
9	43	Ipoh Coffee	16 - 500 g tins	46.00	false	1

Total rows: 20   Query complete 00:00:00.270

5.a) LIMIT/FETCH

● **Retrieve the first 10 orders from the orders table.**

SELECT *

FROM Orders

LIMIT 10;

	orderid [PK] integer	customerid character varying (10)	employeeid integer	orderdate date	requireddate date	shippeddate date	shipperid integer	freight numeric (10,2)
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	51.30
6	10253	HANAR	3	2013-07-10	2013-07-24	2013-07-16	2	58.17
7	10254	CHOPS	5	2013-07-11	2013-08-08	2013-07-23	2	22.98
8	10255	RICSU	9	2013-07-12	2013-08-09	2013-07-15	3	148.33
9	10256	WELLI	3	2013-07-15	2013-08-12	2013-07-17	2	13.97

Total rows: 10   Query complete 00:00:00.234

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

SELECT *

FROM Orders

OFFSET 10 LIMIT 10;

	orderid [PK] integer	customerid character varying (10)	employeeid integer	orderdate date	requireddate date	shippeddate date	shipperid integer	freight numeric (10,2)
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	ERNSH	9	2013-07-23	2013-08-20	2013-07-31	3	146.06
7	10264	FOLKO	6	2013-07-24	2013-08-21	2013-08-23	3	3.67
8	10265	BLONP	2	2013-07-25	2013-08-22	2013-08-12	1	55.28
9	10266	WARTH	3	2013-07-26	2013-09-06	2013-07-31	3	25.73

Total rows: 10   Query complete 00:00:00.170

6.a) Filtering (IN, BETWEEN)

● **List all customers who are either Sales Representative or Owner**

SELECT *

FROM Employees

WHERE Title IN ('Sales Representative', 'Owner');

	employeeid [PK] integer	employeename character varying (100)	title character varying (100)	city character varying (50)	country character varying (50)	reportsto integer
1	1	Nancy Davolio	Sales Representative	New York	USA	8
2	3	Janet Leverling	Sales Representative	New York	USA	8
3	4	Margaret Peacock	Sales Representative	New York	USA	8
4	6	Michael Suyama	Sales Representative	London	UK	5
5	7	Robert King	Sales Representative	London	UK	5
6	9	Anne Dodsworth	Sales Representative	London	UK	5

Total rows: 6   Query complete 00:00:00.160

6.b) Retrieve orders placed between January 1, 2013, and December 31, 2013.

SELECT *

FROM Orders

WHERE OrderDate BETWEEN '2013-01-01' AND '2013-12-31';

	orderid [PK] integer	customerid character varying (10)	employeeid integer	orderdate date	requireddate date	shippeddate date	shipperid integer	freight numeric (10,2)
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	51.30
6	10253	HANAR	3	2013-07-10	2013-07-24	2013-07-16	2	58.17
7	10254	CHOPS	5	2013-07-11	2013-08-08	2013-07-23	2	22.98
8	10255	RICSU	9	2013-07-12	2013-08-09	2013-07-15	3	148.33
9	10256	WELLI	3	2013-07-15	2013-08-12	2013-07-17	2	13.97

Total rows: 152   Query complete 00:00:00.318

7.a) Filtering

● **List all products whose category_id is not 1, 2, or 3.**

SELECT *

FROM Products

WHERE CategoryID NOT IN (1, 2, 3);

	productid [PK] integer	productname character varying (100)	quantityperunit character varying (100)	unitprice numeric (10,2)	discontinued boolean	categoryid integer
1	7	Uncle Bob's Organic Dried Pears	12 - 1 lb pkgs.	30.00	false	7
2	9	Mishi Kobe Niku	18 - 500 g pkgs.	97.00	true	6
3	10	Ikura	12 - 200 ml jars	31.00	false	8
4	11	Queso Cabrales	1 kg pkg.	21.00	false	4
5	12	Queso Manchego La Pastora	10 - 500 g pkgs.	38.00	false	4
6	13	Konbu	2 kg box	6.00	false	8
7	14	Tofu	40 - 100 g pkgs.	23.25	false	7
8	17	Alice Mutton	20 - 1 kg tins	39.00	true	6
9	18	Carnarvon Tigers	16 kg pkg.	62.50	false	8

Total rows: 40   Query complete 00:00:00.148

7.b) Find customers whose company name starts with "A".

SELECT *

FROM Customers

WHERE CompanyName LIKE 'A%';

	customerid [PK] character varying (10)	companyname character varying (100)	contactname character varying (100)	contacttitle character varying (100)	city character varying (50)	country character varying (50)
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 00:00:00.187

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

order by 1 desc;

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

Before update

select * from products where categoryID =2;

After update

update products set "unitPrice" = "unitPrice" * 1.10 where categoryID = 2;

select * from products where categoryID =2;

	productid [PK] integer	productname character varying (100)	quantityperunit character varying (100)	unitprice numeric (10,2)	discontinued boolean	categoryid integer
1	3	Aniseed Syrup	12 - 550 ml bottles	13.31	false	2
2	4	Chef Anton's Cajun Seasoning	48 - 6 oz jars	29.28	false	2
3	5	Chef Anton's Gumbo Mix	36 boxes	28.42	true	2
4	6	Grandma's Boysenberry Spread	12 - 8 oz jars	33.28	false	2
5	8	Northwoods Cranberry Sauce	12 - 12 oz jars	53.24	false	2
6	15	Genen Shouyu	24 - 250 ml bottles	20.64	false	2
7	44	Gula Malacca	20 - 2 kg bags	25.89	false	2
8	61	Sirop d'érable	24 - 500 ml bottles	37.94	false	2
9	63	Vegie-spread	15 - 625 g jars	58.43	false	2

Total rows: 12   Query complete 00:00:00.135

10) Download the northwind.sql file into the 'northwind' database using pgadmin