

TUGAS MANDIRI PERTEMUAN 14
NAYLA PUTRI CAHYA RAMADANI
2024071020

The screenshot shows the SQL Server Enterprise Manager interface. On the left, the 'Schemas' pane is expanded, showing the 'db_latihan_dml' database. The 'Tables' folder under 'db_latihan_dml' is selected. The 'Information' pane shows 'No object selected'. The main pane displays the following SQL script:

```
-- PRAKTIKUM 14 - DML (DATA MANIPULATION LANGUAGE)

-- 1. Buat database untuk latihan DML
CREATE DATABASE db_latihan_dml;
USE db_latihan_dml;
```

The 'Output' pane shows the execution results:

#	Time	Action	Message
1	16:13:56	CREATE DATABASE db_latihan_dml	1 row(s) affected
2	16:13:59	USE db_latihan_dml	0 row(s) affected
3	16:14:03	USE db_latihan_dml	0 row(s) affected

The screenshot shows the SQL Server Enterprise Manager interface. The main pane displays the following SQL script:

```
-- 2. Buat tabel buku
CREATE TABLE IF NOT EXISTS buku (
    kode_buku VARCHAR(10) PRIMARY KEY,
    judul VARCHAR(200),
    pengarang VARCHAR(100),
    penerbit VARCHAR(100),
    thn_terbit INT,
    harga INT
);
```

The 'Output' pane shows the execution results:

#	Time	Action	Message	Duration / Fetch
1	16:13:56	CREATE DATABASE db_latihan_dml	1 row(s) affected	0.000 sec
2	16:13:59	USE db_latihan_dml	0 row(s) affected	0.000 sec
3	16:14:03	USE db_latihan_dml	0 row(s) affected	0.000 sec
4	16:14:41	CREATE TABLE IF NOT EXISTS buku (kode_buku VARCHAR(10) PRIMARY KEY...	0 row(s) affected	0.016 sec

The screenshot shows the SQL Server Enterprise Manager interface. The main pane displays the following SQL script:

```
-- 3. Lihat struktur tabel
DESCRIBE buku;
```

The 'Result Grid' shows the structure of the table:

Field	Type	Null	Key	Default	Extra
kode_buku	varchar(10)	NO	PRI	NULL	
judul	varchar(200)	YES		NULL	
pengarang	varchar(100)	YES		NULL	
penerbit	varchar(100)	YES		NULL	
thn_terbit	int(11)	YES		NULL	
harga	int(11)	YES		NULL	

```

20 -- 4. Isi data tabel buku
21 • INSERT INTO buku (kode_buku, judul, pengarang, penerbit, thn_terbit, harga) VALUES
22 ('BK01','Diagram UML','Penulis A','Graha Pustaka',2004,50000),
23 ('BK02','Basis Data','Dewi Lestari','Abadi Jaya',2003,45000),
24 ('BK03','Algoritma','Raden Kraton','Graha Pustaka',2006,60000),
25 ('BK04','Programming 1','Budi','Abadi Jaya',2001,35000),
26 ('BK05','Multimedia','Siti','Pustaka Kita',2007,30000);
27
28

```

Output			
Action Output			
#	Time	Action	Message
1	16:13:56	CREATE DATABASE db_latihan_dml	1 row(s) affected
2	16:13:59	USE db_latihan_dml	0 row(s) affected
3	16:14:03	USE db_latihan_dml	0 row(s) affected
4	16:14:41	CREATE TABLE IF NOT EXISTS buku (kode_buku VARCHAR(10) PRIMARY KE...	0 row(s) affected
5	16:15:03	DESCRIBE buku	6 row(s) returned
6	16:15:40	INSERT INTO buku (kode_buku,judul,pengarang,penerbit,thn_terbit,harga) VALU...	5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0

```

29 -- 5. Tampilkan seluruh record descending harga
30 • SELECT * FROM buku ORDER BY harga DESC;

```

Result Grid						
Filter Rows:						
	kode_buku	judul	pengarang	penerbit	thn_terbit	harga
▶	BK03	Algoritma	Raden Kraton	Graha Pustaka	2006	60000
	BK01	Diagram UML	Penulis A	Graha Pustaka	2004	50000
	BK02	Basis Data	Dewi Lestari	Abadi Jaya	2003	45000
	BK04	Programming 1	Budi	Abadi Jaya	2001	35000
	BK05	Multimedia	Siti	Pustaka Kita	2007	30000
*	NULL	NULL	NULL	NULL	NULL	NULL

```

32 -- 6. Total harga
33 • SELECT SUM(harga) AS total_harga FROM buku;
34
35
36

```

Result Grid	
Filter Rows:	
	total_harga
▶	220000

```

35 -- 7. Buku termurah
36 • SELECT * FROM buku WHERE harga = (SELECT MIN(harga) FROM buku);
37
38
39

```

Result Grid						
Filter Rows:						
	kode_buku	judul	pengarang	penerbit	thn_terbit	harga
▶	BK05	Multimedia	Siti	Pustaka Kita	2007	30000
*	NULL	NULL	NULL	NULL	NULL	NULL

```

38      -- 8. Rata-rata harga
39 •    SELECT AVG(harga) AS rata_harga FROM buku;
40
41
42

```

Result Grid | Filter Rows: | Export: | Wrap

	rata_harga
▶	44000.0000

```

41      -- 9. Alias tabel bk
42 •    SELECT bk.judul, bk.penerbit, bk.harga FROM buku AS bk;

```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: |

	judul	penerbit	harga
▶	Diagram UML	Graha Pustaka	50000
	Basis Data	Abadi Jaya	45000
	Algoritma	Graha Pustaka	60000
	Programming 1	Abadi Jaya	35000
	Multimedia	Pustaka Kita	30000

```

44      -- 10. Jumlah data
45 •    SELECT COUNT(*) AS jumlah_data FROM buku;

```

Result Grid | Filter Rows: | Export: | Wr

	jumlah_data
▶	5

```

47      -- 11. Update judul Diagram UML menjadi UML Dasar
48 •    UPDATE buku
49 SET judul = 'UML Dasar'
50 WHERE kode_buku = 'BK01';
51
52 •    SELECT * FROM buku WHERE judul = 'Diagram UML';

```

Output

#	Time	Action	Message	Duration / Fetch
12	16:18:55	SELECT COUNT(*) AS jumlah_data FROM buku LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec
13	16:19:17	UPDATE buku SET judul = 'UML Dasar' WHERE judul = 'Diagram UML'	Error Code: 1175. You are using safe update mode and you tried to update a table ...	0.000 sec
14	16:19:59	UPDATE buku SET judul = 'UML Dasar' WHERE judul = 'Diagram UML'	Error Code: 1175. You are using safe update mode and you tried to update a table ...	0.000 sec
15	16:20:12	SELECT * FROM buku WHERE judul = 'Diagram UML' LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec
16	16:20:47	UPDATE buku SET judul = 'UML Dasar' WHERE judul = 'Diagram UML'	Error Code: 1175. You are using safe update mode and you tried to update a table ...	0.000 sec
17	16:21:01	UPDATE buku SET judul = 'UML Dasar' WHERE kode_buku = 'BK01'	1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0	0.015 sec

```
55 -- 12. Insert BK06
56 INSERT INTO buku (kode_buku, judul, pengarang, penerbit, thn_terbit, harga)
57 VALUES ('BK06', 'Algoritma Lanjut', 'Raden Kraton', 'Graha Pustaka', 2005, 40000);
58
```

Output

#	Time	Action	Message
13	16:19:17	UPDATE buku SET judul = 'UML Dasar' WHERE judul = 'Diagram UML'	Error Code: 1175. You are using safe update mode and you tried to update a table ...
14	16:19:59	UPDATE buku SET judul = 'UML Dasar' WHERE judul = 'Diagram UML'	Error Code: 1175. You are using safe update mode and you tried to update a table ...
15	16:20:12	SELECT * FROM buku WHERE judul = 'Diagram UML' LIMIT 0, 1000	1 row(s) returned
16	16:20:47	UPDATE buku SET judul = 'UML Dasar' WHERE judul = 'Diagram UML'	Error Code: 1175. You are using safe update mode and you tried to update a table ...
17	16:21:01	UPDATE buku SET judul = 'UML Dasar' WHERE kode_buku = 'BK01'	1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0
18	16:21:44	INSERT INTO buku (kode_buku, judul, pengarang, penerbit, thn_terbit, harga) VAL...	1 row(s) affected

```
59 -- 13. Hapus BK05 dan tampilkan isi tabel
60 DELETE FROM buku WHERE kode_buku = 'BK05';
61 SELECT * FROM buku;
62
63
```

Output

#	Time	Action	Message	Duration / Fetch
14	16:19:59	UPDATE buku SET judul = 'UML Dasar' WHERE judul = 'Diagram UML'	Error Code: 1175. You are using safe update mode and you tried to update a table ...	0.000 sec
15	16:20:12	SELECT * FROM buku WHERE judul = 'Diagram UML' LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec
16	16:20:47	UPDATE buku SET judul = 'UML Dasar' WHERE judul = 'Diagram UML'	Error Code: 1175. You are using safe update mode and you tried to update a table ...	0.000 sec
17	16:21:01	UPDATE buku SET judul = 'UML Dasar' WHERE kode_buku = 'BK01'	1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0	0.015 sec
18	16:21:44	INSERT INTO buku (kode_buku, judul, pengarang, penerbit, thn_terbit, harga) VAL...	1 row(s) affected	0.000 sec
19	16:22:06	DELETE FROM buku WHERE kode_buku = 'BK05'	1 row(s) affected	0.000 sec

```
67 -- PRAKTIKUM 15 - OPERATOR
68
69 -- Buat database latihan operator
70 CREATE DATABASE db_latihan_operator;
71 USE db_latihan_operator;
72 -- Buat tabel member
73 CREATE TABLE IF NOT EXISTS member (
74     id_member INT AUTO_INCREMENT PRIMARY KEY,
75     nama_member VARCHAR(100),
76     semester INT,
77     usia INT,
78     alamat VARCHAR(200)
79 );
80
```

Output

#	Time	Action	Message
17	16:21:01	UPDATE buku SET judul = 'UML Dasar' WHERE kode_buku = 'BK01'	1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0
18	16:21:44	INSERT INTO buku (kode_buku, judul, pengarang, penerbit, thn_terbit, harga) VAL...	1 row(s) affected
19	16:22:06	DELETE FROM buku WHERE kode_buku = 'BK05'	1 row(s) affected
20	16:22:39	CREATE DATABASE db_latihan_operator	1 row(s) affected
21	16:22:42	USE db_latihan_operator	0 row(s) affected
22	16:22:54	CREATE TABLE IF NOT EXISTS member (id_member INT AUTO_INCREMENT ...	0 row(s) affected

```
86 ('Rani', 1, 18, 'Jl. Rambutan'),
87 ('Rino', 5, 22, 'Jl. Mangga');
88
89 -- 7. Tampilkan seluruh record
90 SELECT * FROM member;
```

Result Grid

	id_member	nama_member	semester	usia	alamat
1	1	Erni Susanti	3	20	Jl. Melati
2	2	Rere Kurnia	2	19	Jl. Mawar
3	3	Andi Pratama	4	21	Jl. Kenanga
4	4	Rani	1	18	Jl. Rambutan
5	5	Rino	5	22	Jl. Mangga
6	NULL	NULL	NULL	NULL	NULL

member 9 x Apply

Output

#	Time	Action	Message
19	16:22:06	DELETE FROM buku WHERE kode_buku = 'BK05'	1 row(s) affected
20	16:22:39	CREATE DATABASE db_latihan_operator	1 row(s) affected
21	16:22:42	USE db_latihan_operator	0 row(s) affected
22	16:22:54	CREATE TABLE IF NOT EXISTS member (id_member INT AUTO_INCREMENT ...	0 row(s) affected
23	16:23:13	INSERT INTO member (nama_member, semester, usia, alamat) VALUES ('Erni Sus...	5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0
24	16:23:18	SELECT * FROM member LIMIT 0, 1000	5 row(s) returned

91

92 -- 8. Nama = Erni Susanti

93 • `SELECT * FROM member WHERE nama_member = 'Erni Susanti';`

Result Grid

Filter Rows:

Edit:

Export/Import:

Wrap Cell Content:

	id_member	nama_member	semester	usia	alamat
▶	1	Erni Susanti	3	20	Jl. Melati
*	NULL	NULL	NULL	NULL	NULL

95 -- 9. Usia < 21

96 • `SELECT * FROM member WHERE usia < 21;`

Result Grid

Filter Rows:

Edit:

E

	id_member	nama_member	semester	usia	alamat
▶	1	Erni Susanti	3	20	Jl. Melati
	2	Rere Kurnia	2	19	Jl. Mawar
	4	Rani	1	18	Jl. Rambutan
✱	NULL	NULL	NULL	NULL	NULL

98 -- 10. Kecuali Rere Kurnia

99 • `SELECT * FROM member WHERE nama_member <> 'Rere Kurnia';`

Result Grid

Filter Rows:

Edit:

Export/Import:

	id_member	nama_member	semester	usia	alamat
▶	1	Erni Susanti	3	20	Jl. Melati
	3	Andi Pratama	4	21	Jl. Kenanga
	4	Rani	1	18	Jl. Rambutan
	5	Rino	5	22	Jl. Mangga
✱	NULL	NULL	NULL	NULL	NULL

101 -- 11. Field nama_member, semester, urut semester

102 • `SELECT nama_member, semester FROM member ORDER BY semester;`

Result Grid

Filter Rows:

Export:

Wrap Cell Content:

	nama_member	semester
▶	Rani	1
	Rere Kurnia	2
	Erni Susanti	3
	Andi Pratama	4
	Rino	5

104 -- 12. Usia between 19-20

105 • `SELECT nama_member, semester, usia FROM member WHERE usia BETWEEN 19 AND 20;`

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
nama_member	semester	usia	
Erni Susanti	3	20	
Rere Kurnia	2	19	

107 -- 13. usia > 18 AND semester > 2

108 • `SELECT * FROM member WHERE usia > 18 AND semester > 2;`

Result Grid

Filter Rows:

Edit:

Export/Import:

	id_member	nama_member	semester	usia	alamat
▶	1	Erni Susanti	3	20	Jl. Melati
	3	Andi Pratama	4	21	Jl. Kenanga
	5	Rino	5	22	Jl. Mangga
*	NULL	NULL	NULL	NULL	NULL

110 -- 14. usia > 18 OR semester > 2

111 • `SELECT * FROM member WHERE usia > 18 OR semester > 2;`

Result Grid

Filter Rows:

Edit:

Export/Imp

	id_member	nama_member	semester	usia	alamat
▶	1	Erni Susanti	3	20	Jl. Melati
	2	Rere Kurnia	2	19	Jl. Mawar
	3	Andi Pratama	4	21	Jl. Kenanga
	5	Rino	5	22	Jl. Mangga
✱	NULL	NULL	NULL	NULL	NULL

113 -- 15. Nama depan huruf R

114 • `SELECT nama_member, alamat FROM member WHERE nama_member LIKE 'R%' ORDER BY nama_member;`

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
nama_member	alamat		
Rani	Jl. Rambutan		
Rere Kurnia	Jl. Mawar		
Rino	Jl. Mangga		

116 -- 16. usia > 18, urut nama desc


117 • `SELECT nama_member, alamat, usia FROM member WHERE usia > 18 ORDER BY nama_member DESC;`

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
nama_member	alamat	usia	
Rino	Jl. Mangga	22	
Rere Kurnia	Jl. Mawar	19	
Erni Susanti	Jl. Melati	20	
Andi Pratama	Jl. Kenanga	21	

```

119      -- 17. LIMIT 4
120 •    SELECT * FROM member LIMIT 4;
121




```

Result Grid					
Filter Rows: <input type="text"/>					
Edit: 					
	id_member	nama_member	semester	usia	alamat
▶	1	Erni Susanti	3	20	Jl. Melati
	2	Rere Kurnia	2	19	Jl. Mawar
	3	Andi Pratama	4	21	Jl. Kenanga
	4	Rani	1	18	Jl. Rambutan
*	NULL	NULL	NULL	NULL	NULL

```

122      -- 18. LIMIT 5 urut semester desc
123 •    SELECT * FROM member ORDER BY semester DESC LIMIT 5;
124




```

Result Grid					
Filter Rows: <input type="text"/>					
Edit: 					
Export/Import:  					
	id_member	nama_member	semester	usia	alamat
▶	5	Rino	5	22	Jl. Mangga
	3	Andi Pratama	4	21	Jl. Kenanga
	1	Erni Susanti	3	20	Jl. Melati
	2	Rere Kurnia	2	19	Jl. Mawar
	4	Rani	1	18	Jl. Rambutan
*	NULL	NULL	NULL	NULL	NULL

```

125      -- 19. Record ke-2 sampai ke-4
126 •    SELECT * FROM member LIMIT 1,3;
127

```

Result Grid					
Filter Rows: <input type="text"/>					
Edit: 					
Export/Import:  					
	id_member	nama_member	semester	usia	alamat
▶	2	Rere Kurnia	2	19	Jl. Mawar
	3	Andi Pratama	4	21	Jl. Kenanga
	4	Rani	1	18	Jl. Rambutan
*	NULL	NULL	NULL	NULL	NULL

```

128      -- 20. Record ke-1 sampai ke-4urut id_member
129 •    SELECT * FROM member ORDER BY id_member LIMIT 0,4;
130

```

Result Grid					
Filter Rows:					
Edit:					
	id_member	nama_member	semester	usia	alamat
▶	1	Erni Susanti	3	20	Jl. Melati
	2	Rere Kurnia	2	19	Jl. Mawar
	3	Andi Pratama	4	21	Jl. Kenanga
	4	Rani	1	18	Jl. Rambutan
*	NULL	NULL	NULL	NULL	NULL

```

137      -- Buat database
138 •    CREATE DATABASE db_toko;
139 •    USE db_toko;
140
141      -- Buat tabel brg
142 •    CREATE TABLE IF NOT EXISTS brg (
143         kode_brg VARCHAR(6) PRIMARY KEY,
144         nama_brg VARCHAR(100),
145         stok INT,
146         harga_brg INT,
147         thn_pembuatan INT,
148         warna VARCHAR(30)
149     );
150

```

Output				
Action Output				
#	Time	Action	Message	
✓ 35	16:27:52	SELECT * FROM member ORDER BY semester DESC LIMIT 5	5 row(s) returned	
✓ 36	16:28:12	SELECT * FROM member LIMIT 1,3	3 row(s) returned	
✓ 37	16:28:32	SELECT * FROM member ORDER BY id_member LIMIT 0,4	4 row(s) returned	
✓ 38	16:29:04	CREATE DATABASE db_toko	1 row(s) affected	
✓ 39	16:29:06	USE db_toko	0 row(s) affected	
✓ 40	16:29:08	CREATE TABLE IF NOT EXISTS brg (kode_brg VARCHAR(6) PRIMARY KEY, ...	0 row(s) affected	

```

156      ('BR04','Kipas',90,90000,2000,'Biru'),
157      ('BR05','Monitor',50,450000,1999,'Hitam');
158
159      -- 6. Tampilkan semua
160 •    SELECT * FROM brg;

```

Result Grid						
Filter Rows:						
Edit:						
Export/Import:						
	kode_brg	nama_brg	stok	harga_brg	thn_pembuatan	warna
▶	BR01	Terminal	150	120000	2003	Hitam
	BR02	Charger	300	25000	2005	Putih
	BR03	Cable	180	15000	2002	Merah
	BR04	Kipas	90	90000	2000	Biru
	BR05	Monitor	50	450000	1999	Hitam
*	NULL	NULL	NULL	NULL	NULL	NULL


```
162 -- 7. kode_brg, nama_brg, stokurut nama
```

```
163 • SELECT kode_brg, nama_brg, stok FROM brg ORDER BY nama_brg ASC;
```

Result Grid				Filter Rows:		Edit:		Export/Import:	
	kode_brg	nama_brg	stok						
▶	BR03	Cable	180						
	BR02	Charger	300						
	BR04	Kipas	90						
	BR05	Monitor	50						
	BR01	Terminal	150						
*	NULL	NULL	NULL						

```
165 -- 8. nama_barang = Terminal
```

```
166 • SELECT * FROM brg WHERE nama_brg = 'Terminal';
```

Result Grid							Filter Rows:		Edit:		Export/Import:	
	kode_brg	nama_brg	stok	harga_brg	thn_pembuatan	warna						
▶	BR01	Terminal	150	120000	2003	Hitam						
*	NULL	NULL	NULL	NULL	NULL	NULL						

```
168 -- 9. nama_barang awalan C
```

```
169 • SELECT * FROM brg WHERE nama_brg LIKE 'C%';
```

```
170
```

```
171 -- 10. stok < 200
```

```
172 • SELECT kode_brg, nama_brg, harga_brg, stok FROM
```

Result Grid							Filter Rows:		Edit:		Export/Import:	
	kode_brg	nama_brg	stok	harga_brg	thn_pembuatan	warna						
▶	BR02	Charger	300	25000	2005	Putih						
	BR03	Cable	180	15000	2002	Merah						
*	NULL	NULL	NULL	NULL	NULL	NULL						

```
171 -- 10. stok < 200
```

```
172 • SELECT kode_brg, nama_brg, harga_brg, stok FROM brg WHERE stok < 200;
```

Result Grid					Filter Rows:		Edit:		Export/Import:		Wr
	kode_brg	nama_brg	harga_brg	stok							
▶	BR01	Terminal	120000	150							
	BR03	Cable	15000	180							
	BR04	Kipas	90000	90							
	BR05	Monitor	450000	50							
*	NULL	NULL	NULL	NULL							

174 -- 11. Tahun 2002-2006

175 • `SELECT * FROM brg WHERE thn_pembuatan BETWEEN 2002 AND 2006;`

Result Grid						
Filter Rows:						
Edit:						
Export/Import:						
	kode_brg	nama_brg	stok	harga_brg	thn_pembuatan	warna
▶	BR01	Terminal	150	120000	2003	Hitam
	BR02	Charger	300	25000	2005	Putih
	BR03	Cable	180	15000	2002	Merah
*	NULL	NULL	NULL	NULL	NULL	NULL

177 -- 12. LIMIT 3

178 • `SELECT * FROM brg LIMIT 3;`

Result Grid						
Filter Rows:						
Edit:						
Export/Import:						
	kode_brg	nama_brg	stok	harga_brg	thn_pembuatan	warna
▶	BR01	Terminal	150	120000	2003	Hitam
	BR02	Charger	300	25000	2005	Putih
	BR03	Cable	180	15000	2002	Merah
*	NULL	NULL	NULL	NULL	NULL	NULL

180 -- 13. stok < 200 AND tahun 2000

181 • `SELECT * FROM brg WHERE stok < 200 AND thn_pembuatan = 2000;`

Result Grid						
Filter Rows:						
Edit:						
Export/Import:						
	kode_brg	nama_brg	stok	harga_brg	thn_pembuatan	warna
▶	BR04	Kipas	90	90000	2000	Biru
*	NULL	NULL	NULL	NULL	NULL	NULL




183 -- 14. Record 2-4

184 • `SELECT * FROM brg ORDER BY kode_brg LIMIT 1,3;`

Result Grid						
Filter Rows:						
Edit:						
	kode_brg	nama_brg	stok	harga_brg	thn_pembuatan	warna
▶	BR02	Charger	300	25000	2005	Putih
	BR03	Cable	180	15000	2002	Merah
	BR04	Kipas	90	90000	2000	Biru
*	NULL	NULL	NULL	NULL	NULL	NULL

```
186      -- 15. kecuali BR05
```

```
187 • SELECT * FROM brg WHERE kode_brg <> 'BR05';
```

Result Grid						
Filter Rows: <input type="text"/>						
Edit:   						
	kode_brg	nama_brg	stok	harga_brg	thn_pembuatan	warna
▶	BR01	Terminal	150	120000	2003	Hitam
	BR02	Charger	300	25000	2005	Putih
	BR03	Cable	180	15000	2002	Merah
	BR04	Kipas	90	90000	2000	Biru
•	NULL	NULL	NULL	NULL	NULL	NULL

```
193      -- PRAKTIKUM 17 - AGREGASI
```

```
194
```

```
195 • CREATE DATABASE db_dml_operator;
```

```
196 • USE db_dml_operator;
```

```
197
```

```
198      -- Tabel pengajar
```

```
199 • CREATE TABLE IF NOT EXISTS pengajar (  
200     id_pengajar INT AUTO_INCREMENT PRIMARY KEY,  
201     nama VARCHAR(100),  
202     sks INT,  
203     gaji INT,  
204     kota_asal VARCHAR(50)  
205 );
```

```
206
```

Output

Action Output

#	Time	Action
✓ 49	16:32:24	SELECT * FROM brg WHERE stok < 200 AND thn_pembuatan = 2000 LIMIT 0, 10...
✓ 50	16:32:42	SELECT * FROM brg ORDER BY kode_brg LIMIT 1,3
✓ 51	16:32:59	SELECT * FROM brg WHERE kode_brg <> 'BR05' LIMIT 0, 1000
✓ 52	16:33:28	CREATE DATABASE db_dml_operator
✓ 53	16:33:31	USE db_dml_operator
✓ 54	16:33:38	CREATE TABLE IF NOT EXISTS pengajar (id_pengajar INT AUTO_INCREMEN...

```

211      ('Guru C',5,3500000,'Denpasar'),
212      ('Guru D',2,2000000,'Gianyar');
213
214      -- 7. Semua recordurut desc gaji
215      • SELECT * FROM pengajar ORDER BY gaji DESC;

```

Result Grid					
Filter Rows:					
Edit:					
	id_pengajar	nama	sks	gaji	kota_asal
▶	3	Guru C	5	3500000	Denpasar
	1	Guru A	4	3000000	Denpasar
	2	Guru B	3	2500000	Singaraja
	4	Guru D	2	2000000	Gianyar
*	NULL	NULL	NULL	NULL	NULL

```

217      -- 8. rata gaji
218      • SELECT AVG(gaji) AS rata_gaji FROM pengajar;

```

Result Grid	
Filter Rows:	
Export:	
Wrap	
	rata_gaji
▶	2750000.0000

```

220      -- 9. gaji terendah
221      • SELECT MIN(gaji) AS gaji_terendah FROM pengajar;

```

Result Grid	
Filter Rows:	
Export:	
Wrap Cell Co	
	gaji_terendah
▶	2000000

```

223      -- 10. total gaji
224      • SELECT SUM(gaji) AS total_gaji FROM pengajar;

```

Result Grid	
Filter Rows:	
Export:	
Wrap	
	total_gaji
▶	11000000

226 -- 11. total gaji pengajar sks > 3

227 • `SELECT SUM(gaji) AS total_gaji_sks_lebih3 FROM pengajar WHERE sks > 3;`

Result Grid   Filter Rows: Export:  Wrap Cell Content: 

	total_gaji_sks_lebih3
▶	6500000

229 -- 12. distinct kota_asal

230 • `SELECT DISTINCT kota_asal FROM pengajar ORDER BY kota_asal;`

Result Grid   Filter Rows: Export:  Wrap Cell Content: 

	kota_asal
▶	Denpasar
	Gianyar
	Singaraja

232 -- 13. alias rata_gaji



233 • `SELECT AVG(gaji) AS rata_gaji FROM pengajar;`

Result Grid   Filter Rows: Export:  Wra

	rata_gaji
▶	2750000.0000

235 -- 14. alias tabel tp

236 • `SELECT tp.nama, tp.sks, tp.gaji FROM pengajar AS tp;`

Result Grid   Filter Rows: Export:  Wrap Cell Conte

	nama	sks	gaji
▶	Guru A	4	3000000
	Guru B	3	2500000
	Guru C	5	3500000
	Guru D	2	2000000

```

238      -- 17. hasil = sks * gaji
239 •    SELECT nama, sks, gaji, (sks * gaji) AS hasil FROM pengajar;

```

Result Grid			Filter Rows:	<input type="text"/>	Export:		Wrap Cell Content:	
	nama	sks	gaji	hasil				
▶	Guru A	4	3000000	12000000				
	Guru B	3	2500000	7500000				
	Guru C	5	3500000	17500000				
	Guru D	2	2000000	4000000				

```

241      -- 18. bonus = sks * 100000
242 •    SELECT nama, sks, (sks * 100000) AS bonus FROM pengajar;

```

Result Grid			Filter Rows:	<input type="text"/>	Export:		Wrap Cell Content:	
	nama	sks	bonus					
▶	Guru A	4	400000					
	Guru B	3	300000					
	Guru C	5	500000					
	Guru D	2	200000					

```

244      -- 19. gaji terbesar
245 •    SELECT MAX(gaji) AS gaji_terbesar FROM pengajar;

```

Result Grid			Filter Rows:	<input type="text"/>	Export:		Wrap Cell Content:	
	gaji_terbesar							
▶	3500000							

```

247      -- 20. tunjangan = sks * 250000
248 •    SELECT nama, sks, (sks * 250000) AS tunjangan FROM pengajar ORDER BY tunjangan DESC;

```

Result Grid			Filter Rows:	<input type="text"/>	Export:		Wrap Cell Content:	
	nama	sks	tunjangan					
▶	Guru C	5	1250000					
	Guru A	4	1000000					
	Guru B	3	750000					
	Guru D	2	500000					