

Transaction, Stored Procedures dan Stored Functions
Worksheet 6

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SOAL 6.1

1. Buatlah Procedure untuk mengupdate harga_jual berdasarkan jenis produk tertentu (jenis_produk_id), beri nama procedure **pro_naikan_harga** memiliki parameter yang akan menerima argumen: Jenis Produk ID dan Persentase kenaikan harga.

```
CREATE PROCEDURE ...
```

```
DELIMITER $$
```

```
MariaDB [dbpos1]> CREATE PROCEDURE pro_naik(
```

```
    -> IN jenis_produk INT,
```

```
    -> IN persentase_kenaikan INT )
```

```
    -> BEGIN
```

```
    -> UPDATE produk SET harga_jual = harga_jual + (harga_jual *  
persentase_kenaikan / 100)
```

```
    -> WHERE jenis_produk_id = jenis_produk;
```

```
    -> END $$
```

```
DELIMITER ;
```

```
MariaDB [dbpos1]> CALL pro_naik(1,4); 4 disini adalah 4%
```

```
CREATE PROCEDURE pro_naikan_harga
```

```

MariaDB [dbtokosib7]> DELIMITER $$
MariaDB [dbtokosib7]>
MariaDB [dbtokosib7]> CREATE PROCEDURE pro_naikan_harga (
  ->   IN persentasi_kenaikan DECIMAL(5,2)
  -> )
  -> BEGIN
  ->   UPDATE produk
  ->   SET harga = harga + (harga * persentasi_kenaikan / 100);
  -> END $$
Query OK, 0 rows affected (0.012 sec)

MariaDB [dbtokosib7]>
MariaDB [dbtokosib7]> DELIMITER ;
MariaDB [dbtokosib7]> CALL pro_naikan_harga(4);
Query OK, 3 rows affected (0.012 sec)

MariaDB [dbtokosib7]> SELECT * FROM produk;
+-----+-----+-----+-----+
| id | nama          | harga   | kategori_id |
+-----+-----+-----+-----+
| 1  | Laptop        | 10400.00 | NULL        |
| 2  | Sepeda Listrik | 20800.00 | NULL        |
| 3  | Televisi      | 26000.00 | NULL        |
+-----+-----+-----+-----+
3 rows in set (0.001 sec)

```

2. Buat fungsi **umur** dengan parameter yang menerima inputan argumen tipe data date dan mengembalikan hasil perhitungan umur (tahun sekarang dikurang tahun inputan) dengan tipe data bilangan bulat (integer) positif.

CREATE FUNCTION ...

```
MariaDB [dbpos1]> CREATE FUNCTION umur(tgl_lahir DATE)
```

```

  -> RETURNS INT
  -> BEGIN
  -> DECLARE umur INT;
  -> SET umur = YEAR(CURDATE()) - YEAR(tgl_lahir);
  -> RETURN umur;
  -> END $$

```

Query OK, 0 rows affected (0.038 sec)

```
MariaDB [dbpos1]> SELECT nama, umur(tgl_lahir) AS umur FROM pelanggan;
```

```
MariaDB [dbtokosib7]> SELECT nama, hitung_umur(tgl_lahir) AS umur FROM pelanggan;
+-----+-----+
| nama  | umur |
+-----+-----+
| Dimas | 24   |
| Argya | 20   |
+-----+-----+
2 rows in set (0.004 sec)
```

3. Buat fungsi **kategori_harga** dengan parameter yang menerima inputan argument tipe data double dan mengembalikan tipe data string kategori harga berdasarkan:

- 0 – 500rb : murah
- 500rb – 3 juta : sedang
- 3jt – 10 juta : mahal
- > 10 juta : sangat mahal

CREATE FUNCTION ...

```
MariaDB [dbtokosib7]> DELIMITER $$
MariaDB [dbtokosib7]>
MariaDB [dbtokosib7]> CREATE FUNCTION kategori_harga(harga DOUBLE)
-> RETURNS VARCHAR(20)
-> DETERMINISTIC
-> BEGIN
->     DECLARE kategori VARCHAR(20);
->
->     IF harga >= 0 AND harga < 500000 THEN
->         SET kategori = 'murah';
->     ELSEIF harga >= 500000 AND harga < 3000000 THEN
->         SET kategori = 'sedang';
->     ELSEIF harga >= 3000000 AND harga < 10000000 THEN
->         SET kategori = 'mahal';
->     ELSEIF harga >= 10000000 THEN
->         SET kategori = 'sangat mahal';
->     ELSE
->         SET kategori = 'tidak valid'; -- Kategori tambahan jika harga negatif
->     END IF;
->
->     RETURN kategori;
-> END $$
Query OK, 0 rows affected (0.117 sec)
```

```

MariaDB [dbtokosib7]> DELIMITER ;
MariaDB [dbtokosib7]> SELECT kategori_harga(450000) AS kategori;
+-----+
| kategori |
+-----+
| murah    |
+-----+
1 row in set (0.083 sec)

MariaDB [dbtokosib7]> SELECT kategori_harga(2000000) AS kategori;
+-----+
| kategori |
+-----+
| sedang    |
+-----+
1 row in set (0.001 sec)

MariaDB [dbtokosib7]> SELECT kategori_harga(5000000) AS kategori;
+-----+
| kategori |
+-----+
| mahal    |
+-----+
1 row in set (0.001 sec)

MariaDB [dbtokosib7]> SELECT kategori_harga(15000000) AS kategori;

```

SOAL 5.2

1. Buatlah sebuah transaction dengan skenario-skenario statement sebagai berikut:

- Mulai transaction

```

MariaDB [dbtokosib7]> START TRANSACTION;
Query OK, 0 rows affected (0.024 sec)

```

- Insert data produk sebanyak 3 record

```

MariaDB [dbtokosib7]> INSERT INTO produk (nama, harga, kategori_id, stok) VALUES
-> ('sepatu roda', 100000, NULL, 50),
-> ('sepeda listik', 200000, NULL, 30),
-> ('drone', 150000, NULL, 20);
Query OK, 3 rows affected (0.016 sec)
Records: 3 Duplicates: 0 Warnings: 0

```

- Update data stok salah satu produk

```

MariaDB [dbtokosib7]> UPDATE produk SET stok = stok - 10 WHERE nama = 'drone';
Query OK, 1 row affected (0.010 sec)
Rows matched: 1 Changed: 1 Warnings: 0

```

- Buat savepoint

```
MariaDB [dbtokosib7]> SAVEPOINT savepoint1;
Query OK, 0 rows affected (0.004 sec)
```

- Hapus salah satu data pembayaran

```
MariaDB [dbtokosib7]> DELETE FROM pembayaran WHERE id = 1;
Query OK, 0 rows affected (0.009 sec)
```

- Kembali ke savepoint

```
MariaDB [dbtokosib7]> ROLLBACK TO savepoint1;
Query OK, 0 rows affected (0.001 sec)
```

- Update data iuran salah satu kartu

```
MariaDB [dbtokosib7]> UPDATE kartu SET diskon = 50000 WHERE id = 1;
Query OK, 1 row affected, 1 warning (0.004 sec)
Rows matched: 1 Changed: 1 Warnings: 1
```

```
MariaDB [dbtokosib7]> UPDATE kartu SET iuran = 50000 WHERE id = 1;
ERROR 1054 (42S22): Unknown column 'iuran' in 'field list'
MariaDB [dbtokosib7]> DESCRIBE kartu;
```

Field	Type	Null	Key	Default	Extra
id	int(11)	NO	PRI	NULL	
nama_kartu	varchar(50)	YES		NULL	
diskon	decimal(5,2)	YES		NULL	

3 rows in set (0.040 sec)

- Akhiri transaction dengan commit

```
MariaDB [dbtokosib7]> COMMIT;
Query OK, 0 rows affected (0.003 sec)
```

Hasil

```
MariaDB [dbtokosib7]> SELECT * FROM produk;
```

id	nama	harga	kategori_id	stok
1	Laptop	10400.00	NULL	0
2	Sepeda Listrik	20800.00	NULL	0
3	Televisi	26000.00	NULL	0
4	kamera dslr	150000.00	NULL	30
5	sepatu roda	100000.00	NULL	50
6	sepeda listik	200000.00	NULL	30
7	drone	150000.00	NULL	10

```
7 rows in set (0.068 sec)
```

```
MariaDB [dbtokosib7]> SELECT * FROM kartu;
```

id	nama_kartu	diskon
1	Kartu Silver	999.99
2	Kartu Gold	15.00

```
2 rows in set (0.004 sec)
```

```
MariaDB [dbtokosib7]> SELECT * FROM pembayaran;
```

id	metode	jumlah
1	Transfer	50000.00
2	Kartu Kredit	75000.00
3	Tunai	30000.00

```
3 rows in set (0.027 sec)
```

START TRANSACTION ...