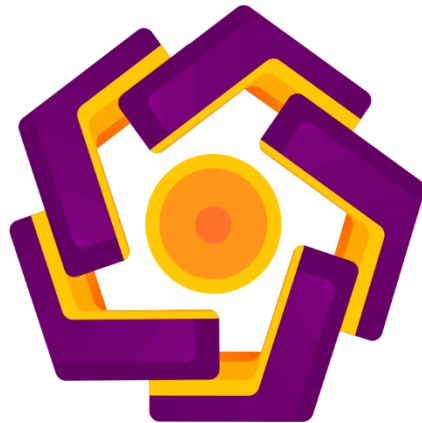


# LAPORAN PRAKTIKUM PEMROGRAMAN BASIS DATA

## PERTEMUAN PRAKTIKUM KE-[4]



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## Data Retrieval with JOIN

1. Buat JOIN statement untuk menampilkan nama item dan kategorinya, urutkan secara ascending berdasarkan nama item. \*Hanya baris yang sesuai kondisi JOIN saja yang ditampilkan.

Jawab:

```
SELECT name, explanation FROM items  
  
INNER JOIN categories ON items.category_id =  
categories.category_id  
  
ORDER BY name
```

name ▲ 1	explanation
Babyliss Pro Curl	Beauty
Bellin Desk Pink	Household
Bepathen First Aid	Health
Black Gray Long Sleeve Shirt	Clothes
Bohemian Blue Sapphire NCK	Fashions & Accessories
Giorgio Agnelli Wallet	Fashions & Accessories
Happycall Double Pan 32cm	Kitchen
Hoddie Nike E01	Clothes
Hoddie Zipper Marine	Clothes
Hoddies Aunturn Coat	Clothes
Jadore Blouse	Clothes
Jogger Sport Addidas	Clothes
Lady American Mattress Protector	Household
Lady Crystal NCK	Fashions & Accessories
Levis Design Walet	Fashions & Accessories
Line Long Tunik Blouse	Clothes
Manicure Set 777	Beauty
Medical Pro Bags	Health
Minimalis Sofa L	Household
MSI Bio Spray	Health
Naked 3 Palette	Beauty
NXY Soft Matte Lip Cream	Beauty
Oxone Juicer OX-965	Kitchen
Pieter Sweater	Clothes
Poland Tile Dress	Clothes

**Query ini mengambil nama item beserta penjelasannya dari tabel items yang di-join dengan tabel categories berdasarkan category\_id, kemudian diurutkan berdasarkan nama item.**

2. Buat JOIN statement 3 tabel untuk menampilkan nama item, nama kategori, dan nama supplier. \*Hanya baris yang sesuai kondisi JOIN saja yang ditampilkan.

Jawab:

```
SELECT i.name, c.explanation, s.name supplier
FROM items i
INNER JOIN categories c ON i.category_id = c.category_id
INNER JOIN suppliers s ON i.supplier_id = s.supplier_id
```

name	explanation	supplier
Snapback Hat NY	Fashions & Accessories	G&R Collection
Roberto Cavalli Sunglass	Fashions & Accessories	G&R Collection
Porsche Design Sunglass	Fashions & Accessories	G&R Collection
Giorgio Agneli Wallet	Fashions & Accessories	Mollersz
Levis Design Walet	Fashions & Accessories	Mollersz
Swarovski JAQ-001	Fashions & Accessories	Tamza Accessories
Vintage Models NCK	Fashions & Accessories	Tamza Accessories
Rossy Net Silver NCK	Fashions & Accessories	Tamza Accessories
Bohemian Blue Sapphire NCK	Fashions & Accessories	Tamza Accessories
Lady Crystal NCK	Fashions & Accessories	Tamza Accessories
Black Gray Long SLeaved Shirt	Clothes	Couple9
Hoddies Auntnum Coat	Clothes	Couple9
Sweater Tribal Gazilo	Clothes	Couple9
Jogger Sport Addidas	Clothes	Swag Corner
Hoddie Nike E01	Clothes	Swag Corner
Hoddie Zipper Marine	Clothes	Swag Corner
Jadore Blouse	Clothes	Swag Corner
Pieter Sweater	Clothes	YsN
Line Long Tunik Blouse	Clothes	YsN
Poland Tile Dress	Clothes	YsN
Babyliss Pro Curl	Beauty	Legnarose Beauty
NXY Soft Matte Lip Cream	Beauty	Mutiara Cosmetics
Manicure Set 777	Beauty	Legnarose Beauty
Rosemary Essential Oil	Beauty	Essential Store
Naked 3 Palette	Beauty	Mutiara Cosmetics

**Query ini mengambil nama item (i.name) dari tabel items, penjelasan kategori (c.explanation) dari tabel categories, dan nama supplier (s.name) dari tabel suppliers, dengan melakukan join antara tabel items dan categories berdasarkan category\_id serta join antara tabel items dan suppliers berdasarkan supplier\_id.**

3. Buat JOIN statement untuk menampilkan nama customer, nama dan jumlah item yang dibeli, serta tanggal pembeliannya, kemudian urutkan berdasarkan tanggal pembelian secara ascending.

Jawab:

```
SELECT c.name, i.name, pi.amount, p.date
FROM purchases p
JOIN purchase_items pi ON pi.purchase_id = p.purchase_id
JOIN items i ON i.item_id = pi.item_id
JOIN customers c ON c.customer_id = p.customer_id
```

name	name	amount	date
Putri Kharisma	Vintage Models NCK	1	2016-03-01
Putri Kharisma	Manicure Set 777	1	2016-03-01
Putri Kharisma	Naked 3 Palette	1	2016-03-01
Nurafni Oktaviani	Shoes Hanging	1	2016-03-01
Bagus Nur Hakim	Levis Design Walet	1	2016-03-01
Bagus Nur Hakim	Sport Bottle 600ml	1	2016-03-01
Yudha Adisaputra	Pieter Sweater	1	2016-03-02
Ervina Jayanti	Vicenza Dining Set	1	2016-03-02
Aulia Luthfi Anna	Babyliss Pro Curl	1	2016-03-03
Aulia Luthfi Anna	NXY Soft Matte Lip Cream	2	2016-03-03
Aulia Luthfi Anna	Rosemary Essential Oil	1	2016-03-03
Aliany Milawaty	Sweater Tribal Gazilo	1	2016-03-04
Aliany Milawaty	Jadore Blouse	1	2016-03-04
Ichzam Rusmana	Roberto Cavalli Sunglass	1	2016-03-04
Meilia	Rosy Net Silver NCK	1	2016-03-05
Meilia	Lady Crystal NCK	1	2016-03-05
Tri Yulianti	Line Long Tunik Blouse	2	2016-03-06
Sukma Tri Setia	Hoddie Nike E01	1	2016-03-06
Sukma Tri Setia	Jadore Blouse	1	2016-03-06
Nathania Earline	Porsche Design Sunglass	1	2016-03-07
Nurafni Oktaviani	Black Gray Long SLeaved Shirt	1	2016-03-08
Nurafni Oktaviani	Hoddies Auntumn Coat	1	2016-03-08
Abinaya Basupati	Giorgio Agneli Wallet	1	2016-03-08
Abinaya Basupati	Jogger Sport Addidas	1	2016-03-08
Ervina Jayanti	Lady American Mattress Protector	1	2016-03-09

**Query ini mengambil nama pelanggan (c.name), nama item (i.name), jumlah pembelian item (pi.amount), dan tanggal pembelian (p.date) dari tabel pembelian (purchases), tabel detail pembelian (purchase\_items), tabel item (items), dan tabel pelanggan (customers), dengan menghubungkan pembelian dengan detail pembelian berdasarkan purchase\_id, detail pembelian dengan item berdasarkan item\_id, dan pembelian dengan pelanggan berdasarkan customer\_id.**

4. Buat LEFT JOIN statement untuk menampilkan nama customer dan purchase\_id, urutkan berdasarkan nama customernya secara ascending. Perhatikan result-set yang terbentuk. Di bagian mana baris dengan klausa NULL berada, kenapa demikian?

Jawab:

```
SELECT name, purchase_id FROM purchases p
LEFT JOIN customers c ON c.customer_id = p.customer_id
ORDER BY name
```

name ▲ 1	purchase_id
Abinaya Basupati	20160308-00002
Aliany Milawaty	20160304-00001
Aulia Luthfi Anna	20160303-00001
Aulia Luthfi Anna	20160309-00002
Bagus Nur Hakim	20160301-00003
Ervina Jayanti	20160302-00002
Ervina Jayanti	20160309-00001
Ichzam Rusmana	20160304-00002
Meilia	20160305-00001
Nathania Earline	20160307-00001
Nurafni Oktaviani	20160308-00001
Nurafni Oktaviani	20160301-00002
Putri Kharisma	20160301-00001
Sukma Tri Setia	20160306-00002
Tri Yulianti	20160306-00001
Yudha Adisaputra	20160302-00001

**Baris dengan klausa NULL akan terletak pada kolom yang berasal dari tabel customers (c.customer\_id), tetapi tidak memiliki padanan di tabel pembelian (purchases) berdasarkan customer\_id. Ini terjadi karena menggunakan LEFT JOIN, yang mengembalikan semua baris dari tabel purchases dan baris yang cocok dari tabel customers. Jika tidak ada padanan yang ditemukan di tabel customers, maka nilai kolom yang berasal dari tabel customers akan menjadi NULL.**

5. Buat RIGHT JOIN statement untuk menampilkan nama item dan nama supplier, urutkan berdasarkan nama item secara ascending. Perhatikan result-set yang terbentuk. Di bagian mana baris dengan klausa NULL berada, kenapa demikian?

Jawab:

```

SELECT i.name item, s.name supplier
FROM items i
RIGHT JOIN suppliers s ON s.supplier_id = i.supplier_id
ORDER BY item

```

item ▲ 1	supplier
NULL	King Spycam
NULL	Kenzie Baby
NULL	Walette
NULL	Graha Baru
NULL	Utama Mega
NULL	Glories ID
NULL	Chios CK
NULL	The Watch Gallery
NULL	Parttop ID
NULL	Mavelly Baby
NULL	Budget Gadget
NULL	JT Shop Indo
NULL	Bags Collection
NULL	Alfa Tech
NULL	Sciabuna Store
NULL	Saga Case ID
NULL	Kiss_OS
Babyliss Pro Curl	Legnarose Beauty
Bellin Desk Pink	Homy Collections
Bepathen First Aid	Essential Store
Black Gray Long Sleeved Shirt	Couple9
Bohemian Blue Sapphire NCK	Tamza Accessories
Giorgio Agneli Wallet	Mollersz
Happycall Double Pan 32cm	Homy Collections
Hoddie Nike E01	Swag Corner

**Baris dengan klausa NULL akan terletak pada kolom yang berasal dari tabel items (i.supplier\_id), tetapi tidak memiliki padanan di tabel suppliers (suppliers.supplier\_id). Ini terjadi karena kita menggunakan RIGHT JOIN, yang mengembalikan semua baris dari tabel suppliers dan baris yang cocok dari tabel items. Jika tidak ada padanan yang ditemukan di tabel items, maka nilai kolom yang berasal dari tabel items akan menjadi NULL.**

6. INNER JOIN dan CROSS JOIN bersifat syntactic equivalent (dapat menggantikan satu sama lain). Ubah CROSS JOIN berikut ke dalam bentuk INNER JOIN.  
Jawab:

```
-- sebelum

SELECT name, explanation
FROM items
CROSS JOIN categories ON items.category_id =
categories.category_id

-- sesudah

SELECT name, explanation
FROM items
INNER JOIN categories ON items.category_id =
categories.category_id
```

name	explanation
Snapback Hat NY	Fashions & Accessories
Roberto Cavalli Sunglass	Fashions & Accessories
Porsche Design Sunglass	Fashions & Accessories
Giorgio Agneli Wallet	Fashions & Accessories
Levis Design Walet	Fashions & Accessories
Swarovski JAQ-001	Fashions & Accessories
Vintage Models NCK	Fashions & Accessories
Rosy Net Silver NCK	Fashions & Accessories
Bohemian Blue Sapphire NCK	Fashions & Accessories
Lady Crystal NCK	Fashions & Accessories
Black Gray Long SLeaved Shirt	Clothes
Hoddies Aunturn Coat	Clothes
Sweater Tribal Gazilo	Clothes
Jogger Sport Addidas	Clothes
Hoddie Nike E01	Clothes
Hoddie Zipper Marine	Clothes
Jadore Blouse	Clothes
Pieter Sweater	Clothes
Line Long Tunik Blouse	Clothes
Poland Tile Dress	Clothes
Babyliss Pro Curl	Beauty
NXY Soft Matte Lip Cream	Beauty
Manicure Set 777	Beauty
Rosemary Essential Oil	Beauty
Naked 3 Palette	Beauty

Sebelum diubah

name	explanation
Snapback Hat NY	Fashions & Accessories
Roberto Cavalli Sunglass	Fashions & Accessories
Porsche Design Sunglass	Fashions & Accessories
Giorgio Agneli Wallet	Fashions & Accessories
Levis Design Walet	Fashions & Accessories
Swarovski JAQ-001	Fashions & Accessories
Vintage Models NCK	Fashions & Accessories
Rossy Net Silver NCK	Fashions & Accessories
Bohemian Blue Sapphire NCK	Fashions & Accessories
Lady Crystal NCK	Fashions & Accessories
Black Gray Long SLeeved Shirt	Clothes
Hoddies Aunturn Coat	Clothes
Sweater Tribal Gazilo	Clothes
Jogger Sport Addidas	Clothes
Hoddie Nike E01	Clothes
Hoddie Zipper Marine	Clothes
Jadore Blouse	Clothes
Pieter Sweater	Clothes
Line Long Tunik Blouse	Clothes
Poland Tile Dress	Clothes
Babyliss Pro Curl	Beauty
NXY Soft Matte Lip Cream	Beauty
Manicure Set 777	Beauty
Rosemary Essential Oil	Beauty
Naked 3 Palette	Beauty

Sesudah diubah

**Untuk mengubah CROSS JOIN menjadi INNER JOIN, harus menyesuaikan kondisi join agar sesuai dengan sifat INNER JOIN.**

7. Ubah JOIN statement berikut sehingga dapat berhasil dieksekusi!

Jawab:

```
SELECT items.name AS item_name, categories.explanation,
suppliers.name AS supplier_name
FROM items
JOIN categories USING(category_id)
JOIN suppliers USING(supplier_id)
```



item_name	explanation	supplier_name
Snapback Hat NY	Fashions & Accessories	G&R Collection
Roberto Cavalli Sunglass	Fashions & Accessories	G&R Collection
Porsche Design Sunglass	Fashions & Accessories	G&R Collection
Giorgio Agnelli Wallet	Fashions & Accessories	Mollersz
Levis Design Walet	Fashions & Accessories	Mollersz
Swarovski JAQ-001	Fashions & Accessories	Tamza Accessories
Vintage Models NCK	Fashions & Accessories	Tamza Accessories
Rosy Net Silver NCK	Fashions & Accessories	Tamza Accessories
Bohemian Blue Sapphire NCK	Fashions & Accessories	Tamza Accessories
Lady Crystal NCK	Fashions & Accessories	Tamza Accessories
Black Gray Long SLeaved Shirt	Clothes	Couple9
Hoddies Aunturn Coat	Clothes	Couple9
Sweater Tribal Gazilo	Clothes	Couple9
Jogger Sport Addidas	Clothes	Swag Corner
Hoddie Nike E01	Clothes	Swag Corner
Hoddie Zipper Marine	Clothes	Swag Corner
Jadore Blouse	Clothes	Swag Corner
Pieter Sweater	Clothes	YsN
Line Long Tunik Blouse	Clothes	YsN
Poland Tile Dress	Clothes	YsN
Babyliss Pro Curl	Beauty	Legnarose Beauty
NXY Soft Matte Lip Cream	Beauty	Mutiara Cosmetics
Manicure Set 777	Beauty	Legnarose Beauty
Rosemary Essential Oil	Beauty	Essential Store
Naked 3 Palette	Beauty	Mutiara Cosmetics

Dalam query tersebut, saya mengganti nama kolom "name" di tabel items menjadi "item\_name", dan nama kolom "name" di tabel suppliers juga diubah menjadi "supplier\_name". Dengan demikian, tidak akan ada konflik nama saat query di-join.