DATABASES & SQL

Asynchronous 2

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DATA SCIENCE

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1. Pelajari dan jelaskan menurut kalian tentang sub query dan cte serta cari contoh lain selain example yang ada di module

   Jawab:

   - **Subquery** atau **nested query** adalah sebuah kueri yang dijalankan di dalam kueri lain. Subquery memungkinkan Anda untuk menyaring data, melakukan agregasi, dan menggabungkan data dari beberapa tabel.

   - CTE atau Common Table Expression adalah fitur dalam SQL yang memungkinkan Anda untuk membuat temporary result set (kumpulan hasil sementara) yang dapat digunakan dalam kueri yang sama. CTE sering digunakan untuk menyederhanakan kueri yang kompleks, meningkatkan keterbacaan, dan meningkatkan kinerja

CONTOH KASUS SUB QUERY

1. EXIST

```
select firstname, city  from employees e
where exists (select employeeid from orders o
where employeeid = e.employeeid and shipname = 'Hanari Carnes' );
```

	ABC firstname	ABC city
1	Nancy	Seattle
2	Andrew	Tacoma
3	Janet	Kirkland
4	Margaret	Redmond
5	Steven	London
6	Laura	Seattle
7	Anne	London

2. ANY

```
select firstname, city  from employees e
where employeeid = any  (select employeeid from orders o
where employeeid = e.employeeid and  shipcountry = 'Brazil');
```

	ABC firstname	ABC city
1	Nancy	Seattle
2	Andrew	Tacoma
3	Janet	Kirkland
4	Margaret	Redmond
5	Steven	London
6	Laura	Seattle
7	Anne	London

3. ALL

```sql
select distinct  productid, unitprice  from order_details od
where unitprice * quantity > all  (select avg(unitprice * quantity)  from
order_details od2 );
```

	123 productid	123 unitprice
1	51	53
2	63	35.1
3	56	30.4
4	65	21.05
5	34	14
6	39	18
7	27	35.1
8	76	18
9	51	42.4
10	11	21
11	8	40
12	61	28.5

4. IN

```sql
select productname
from products p
where unitprice in (select unitprice from order_details od);
```

	ABC productname
1	Chai
2	Chang
3	Aniseed Syrup
4	Chef Anton's Cajun Seasoning
5	Chef Anton's Gumbo Mix
6	Grandma's Boysenberry Spread
7	Uncle Bob's Organic Dried Pears
8	Northwoods Cranberry Sauce
9	Mishi Kobe Niku
10	Ikura
11	Queso Cabrales
12	Queso Manchego La Pastora
13	Konbu

5. CTE

```sql
with order_cust(nama, negara, jumlah) as (
select c.companyname, c.country , count(od.quantity) as jumlah
from customers c
join orders o using (customerid)
join order_details od using (orderid)
group by c.companyname, c.country
)
```

```sql
select nama, negara, jumlah
from order_cust;
```

		ABC nama	ABC negara	123 jumlah
	7	Spécialités du monde	France	6
	8	Trail's Head Gourmet Pr	USA	9
	9	HILARION-Abastos	Venezuela	45
	10	Santé Gourmet	Norway	16
	11	Maison Dewey	Belgium	17
	12	Bottom-Dollar Markets	Canada	35
	13	Godos Cocina Típica	Spain	26
	14	Victuailles en stock	France	25
	15	Princesa Isabel Vinhos	Portugal	10
	16	Lonesome Pine Restaura	USA	14
	17	Mère Paillarde	Canada	32
	18	Wartian Herkku	Finland	37
	19	Richter Supermarkt	Switzerland	30
	20	White Clover Markets	USA	40
	21	Die Wandernde Kuh	Germany	26
	22	Around the Horn	UK	30
	23	GROSELLA-Restaurante	Venezuela	4

PRACTICE 106

1.

```sql
select contactname
from customers c
where exists (select customerid from orders o
where customerid = c.customerid and not orderdate = '1997-04-30');
```

		ABC contactname
	1	Maria Anders
	2	Ana Trujillo
	3	Antonio Moreno
	4	Thomas Hardy
	5	Christina Berglund
	6	Hanna Moos
	7	Frédérique Citeaux
	8	Martín Sommer
	9	Laurence Lebihan
	10	Elizabeth Lincoln
	11	Victoria Ashworth
	12	Patricio Simpson
	13	Francisco Chang
	14	Yang Wang
	15	Pedro Afonso

2.

```sql
select *
from suppliers s
where supplierid = any (select supplierid from
products p join order_details od using (productid)
where od.quantity = 1);
```

supplierid	companyname	contactname	contacttitle	address	city	region	postal
1	2	New Orleans Cajun Deligh	Shelley Burke	Order Administrator	P.O. Box 78934	New Orleans	LA	70117
2	3	Grandma Kelly's Homestea	Regina Murphy	Sales Representative	707 Oxford Rd.	Ann Arbor	MI	48104
3	4	Tokyo Traders	Yoshi Nagase	Marketing Manager	9-8 Sekimai Musas	Tokyo	[NULL]	100
4	6	Mayumi's	Mayumi Ohno	Marketing Representat	92 Setsuko Chuo-k	Osaka	[NULL]	545
5	8	Specialty Biscuits, Ltd.	Peter Wilson	Sales Representative	29 King's Way	Manchester	[NULL]	M14 GSD
6	13	Nord-Ost-Fisch Handelsge	Sven Petersen	Coordinator Foreign M	Frahmredder 112a	Cuxhaven	[NULL]	27478
7	14	Formaggi Fortini s.r.l.	Elio Rossi	Sales Representative	Viale Dante, 75	Ravenna	[NULL]	48100
8	15	Norske Meierier	Beate Vileid	Marketing Manager	Hatlevegen 5	Sandvika	[NULL]	1320
9	17	Svensk Sjöföda AB	Michael Björn	Sales Representative	Brovallavägen 231	Stockholm	[NULL]	S-123 45
10	19	New England Seafood Car	Robb Merchant	Wholesale Account Ag	Order Processing D	Boston	MA	02134
11	28	Gai pâturage	Eliane Noz	Sales Representative	Bat. B 3, rue des Al	Annecy	[NULL]	74000

3.

```sql
select distinct contactname
from customers c
join orders o using (customerid)
join order_details od using (orderid)
where od.unitprice * od.quantity  > all
(select avg(od.quantity*od.unitprice)
from order_details od2 );
```

4.

```sql
select *
from suppliers s
where city in (select distinct city from customers c);
```

ntactname	contacttitle	address	city	region	postalcode	country	phone
1	e Nodier	Sales Manager	203, Rue des Francs-Bourgeois	Paris	[NULL]	75004	France	(1) 03.83.00.
2	Vinkler	Sales Manager	Tiergartenstraße 5	Berlin	[NULL]	10785	Germany	(010) 99845
3	Diaz	Marketing Manager	Av. das Americanas 12.890	Sao Paulo	[NULL]	5442	Brazil	(11) 555 464
4	te Cooper	Purchasing Manager	49 Gilbert St.	London	[NULL]	EC1 4SD	UK	(171) 555-22
5	uy Lauzon	Marketing Manager	2960 Rue St. Laurent	Montréal	Québec	H1J 1C3	Canada	(514) 555-90

5.

```
with same_city (nama, kota, negara) as (
select contactname, city, country
from suppliers s
where city in (select distinct city from customers c))
select nama, kota, negara
from same_city;
```

	nama	kota	negara
1	Guylène Nodier	Paris	France
2	Petra Winkler	Berlin	Germany
3	Carlos Diaz	Sao Paulo	Brazil
4	Charlotte Cooper	London	UK
5	Jean-Guy Lauzon	Montréal	Canada