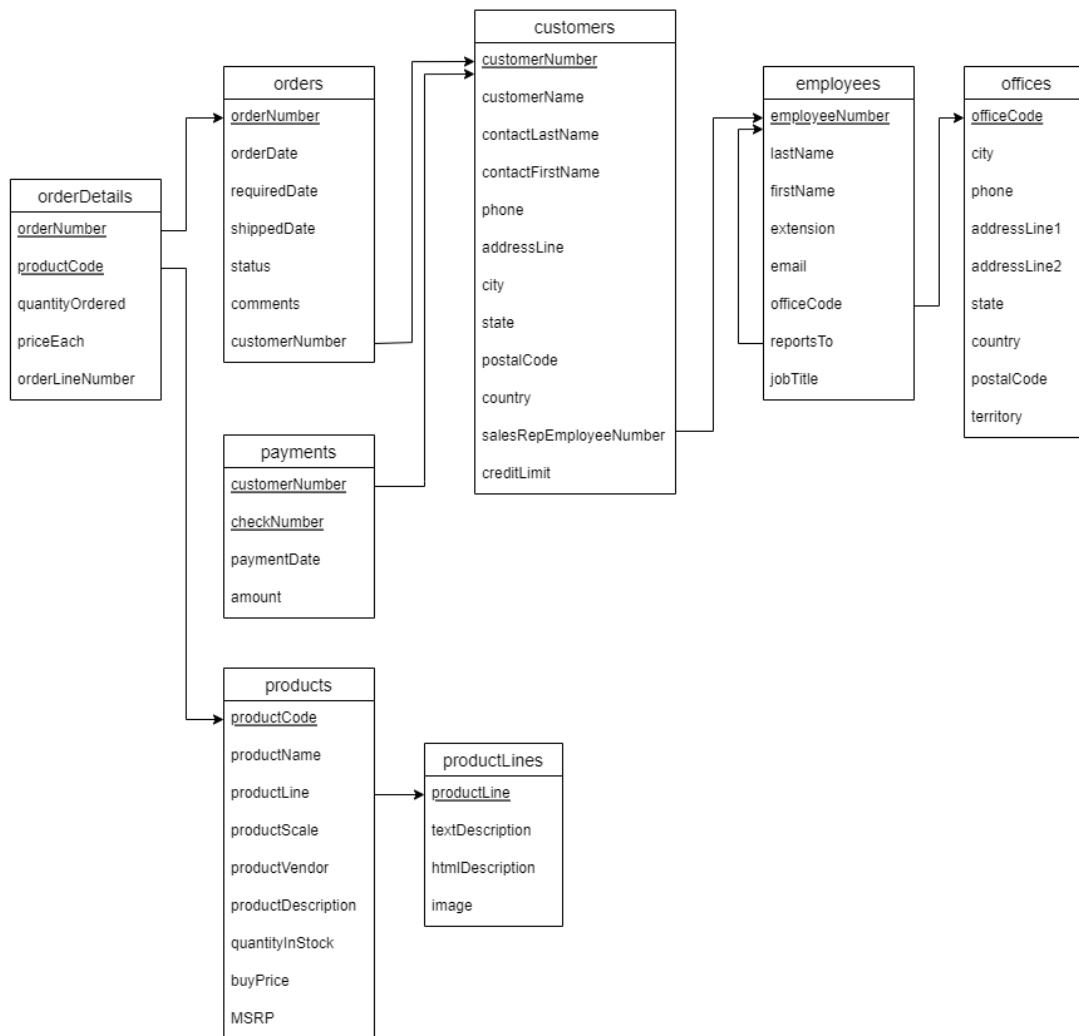


# Lembar Kerja Praktikum 3 IF2240 Basis Data

Materi: SQL (Part 1 - 4)

## I. Skema Basis Data

Diberikan skema basis data sebagai [berikut](#), yang tersimpan dalam database prak3. Database ini memiliki skema yang sama dengan database prak1 dan prak2.



## II. Soal

1. Buatlah query untuk menampilkan nama pelanggan yang pernah melakukan pembayaran pada tahun 2003 dengan amount >50000 atau <10000. Tampilkan dengan amount terurut membesar.

**QUERY:**

```
SELECT customerName  
FROM customers NATURAL JOIN payments  
WHERE YEAR(paymentDate) = 2003  
AND (amount < 10000 OR amount > 50000)  
ORDER BY amount;
```

**SCREENSHOT:**

```

MariaDB [prakt1]> SELECT customerName
-> FROM customers NATURAL JOIN payments
-> WHERE YEAR(paymentDate) = 2003
-> AND (amount < 10000 OR amount > 50000)
-> ORDER BY amount;

```

```

+-----+
| customerName |
+-----+
| Royale Belge |
| Baane Mini Imports |
| Royale Belge |
| Down Under Souvenirs, Inc |
| Enaco Distributors |
| Toys4GrownUps.com |
| Boards & Toys Co. |
| Vitachrome Inc. |
| Auto-Moto Classics Inc. |
| Gift Ideas Corp. |
| Australian Collectors, Co. |
| Volvo Model Replicas, Co |
| West Coast Collectables Co. |
| Australian Gift Network, Co |
| FunGiftIdeas.com |
| Baane Mini Imports |
| Toys4GrownUps.com |
| Technics Stores Inc. |
| Marseille Mini Autos |
| Cruz & Sons Co. |
| Rovelli Gifts |
| Mini Creations Ltd. |
| Danish Wholesale Imports |
| Online Diecast Creations Co. |
| Corrida Auto Replicas, Ltd |
| Muscle Machine Inc |
| Muscle Machine Inc |
| Diecast Collectables |
| Euro+ Shopping Channel |
| Herkku Gifts |
| Corporate Gift Ideas Co. |
| Dragon Souvenirs, Ltd. |
| Mini Gifts Distributors Ltd. |
+-----+
33 rows in set (0.001 sec)

```

2. Buatlah sebuah view yang bernama "cancelled\_order" untuk pesanan dengan status "Cancelled". Dalam view tersebut, data yang disertakan adalah nama lengkap contact sebagai "contact\_name", nomor telepon, tanggal pemesanan, nama produk yang dipesan, status, dan komentar. Urutkan dari tanggal yang terbaru.

```
CREATE VIEW cancelled_order AS
(SELECT CONCAT(contactFirstName," ",contactLastName) as contact_name, phone,
orderDate, productName,
status, comments
FROM customers NATURAL JOIN orders NATURAL JOIN orderDetails NATURAL JOIN
products
WHERE status = "Cancelled"
ORDER BY orderDate DESC);
```

```
MariaDB [prak1]> CREATE VIEW cancelled_order AS
-> (SELECT CONCAT(contactFirstName," ",contactLastName) as contact_name, phone, orderDate, productName,
-> status, comments
-> FROM customers NATURAL JOIN orders NATURAL JOIN orderDetails NATURAL JOIN products
-> WHERE status = "Cancelled"
-> ORDER BY orderDate DESC);
Query OK, 0 rows affected (0.004 sec)
```

[illegible]

- Buktikan dengan screenshot sebelum dan sesudah dilakukan perubahan. Pastikan screenshot memperlihatkan juga bagian jumlah rows.

```
UPDATE employees
SET jobTitle = "Sales Manager"
WHERE employeeNumber in
```

```
(SELECT employeeNumber
FROM employees e NATURAL JOIN customers c NATURAL JOIN payments p
WHERE e.employeeNumber = c.salesRepEmployeeNumber
GROUP BY employeeNumber
HAVING SUM(amount) > 500000);
```

### SCREENSHOT:

```
MariaDB [prak1]> UPDATE employees
-> SET jobTitle = "Sales Manager"
-> WHERE employeeNumber in
-> (SELECT employeeNumber
-> FROM employees e NATURAL JOIN customers c NATURAL JOIN payments p
-> WHERE e.employeeNumber = c.salesRepEmployeeNumber
-> GROUP BY employeeNumber
-> HAVING SUM(amount) > 500000);
Query OK, 8 rows affected (0.009 sec)
Rows matched: 8 Changed: 8 Warnings: 0
```

### SEBELUM UPDATE:

```
MariaDB [prak1]> SELECT employeeNumber, jobTitle, SUM(p.amount)
-> FROM employees e NATURAL JOIN customers c NATURAL JOIN payments p
-> WHERE e.employeeNumber = c.salesRepEmployeeNumber
-> GROUP BY employeeNumber
-> HAVING SUM(amount) > 500000;
```

employeeNumber	jobTitle	SUM(p.amount)
1165	Sales Rep	989906.55
1323	Sales Rep	584406.80
1337	Sales Rep	569485.75
1370	Sales Rep	1112003.81
1401	Sales Rep	750201.87
1501	Sales Rep	686653.25
1504	Sales Rep	637672.65
1611	Sales Rep	509385.82

8 rows in set (0.001 sec)

### SETELAH UPDATE:

```
MariaDB [prak1]> SELECT employeeNumber, jobTitle, SUM(p.amount)
-> FROM employees e NATURAL JOIN customers c NATURAL JOIN payments p
-> WHERE e.employeeNumber = c.salesRepEmployeeNumber
-> GROUP BY employeeNumber
-> HAVING SUM(amount) > 500000;
```

employeeNumber	jobTitle	SUM(p.amount)
1165	Sales Manager	989906.55
1323	Sales Manager	584406.80
1337	Sales Manager	569485.75
1370	Sales Manager	1112003.81
1401	Sales Manager	750201.87
1501	Sales Manager	686653.25
1504	Sales Manager	637672.65
1611	Sales Manager	509385.82

8 rows in set (0.001 sec)

4. Perusahaan memutuskan untuk membuat kantor cabang baru. Buatlah entri baru di dalam tabel *offices* dengan data sebagai berikut!

officeCode : 8  
city : Bandung  
phone : +62 831 8243 4940  
addressLine1 : Jl. Ganesha No. 10  
addressLine2 : Labtek V  
state : NULL  
country : Indonesia  
postalCode : 40132  
territory : APAC

Buktikan dengan screenshot sebelum dan sesudah dilakukan perubahan.

#### QUERY:

```
INSERT INTO offices  
VALUES ("8", "Bandung", "+62 831 8243 4940", "Jl. Ganesha No. 10", "Labtek  
V", "NULL", "Indonesia", "40132", "APAC");
```

#### SCREENSHOT:

```
MariaDB [prak1]> INSERT INTO offices  
-> VALUES ("8", "Bandung", "+62 831 8243 4940", "Jl. Ganesha No. 10", "Labtek V", "  
NULL", "Indonesia", "40132", "APAC");  
Query OK, 1 row affected (0.002 sec)
```

#### SEBELUM INSERT:

```
MariaDB [prak1]> SELECT * FROM offices;
```

	officeCode	city	phone	addressLine1	addressLine2	state	country	postalCode	territory
1		San Francisco	+1 650 219 4782	100 Market Street	Suite 300	CA	USA	94080	NA
2		Boston	+1 215 837 0825	1550 Court Place	Suite 102	MA	USA	02107	NA
3		NYC	+1 212 555 3000	523 East 53rd Street	apt. 5A	NY	USA	10022	NA
4		Paris	+33 14 723 4404	43 Rue Jouffroy D'abbans	NULL	NULL	France	75017	EMEA
5		Tokyo	+81 33 224 5000	4-1 Kioicho	NULL	Chiyoda-Ku	Japan	102-8578	Japan
6		Sydney	+61 2 9264 2451	5-11 Wentworth Avenue	Floor #2	NULL	Australia	NSW 2010	APAC
7		London	+44 20 7877 2041	25 Old Broad Street	Level 7	NULL	UK	EC2N 1HN	EMEA

7 rows in set (0.003 sec)

#### SETELAH INSERT:

```
MariaDB [prak1]> SELECT * FROM offices;
```

	officeCode	city	phone	addressLine1	addressLine2	state	country	postalCode	territory
1		San Francisco	+1 650 219 4782	100 Market Street	Suite 300	CA	USA	94080	NA
2		Boston	+1 215 837 0825	1550 Court Place	Suite 102	MA	USA	02107	NA
3		NYC	+1 212 555 3000	523 East 53rd Street	apt. 5A	NY	USA	10022	NA
4		Paris	+33 14 723 4404	43 Rue Jouffroy D'abbans	NULL	NULL	France	75017	EMEA
5		Tokyo	+81 33 224 5000	4-1 Kioicho	NULL	Chiyoda-Ku	Japan	102-8578	Japan
6		Sydney	+61 2 9264 2451	5-11 Wentworth Avenue	Floor #2	NULL	Australia	NSW 2010	APAC
7		London	+44 20 7877 2041	25 Old Broad Street	Level 7	NULL	UK	EC2N 1HN	EMEA
8		Bandung	+62 831 8243 4940	Jl. Ganesha No. 10	Labtek V	NULL	Indonesia	40132	APAC

8 rows in set (0.000 sec)

5. Beberapa nomor telepon customer tidak terhubung ke *whatsapp* sehingga pengeluaran perusahaan membengkak hanya untuk membeli pulsa. Perusahaan memutuskan untuk menambahkan kolom baru bernama 'email' ke tabel *customers*. Kolom ini memiliki tipe data *varchar(255)* dan nilai default *NULL*. Kemudian, ubah semua nilai kolom email

dengan format sebagai berikut.

"<contactFirstName><contactLastName>@gmail.com"

Buktikan dengan screenshot eksekusi *query* penambahan kolom 'email' dan isi dari kolom tersebut setelah dilakukan perubahan!

Catatan: Pastikan alamat email tidak mengandung spasi dan semuanya huruf kecil. Gunakan fungsi REPLACE(), LOWER(), dan CONCAT()

#### QUERY:

```
ALTER TABLE customers
ADD COLUMN email varchar(255);

UPDATE customers
SET email =
REPLACE(LOWER(CONCAT(contactFirstName,contactLastName,"@gmail.com")),
",","");
```

#### SEBELUM PENAMBAHAN KOLOM EMAIL:

```
MariaDB [prak1]> describe customers;
+-----+-----+-----+-----+-----+-----+
| Field          | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| customerNumber | int(11)       | NO   | PRI | NULL    |       |
| customerName   | varchar(50)   | NO   |     | NULL    |       |
| contactLastName| varchar(50)   | NO   |     | NULL    |       |
| contactFirstName| varchar(50)  | NO   |     | NULL    |       |
| phone          | varchar(50)   | NO   |     | NULL    |       |
| addressLine1   | varchar(50)   | NO   |     | NULL    |       |
| addressLine2   | varchar(50)   | YES  |     | NULL    |       |
| city           | varchar(50)   | NO   |     | NULL    |       |
| state          | varchar(50)   | YES  |     | NULL    |       |
| postalCode     | varchar(15)   | YES  |     | NULL    |       |
| country        | varchar(50)   | NO   |     | NULL    |       |
| salesRepEmployeeNumber | int(11)      | YES  | MUL | NULL    |       |
| creditLimit    | decimal(10,2) | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
13 rows in set (0.020 sec)
```

#### PENAMBAHAN KOLOM EMAIL:

```
MariaDB [prak1]> ALTER TABLE customers
-> ADD COLUMN email varchar(255);
Query OK, 0 rows affected (0.020 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

#### SETELAH PENAMBAHAN KOLOM EMAIL:

MariaDB [prak1]> describe customers;

Field	Type	Null	Key	Default	Extra
customerNumber	int(11)	NO	PRI	NULL	
customerName	varchar(50)	NO		NULL	
contactLastName	varchar(50)	NO		NULL	
contactFirstName	varchar(50)	NO		NULL	
phone	varchar(50)	NO		NULL	
addressLine1	varchar(50)	NO		NULL	
addressLine2	varchar(50)	YES		NULL	
city	varchar(50)	NO		NULL	
state	varchar(50)	YES		NULL	
postalCode	varchar(15)	YES		NULL	
country	varchar(50)	NO		NULL	
salesRepEmployeeNumber	int(11)	YES	MUL	NULL	
creditLimit	decimal(10,2)	YES		NULL	
email	varchar(255)	YES		NULL	

14 rows in set (0.026 sec)

## SEBELUM UPDATE EMAIL:

MariaDB [prak1]> SELECT customerNumber, contactFirstName, contactLastName, email FROM customers;

customerNumber	contactFirstName	contactLastName	email
103	Carine	Schmitt	NULL
112	Jean	King	NULL
114	Peter	Ferguson	NULL
119	Janine	Labruno	NULL
121	Jonas	Bergulfsen	NULL
124	Susan	Nelson	NULL
125	Zbyszek	Piestrzeniewicz	NULL
128	Roland	Keitel	NULL
129	Julie	Murphy	NULL
131	Kwai	Lee	NULL
141	Diego	Freyre	NULL
144	Christina	Berglund	NULL
145	Jytte	Petersen	NULL
146	Mary	Saveley	NULL
148	Eric	Natividad	NULL
151	Jeff	Young	NULL
157	Kelvin	Leong	NULL
161	Juri	Hashimoto	NULL
166	Wendy	Victorino	NULL
167	Veysel	Oeztan	NULL
168	Keith	Franco	NULL
169	Isabel	de Castro	NULL
171	Martine	Ranc??	NULL
172	Marie	Bertrand	NULL
173	Jerry	Tseng	NULL
175	Julie	King	NULL
177	Mory	Kentary	NULL
181	Michael	Frick	NULL
186	Matti	Karttunen	NULL
187	Rachel	Ashworth	NULL
189	Dean	Cassidy	NULL
198	Leslie	Taylor	NULL
201	Elizabeth	Devon	NULL
202	Yoshi	Tamuri	NULL
204	Miguel	Barajas	NULL
205	Julie	Young	NULL
206	Brydey	Walker	NULL
209	Fr??d??rique	Citeaux	NULL
211	Mike	Gao	NULL
216	Eduardo	Saavedra	NULL
219	Mary	Young	NULL



357	Wales	MacKinlay	NULL
361	Karin	Josephs	NULL
362	Juri	Yoshido	NULL
363	Dorothy	Young	NULL
369	Lino	Rodriguez	NULL
376	Braun	Urs	NULL
379	Allen	Nelson	NULL
381	Pascale	Cartrain	NULL
382	Georg	Pipps	NULL
385	Arnold	Cruz	NULL
386	Maurizio	Moroni	NULL
398	Akiko	Shimamura	NULL
406	Dominique	Perrier	NULL
409	Rita	M??ller	NULL
412	Sarah	McRoy	NULL
415	Michael	Donnermeyer	NULL
424	Maria	Hernandez	NULL
443	Alexander	Feuer	NULL
447	Dan	Lewis	NULL
448	Martha	Larsson	NULL
450	Sue	Frick	NULL
452	Roland	Mendel	NULL
455	Leslie	Murphy	NULL
456	Yu	Choi	NULL
458	Mart??n	Sommer	NULL
459	Sven	Ottlieb	NULL
462	Violeta	Benitez	NULL
465	Carmen	Anton	NULL
471	Sean	Clenahan	NULL
473	Franco	Ricotti	NULL
475	Steve	Thompson	NULL
477	Hanna	Moos	NULL
480	Alexander	Semenov	NULL
481	Raanan	Altagar,G M	NULL
484	Jos?? Pedro	Roel	NULL
486	Rosa	Salazar	NULL
487	Sue	Taylor	NULL
489	Thomas	Smith	NULL
495	Valarie	Franco	NULL
496	Tony	Snowden	NULL

122 rows in set (0.001 sec)

## PENGISIAN EMAIL:

```
MariaDB [prak1]> UPDATE customers
-> SET email = REPLACE(LOWER(CONCAT(contactFirstName,contactLastName,"@gmail.com"))
," ","");
Query OK, 122 rows affected (0.009 sec)
Rows matched: 122 Changed: 122 Warnings: 0
```

## SETELAH UPDATE EMAIL:

```
MariaDB [prak1]> SELECT customerNumber, contactFirstName, contactLastName, email FROM customers;
```

customerNumber	contactFirstName	contactLastName	email
103	Carine	Schmitt	carineschmitt@gmail.com
112	Jean	King	jeanking@gmail.com
114	Peter	Ferguson	peterferguson@gmail.com
119	Janine	Labrune	janinelabrune@gmail.com
121	Jonas	Bergulfsen	jonasbergulfsen@gmail.com
124	Susan	Nelson	susannelson@gmail.com
125	Zbyszek	Piestrzeniewicz	zbyszekpiestrzeniewicz@gmail.com
128	Roland	Keitel	rolandkeitel@gmail.com
129	Julie	Murphy	juliemurphy@gmail.com
131	Kwai	Lee	kwailee@gmail.com
141	Diego	Freyre	diegofreyre@gmail.com
144	Christina	Berglund	christinaberglund@gmail.com
145	Jytte	Petersen	jyttepetersen@gmail.com
146	Mary	Saveley	marysaveley@gmail.com
148	Eric	Natividad	ericnatividad@gmail.com
151	Jeff	Young	jeffyoung@gmail.com
157	Kelvin	Leong	kelvinleong@gmail.com
161	Juri	Hashimoto	jurihashimoto@gmail.com
166	Wendy	Victorino	wendyvictorino@gmail.com
167	Veysel	Oeztan	veyseloeztan@gmail.com
168	Keith	Franco	keithfranco@gmail.com
169	Isabel	de Castro	isabeldecastro@gmail.com
171	Martine	Ranc??	martineranc??@gmail.com
172	Marie	Bertrand	mariebertrand@gmail.com
173	Jerry	Tseng	jerrytseng@gmail.com
175	Julie	King	julieking@gmail.com
177	Mory	Kentary	morykentary@gmail.com
181	Michael	Frick	michaelfrick@gmail.com
186	Matti	Karttunen	mattikarttunen@gmail.com
187	Rachel	Ashworth	rachelashworth@gmail.com
189	Dean	Cassidy	deancassidy@gmail.com
198	Leslie	Taylor	leslietaylor@gmail.com
201	Elizabeth	Devon	elizabethdevon@gmail.com
202	Yoshi	Tamuri	yoshitamuri@gmail.com
204	Miguel	Barajas	miguelbarajas@gmail.com
205	Julie	Young	julieyoung@gmail.com
206	Brydey	Walker	brydeywalker@gmail.com
209	Fr??d??rique	Citeaux	fr??d??riqueciteaux@gmail.com
211	Mike	Gao	mikegao@gmail.com
216	Eduardo	Saavedra	eduardosaavedra@gmail.com
219	Mary	Young	maryyoung@gmail.com

353	Paul	Henriote	padmehenriote@gmail.com
356	Armand	Kuger	armandkuger@gmail.com
357	Wales	MacKinlay	walesmackinlay@gmail.com
361	Karin	Josephs	karinjosephs@gmail.com
362	Juri	Yoshido	juriyoshido@gmail.com
363	Dorothy	Young	dorothyyoung@gmail.com
369	Lino	Rodriguez	linorodriguez@gmail.com
376	Braun	Urs	braunurs@gmail.com
379	Allen	Nelson	allennelson@gmail.com
381	Pascale	Cartrain	pascalecartrain@gmail.com
382	Georg	Pipps	georgpipps@gmail.com
385	Arnold	Cruz	arnoldcruz@gmail.com
386	Maurizio	Moroni	mauriziomoroni@gmail.com
398	Akiko	Shimamura	akikoshimamura@gmail.com
406	Dominique	Perrier	dominiqueperrier@gmail.com
409	Rita	M??ller	ritam??ller@gmail.com
412	Sarah	McRoy	sarahmcroy@gmail.com
415	Michael	Donnermeyer	michaeldonnermeyer@gmail.com
424	Maria	Hernandez	mariahernandez@gmail.com
443	Alexander	Feuer	alexanderfeuer@gmail.com
447	Dan	Lewis	danlewis@gmail.com
448	Martha	Larsson	marthalarsson@gmail.com
450	Sue	Frick	suefrick@gmail.com
452	Roland	Mendel	rolandmendel@gmail.com
455	Leslie	Murphy	lesliemurphy@gmail.com
456	Yu	Choi	yuchoi@gmail.com
458	Martijn	Sommer	martijnsommer@gmail.com
459	Sven	Ottlieb	svenottlieb@gmail.com
462	Violeta	Benitez	violetabenitez@gmail.com
465	Carmen	Anton	carmenanton@gmail.com
471	Sean	Clenahan	seanclenahan@gmail.com
473	Franco	Ricotti	francoricotti@gmail.com
475	Steve	Thompson	stevethompson@gmail.com
477	Hanna	Moos	hannamoos@gmail.com
480	Alexander	Semenov	alexandersemenov@gmail.com
481	Raanan	Altagar, G M	raananaltagar_gm@gmail.com
484	Jos?? Pedro	Roel	jos??pedroel@gmail.com
486	Rosa	Salazar	rosasalazar@gmail.com
487	Sue	Taylor	suetaylor@gmail.com
489	Thomas	Smith	thomassmith@gmail.com
495	Valarie	Franco	valariefranco@gmail.com
496	Tony	Snowden	tonysnowden@gmail.com

122 rows in set (0.001 sec)

6. Perusahaan memutuskan untuk memecat pegawai dari kantor cabang di kota London yang belum pernah melayani customer dari kota Liverpool

Clue:

- Gunakan temporary table [mariadb documentation](#)
- sebelum menghapus data pegawai, set NULL untuk kolom foreign key pada tabel customers yang pernah dilayani pegawai tersebut

Buktikan dengan screenshot eksekusi query yang memuat **nama customer** (dari kota Liverpool) dan **nomor pegawai yang melayaninya** (dari kantor cabang kota London) sebelum dan sesudah dilakukan perubahan.

#### QUERY:

```
show employee;
SELECT customerName, employeeNumber
FROM employees e, customers c, offices o
WHERE o.city = "London"
AND e.employeeNumber = c.salesRepEmployeeNumber
AND e.officeCode = o.officeCode;
```

table:

```
CREATE TEMPORARY TABLE firedEmployee AS (
```

```

SELECT DISTINCT employeeNumber
FROM employees e1, customers c1, offices o1
WHERE o1.city = "London"
AND e1.employeeNumber NOT IN (
SELECT employeeNumber
FROM employees e, customers c, offices o
WHERE e.employeeNumber = c.salesRepEmployeeNumber
AND c.city = "Liverpool"
AND o.city = "London"));

update:
UPDATE customers
SET salesRepEmployeeNumber = NULL
WHERE salesRepEmployeeNumber IN (SELECT employeeNumber FROM firedEmployee);

delete:
DELETE FROM firedEmployee WHERE employeeNumber IN (SELECT employeeNumber
FROM employees WHERE employeeNumber IN (SELECT employeeNumber FROM
firedEmployee));
DELETE FROM employees WHERE employeeNumber IN (SELECT employeeNumber FROM
firedEmployee);

```

#### SCREENSHOT SEBELUM PERUBAHAN:

```

MariaDB [prak1]> SELECT customerName, employeeNumber
-> FROM employees e, customers c, offices o
-> WHERE o.city = "London"
-> AND e.employeeNumber = c.salesRepEmployeeNumber
-> AND e.officeCode = o.officeCode;

```

customerName	employeeNumber
Toys of Finland, Co.	1501
AV Stores, Co.	1501
UK Collectables, Ltd.	1501
giftsbymail.co.uk	1501
Oulu Toy Supplies, Inc.	1501
Stylish Desk Decors, Co.	1501
Suominen Souvenirs	1501
Double Decker Gift Stores, Ltd	1501
Baane Mini Imports	1504
Blauer See Auto, Co.	1504
Volvo Model Replicas, Co	1504
Herkku Gifts	1504
Clover Collections, Co.	1504
Toms Spezialit?ften, Ltd	1504
Norway Gifts By Mail, Co.	1504
Bavarian Collectables Imports, Co.	1504
Scandinavian Gift Ideas	1504

```

17 rows in set (0.001 sec)

```

### SCREENSHOT QUERY PERUBAHAN:

```
MariaDB [prak1]> CREATE TEMPORARY TABLE firedEmployee AS (  
-> SELECT DISTINCT employeeNumber  
-> FROM employees e1, customers c1, offices o1  
-> WHERE o1.city = "London"  
-> AND e1.employeeNumber NOT IN (  
-> SELECT employeeNumber  
-> FROM employees e, customers c, offices o  
-> WHERE e.employeeNumber = c.salesRepEmployeeNumber  
-> AND c.city = "Liverpool"  
-> AND o.city = "London"));
```

Query OK, 22 rows affected (0.003 sec)  
Records: 22 Duplicates: 0 Warnings: 0

```
MariaDB [prak1]> SELECT * FROM firedEmployee;
```

employeeNumber
1002
1056
1076
1088
1102
1143
1621
1611
1612
1619
1337
1370
1401
1504
1702
1165
1166
1188
1216
1286
1323
1625

22 rows in set (0.001 sec)

```
MariaDB [prak1]> UPDATE customers  
-> SET salesRepEmployeeNumber = NULL  
-> WHERE salesRepEmployeeNumber IN (SELECT employeeNumber FROM firedEmployee);
```

Query OK, 92 rows affected (0.004 sec)  
Rows matched: 92 Changed: 92 Warnings: 0

### SCREENSHOT SETELAH PERUBAHAN:

```

MariaDB [prakt1]> DELETE FROM firedEmployee WHERE employeeNumber IN (SELECT employeeNumber
er FROM employees WHERE employeeNumber IN (SELECT employeeNumber FROM firedEmployee));
Query OK, 22 rows affected (0.005 sec)

MariaDB [prakt1]> DELETE FROM employees WHERE employeeNumber IN (SELECT employeeNumber F
ROM firedEmployee);
Query OK, 0 rows affected (0.001 sec)

MariaDB [prakt1]> DELETE FROM employees WHERE employeeNumber IN (SELECT employeeNumber F
ROM firedEmployee);
Query OK, 0 rows affected (0.002 sec)

MariaDB [prakt1]> SELECT customerName, employeeNumber
-> FROM employees e, customers c, offices o
-> WHERE o.city = "London"
-> AND e.employeeNumber = c.salesRepEmployeeNumber
-> AND e.officeCode = o.officeCode;
+-----+-----+
| customerName | employeeNumber |
+-----+-----+
| Toys of Finland, Co. | 1501 |
| AV Stores, Co. | 1501 |
| UK Collectables, Ltd. | 1501 |
| giftsbymail.co.uk | 1501 |
| Oulu Toy Supplies, Inc. | 1501 |
| Stylish Desk Decors, Co. | 1501 |
| Suominen Souvenirs | 1501 |
| Double Decker Gift Stores, Ltd | 1501 |
+-----+-----+
8 rows in set (0.001 sec)

```

7. Perusahaan berencana untuk menambahkan daftar pabrik yang memproduksi produk-produk yang ada dalam tabel produk. Setiap pabrik bisa memproduksi lebih dari satu produk. Selain itu, karena *demand* produk yang cukup tinggi, setiap produk juga bisa diproduksi oleh beberapa pabrik. Oleh karena itu, dibutuhkan dua tabel baru. Tabel pertama adalah tabel bernama warehouse yang mencatat daftar pabrik yang ada. Berikut adalah deskripsi tabel warehouse yang harus dibuat:

- warehouseCode : *primary key* dengan tipe data *integer*
- warehouseName : maksimal 50 karakter dan setiap pabrik harus mempunyai nama
- managerName: maksimal 255 karakter dan setiap pabrik harus mempunyai manager
- addressLine : maksimal 255 karakter dan setiap pabrik harus mempunyai informasi ini
- city: setiap pabrik harus mempunyai informasi ini
- country: setiap pabrik harus mempunyai informasi ini

Tabel kedua adalah tabel manufacture yang hanya mempunyai 2 kolom dengan deskripsi sebagai berikut:

- productCode: *foreign key* yang menunjuk ke kolom productCode pada tabel product dan tidak boleh NULL, tipe data adalah VARCHAR dengan maksimal karakter sebanyak 15 karakter
- warehouseCode: *foreign key* yang menunjuk ke kolom warehouseCode pada tabel warehouse dan tidak boleh NULL

*Primary key* pada tabel kedua merupakan *primary key* komposit, yaitu kolom productCode dan warehouseCode. Tampilkan juga *screenshot* hasil perintah [DESCRIBE](#) untuk tabel pertama dan kedua setelah berhasil dibuat.

**PENTING:** Set *collation* menjadi latin1\_swedish\_ci saat membuat tabel manufacture pada akhir *syntax* CREATE TABLE, seperti berikut ini:

CREATE TABLE manufacture (

....

) COLLATE=latin1\_swedish\_ci;

#### QUERY:

```
CREATE TABLE warehouse(
warehouseCode INT AUTO_INCREMENT,
warehouseName VARCHAR(50) NOT NULL,
managerName VARCHAR(255) NOT NULL,
addressLine VARCHAR(255) NOT NULL,
city VARCHAR(255) NOT NULL,
country VARCHAR(255) NOT NULL,
PRIMARY KEY (warehouseCode)
);

CREATE TABLE manufacture(
productCode VARCHAR(15) NOT NULL,
warehouseCode INT(11) NOT NULL,
PRIMARY KEY(warehouseCode, productCode),
FOREIGN KEY(warehouseCode) references warehouse(warehouseCode),
FOREIGN KEY(productCode) references products(productCode))
COLLATE = latin1_swedish_ci;
```

#### SCREENSHOT:

```

MariaDB [prak1]> CREATE TABLE warehouse(
  -> warehouseCode INT AUTO_INCREMENT,
  -> warehouseName VARCHAR(50) NOT NULL,
  -> managerName VARCHAR(255) NOT NULL,
  -> addressLine VARCHAR(255) NOT NULL,
  -> city VARCHAR(255) NOT NULL,
  -> country VARCHAR(255) NOT NULL,
  -> PRIMARY KEY (warehouseCode)
  -> );
ERROR 2006 (HY000): Server has gone away
No connection. Trying to reconnect...
Connection id: 17
Current database: prak1

Query OK, 0 rows affected (0.101 sec)

MariaDB [prak1]> CREATE TABLE manufacture(
  -> productCode VARCHAR(15) NOT NULL,
  -> warehouseCode INT(11) NOT NULL,
  -> PRIMARY KEY(warehouseCode, productCode),
  -> FOREIGN KEY(warehouseCode) references warehouse(warehouseCode),
  -> FOREIGN KEY(productCode) references products(productCode))
  -> COLLATE = latin1_swedish_ci;
Query OK, 0 rows affected (0.008 sec)

```

```

MariaDB [prak1]> describe warehouse;
+-----+-----+-----+-----+-----+-----+
| Field          | Type          | Null | Key | Default | Extra          |
+-----+-----+-----+-----+-----+-----+
| warehouseCode | int(11)       | NO   | PRI | NULL    | auto_increment |
| warehouseName | varchar(50)   | NO   |     | NULL    |                |
| managerName   | varchar(255)  | NO   |     | NULL    |                |
| addressLine   | varchar(255)  | NO   |     | NULL    |                |
| city          | varchar(255)  | NO   |     | NULL    |                |
| country       | varchar(255)  | NO   |     | NULL    |                |
+-----+-----+-----+-----+-----+-----+
6 rows in set (0.018 sec)

MariaDB [prak1]> describe manufacture;
+-----+-----+-----+-----+-----+-----+
| Field          | Type          | Null | Key | Default | Extra          |
+-----+-----+-----+-----+-----+-----+
| productCode    | varchar(15)   | NO   | PRI | NULL    |                |
| warehouseCode  | int(11)       | NO   | PRI | NULL    |                |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.012 sec)

```

8. Tahukah kalian? Penggunaan tipe data BLOB (Binary Large Object) untuk menaruh file seperti gambar, musik, dan file executable dalam database sangat tidak direkomendasikan karena dapat mempengaruhi kinerja dari database terhubung ukuran BLOB sangat besar. Sayangnya, di database yang digunakan terdapat penggunaan tipe data blob, yaitu di productLines. Salah satu solusi yang biasa dilakukan adalah dengan



menggunakan pihak ketiga untuk menyimpan data biner dan menaruh url gambar tersebut di database.

Oleh karena itu, buatlah 2 query yang mengubah nama kolom image menjadi imageUrl, serta mengubah kolom image dengan tipe mediumblob menjadi kolom imageUrl dengan maksimal 255 karakter. Buktikan dengan screenshot [DESCRIBE](#) dari productLines sebelum dan sesudah perubahan. (Clue: Gunakan [ALTER TABLE](#))

#### QUERY:

#### SCREENSHOT:

```
MariaDB [prak1]> describe productLines;
+-----+-----+-----+-----+-----+-----+
| Field          | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| productLine    | varchar(50)   | NO   | PRI | NULL    |       |
| textDescription | varchar(4000) | YES  |     | NULL    |       |
| htmlDescription | mediumtext    | YES  |     | NULL    |       |
| image          | mediumblob    | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.017 sec)
```

```
MariaDB [prak1]> SELECT image from productLines;
+-----+
| image |
+-----+
| NULL  |
| NULL  |
| NULL  |
| NULL  |
| NULL  |
| NULL  |
| NULL  |
+-----+
7 rows in set (0.003 sec)
```

```
MariaDB [prak1]> ALTER TABLE productLines RENAME COLUMN image TO imageUrl;
Query OK, 0 rows affected (0.007 sec)
Records: 0 Duplicates: 0 Warnings: 0

MariaDB [prak1]> ALTER TABLE productLines MODIFY COLUMN imageUrl VARCHAR(255);
Query OK, 7 rows affected (0.018 sec)
Records: 7 Duplicates: 0 Warnings: 0

MariaDB [prak1]> describe productLines;
+-----+-----+-----+-----+-----+-----+
| Field          | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| productLine    | varchar(50)   | NO   | PRI | NULL    |       |
| textDescription | varchar(4000) | YES  |     | NULL    |       |
| htmlDescription | mediumtext    | YES  |     | NULL    |       |
| imageUrl       | varchar(255)  | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.013 sec)
```

