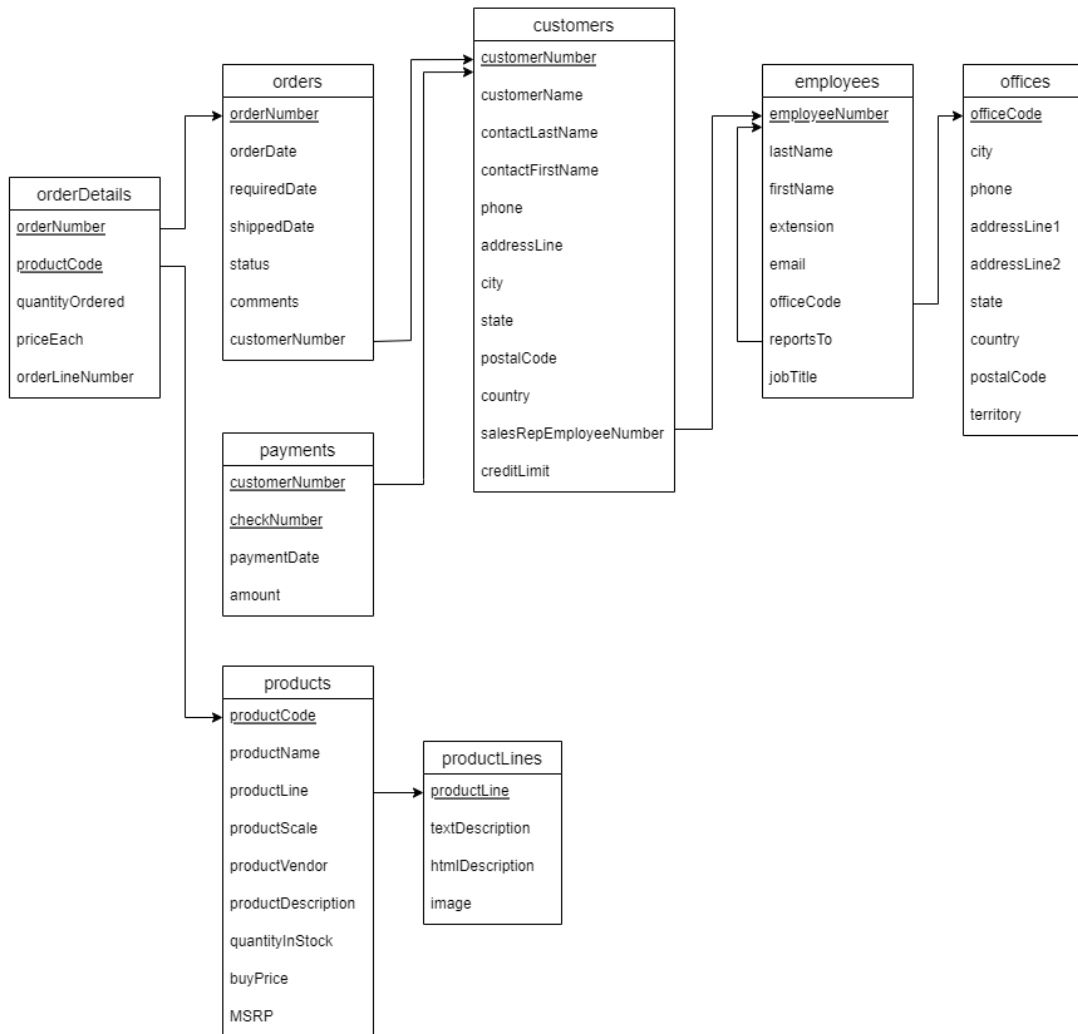


# Lembar Kerja Praktikum 2 IF2240 Basis Data

Materi: SQL (Part 2 & Part 3)

## I. Skema Basis Data

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



## I. Soal

1. Buatlah query yang menampilkan 6 negara dengan pelanggan terbanyak menurut menurun berdasarkan jumlah pelanggan.

(clue: Gunakan LIMIT untuk membatasi jumlah rows yang ditampilkan)

### QUERY:

```
SELECT country
-> FROM customers
-> GROUP BY country
-> ORDER BY COUNT(*) DESC
-> LIMIT 6;
```

### SCREENSHOT:



```
MariaDB [prakt1]> SELECT country
-> FROM customers
-> GROUP BY country
-> ORDER BY COUNT(*) DESC
-> LIMIT 6;
+-----+
| country |
+-----+
| USA     |
| Germany |
| France  |
| Spain   |
| Australia |
| UK      |
+-----+
6 rows in set (0.001 sec)
```

2. Tuliskan query yang memberikan nama customer, nama lengkap kontak pelanggan tersebut, negara, tanggal, serta jumlah pembayaran (amount) yang dilakukan pada April 2005!

(clue: gunakan CONCAT() untuk menggabungkan string, YEAR() dan MONTH() untuk mengambil tahun dan bulan dari tanggal)

### QUERY:

```
SELECT customerName, CONCAT(contactFirstName, ' ', contactLastName) AS
fullName, country, paymentDate, amount
-> FROM customers NATURAL JOIN payments
-> WHERE YEAR(paymentDate) = 2005 AND MONTH(paymentDate) = 4;
```

### SCREENSHOT:

```
MariaDB [prakt1]> SELECT customerName, CONCAT(contactFirstName, ' ', contactLastName) AS fullName, country, paymentDate, amount
-> FROM customers NATURAL JOIN payments
-> WHERE YEAR(paymentDate) = 2005 AND MONTH(paymentDate) = 4;
```

customerName	fullName	country	paymentDate	amount
Mini Gifts Distributors Ltd.	Susan Nelson	USA	2005-04-16	83598.04
Anna's Decorations, Ltd	Anna O'Hara	Australia	2005-04-30	29848.52
Auto Canal+ Petit	Dominique Perrier	France	2005-04-23	12190.85
Scandinavian Gift Ideas	Martha Larsson	Sweden	2005-04-18	27966.54
FunGiftIdeas.com	Violeta Benitez	USA	2005-04-15	30293.77

5 rows in set (0.008 sec)

3. Buatlah query untuk menampilkan nama customer yang mengandung nama "Mini" beserta jumlah dari seluruh produk yang pernah mereka pesan. Urutkan berdasarkan customer dengan jumlah pemesanan produk terbanyak.

#### QUERY:

```
SELECT customerName, COUNT(*) AS total_order
-> FROM customers NATURAL JOIN orders
-> WHERE customerName LIKE '%Mini%'
-> GROUP BY customerName
-> ORDER BY COUNT(*) DESC;
```

#### SCREENSHOT:

```
MariaDB [prakt1]> SELECT customerName, COUNT(*) AS total_order
-> FROM customers NATURAL JOIN orders
-> WHERE customerName LIKE '%Mini%'
-> GROUP BY customerName
-> ORDER BY COUNT(*) DESC;
```

customerName	total_order
Mini Gifts Distributors Ltd.	17
Baane Mini Imports	4
Mini Creations Ltd.	3
Mini Caravy	3
Marseille Mini Autos	3
Mini Auto Werke	3
Mini Wheels Co.	3
Online Mini Collectables	2
Collectable Mini Designs Co.	2
Mini Classics	2

4. Buatlah query untuk menampilkan nama depan pegawai dan kode kantor pegawai yang telah melayani lebih dari 7 pelanggan. Tampilkan juga banyak pelanggan yang dilayani dan urutkan mengecil berdasarkan banyak pelanggan dilayani.

#### QUERY:

```
SELECT e.firstName, e.officeCode, COUNT(*) as customer_served
FROM employees e NATURAL JOIN customers c
WHERE e.employeeNumber = c.salesRepEmployeeNumber
```

```
GROUP BY e.employeeNumber
HAVING COUNT(*) > 7
ORDER BY COUNT(*) DESC;
```

#### SCREENSHOT:

```
MariaDB [prakt1]> SELECT e.firstName, e.officeCode, COUNT(*) as customer_served
-> FROM employees e NATURAL JOIN customers c
-> WHERE e.employeeNumber = c.salesRepEmployeeNumber
-> GROUP BY e.employeeNumber
-> HAVING COUNT(*) > 7
-> ORDER BY COUNT(*) DESC;
```

firstName	officeCode	customer_served
Pamela	4	10
Barry	7	9
George	3	8
Larry	7	8

4 rows in set (0.001 sec)

5. Buatlah query untuk menampilkan nomor pegawai, nama lengkap pegawai (firstName dan lastName), dan alamat email dari pegawai yang melayani pelanggan dengan 2 pemesanan terbanyak. Tampilkan juga nama pelanggan dan jumlah pemesanan yang dilakukannya.

#### QUERY:

```
SELECT employeeNumber, CONCAT(firstName, ' ', lastName) as
employee_full_name, email, customerName, COUNT(*) AS total_order
FROM employees e NATURAL JOIN customers c NATURAL JOIN orders o
WHERE e.employeeNumber = c.salesRepEmployeeNumber
GROUP BY c.customerName
ORDER BY COUNT(*) DESC
LIMIT 2;
```

#### SCREENSHOT:

```
MariaDB [prakt1]> SELECT employeeNumber, CONCAT(firstName, ' ', lastName) as employee_full_name, email, customerName, COUNT(*)
AS total_order
-> FROM employees e NATURAL JOIN customers c NATURAL JOIN orders o
-> WHERE e.employeeNumber = c.salesRepEmployeeNumber
-> GROUP BY c.customerName
-> ORDER BY COUNT(*) DESC
-> LIMIT 2;
```

employeeNumber	employee_full_name	email	customerName	total_order
1370	Gerard Hernandez	ghernande@classicmodelcars.com	Euro+ Shopping Channel	26
1165	Leslie Jennings	ljennings@classicmodelcars.com	Mini Gifts Distributors Ltd.	17

2 rows in set (0.001 sec)

6. Buatlah query untuk menampilkan nama pelanggan yang memiliki total pembayaran lebih dari 50000 dan dilayani oleh pegawai yang bekerja di kantor yang terletak di negara "Australia".

#### QUERY:

```
(SELECT customerName
FROM customers c, payments p
WHERE p.customerNumber = c.customerNumber
GROUP BY c.customerNumber
HAVING SUM(amount) > 50000)
INTERSECT
(SELECT customerName
FROM customers c, employees e, offices o
WHERE e.employeeNumber = c.salesRepEmployeeNumber AND e.officeCode =
o.officeCode AND o.country = "Australia");
```

#### SCREENSHOT:

```
MariaDB [prakt1]> (SELECT customerName
-> FROM customers c, payments p
-> WHERE p.customerNumber = c.customerNumber
-> GROUP BY c.customerNumber
-> HAVING SUM(amount) > 50000)
-> INTERSECT
-> (SELECT customerName
-> FROM customers c, employees e, offices o
-> WHERE e.employeeNumber = c.salesRepEmployeeNumber AND e.officeCode = o.officeCode AND o.country = "
Australia");
+-----+
| customerName |
+-----+
| Australian Collectors, Co. |
| Handji Gifts& Co |
| Anna's Decorations, Ltd |
| Souvenirs And Things Co. |
| Down Under Souvenirs, Inc |
| Australian Gift Network, Co |
| GiftsForHim.com |
| Extreme Desk Decorations, Ltd |
| Kelly's Gift Shop |
+-----+
9 rows in set (0.003 sec)
```

7. Buatlah query untuk menampilkan nomor order dan nama produk dengan kategori "Classic Cars" yang pernah dipesan dengan harga jual yang memberikan keuntungan 35-36% atau 104-105%. Tampilkan juga persentase keuntungan dari pemesanan produk tersebut serta urutkan mengecil berdasarkan persentase tersebut.

#### QUERY:

```
SELECT DISTINCT od.orderNumber, p.productName, (priceEach - buyPrice)/buyPrice
* 100 AS percentage
FROM orders o, orderDetails od, products p
WHERE p.productLine = "Classic Cars" AND od.productCode = p.productCode AND
p.productLine = "Classic Cars"
HAVING ((percentage BETWEEN 35 AND 36) OR (percentage BETWEEN 104 AND
105))
ORDER BY percentage DESC;
```

#### SCREENSHOT:

```

MariaDB [prakt1]> SELECT DISTINCT od.orderNumber, p.productName, (priceEach - buyPrice)/buyPrice * 100 AS p
percentage
-> FROM orders o, orderDetails od, products p
-> WHERE p.productLine = "Classic Cars" AND od.productCode = p.productCode AND p.productLine = "Classi
c Cars"
-> HAVING ((percentage BETWEEN 35 AND 36) OR (percentage BETWEEN 104 AND 105))
-> ORDER BY percentage DESC;

```

orderNumber	productName	percentage
10419	1999 Indy 500 Monte Carlo SS	104.651163
10203	1982 Lamborghini Diablo	104.618227
10147	1982 Lamborghini Diablo	104.618227
10310	1982 Lamborghini Diablo	104.618227
10192	1982 Lamborghini Diablo	104.618227
10343	1948 Porsche Type 356 Roadster	104.552767
10266	1948 Porsche Type 356 Roadster	104.552767
10424	1952 Alpine Renault 1300	104.341651
10304	1952 Alpine Renault 1300	104.341651
10247	2001 Ferrari Enzo	104.341458
10117	2001 Ferrari Enzo	104.341458
10185	2001 Ferrari Enzo	104.341458
10150	1982 Camaro Z28	104.341285
10310	1992 Ferrari 360 Spider red	104.338896
10159	1957 Corvette Convertible	104.275704
10282	1969 Ford Falcon	104.166165
10127	1969 Ford Falcon	104.166165
10314	1969 Ford Falcon	104.166165
10260	1969 Ford Falcon	104.166165
10204	1957 Ford Thunderbird	104.150833
10404	1968 Dodge Charger	35.936668
10253	1968 Dodge Charger	35.936668
10320	1968 Dodge Charger	35.936668
10394	1970 Triumph Spitfire	35.933420
10288	1970 Chevy Chevelle SS 454	35.824533
10380	1970 Chevy Chevelle SS 454	35.824533
10254	1970 Chevy Chevelle SS 454	35.824533
10239	1956 Porsche 356A Coupe	35.717192
10203	1948 Porsche 356-A Roadster	35.714286
10278	1948 Porsche 356-A Roadster	35.714286
10287	1993 Mazda RX-7	35.588552
10393	1998 Chrysler Plymouth Prowler	35.484189
10407	1952 Citroen-15CV	35.471024
10173	1952 Citroen-15CV	35.471024

34 rows in set (0.288 sec)

8. Buatlah query untuk menampilkan nomor pelanggan, nama pelanggan, rata-rata nominal dari semua pembayaran yang dilakukan pelanggan tersebut, dan banyak transaksi yang telah dilakukan oleh pelanggan dengan total semua pembayaran melebihi 500000. Urutkan mengecil berdasarkan banyak transaksi.

**QUERY:**

```

SELECT c.customerNumber, c.customerName, AVG(amount) as avgPayment,
COUNT(checkNumber) as countPayment
FROM customers c NATURAL JOIN payments p
WHERE c.customerNumber = p.customerNumber
GROUP BY p.customerNumber
HAVING SUM(p.amount) > 500000
ORDER BY countPayment DESC;

```

**SCREENSHOT:**

```

MariaDB [prakt1]> SELECT c.customerNumber, c.customerName, AVG(amount) as avgPayment, COUNT(checkNumber) as
countPayment
-> FROM customers c NATURAL JOIN payments p
-> WHERE c.customerNumber = p.customerNumber
-> GROUP BY p.customerNumber
-> HAVING SUM(p.amount) > 500000
-> ORDER BY countPayment DESC;
+-----+-----+-----+-----+
| customerNumber | customerName | avgPayment | countPayment |
+-----+-----+-----+-----+
| 141 | Euro+ Shopping Channel | 55056.844615 | 13 |
| 124 | Mini Gifts Distributors Ltd. | 64909.804444 | 9 |
+-----+-----+-----+-----+
2 rows in set (0.002 sec)

```

9. Buatlah query yang menampilkan nama customer, nama lengkap kontak customer tersebut, serta nomor telpon dari customer yang belum pernah membuat pesanan sama sekali! Nama lengkap kontak customer dibuat dalam kolom contactName yang terdiri dari nama depan dan nama belakang kontak tersebut (jangan lupa spasi).

**QUERY:**

```

SELECT customerName, CONCAT(contactFirstName, ' ', contactLastName) AS
contactName, phone
-> FROM customers
-> WHERE customerNumber not in
-> (SELECT customerNumber
-> FROM orders);

```

**SCREENSHOT:**

```

MariaDB [prakt1]> SELECT customerName, CONCAT(contactFirstName, ' ', contactLastName) AS co
ntactName, phone
-> FROM customers
-> WHERE customerNumber not in
-> (SELECT customerNumber
-> FROM orders);

```

customerName	contactName	phone
Havel & Zbyszek Co	Zbyszek Piestrzeniewicz	(26) 642-7555
American Souvenirs Inc	Keith Franco	2035557845
Porto Imports Co.	Isabel de Castro	(1) 356-5555
Asian Shopping Network, Co	Brydey Walker	+612 9411 1555
Nat??rlich Autos	Horst Kloss	0372-555188
ANG Resellers	Alejandra Camino	(91) 745 6555
Messner Shopping Network	Renate Messner	069-0555984
Franken Gifts, Co	Peter Franken	089-0877555
BG&E Collectables	Ed Harrison	+41 26 425 50 01
Schuyler Imports	Bradley Schuyler	+31 20 491 9555
Der Hund Imports	Mel Andersen	030-0074555
Cramer Spezialit??nten, Ltd	Philip Cramer	0555-09555
Asian Treasures, Inc.	Patricia McKenna	2967 555
SAR Distributors, Co	Armand Kuger	+27 21 550 3555
Kommission Auto	Karin Josephs	0251-555259
Lisboa Souvenirs, Inc	Lino Rodriguez	(1) 354-2555
Precious Collectables	Braun Urs	0452-076555
Stuttgart Collectable Exchange	Rita M??ller	0711-555361
Feuer Online Stores, Inc	Alexander Feuer	0342-555176
Warburg Exchange	Sven Ottlieb	0241-039123
Anton Designs, Ltd.	Carmen Anton	+34 913 728555
Mit Vergn??gen & Co.	Hanna Moos	0621-08555
Kremlin Collectables, Co.	Alexander Semenov	+7 812 293 0521
Raanan Stores, Inc	Raanan Altagar, G M	+ 972 9 959 8555

```

24 rows in set (0.006 sec)

```

10. Buatlah *query* yang menampilkan nomor customer dan nama customer yang pernah memesan salah satu atau beberapa di antara 3 produk dengan jumlah order tertinggi. Penentuan produk dengan jumlah order tertinggi dibatasi dalam *range* antara 900 dan 950 order. Nomor customer dan nama customer ditampilkan secara unik.  
(clue: Gunakan LIMIT untuk membatasi jumlah rows yang ditampilkan)

**QUERY:**

```

SELECT DISTINCT customerNumber, customerName
FROM customers NATURAL JOIN orders NATURAL JOIN orderDetails AS od
NATURAL JOIN
(SELECT productCode FROM
(SELECT productCode, SUM(quantityOrdered) as sumOrders
FROM orderDetails
GROUP BY productCode) AS A
WHERE sumOrders BETWEEN 900 AND 950
ORDER BY sumOrders DESC
LIMIT 3) AS B;

```

**SCREENSHOT:**



```

MariaDB [prak1]> SELECT DISTINCT customerNumber, customerName
-> FROM customers NATURAL JOIN orders NATURAL JOIN orderDetails AS od NATURAL JOIN
-> (SELECT productCode FROM
-> (SELECT productCode, SUM(quantityOrdered) as sumOrders
-> FROM orderDetails
-> GROUP BY productCode) AS A
-> WHERE sumOrders BETWEEN 900 AND 950
-> ORDER BY sumOrders DESC
-> LIMIT 3) AS B;

```

customerNumber	customerName
187	AV Stores, Co.
112	Signal Gift Stores
496	Kelly's Gift Shop
276	Anna's Decorations, Ltd
227	Heintze Collectables
175	Gift Depot Inc.
124	Mini Gifts Distributors Ltd.
363	Online Diecast Creations Co.
151	Muscle Machine Inc
141	Euro+ Shopping Channel
146	Saveley & Henriot, Co.
209	Mini Caravy
323	Down Under Souvenirs, Inc
166	Handji Gifts& Co
201	UK Collectables, Ltd.
462	FunGiftIdeas.com
450	The Sharp Gifts Warehouse
282	Souvenirs And Things Co.
486	Motor Mint Distributors Inc.
103	Atelier graphique
353	Reims Collectables
167	Herkku Gifts
239	Collectable Mini Designs Co.
177	Osaka Souvenirs Co.
386	L'ordine Souvenirs
298	Vida Sport, Ltd
299	Norway Gifts By Mail, Co.
205	Toys4GrownUps.com
145	Danish Wholesale Imports
382	Salzburg Collectables
350	Marseille Mini Autos
242	Alpha Cognac
233	Qu??bec Home Shopping Network
259	Toms Spezialit?niten, Ltd
114	Australian Collectors, Co.
250	Lyon Souvenirs
320	Mini Creations Ltd.
186	Toys of Finland, Co.

38 rows in set (0.008 sec)