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## Soal

1. Kita telah belajar mengenai konsep primary key dan foreign key. Sering kali pada praktik di lapangan, database diimplementasi tanpa menggunakan foreign key karena penggunaan foreign key akan meningkatkan beban database dalam melakukan operasi write(menulis data kedalam database).

Pada ER Diagram, kita akan melihat tabel tabel yang tidak terhubung. Kira-kira, apa saja hubungan antar tabel? Lengkapi tabel berikut

Tabel1	Hubungan	Tabel2	join key
customers	many to one	employees	customers.sales_rep_employee_number = employees.employee_number
customers	One to many	payments	customer_number
customers	one to many	orders	customers.customer_number = orders.customer_number
orders	One to many	orderdetails	orders.order_number=orderderails.order_number
orderdetails	Many to one	products	orderdetails.product_code=products.product_code
products	Many to one	product_lines	Products.product_line=product_lines.product_line

2. Cari produk dengan msrp paling tinggi (Jangan hanya menunjukkan harga, tapi infokan juga tentang produknya apa)

**Jawaban: Alpine Renault 1300 merupakan produk dengan msrp tertinggi**

SQL Script Editor showing a query to find the product with the highest MSRP:

```
--Tugas No 2.perbaikan
-- nilai msrp tertinggi
SELECT*
FROM products
WHERE msrp IN (SELECT MAX(msrp) as harga_tertinggi
FROM products )

--Tugas No.5 Perbaikan
--Langkahnya hitung jumlah banyaknya order yang unik untuk masing-masing kota,
```

Query Results (products table):

id	product_line	product_scale	product_vendor	product_description	quantity_in_stock	buy_price	msrp
1	ars	1:10	Classic Metal Creations	Turnable front wheels; steering function; detailed in	7305	98.58	214.3

3. Setiap customer akan di handle oleh suatu agen. Informasi tentang siapa agen yang melayani customer tersebut tersimpan dalam kolom sales\_rep\_employee\_number pada tabel customers. Perusahaan ingin memberikan bonus kepada karyawan yang telah melayani lebih dari 3 customer. Carilah sales\_rep\_employee\_number dengan banyak customer > 3.  
**Jawaban: terdapat 15 karyawan dengan banyak customer >3**

SQL Script Editor showing a query to find employees who have served more than 3 customers:

```
--TUGAS Assignment
--Nomor 3
SELECT customers.sales_rep_employee_number, employees.first_name, employees.last_name,
COUNT(customers.customer_number) as jumlah_customer_dilayani
FROM customers
INNER JOIN employees
ON customers.sales_rep_employee_number =employees.employee_number
GROUP BY customers.sales_rep_employee_number
Having jumlah_customer_dilayani>3
```

Query Results (customers table):

id	sales_rep_employee_number	first_name	last_name	jumlah_customer_dilayani
1	1,165	Leslie	Jennings	6
2	1,166	Leslie	Thompson	6
3	1,188	Julie	Firrelli	6
4	1,216	Steve	Patterson	6
5	1,286	Foon Yue	Tseng	7
6	1,323	George	Vanauf	8
7	1,337	Loui	Bondur	6
8	1,370	Gerard	Hernandez	7
9	1,401	Pamela	Castillo	10
10	1,501	Larry	Bott	8
11	1,504	Barry	Jones	9
12	1,611	Andy	Fixter	5
13	1,612	Peter	Marsh	5
14	1,621	Mami	Nishi	5
15	1,702	Martin	Gerard	6

4. Kota mana yang memiliki banyak order tertinggi?  
 HINT : Gunakan **count(distinct nama\_kolom)** untuk agregasi menghitung

## Jawaban: Madrid

The screenshot shows the DBeaver 24.0.1 interface with a SQL query executed on the 'ecommerce.sqlite' database. The query is as follows:

```
--TUGAS Assignment
--Nomor 4
SELECT customers.city,
       customers.country,
       COUNT(DISTINCT orders.order_number) as total_order
FROM orders
LEFT JOIN customers ON orders.customer_number = customers.customer_number
GROUP BY customers.city
ORDER BY total_order DESC
```

The results are displayed in a table with 15 rows, showing the total order count for each city. The city 'Madrid' has the highest total order count of 31.

city	country	total_order
Madrid	Spain	31
San Rafael	USA	17
NYC	USA	16
Singapore	Singapore	9
Paris	France	9
Nantes	France	9
Auckland	New Zealand	9
Brickhaven	USA	8
San Francis	USA	7
New Bedford	USA	6
Kopenhagen	Denmark	6
Reims	France	5
Philadelphia	USA	5
Melbourne	Australia	5
London	UK	5

5. Basket Size adalah suatu term yang sering digunakan pada industri retail, yakni banyaknya barang yang dibelanjakan dalam suatu transaksi. Pada soal ini, anda diminta untuk menghitung rata-rata basket size di setiap kota.

Contoh : Pada suatu kota, terdapat 2 transaksi. Transaksi pertama berisi 1 barang A dan 2 barang B, sementara transaksi kedua berisi 2 barang C. Artinya, transaksi pertama memiliki basket size = 3 dan transaksi kedua memiliki basket size = 2. Jika dirata-ratakan, maka average basket size pada kota tersebut adalah 2.5.

**Jawaban PERBAIKAN :**

The screenshot shows the DBeaver 24.0.1 interface with a complex SQL query executed on the 'ecommerce.sqlite' database. The query is as follows:

```
--Tugas No.5 Perbaikan
--Langkahnya hitung jumlah banyaknya order yang unik untuk masing-masing kota,
--kemudian hitung total quantity order pada masing-masing kota,
-- dilanjutkan menghitung rata-rata masing kota
-- dengan membagi total quantity order dengan banyaknya nomor order

WITH jml_ord_ct AS (
    SELECT customers.city,
           COUNT(DISTINCT orders.order_number) as jml_ord
    FROM orders
    INNER JOIN customers ON orders.customer_number = customers.customer_number
    GROUP BY customers.city),
jml_quantity AS (
    SELECT customers.city,
           SUM(orders.order_details.quantity_ordered) as jml_qty
    FROM orderdetails
    INNER JOIN orders ON orderdetails.order_number = orders.order_number
    INNER JOIN customers ON orders.customer_number = customers.customer_number
    GROUP BY customers.city)
SELECT jml_ord_ct.city,
       jml_ord_ct.jml_ord,
       jml_quantity.jml_qty,
       (jml_quantity.jml_qty/jml_ord_ct.jml_ord) as basket_size_ord
FROM jml_ord_ct
INNER JOIN jml_quantity ON jml_ord_ct.city=jml_quantity.city
GROUP BY jml_ord_ct.city
```

Hasilnya berikut:

DBeaver 24.0.1 - <ecommerce.sqlite> Script-7

File Edit Navigate Search SQL Editor Database Window Help

Database N... Projects sakila\_master.db ecommerce.sqlite sakila\_master.db> Script <none> Script-6 \*ecommerce.sqlite> Script-7 x

Enter a part of object name here

- Chinook\_Sqlite.sqlite
- Chinook\_Sqlite.sqlite 2
- ecommerce.sqlite
  - Tables
  - Views
  - Indexes
  - Sequences
  - Table Triggers
  - Data Types
  - sakila\_master.db

Project - General x

Name DataSource

with jml\_ord\_ct as ( SELECT customers.city, Enter a SQL expression to filter results (use Ctrl+Space)

Grid	city	jml_ord	jml_qty	basket_size_ord
1	Allentown	4	1111	277
2	Auckland	7	2650	378
3	Auckland	5	1691	338
4	Barcelona	3	882	294
5	Bergamo	3	1650	550
6	Bergen	3	973	324
7	Boston	5	1731	346
8	Brickhaven	8	1654	206
9	Bridgewater	3	903	301
10	Brisbane	2	514	257
11	Bruxelles	3	796	265
12	Brucke	3	1359	453
13	Burbank	2	511	255
14	Burlingame	4	1179	294
15	Cambridge	4	1333	333
16	Central Hong	2	596	298
17	Charleroi	4	278	69
18	Chatswood	4	1601	400
19	Cowes	2	895	447
20	Dublin	2	490	245
21	Espoo	3	1031	343
22	Frankfurt	4	811	202
23	Geneve	2	1078	539

Refresh Save Cancel Export data 150 78

78 row(s) fetched - 0.009s (0.001s fetch), on 2024-05-07 at 20:54:01

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DBeaver 24.0.1 - <ecommerce.sqlite> Script-7

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Project - General x

Name DataSource

with jml\_ord\_ct as ( SELECT customers.city, Enter a SQL expression to filter results (use Ctrl+Space)

Grid	city	jml_ord	jml_qty	basket_size_ord
22	Frankfurt	4	811	202
23	Geneve	2	1078	539
24	Glen Waverly	3	705	235
25	Glendale	5	768	153
26	Graz	3	532	177
27	Helsinki	3	1051	350
28	Kita-ku	2	692	346
29	Kobenhavn	6	1315	219
30	Köln	2	936	468
31	Las Vegas	3	929	309
32	Lille	2	699	349
33	Liverpool	3	1046	348
34	London	5	1294	258
35	Los Angeles	2	500	250
36	Luleå	4	647	161
37	Lyon	3	1428	476
38	Madrid	31	10958	353
39	Makati City	3	961	320
40	Manchester	3	1778	592
41	Marseille	3	804	268
42	Melbourne	5	1926	385
43	Milan	2	272	136
44	Minato-ku	4	1150	287

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DBeaver 24.0.1 - <ecommerce.sqlite> Script-7

File Edit Navigate Search SQL Editor Database Window Help

Database N... Projects sakila\_master.db ecommerce.sqlite <sakila\_master.db> Script <none> Script-6 \* <ecommerce.sqlite> Script-7

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- > Chinook\_Sqlite.sqlite
- > Chinook\_Sqlite.sqlite 2
- > ecommerce.sqlite
  - > Tables
  - > Views
  - > Indexes
  - > Sequences
  - > Table Triggers
  - > Data Types
  - > sakila\_master.db

Project - General

Name DataSource

- > Bookmarks
- > Diagrams
- > Scripts

SQL Editor

with jml\_ord\_ct as (SELECT customers.city, jml\_ord, jml\_qty, basket\_size\_ord

Grid

	city	jml_ord	jml_qty	basket_size_ord
57	Pasadena	3	1060	353
58	Philadelphia	5	1398	279
59	Reggio Emili	3	1280	426
60	Reims	5	1433	286
61	Salzburg	4	1442	360
62	San Diego	2	954	477
63	San Francisco	7	2139	305
64	San Jose	4	1656	414
65	San Rafael	17	6366	374
66	Sevilla	2	589	294
67	Singapore	9	2760	306
68	South Brisba	3	545	181
69	Stavern	4	1082	270
70	Strasbourg	3	779	259
71	Torino	2	843	421
72	Toulouse	3	687	229
73	Tsawassen	2	873	436
74	Vancouver	2	703	351
75	Versailles	2	637	318
76	Wellington	3	1055	351
77	White Plains	2	929	464
78	rhuis	2	882	441

Record

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78 row(s) fetched - 0.009s (0.001s fetch), on 2024-05-07 at 20:54:01

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