

TUGAS PRESENTASI

Oleh Kelompok Dabil

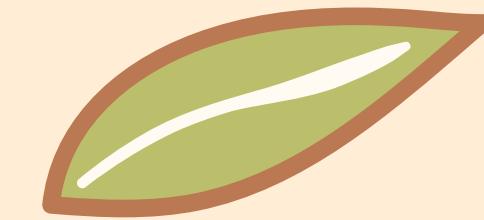
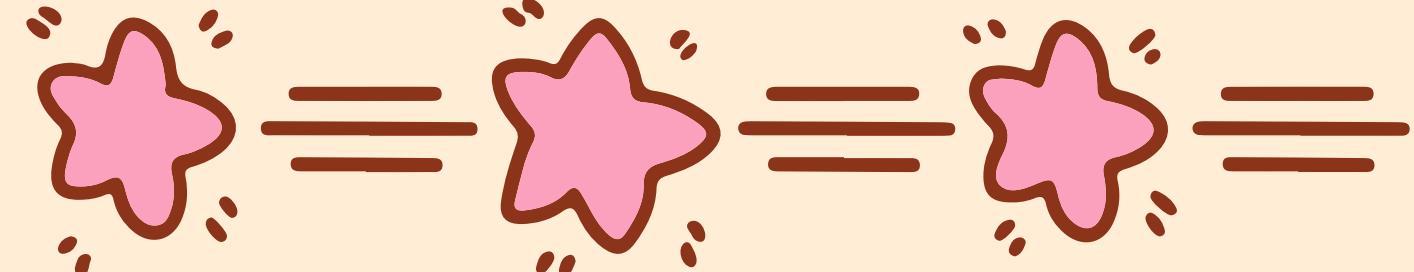
Anggota Kelompok

- Daniel Genius Santoso Sanjaya
- Nazyah Naha Syabila Harnansyah



PENDAHULUAN

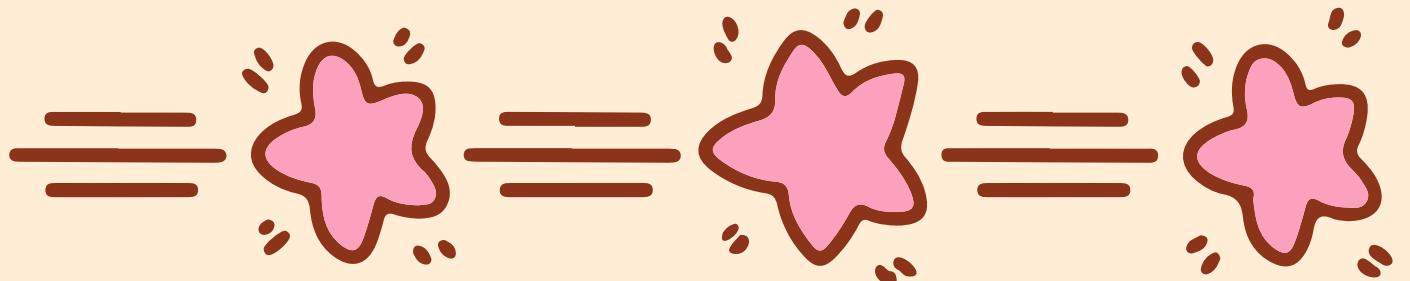
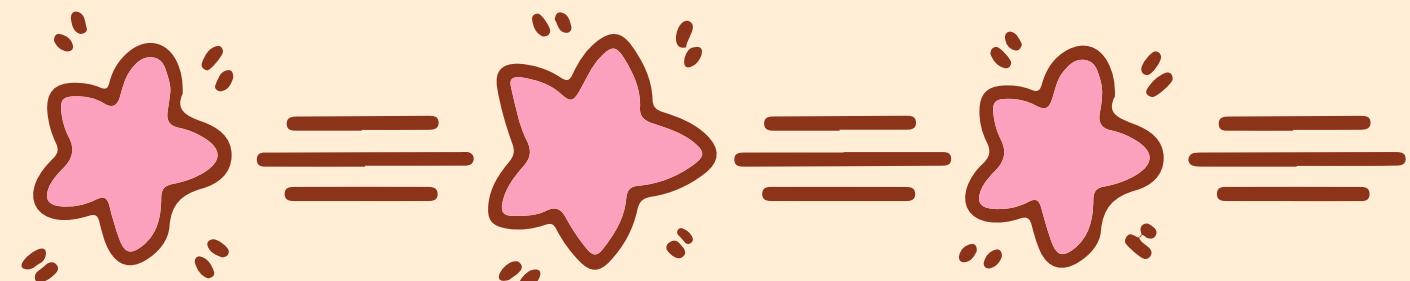
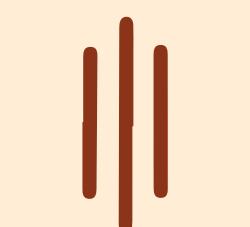
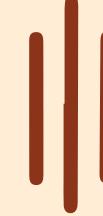
Dalam dunia rekayasa perangkat lunak (RPL), salah satu komponen penting yang harus dipahami adalah manajemen basis data. Basis data merupakan fondasi dalam banyak aplikasi modern, yang menyimpan dan mengelola data secara terstruktur. Salah satu bahasa yang digunakan untuk berinteraksi dengan basis data adalah SQL (Structured Query Language), yang memungkinkan pengguna untuk mengelola dan memanipulasi data dengan mudah.



PENGERTIAN

DML

DML (Data Manipulation Language) adalah bagian dari SQL (Structured Query Language) yang digunakan untuk mengelola dan memanipulasi data di dalam basis data (database). Dengan DML, pengguna dapat melakukan berbagai operasi terhadap data





FUNGSI UTAMA DML

- SELECT – Mengambil (menampilkan) data dari tabel.
- INSERT – Menambahkan data baru ke dalam tabel.
- UPDATE – Mengubah data yang sudah ada dalam tabel.
- DELETE – Menghapus data dari tabel.

Tujuan DML

- Memungkinkan pengambilan dan pengolahan data.
- Menjaga fleksibilitas pengelolaan informasi dalam database.
- Mendukung operasional sistem berbasis data (misalnya aplikasi penjualan, sistem informasi, dsb).
- Menyediakan cara dinamis untuk mengelola isi database tanpa mengubah strukturnya.

KESIMPULAN DML

DML memungkinkan pengguna untuk berinteraksi langsung dengan data di dalam database, tanpa mengubah struktur tabel. Ini berbeda dengan DDL (Data Definition Language), yang digunakan untuk membuat atau mengubah struktur tabel atau database.

CARANYA

```
C:\laragon\bin\mysql(master)
\ mysql -u root -p
Enter password:
Welcome to the MySQL monitor. Commands end with ; or \g.
Your MySQL connection id is 414
Server version: 8.0.30 MySQL Community Server - GPL

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> show databases;
+-----+
| Database |
+-----+
| db_umkm |
| indofasion |
| indofasionn |
| indofasionnn |
| information_schema |
| inventaris2 |
| inventaris3 |
| investaris |
| modul2 |
| mysql |
| penjual |
| performance_schema |
| sekolah |
| sekolah_dabil |
| sys |
| ujicoba |
| ujicoba14 |
+-----+
```

CARANYA

```
mysql> show database;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'dat
abase' at line 1
mysql> CREATE DATABASE sekolah1;
Query OK, 1 row affected (0.05 sec)

mysql> use sekolah1;
Database changed
mysql> CREATE TABLE sekolah
-> ;
ERROR 4028 (HY000): A table must have at least one visible column.
mysql> CREATE TABLE jurusan(
-> id INT,
-> jurusan VARCHAR(50),
-> keterangan VARCHAR(50),
-> PRIMARY KEY(id)
-> );
Query OK, 0 rows affected (0.21 sec)

mysql> CREATE TABLE siswa
-> ;
ERROR 4028 (HY000): A table must have at least one visible column.
mysql> CREATE TABLE siswa(
-> nis INT,
-> nama_siswa VARCHAR(50),
-> alamat VARCHAR(50),
-> no_hp VARCHAR(50),
-> jurusan_id INT,
-> PRIMARY KEY(nis)
-> );
Query OK, 0 rows affected (0.04 sec)

mysql> SHOW TABLES;
+-----+
| Tables_in_sekolah1 |
+-----+
| jurusan
| siswa
|
```

Activate Windows
Go to Settings to activate Windows.

CARANYA

```
2 rows in set (0.09 sec)

mysql> DESCRIBE TABLES;
ERROR 1146 (42S02): Table 'sekolah1.tables' doesn't exist
mysql> DESCRIBE TABLES siswa;
ERROR 1146 (42S02): Table 'sekolah1.tables' doesn't exist
mysql> DESCRIBE siswa;
+-----+-----+-----+-----+-----+
| Field | Ex. | Type | Microsoft | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| nis   | int  |      | NULL       | NO   | PRI  | NULL    |       |
| nama_siswa | varchar(50) | YES | NULL       |       |       | NULL    |       |
| alamat | varchar(50) | YES | NULL       |       |       | NULL    |       |
| no_hp  | varchar(50) | YES | NULL       |       |       | NULL    |       |
| jurusan_id | int  |      | NULL       | YES  |       | NULL    |       |
+-----+-----+-----+-----+-----+
5 rows in set (0.04 sec)

mysql> INSERT INTO jurusan (id,jurusan,keterangan) VALUES (1,"RPL","Rekayasa Perangkat Lunak");
Query OK, 1 row affected (0.19 sec)

mysql> SELECT * FROM jurusan;
+-----+-----+-----+
| id | jurusan | keterangan |
+-----+-----+-----+
| 1  | RPL    | Rekayasa Perangkat Lunak |
+-----+-----+
1 row in set (0.02 sec)

mysql> INSERT INTO (id,jurusan,keterangan) VALUES (2,"TKJ","Teknik Komputer Jaringan");
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near '(id
,jurusan,keterangan) VALUES (2,"TKJ","Teknik Komputer Jaringan")' at line 1
mysql> INSERT INTO jurusan (id,jurusan,keterangan) VALUES (2,"TKJ","Teknik Komputer Jaringan");
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO jurusan (id,jurusan,keterangan) VALUES (3,"TB","Tata Busana");
Query OK, 1 row affected (0.01 sec)
```

Activate Windows
Go to Settings to activate Windows.

CARANYA

```
mysql> INSERT INTO jurusan (id,jurusan,keterangan) VALUES (3,"TB","Tata Busana");
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO jurusan (id,jurusan,keterangan) VALUES (4,"TPSB","Teknik Pemintalan Serat Buatan");
Query OK, 1 row affected (0.02 sec)

mysql> INSERT INTO jurusan (id,jurusan,keterangan) VALUES (5,"TP","Teknik Permesinan");
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO jurusan (id,jurusan,keterangan) VALUES (6,"TKR","Teknik Kendaraan Ringan");
Query OK, 1 row affected (0.02 sec)

mysql> INSERT INTO jurusan (id,jurusan,keterangan) VALUES (7,"TEI","Teknik Elektronika Industri");
Query OK, 1 row affected (0.01 sec)

mysql> SELECT * FROM jurusan;
+----+-----+-----+
| id | jurusan | keterangan |
+----+-----+-----+
| 1  | RPL    | Rekayasa Perangkat Lunak
| 2  | TKJ    | Teknik Komputer Jaringan
| 3  | TB     | Tata Busana
| 4  | TPSB   | Teknik Pemintalan Serat Buatan
| 5  | TP     | Teknik Permesinan
| 6  | TKR    | Teknik Kendaraan Ringan
| 7  | TEI    | Teknik Elektronika Industri
+----+-----+-----+
7 rows in set (0.08 sec)

mysql> INSERT INTO siswa (nis,nama_siswa,alamat,no_hp,jurusan_id) VALUES (1,"Abila","Semarang","+6211111",1);
Query OK, 1 row affected (0.15 sec)

mysql> INSERT INTO siswa (nis,nama_siswa,alamat,no_hp,jurusan_id) VALUES (2,"Daniel","Semarang","+6222222",2);
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO siswa (nis,nama_siswa,alamat,no_hp,jurusan_id) VALUES (3,"Jhon's","Semarang","+6233333",3);
Query OK, 1 row affected (0.01 sec)
```

CARANYA

```
mysql> INSERT INTO siswa (nis,nama_siswa,alamat,no_hp,jurusan_id) VALUES (4,"Icasia","Semarang","+6244444",4);
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO siswa (nis,nama_siswa,alamat,no_hp,jurusan_id) VALUES (5,"Safina","Semarang","+6255555",5);
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO siswa (nis,nama_siswa,alamat,no_hp,jurusan_id) VALUES (6,"Tristan","Semarang","+6266666",6);
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO siswa (nis,nama_siswa,alamat,no_hp,jurusan_id) VALUES (7,"Laura","Semarang","+6277777",7);
Query OK, 1 row affected (0.00 sec)

mysql> SELECT * FROM siswa;
+---+-----+-----+-----+-----+
| nis | nama_siswa | alamat | no_hp | jurusan_id |
+---+-----+-----+-----+-----+
| 1 | Abila | Semarang | +6211111 | 1 |
| 2 | Daniel | Semarang | +6222222 | 2 |
| 3 | Jhon's | Semarang | +6233333 | 3 |
| 4 | Icasia | Semarang | +6244444 | 4 |
| 5 | Safina | Semarang | +6255555 | 5 |
| 6 | Tristan | Semarang | +6266666 | 6 |
| 7 | Laura | Semarang | +6277777 | 7 |
+---+-----+-----+-----+-----+
7 rows in set (0.04 sec)

mysql> SELECT * FROM jurusan;
+---+-----+-----+
| id | jurusan | keterangan |
+---+-----+-----+
| 1 | RPL | Rekayasa Perangkat Lunak |
| 2 | TKJ | Teknik Komputer Jaringan |
| 3 | TB | Tata Busana |
| 4 | TPSB | Teknik Pemintalan Serat Buatan |
| 5 | TP | Teknik Permesinan |
| 6 | TKR | Teknik Kendaraan Ringan |
| 7 | TEI | Teknik Elektronika Industri |
```

CARA UBAH

```
mysql> UPDATE siswa SET jurusan_id = 1 WHERE nis = 1;
Query OK, 0 rows affected (0.00 sec)
Rows matched: 1  Changed: 0  Warnings: 0

mysql> UPDATE siswa SET jurusan_id = 2 WHERE nis = 2;
Query OK, 0 rows affected (0.00 sec)
Rows matched: 1  Changed: 0  Warnings: 0

mysql> UPDATE siswa SET jurusan_id = 3 WHERE nis = 3;
Query OK, 0 rows affected (0.00 sec)
Rows matched: 1  Changed: 0  Warnings: 0

mysql> UPDATE siswa SET jurusan_id = 4 WHERE nis = 4;
Query OK, 0 rows affected (0.00 sec)
Rows matched: 1  Changed: 0  Warnings: 0

mysql> UPDATE siswa SET jurusan
      -> _id = 5 WHERE nis = 5;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near '_id
      = 5 WHERE nis = 5' at line 2
mysql> UPDATE siswa SET jurusan_id = 5 WHERE nis = 5;
Query OK, 0 rows affected (0.00 sec)
Rows matched: 1  Changed: 0  Warnings: 0

mysql> SELECT * FROM siswa
      -> ;
+-----+-----+-----+-----+
| nis | nama_siswa | alamat | no_hp | jurusan_id |
+-----+-----+-----+-----+
| 1  | hidayat    | ngaliyan | +6211111 | 1 |
| 2  | naха        | beringin | +6222222 | 2 |
| 3  | jhon        | taman lele | +6233333 | 3 |
| 4  | firas       | krapyak   | +6244444 | 4 |
| 5  | rafasya     | krapyak   | +6255555 | 5 |
+-----+-----+-----+-----+
5 rows in set (0.00 sec)
```

CARA UBAH

```
mysql> UPDATE siswa SET jurusan_id = 1 WHERE nis =1;
Query OK, 0 rows affected (0.01 sec)
Rows matched: 1  Changed: 0  Warnings: 0

mysql> UPDATE siswa SET jurusan_id = 1 WHERE nis =2;
Query OK, 0 rows affected (0.00 sec)
Rows matched: 1  Changed: 0  Warnings: 0

mysql> UPDATE siswa SET jurudsan_id = 1 WHERE nis =3;
ERROR 1054 (42S22): Unknown column 'jurudsan_id' in 'field list'
mysql> UPDATE siswa SET jurusan_id = 1 WHERE nis = 2;
Query OK, 0 rows affected (0.00 sec)
Rows matched: 1  Changed: 0  Warnings: 0

mysql> UPDATE siswa SET jurusan_id = 1 WHERE nis =3;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> UPDATE siswa SET jurusan_id = 2 WHERE nis =4;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> UPDATE siswa SET jurusan_id = 3 WHERE nis =5;
Query OK, 0 rows affected (0.00 sec)
Rows matched: 1  Changed: 0  Warnings: 0

mysql> SELECT * FROM siswa
    -> ;
+-----+-----+-----+-----+
| nis | nama_siswa | alamat      | no_hp   | jurusan_id |
+-----+-----+-----+-----+
| 1  | hidayat    | ngaliyan    | +6211111 | 1          |
| 2  | naha        | beringin    | +6222222 | 1          |
| 3  | jhon        | taman lele  | +6233333 | 1          |
| 4  | firas       | krapyak     | +6244444 | 2          |
| 5  | rafasya     | krapyak     | +6255555 | 3          |
+-----+-----+-----+-----+
5 rows in set (0.00 sec)
```

CARA UBAH

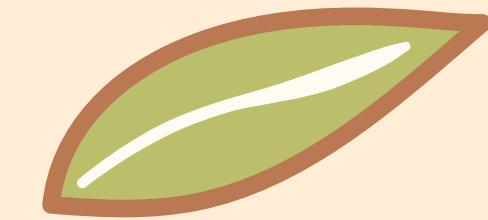
```
mysql> DELETE from siswa WHERE nama_siswa = "jhon";
Query OK, 1 row affected (0.01 sec)
```

```
mysql> SELECT * FROM siswa;
```

nis	nama_siswa	alamat	no_hp	jurusان_id
1	hidayat	ngaliyan	+6211111	1
2	naha	beringin	+6222222	1
4	firas	krapyak	+6244444	2
5	rafasya	krapyak	+6255555	3

```
4 rows in set (0.00 sec)
```

```
mysql> |
```

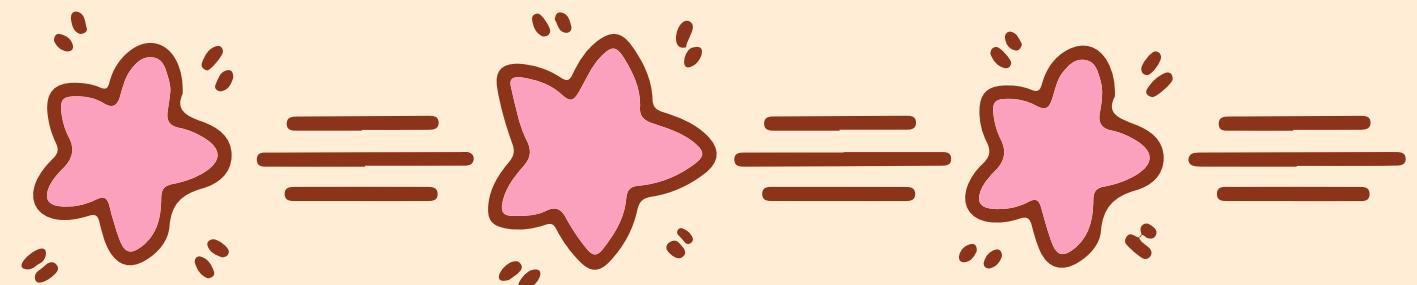
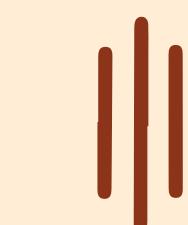
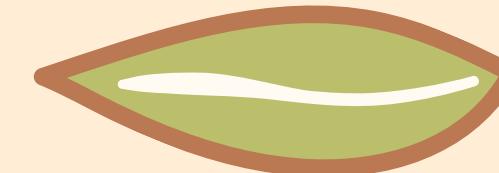


PENGERTIAN

DCL



DCL (Data Control Language) adalah bagian dari SQL yang digunakan untuk mengatur hak akses (privileges) dan keamanan data dalam database. DCL memungkinkan administrator database untuk memberikan atau mencabut hak akses pengguna terhadap objek-objek database seperti tabel, view, prosedur, dan lainnya.



FUNGSI UTAMA DCL

- GRANT – Memberikan hak akses kepada pengguna atau peran (role).
- REVOKE – Mencabut hak akses yang sebelumnya telah diberikan.

Tujuan DCL

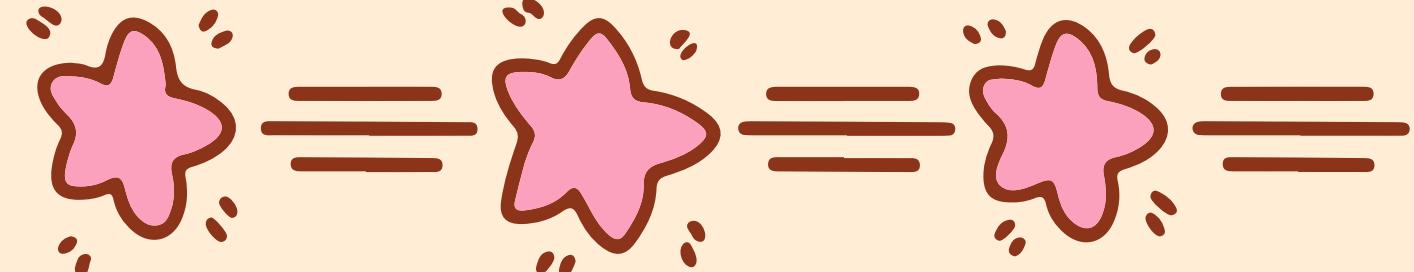
- Melindungi data agar tidak diakses atau dimodifikasi oleh pengguna yang tidak berwenang.
- Mengelola kontrol keamanan dalam sistem database.
- Menentukan siapa yang boleh melihat, menambah, mengubah, atau menghapus data.

KESIMPULAN DCL

DCL penting untuk manajemen keamanan dan pengendalian akses dalam sistem basis data. Biasanya, hanya pengguna dengan hak administratif (seperti DBA – Database Administrator) yang dapat menjalankan perintah DCL.

CARANYA

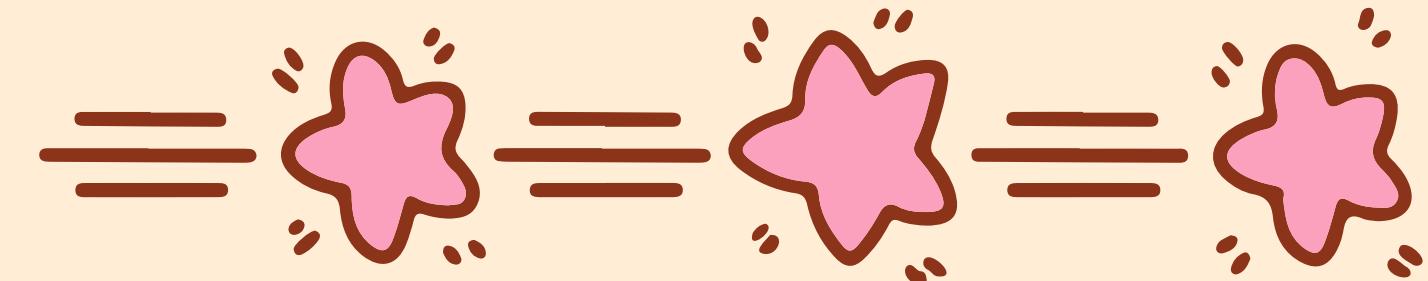
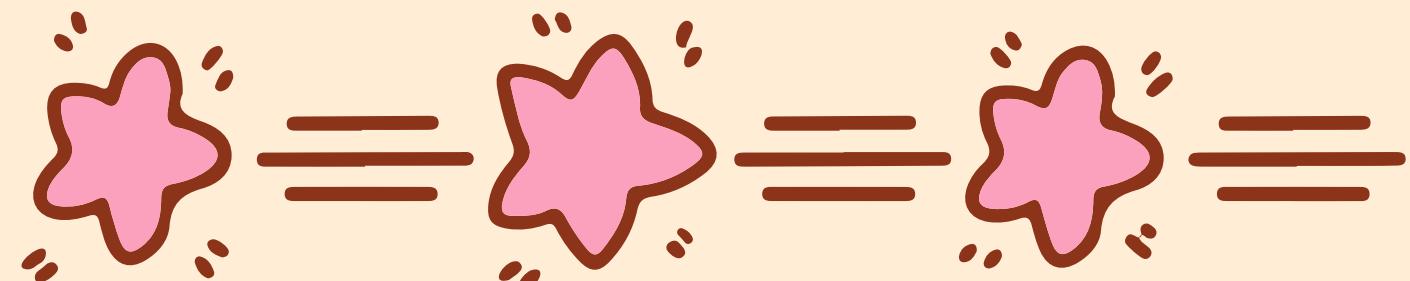
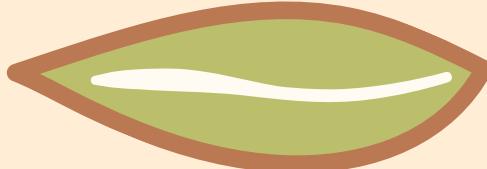
```
CREATE USER 'rpl2'@'localhost' IDENTIFIED BY 'rpl2ok'; GRANT ALL PRIVILEGES ON *.* TO 'rpl2'@'localhost' WITH GRANT OPTION; FLUSH PRIVILEGES;
```



DENGERTIAN

DELETE

Delete adalah proses menghapus data atau entitas dari sistem perangkat lunak, baik secara sementara (soft delete) maupun permanen (hard delete).

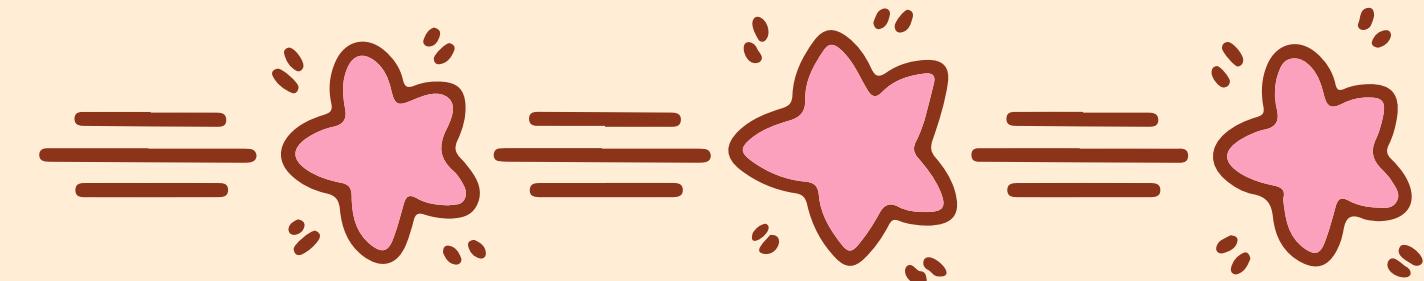
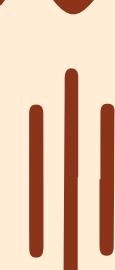
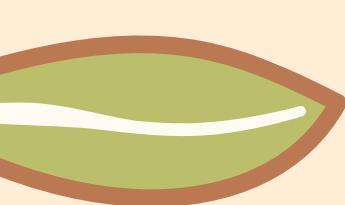
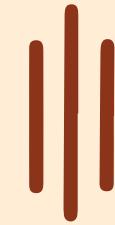
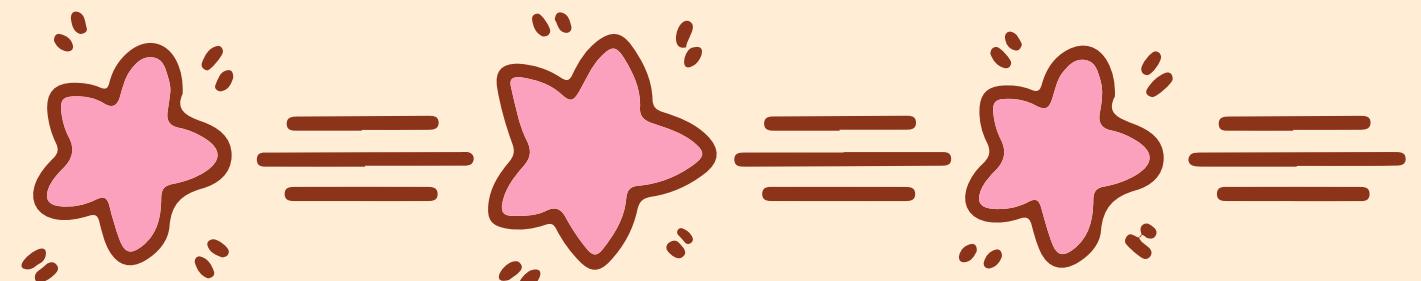




DENGERTIAN

SELECT

pemilihan data atau jalur berdasarkan kondisi.



TERIMA
KASIH

