

## KELOMPOK 1 MBD A2

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- Buat view vw\_recent\_high\_value\_transactions yang menampilkan transaksi 30 hari terakhir dengan nilai > rata-rata seluruh transaksi.

```
7 1.
8 Buat view vw_recent_high_value_transactions yang menampilkan
9 transaksi 30 hari terakhir dengan nilai > rata-rata seluruh transaksi. */
10
11 CREATE VIEW vw_recent_high_value_transactions AS
12 SELECT * FROM transactions
13 WHERE transaction_date >= DATEADD(DAY, -30, GETDATE())
14 AND amount > (
15     SELECT AVG(amount) FROM transactions
16 );
17
18 SELECT * FROM vw_recent_high_value_transactions;
```

transaction_id	account_id	transaction_type_id	amount	transaction_date	description	reference_account
3472A701-948C-46C9-BA58-2F0D88679A52	80262efe-e1d1-465b-940f-5cd573a2c985	1	500000.00	2025-09-06 00:19:30.037	Setor Tunai	NULL

- Buat view yang menampilkan jumlah transaksi per akun, dengan memisahkan transaksi deposit, transfer, dan withdrawal dalam kolom berbeda.

```
21 2.
22 Buat view yang menampilkan jumlah transaksi per akun, dengan
23 memisahkan transaksi deposit, transfer, dan withdrawal dalam kolom
24 berbeda. */
25 CREATE VIEW vw_transaction_counts_per_account AS
26 SELECT
27     accounts.account_id,
28     COUNT(CASE WHEN transaction_types.name = 'deposit' THEN 1 END) AS deposit_count,
29     COUNT(CASE WHEN transaction_types.name = 'transfer' THEN 1 END) AS transfer_count,
30     COUNT(CASE WHEN transaction_types.name = 'withdrawal' THEN 1 END) AS withdrawal_count
31 FROM accounts
32 LEFT JOIN transactions ON accounts.account_id = transactions.account_id
33 LEFT JOIN transaction_types ON transactions.transaction_type_id = transaction_types.transaction_type_id
34 GROUP BY accounts.account_id;
35
36 SELECT * FROM vw_transaction_counts_per_account;
```

account_id	deposit_count	transfer_count	withdrawal_count
07a36a4b-7943-4634-b17a-7c7eb4407cd3	1	0	0
0937445f-d5eb-4ef9-887f-4173e662d4d4	1	0	0
1118a259-aa7d-402b-91f1-72555ed15180	0	1	1
11d9d9f7-35d3-4ba3-bcca-a6b1e868519	0	0	1
14f24b1b-6e86-4cb3-bbc4-0293bc90f756	0	0	1
15b082e5-92e7-4375-a7d9-47224d35ba13	0	0	1
15c1de08-94a5-482d-9db5-682a1581ed84	1	0	0
17a9ed0a-5ed3-41d6-9e20-d434296c83d	0	1	0
1afc36b6-ae72-48f8-9d51-957fac653bc	0	0	1
1d97bce1-5c94-49e4-8e2a-8ad56b99afb0	2	0	0
2156bb2-c082-45e5-a5d6-66752c37690	0	1	0
2229626-c07f-4a58-9caf-d79a74b5b93e	0	1	0
2b4fc08b-9526-4899-910b-034ad923efea	0	0	1
26af706a-7187-470b-a1c9-f3e747b72020	0	0	1
308d1085-7bcd-4772-9c5f-16af805512e	0	1	0
315f74a0-4919-4c8e-b87e-33621CE8F022	0	0	0
318c43bf-9511-4030-bd13-81ea74b8cac	0	0	1
34e9ba76-4674-4d9f-b7cd-a39a43548747	0	0	1
36f3a280-2886-fa51-aefcd4bf6d4a5d480	1	0	0

Query executed successfully.

MS\SQL\EXPRESS (16.0 RTM) | MS\Zaidan (74) | bankdb | 00:00:00 | 102 row

3. Buat function `fn_customer_loans_info` yang mengembalikan list semua pinjaman customer lengkap dengan status dan selisih antara `end_date` dan `GETDATE()`.

```
37
38 /* 5.
39 Buat function fn_customer_loans_info yang mengembalikan list semua
40 pinjaman customer lengkap dengan status dan selisih antara end_date dan
41 GETDATE(). */
42
43 CREATE FUNCTION fn_customer_loans_info (@customer_id CHAR(36))
44 RETURNS TABLE
45 AS
46 RETURN (
47     SELECT loan_id, loan_amount, status, end_date, DATEDIFF(DAY, GETDATE(), end_date) AS days_remaining
48     FROM loans WHERE customer_id = @customer_id
49 );
50
51 SELECT * FROM fn_customer_loans_info('14f35ff7-5574-4e12-ad89-7e7704a02e62');
```

100 %

Results Messages

	loan_id	loan_amount	status	end_date	days_remaining
1	81565b2e-2913-4553-a450-9af6b63e44fd	62005.93	defaulted	2024-09-30	-242

4. Cegah transaksi baru yang memiliki `transaction_date` lebih lama dari transaksi terakhir untuk akun yang melakukan transaksi tersebut.

- Contoh gagal:

```
70 )
71 BEGIN
72     RAISERROR('Tidak boleh memasukkan transaksi dengan tanggal lebih lama dari transaksi terakhir untuk akun ini.', 16, 1);
73     ROLLBACK;
74     RETURN;
75 END
76
77 INSERT INTO transactions (
78     transaction_id, account_id, transaction_type_id, amount, transaction_date, description, reference_account
79 )
80 SELECT
81     transaction_id, account_id, transaction_type_id, amount, transaction_date, description, reference_account
82 FROM inserted;
83 END;
84
85 INSERT INTO transactions (transaction_id, account_id, transaction_type_id, amount, transaction_date, description)
86 VALUES (NEWID(), '07a36a4b-7943-4634-b17a-7c7eb4407cd3', 1, 100000, '2024-01-01', 'Tes backdate');
```

100 %

Messages

Msg 50000, Level 16, State 1, Procedure tr\_PreventsBackdatedTransaction, Line 17 (Batch Start Line 84)  
Tidak boleh memasukkan transaksi dengan tanggal lebih lama dari transaksi terakhir untuk akun ini.  
Msg 9409, Level 16, State 1, Line 85  
The transaction ended in the trigger. The batch has been aborted.

Completion time: 2025-05-30T17:54:09.4660249+07:00

- Contoh berhasil:

```
70 )
71 BEGIN
72     RAISERROR('Tidak boleh memasukkan transaksi dengan tanggal lebih lama dari transaksi terakhir untuk akun ini.', 16, 1);
73     ROLLBACK;
74     RETURN;
75 END
76
77 INSERT INTO transactions (
78     transaction_id, account_id, transaction_type_id, amount, transaction_date, description, reference_account
79 )
80 SELECT
81     transaction_id, account_id, transaction_type_id, amount, transaction_date, description, reference_account
82 FROM inserted;
83 END;
84
85 INSERT INTO transactions (transaction_id, account_id, transaction_type_id, amount, transaction_date, description)
86 VALUES (NEWID(), '07a36a4b-7943-4634-b17a-7c7eb4407cd3', 1, 100000, GETDATE(), 'Transaksi valid');
```

100 %

Messages

(0 rows affected)  
(1 row affected)  
(1 row affected)

Completion time: 2025-05-30T17:55:24.0273474+07:00

	transaction_id	account_id	transaction_type_id	amount	transaction_date	description	reference_account
1	d44b5e5-0987-48df-b954-0ba77c7bd7fe	07a36a4b-7943-4634-b17a-7c7eb4407cd3	1	79.10	2024-05-11 19:46:41.000	Quae dicat ille bene noris Nisi mihi Phaedrum inqu	NULL
2	E39C734C-AB44-4B69-B12B-92A60EAD0EC9	07a36a4b-7943-4634-b17a-7c7eb4407cd3	1	100000.00	2025-05-30 17:55:23.960	Transaksi valid	NULL