

**TUGAS PRAKTIKUM BASIS DATA
(SDT.PBD14)**



**Disusun Untuk Memenuhi Tugas
Mata Kuliah:
Praktikum Basis Data**

**Oleh:
Wahyu Ikbal Maulana (3323600056)**

**PROGRAM STUDI D4 SAINS DATA TERAPAN
POLITEKNIK ELEKTRONIKA NEGERI SURABAYA**

LATIHAN SOAL

1. Buat query untuk menampilkan nama pegawai, nomer department dan nama department dari semua pegawai

```
Query Query History
1 SELECT e.first_name || e.last_name as "Nama pegawai", e.department_id, d.department_name
2 FROM employees as e
3 JOIN departments as d
4 ON e.department_id = d.department_id
```

Output :

	Nama pegawai text	department_id integer	department_name character varying (30)
1	StevenKing	90	Executive
2	NeenaKochhar	90	Executive
3	LexDe Haan	90	Executive
4	AlexanderHunold	60	IT
5	BruceErnst	60	IT
6	DavidAustin	60	IT
7	ValliPataballa	60	IT
8	DianaLorentz	60	IT
9	NancyGreenberg	100	Finance
10	DanielFaviet	100	Finance
11	JohnChen	100	Finance
12	IsmaelSciarra	100	Finance
13	Jose ManuelUr...	100	Finance
14	LuisPopp	100	Finance
15	DenRaphaely	30	Purchasing
16	AlexanderKhoo	30	Purchasing
17	ShelliBaida	30	Purchasing
18	SigalTobias	30	Purchasing
19	GuyHimuro	30	Purchasing
20	KarenColmenares	30	Purchasing
21	MatthewWeiss	50	Shipping
22	AdamFripp	50	Shipping

Total rows: 106 of 106 Query complete 00:00:00.069 Ln 3, Col 17

2. Buat daftar yang unik dari semua pekerjaan pada department 30, tampilkan pula lokasi dari department 30 pada output.

```
Query Query History
1 SELECT DISTINCT j.job_title, l.city
2 FROM employees as e
3 JOIN jobs as j
4 ON j.job_id = e.job_id
5 JOIN departments as d
6 ON d.department_id = e.department_id
7 JOIN locations as l
8 ON l.location_id = d.location_id
9 WHERE d.department_id = 30
```

Output :

Data Output Messages Notifications		
	job_title character varying (35)	city character varying (30)
1	Purchasing Clerk	Seattle
2	Purchasing Manager	Seattle

Total rows: 2 of 2 Query complete 00:00:00.078 Ln 9, Col 27

3. Tampilkan nama pegawai, nama department dan lokasi dari semua pegawai yang memiliki komisi (komisi tidak sama dengan NULL)

```
Query Query History
1 SELECT e.first_name || e.last_name as "nama", d.department_name, l.city
2 FROM employees as e
3 JOIN departments as d
4 ON d.department_id = e.department_id
5 JOIN locations as l
6 ON d.location_id = l.location_id
7 WHERE e.commission_pct IS NOT NULL
```

Output :

Data Output

Messages

Notifications

	nama text	department_name character varying (30)	city character varying (30)
1	JohnRussell	Sales	Oxford
2	KarenPartners	Sales	Oxford
3	AlbertoErrazuriz	Sales	Oxford
4	GeraldCambrault	Sales	Oxford
5	EleniZlotkey	Sales	Oxford
6	PeterTucker	Sales	Oxford
7	DavidBernstein	Sales	Oxford
8	PeterHall	Sales	Oxford
9	ChristopherOlsen	Sales	Oxford
10	NanetteCambrault	Sales	Oxford
11	OliverTuvault	Sales	Oxford
12	JanetteKing	Sales	Oxford
13	PatrickSully	Sales	Oxford
14	AllanMcEwen	Sales	Oxford
15	LindseySmith	Sales	Oxford
16	LouiseDoran	Sales	Oxford
17	SarathSewall	Sales	Oxford
18	ClaraVishney	Sales	Oxford
19	DanielleGreene	Sales	Oxford
20	MatteaMarvins	Sales	Oxford
21	DavidLee	Sales	Oxford
22	SundarAnde	Sales	Oxford

Total rows: 34 of 34

Query complete 00:00:00.074

Ln 1, Col 1

4. Tampilkan nama pegawai dan nama department untuk semua pegawai yang memiliki huruf 'A' pada namanya.

```
Query  Query History
1  SELECT e.first_name || ' ' || last_name as "nama", d.department_name
2  FROM employees as e
3  JOIN departments as d
4  ON d.department_id = e.department_id
5  WHERE e.first_name LIKE '%A%' or e.last_name LIKE '%A%'
```

Output :

Data Output Messages Notifications		
nama	department_name	
text	character varying (30)	
1	Alexander Huno...	IT
2	David Austin	IT
3	Alexander Khoo	Purchasing
4	Adam Fripp	Shipping
5	Mozhe Atkinson	Shipping
6	Alberto Errazuriz	Sales
7	Allan McEwen	Sales
8	Sundar Ande	Sales
9	Amit Banda	Sales
10	Ellen Abel	Sales
11	Alyssa Hutton	Sales
12	Alexis Bull	Shipping
13	Anthony Cabrio	Shipping
14	Alana Walsh	Shipping

Total rows: 14 of 14 Query complete 00:00:00.110 Ln 5, Col 54

5. Buat query untuk menampilkan nama pegawai, pekerjaan, nomer department, dan nama department untuk semua pegawai yang bekerja di kota 'DALLAS'

```
Query  Query History
1  SELECT e.first_name || ' ' || last_name as "nama", j.job_title ,d.department_id,
2  d.department_name
3  FROM employees as e
4  JOIN departments as d
5  ON d.department_id = e.department_id
6  JOIN jobs as j
7  ON e.job_id = j.job_id
8  JOIN locations as l
9  ON l.location_id = d.location_id
10 WHERE l.city = 'DALLAS'
```

Output :

Data Output Messages Notifications				
nama	job_title	department_id	department_name	
text	character varying (35)	integer	character varying (30)	

Table rows counted: 23

Total rows: 0 of 0 Query complete 00:00:00.074 Ln 10, Col 24

6. Buat query untuk menampilkan nama pegawai dan nomer pegawai, nama manager dan nomer pegawai dari manager.

Query Query History	
1	SELECT e.employee_id, e.first_name ' ' e.last_name as "Nama Pegawai",
2	l.employee_id, l.first_name ' ' l.last_name as "Nama Manager"
3	FROM employees as e
4	JOIN employees as l
5	ON l.employee_id = e.manager_id
6	

Output :

Data Output Messages Notifications				
employee_id	Nama Pegawai	employee_id	Nama Manager	
[PK] integer	text	integer	text	
1	101 Neena Kochhar	100	Steven King	
2	102 Lex De Haan	100	Steven King	
3	103 Alexander Hunold	102	Lex De Haan	
4	104 Bruce Ernst	103	Alexander Hunold	
5	105 David Austin	103	Alexander Hunold	
6	106 Valli Pataballa	103	Alexander Hunold	
7	107 Diana Lorentz	103	Alexander Hunold	
8	108 Nancy Greenberg	101	Neena Kochhar	
9	109 Daniel Faviet	108	Nancy Greenberg	
10	110 John Chen	108	Nancy Greenberg	
11	111 Ismael Sclarra	108	Nancy Greenberg	
12	112 Jose Manuel Ur...	108	Nancy Greenberg	
13	113 Luis Popp	108	Nancy Greenberg	
14	114 Den Raphaely	100	Steven King	
15	115 Alexander Khoo	114	Den Raphaely	
16	116 Shelli Baida	114	Den Raphaely	
17	117 Sigal Tobias	114	Den Raphaely	
18	118 Guy Himuro	114	Den Raphaely	
19	119 Karen Colmenares	114	Den Raphaely	
20	120 Matthew Weiss	100	Steven King	

Total rows: 106 of 106 Query complete 00:00:00.093 Ln 5, Col 5

7. Modifikasi query pada nomer 6, buat outer join untuk menampilkan pula data pegawai yang tidak mempunyai manager.

Query Query History

```
1 SELECT e.employee_id as "id pegawai", e.first_name || ' ' || e.last_name as "Nama Pegawai",
2       l.employee_id as "id manager", l.first_name || ' ' || l.last_name as "Nama Manager",
3       d.employee_id as "id non manager", d.first_name || ' ' || d.last_name as "Non Manager"
4 FROM employees e, employees l, employees d
5 WHERE l.employee_id = e.manager_id AND d.manager_id IS NULL
```

Output :

Data Output Messages Notifications						
	id pegawai integer	Nama Pegawai text	id manager integer	Nama Manager text	id non manager integer	Non Manager text
1	101	Neena Kochhar	100	Steven King	100	Steven King
2	102	Lex De Haan	100	Steven King	100	Steven King
3	103	Alexander Hunold	102	Lex De Haan	100	Steven King
4	104	Bruce Ernst	103	Alexander Hunold	100	Steven King
5	105	David Austin	103	Alexander Hunold	100	Steven King
6	106	Valli Pataballa	103	Alexander Hunold	100	Steven King
7	107	Diana Lorentz	103	Alexander Hunold	100	Steven King
8	108	Nancy Greenberg	101	Neena Kochhar	100	Steven King
9	109	Daniel Faviet	108	Nancy Greenberg	100	Steven King
10	110	John Chen	108	Nancy Greenberg	100	Steven King
11	111	Ismael Sclarra	108	Nancy Greenberg	100	Steven King
12	112	Jose Manuel Ur...	108	Nancy Greenberg	100	Steven King
13	113	Luis Popp	108	Nancy Greenberg	100	Steven King
14	114	Den Raphaely	100	Steven King	100	Steven King
15	115	Alexander Khoo	114	Den Raphaely	100	Steven King
16	116	Shelli Baida	114	Den Raphaely	100	Steven King
17	117	Sigal Tobias	114	Den Raphaely	100	Steven King
18	118	Guy Himuro	114	Den Raphaely	100	Steven King
19	119	Karen Colmenares	114	Den Raphaely	100	Steven King
20	120	Matthew Weiss	100	Steven King	100	Steven King
21	121	Adam Fripp	100	Steven King	100	Steven King
22	122	Payam Kaufling	100	Steven King	100	Steven King

Total rows: 106 of 106 Query complete 00:00:00.092 Ln 5, Col 60

8. Buat query yang menampilkan nama pegawai, nomer department, dan semua employee yang bekerja pada department yang sama dengan employee. Samakan judul kolom seperti yang ada pada hasil berikut :

```
Query Query History
1 SELECT
2     e1.department_id AS DEPARTMENT,
3     e1.first_name AS PEGAWAI,
4     e2.first_name AS KOLEGA
5 FROM
6     employees e1
7 JOIN
8     employees e2 ON e1.department_id = e2.department_id
9 WHERE e1.first_name != e2.first_name
10
```

Output :

	department integer	pegawai character varying (20)	kolega character varying (20)
1	90	Steven	Lex
2	90	Steven	Neena
3	90	Neena	Lex
4	90	Neena	Steven
5	90	Lex	Neena
6	90	Lex	Steven
7	60	Alexander	Diana
8	60	Alexander	Valli
9	60	Alexander	David
10	60	Alexander	Bruce

Total rows: 1000 of 3180 Query complete 00:00:00.154 Ln 10, Col 1

9. Tampilkan struktur dari table SALGRADE. Buat query yang menampilkan nama pegawai , pekerjaan, nama department, gaji dan grade untuk semua pegawai

```
Query Query History
1 SELECT
2     e.first_name AS ENAME,
3     j.job_title AS JOB,
4     d.department_name AS DNAME,
5     e.salary AS SAL,
6     s.grade_level as GRADE
7 FROM
8     employees e
9 JOIN
10    departments d ON e.department_id = d.department_id
11 JOIN
12    jobs j ON j.job_id = e.job_id
13 JOIN
14    job_grades s ON e.salary BETWEEN s.lowest_sal AND s.highest_sal;
15
```

Output :

Data Output Messages Notifications					
	ename character varying (20)	job character varying (35)	dname character varying (30)	sal numeric (8,2)	grade character varying (2)
1	Shelli	Purchasing Clerk	Purchasing	2900.00	A
2	Sigal	Purchasing Clerk	Purchasing	2800.00	A
3	Guy	Purchasing Clerk	Purchasing	2600.00	A
4	Karen	Purchasing Clerk	Purchasing	2500.00	A
5	Irene	Stock Clerk	Shipping	2700.00	A
6	James	Stock Clerk	Shipping	2400.00	A
7	Steven	Stock Clerk	Shipping	2200.00	A
8	Mozhe	Stock Clerk	Shipping	2800.00	A
9	James	Stock Clerk	Shipping	2500.00	A
10	TJ	Stock Clerk	Shipping	2100.00	A
11	Michael	Stock Clerk	Shipping	2900.00	A
12	Ki	Stock Clerk	Shipping	2400.00	A
13	Hazel	Stock Clerk	Shipping	2200.00	A
14	John	Stock Clerk	Shipping	2700.00	A
15	Joshua	Stock Clerk	Shipping	2500.00	A
16	Randall	Stock Clerk	Shipping	2600.00	A
17	Peter	Stock Clerk	Shipping	2500.00	A
18	Martha	Shipping Clerk	Shipping	2500.00	A
19	Girard	Shipping Clerk	Shipping	2800.00	A
20	Timothy	Shipping Clerk	Shipping	2900.00	A
21	Randall	Shipping Clerk	Shipping	2500.00	A
22	Vance	Shipping Clerk	Shipping	2800.00	A
Total rows: 106 of 106			Query complete 00:00:00.110		Ln 6, Col 27

10. Buat query untuk menampilkan nama dan tanggal mulai bekerja dari pegawai yang tanggal bekerjanya setelah pegawai bernama 'BLAKE'

```
Query Query History
1 SELECT
2     first_name AS nama_pegawai,
3     hire_date AS tanggal_mulai_bekerja
4 FROM
5     employees
6 WHERE
7     hire_date > (SELECT hire_date FROM employees
8                  WHERE first_name = 'BLAKE' or last_name = 'BLAKE');
9
```

Output :

Data Output Messages Notifications	
nama_pegawai character varying (20)	tanggal_mulai_bekerja timestamp without time zone
Total rows: 0 of 0	
Query complete 00:00:00.102	
Ln 8, Col 1	

✓ Successfully run. Total query runtime: 102 msec. 0 rows affected. ✕

11. Tampilkan semua nama pegawai dan tanggal kerjanya serta nama manager dan tanggal kerjanya dimana tanggal mulai kerja pegawai lebih dulu daripada tanggal mulai kerja managernya.

```
Query  Query History
1  SELECT
2    e1.first_name || ' ' || e1.last_name AS nama_pegawai,
3    e1.hire_date AS tanggal_kerja_pegawai,
4    e2.first_name || ' ' || e2.last_name AS nama_manager,
5    e2.hire_date AS tanggal_kerja_manager
6  FROM
7    employees e1
8  JOIN
9    employees e2 ON e1.manager_id = e2.employee_id
10 WHERE
11    e1.hire_date < e2.hire_date;
12
```

Output :

Data Output Messages Notifications				
	nama_pegawai text	tanggal_kerja_pegawai timestamp without time zone	nama_manager text	tanggal_kerja_manager timestamp without time zone
9	Janette King	1996-01-30 00:00:00	Karen Partners	1997-01-05 00:00:00
10	Patrick Sully	1996-03-04 00:00:00	Karen Partners	1997-01-05 00:00:00
11	Allan McEwen	1996-08-01 00:00:00	Karen Partners	1997-01-05 00:00:00
12	Lisa Ozer	1997-03-11 00:00:00	Gerald Cambrault	1999-10-15 00:00:00
13	Harrison Bloom	1998-03-23 00:00:00	Gerald Cambrault	1999-10-15 00:00:00
14	Taylor Fox	1998-01-24 00:00:00	Gerald Cambrault	1999-10-15 00:00:00
15	William Smith	1999-02-23 00:00:00	Gerald Cambrault	1999-10-15 00:00:00
16	Elizabeth Bates	1999-03-24 00:00:00	Gerald Cambrault	1999-10-15 00:00:00
17	Ellen Abel	1996-05-11 00:00:00	Eleni Zlotkey	2000-01-29 00:00:00
18	Alyssa Hutton	1997-03-19 00:00:00	Eleni Zlotkey	2000-01-29 00:00:00
19	Jonathon Taylor	1998-03-24 00:00:00	Eleni Zlotkey	2000-01-29 00:00:00
20	Jack Livingston	1998-04-23 00:00:00	Eleni Zlotkey	2000-01-29 00:00:00
21	Kimberely Grant	1999-05-24 00:00:00	Eleni Zlotkey	2000-01-29 00:00:00
22	Charles Johnson	2000-01-04 00:00:00	Eleni Zlotkey	2000-01-29 00:00:00
23	Nandita Sarchand	1996-01-27 00:00:00	Adam Fripp	1997-04-10 00:00:00
24	Alexis Bull	1997-02-20 00:00:00	Adam Fripp	1997-04-10 00:00:00
25	Sarah Bell	1996-02-04 00:00:00	Shanta Vollman	1997-10-10 00:00:00
26	Britney Everett	1997-03-03 00:00:00	Shanta Vollman	1997-10-10 00:00:00
27	Alana Walsh	1998-04-24 00:00:00	Kevin Mourgos	1999-11-16 00:00:00
28	Kevin Feeney	1998-05-23 00:00:00	Kevin Mourgos	1999-11-16 00:00:00
29	Donald OConnell	1999-06-21 00:00:00	Kevin Mourgos	1999-11-16 00:00:00
30	Jennifer Whalen	1987-09-17 00:00:00	Neena Kochhar	1989-09-21 00:00:00
Total rows: 30 of 30 Query complete 00:00:00.141 Ln 4, Col 31				