Praktikum 3 Sistem Basis Data 2023

NRP / Nama : **Ahmad Fadhilah Mappisara**
Kelas : **SBD - K**
RDBMS : **MySQL**
Link SQL : [SBD/Praktikum3/Praktikum-3.sql at main · afadhilah/SBD (github.com)]
Kode Asdos : **SBDK002**
Sesi : **Praktikum**

Nomor 1

Sintaks:

```
SELECT
    P.NIK,
    P.Nama AS Customer_Name,
    P.Asal_Kota AS Customer_City
FROM
    Pelanggan P
JOIN
    Transaksi T ON P.NIK = T.Pelanggan_NIK
WHERE
    P.Membership_ID IS NOT NULL
    AND T.Waktu_Mulai > '2023-01-01 08:00:00';
```

Hasil:

Pelanggan (14r × 3c)

#	NIK	Customer_Name	Customer_City
1	0123456789012345	Eko Prasetyo	Jambi
2	1234567890123456	Linda Susanti	Jayapura
3	1234567890123456	Linda Susanti	Jayapura
4	2224357890122466	Indah Cahyani	Semarang
5	2224357890122466	Indah Cahyani	Semarang
6	2345678901234567	Ahmad Rizki	Semarang
7	2456789012345678	Siti Nurhaliza	Bima
8	4567890123456789	Bayu Kusuma	Baturaja
9	4567890123456789	Bayu Kusuma	Baturaja
10	5678901234567890	Dewi Anggraini	Jayapura
11	7890123456789012	Sinta Dewi	Blitar
12	8901234567890123	Bambang Setiawan	Malang
13	9012345678901234	Larasati Putri	Jayapura
14	9012345678901234	Larasati Putri	Jayapura

Nomor 2

Sintaks:

```
SELECT
    C.*,
    COUNT(T.ID) AS Transaction_Count
FROM
    Cabang C
LEFT JOIN
    Transaksi T ON C.ID = T.Cabang_ID
GROUP BY
    C.ID, C.Alamat, C.Kecamatan, C.Tanggal_Pembukaan
ORDER BY
    C.ID;
```

Hasil:

Cabang (10r × 5c)

#	ID	Alamat	Kecamatan	Tanggal_Pembukaan	Transaction_Count
1	CAB01001	Jalan Mandala No. 123	Abepura	2021-01-10	5
2	CAB01002	Jalan Anggrek No. 8	Abepura	2022-03-20	3
3	CAB01004	Bukit Auri Blok D-2	Abepura	2022-03-25	3
4	CAB02001	Jalan Beringin No. 42	Herkulanus	2021-12-15	0
5	CAB02002	Taman Cenderawasih No. 20	Herkulanus	2023-05-30	1
6	CAB03001	Jalan Veteran No. 126	Koya	2022-05-30	2
7	CAB03002	Taman Bhayangkara No. 53	Koya	2022-07-10	2
8	CAB04001	Taman Bunga Mawar Sari No. 20	Sentani	2022-08-15	2
9	CAB04002	Bukit Batu Blok F-11	Sentani	2022-08-20	1
10	CAB05001	Jalan Pemuda No. 30	Nimboran	2022-08-25	1

Nomor 3

Sintaks:

```
SELECT
    P.NIK,
    P.Nama AS Customer_Name,
    P.Asal_Kota AS Customer_City,
    P.Usia
FROM
    Pelanggan P
WHERE
    P.Usia > (
        SELECT
            AVG(TIMESTAMPDIFF(YEAR, Tanggal_Lahir, CURDATE()))
        FROM
            Pegawai
    );
```

Hasil:

Pelanggan (3r × 4c)

#	NIK	Customer_Name	Customer_City	Usia
1	0123456789012345	Eko Prasetyo	Jambi	31
2	2456789012345678	Siti Nurhaliza	Bima	30
3	7890123456789012	Sinta Dewi	Blitar	32

Nomor 4

Sintaks:

```
SELECT
    T.Cabang_ID AS Branch_ID,
    GROUP_CONCAT(S.ID) AS Bike_ID_List,
    COUNT(T.ID) AS Brand_Transaction_Count
FROM
    Transaksi T
JOIN
    Sepeda S ON T.Sepeda_ID = S.ID
JOIN (
    SELECT
        T1.Cabang_ID,
        S1.Merek,
        COUNT(T1.ID) AS Brand_Count
    FROM
        Transaksi T1
    JOIN
        Sepeda S1 ON T1.Sepeda_ID = S1.ID
    GROUP BY
        T1.Cabang_ID, S1.Merek
) AS BrandCount ON T.Cabang_ID = BrandCount.Cabang_ID AND S.Merek =
BrandCount.Merek
WHERE
    (S.Merek, BrandCount.Brand_Count) IN (
        SELECT
            Merek,
            MAX(Brand_Count)
        FROM
            (
                SELECT
                    T2.Cabang_ID,
                    S2.Merek,
                    COUNT(T2.ID) AS Brand_Count
                FROM
                    Transaksi T2
                JOIN
                    Sepeda S2 ON T2.Sepeda_ID = S2.ID
                GROUP BY
                    T2.Cabang_ID, S2.Merek
            ) AS MaxBrandCount
        GROUP BY
            Merek
    )
GROUP BY
    T.Cabang_ID, S.Merek
ORDER BY
    T.Cabang_ID;
```

Hasil:

Transaksi (16r × 3c)

#	Branch_ID	Bike_ID_List	Brand_Transaction_Count
1	CAB01001	SPD005	1
2	CAB01001	SPD004	1
3	CAB01001	SPD001,SPD001	2
4	CAB01001	SPD010	1
5	CAB01002	SPD004	1
6	CAB01002	SPD002	1
7	CAB01002	SPD003	1
8	CAB01004	SPD009	1
9	CAB01004	SPD002	1
10	CAB03001	SPD005	1
11	CAB03002	SPD005	1
12	CAB03002	SPD007	1
13	CAB04001	SPD004	1
14	CAB04001	SPD009	1
15	CAB04002	SPD004	1
16	CAB05001	SPD008	1

Nomor 5

Sintaks:

```
SELECT
    P.Nama AS Customer_Name,
    P.Membership_ID,
    COUNT(T.ID) AS Total_Transactions
FROM
    Pelanggan P
JOIN
    Transaksi T ON P.NIK = T.Pelanggan_NIK
JOIN
    Membership M ON P.Membership_ID = M.ID
WHERE
    DATE(M.Tanggal_Pendaftaran) = DATE(T.Tanggal_Sewa)
GROUP BY
    P.NIK, P.Membership_ID
ORDER BY
    Total_Transactions DESC;
```

Hasil:

Pelanggan (1r × 3c)

#	Customer_Name	Membership_ID	Total_Transactions
1	Larasati Putri	MID2305009	1

Nomor 6

Sintaks:

```
SELECT
    P.Nama AS Employee_Name,
    P.Tanggal_Mulai_Bekerja AS Start_Date,
    COUNT(T.ID) AS Number_of_Transactions
FROM
    Pegawai P
JOIN
    Transaksi T ON P.ID = T.Pegawai_ID
WHERE
    YEAR(P.Tanggal_Mulai_Bekerja) = 2023
GROUP BY
    P.ID, P.Nama, P.Tanggal_Mulai_Bekerja
ORDER BY
    Number_of_Transactions DESC;
```

Hasil:

Pegawai (6r × 3c)

#	Employee_Name	Start_Date	Number_of_Transactions
1	Maya Setiawan	2023-02-07	2
2	Hendra Firmansyah	2023-03-01	2
3	Joko Susanto	2023-01-20	2
4	Dewi Wulandari	2023-02-12	1
5	Agus Hermawan	2023-02-10	1
6	Lina Wati	2023-01-27	1

Nomor 7

Sintaks:

```
SELECT
    S.Jenis AS Bike_Type,
    COUNT(T.ID) AS Number_of_Bikes_Rented
FROM
    Sepeda S
JOIN
    Transaksi T ON S.ID = T.Sepeda_ID
WHERE
    MONTH(T.Tanggal_Sewa) = MONTH(CURRENT_DATE())
    AND YEAR(T.Tanggal_Sewa) = YEAR(CURRENT_DATE())
GROUP BY
    S.Jenis
ORDER BY
    Number_of_Bikes_Rented DESC;
```

Hasil:

Sepeda (2r × 2c)

#	Bike_Type	Number_of_Bikes_Rented
1	Gunung	1
2	BMX	1

Nomor 8

Sintaks:

```
SELECT
    P.Nama AS Customer_Name,
    P.Nomor_Telepon AS Phone_Number,
    P.Membership_ID
FROM
    Pelanggan P
JOIN
    Transaksi T ON P.NIK = T.Pelanggan_NIK
JOIN
    Sepeda S ON T.Sepeda_ID = S.ID
WHERE
    S.Jenis = 'Gunung'
GROUP BY
    P.NIK, P.Nama, P.Nomor_Telepon, P.Membership_ID
HAVING
    COUNT(T.ID) > 1;
```

Hasil:

Pelanggan (1r × 3c)

#	Customer_Name	Phone_Number	Membership_ID
1	Linda Susanti	082994557281	MID2212001

Nomor 9

Sintaks:

```
SELECT
    T.ID AS Transaction_ID,
    T.Tanggal_Sewa AS Rental_Date,
    TIMESTAMPDIFF(HOUR, T.Waktu_Mulai, T.Waktu_Selesai) AS Rental_Duration,
    S.Jenis AS Bike_Type,
    (TIMESTAMPDIFF(HOUR, T.Waktu_Mulai, T.Waktu_Selesai) *
S.Harga_Sewa_Per_Jam) AS Total_Rental_Cost
FROM
    Transaksi T
JOIN
    Sepeda S ON T.Sepeda_ID = S.ID
WHERE
    TIMESTAMPDIFF(HOUR, T.Waktu_Mulai, T.Waktu_Selesai) > (
        SELECT
            AVG(TIMESTAMPDIFF(HOUR, Waktu_Mulai, Waktu_Selesai))
        FROM
            Transaksi
    )
ORDER BY
    Rental_Duration DESC;
```

Hasil:

Transaksi (19r × 5c)

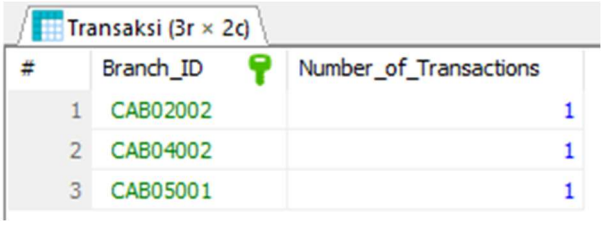
#	Transaction_ID	Rental_Date	Rental_Duration	Bike_Type	Total_Rental_Cost
1	TRX2301001	2023-01-01	50	Gunung	5.000
2	TRX2305006	2023-05-20	13	Gunung	1.300
3	TRX2303004	2023-03-10	10	Gunung	800
4	TRX2304017	2023-04-28	8	Lipat	440
5	TRX2311013	2023-11-21	7	Gunung	700
6	TRX2311012	2023-11-01	6	BMX	540
7	TRX2306019	2023-06-08	6	Gunung	450
8	TRX2302003	2023-02-05	6	Kota	360
9	TRX2306020	2023-06-27	4	Kota	280
10	TRX2306007	2023-06-25	4	Lipat	220
11	TRX2305018	2023-05-10	3	BMX	210
12	TRX2302002	2023-02-05	3	Kota	210
13	TRX2308009	2023-08-05	3	Kota	210
14	TRX2309010	2023-09-10	2	BMX	140
15	TRX2307008	2023-07-30	2	Lipat	120
16	TRX2303014	2023-03-11	2	Kota	120
17	TRX2304015	2023-04-11	2	Kota	120
18	TRX2304005	2023-04-15	1	Gunung	75
19	TRX2310011	2023-10-15	1	Lipat	65

Nomor 10

Sintaks:

```
SELECT
    Cabang_ID AS Branch_ID,
    COUNT(ID) AS Number_of_Transactions
FROM
    Transaksi
GROUP BY
    Cabang_ID
HAVING
    COUNT(ID) = (
        SELECT
            MIN(TransactionCount)
        FROM (
            SELECT
                Cabang_ID,
                COUNT(ID) AS TransactionCount
            FROM
                Transaksi
            GROUP BY
                Cabang_ID
        ) AS BranchTransactionCounts
    );
```

Hasil:



Transaksi (3r × 2c)

#	Branch_ID	Number_of_Transactions
1	CAB02002	1
2	CAB04002	1
3	CAB05001	1