**MINI PROJECT**

**“DATA MART”**

Buatlah sebuah data mart dari database DVD rental yang bisa memberikan informasi di bawah ini. Semua informasi bisa dilihat berdasarkan tahun, bulan, dan tanggal.

1. Melihat pendapatan sewa dari film berdasarkan:
2. Judul Film
3. Rating Film
4. Kategori Film

**Query :**

**SELECT**

**CONCAT\_WS('\_', *f*.film\_id, DATE\_TRUNC('month', *p*.payment\_date)) AS *Identifier*,**

**DATE\_TRUNC('month', *p*.payment\_date) AS *bulan\_payment*,**

***f*.film\_id,**

***f*.title,**

***f*.rating,**

***fc*.category\_id,**

**c.name,**

**SUM(*p*.amount) as *amount***

**FROM**

**film *f***

**JOIN**

**inventory *i* ON *f*.film\_id = *i*.film\_id**

**JOIN**

**rental *r* ON *i*.inventory\_id = *r*.inventory\_id**

**JOIN**

**film\_category *fc* ON *fc*.film\_id = *f*.film\_id**

**JOIN**

**category *c* ON *c*.category\_id = *fc*.category\_id**

**RIGHT JOIN**

**payment *p* ON *r*.rental\_id = *p*.rental\_id**

**GROUP BY**

***f*.film\_id,**

**DATE\_TRUNC('month', *p*.payment\_date),**

***f*.title,**

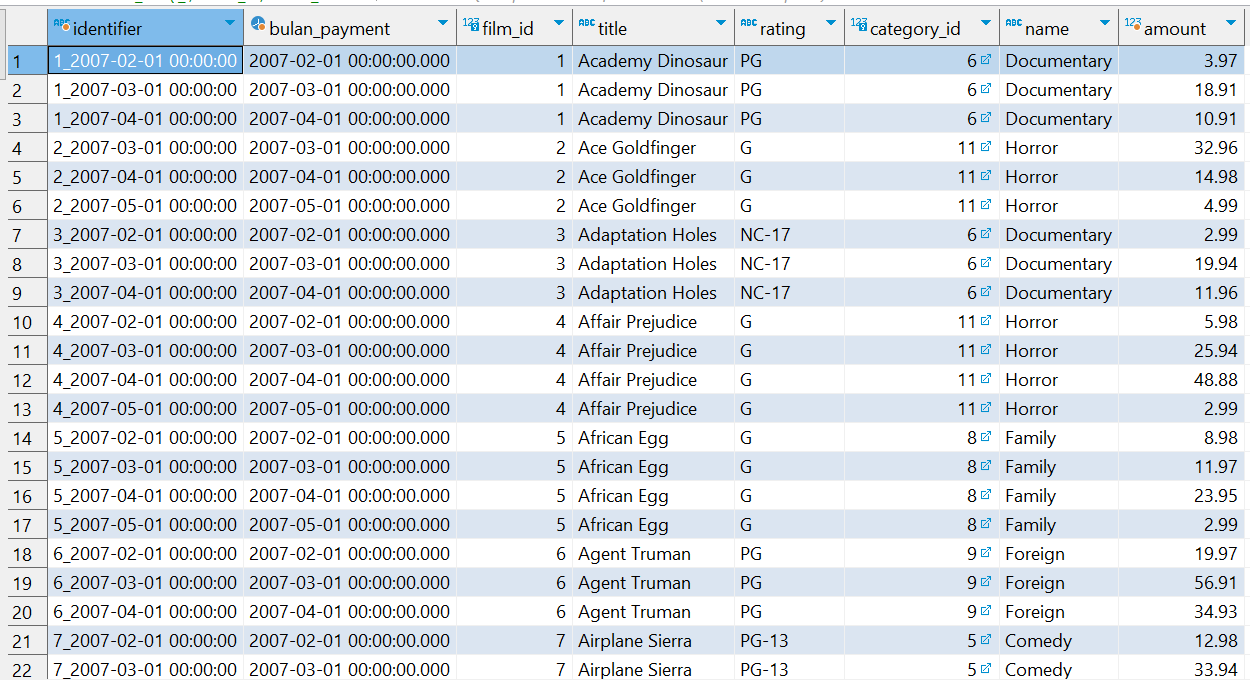
***f*.rating,**

***fc*.category\_id,**

**c.name**

**ORDER BY film\_id;**

**Hasil :**

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2. Melakukan segmentasi Customer:

1. Frekuensi Peminjaman
2. Total Biaya Sewa
3. Jenis film yang sering di sewa (kategori film dan rating film)

**Query :**

**WITH Sg\_customer AS (**

**SELECT**

**r.customer\_id,**

**DATE\_TRUNC('month', r.rental\_date) AS bulan,**

**COUNT(DISTINCT r.rental\_id) AS frekuensi\_peminjaman,**

**SUM(p.amount) AS total\_biaya\_sewa**

**FROM**

**payment p**

**LEFT JOIN**

**rental r ON r.rental\_id = p.rental\_id**

**JOIN**

**customer c ON r.customer\_id = c.customer\_id**

**GROUP BY**

**r.customer\_id,**

**DATE\_TRUNC('month', r.rental\_date)**

**)**

**,**

**films AS (**

**SELECT**

**r.customer\_id,**

**DATE\_TRUNC('month', r.rental\_date) AS bulan,**

**fc.category\_id,**

**c.name AS category\_name,**

**f.rating,**

**COUNT(\*) AS jumlah\_sewa,**

**ROW\_NUMBER() OVER (PARTITION BY r.customer\_id, DATE\_TRUNC('month', r.rental\_date) ORDER BY COUNT(\*) DESC) AS rank**

**FROM**

**film f**

**JOIN**

**film\_category fc ON f.film\_id = fc.film\_id**

**JOIN**

**category c ON fc.category\_id = c.category\_id**

**JOIN**

**inventory i ON i.film\_id = f.film\_id**

**JOIN**

**rental r ON i.inventory\_id = r.inventory\_id**

**GROUP BY**

**r.customer\_id,**

**DATE\_TRUNC('month', r.rental\_date),**

**fc.category\_id,**

**c.name,**

**f.rating**

**)**

**SELECT**

**CONCAT\_WS('\_', sg\_customer.customer\_id, EXTRACT(MONTH FROM sg\_customer.bulan)) AS kunci,**

**sg\_customer.customer\_id,**

**sg\_customer.bulan,**

**sg\_customer.frekuensi\_peminjaman,**

**sg\_customer.total\_biaya\_sewa,**

**films.category\_name AS jenis\_film,**

**films.rating,**

**films.jumlah\_sewa AS frekuensi\_peminjaman\_kategori\_rating**

**FROM**

**Sg\_customer**

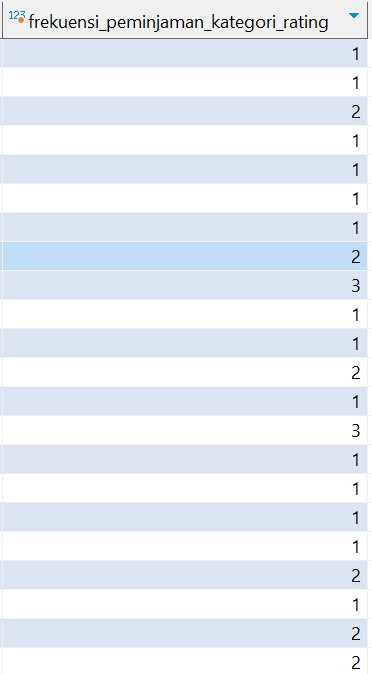
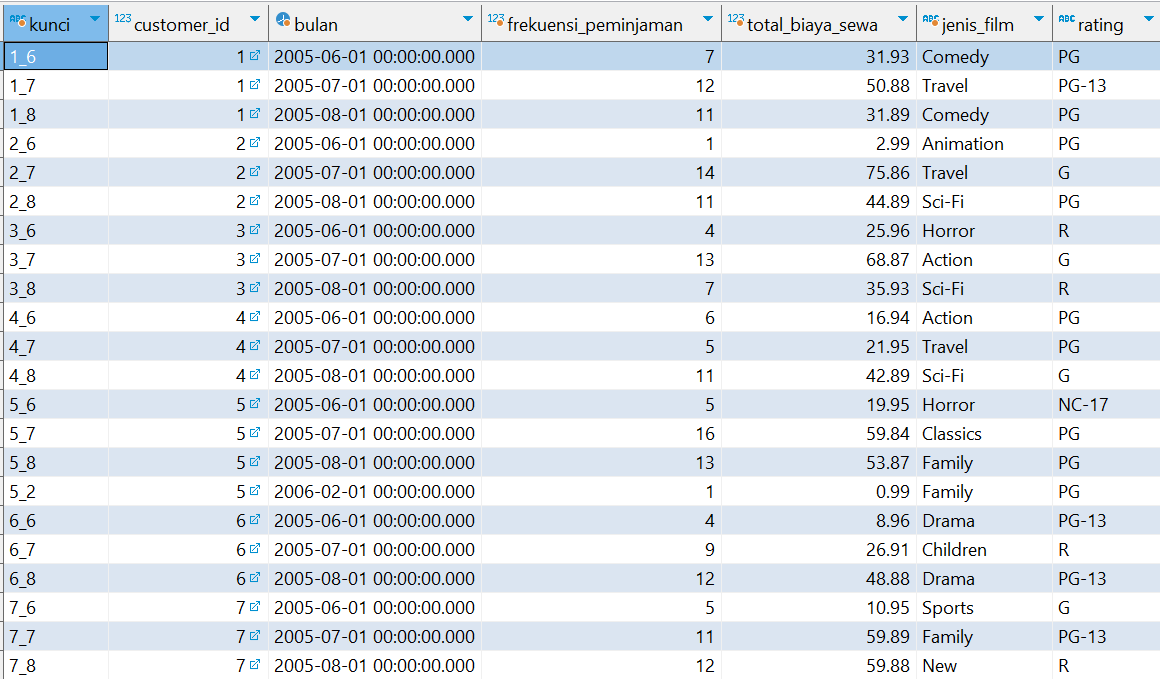
**INNER JOIN**

**films ON sg\_customer.customer\_id = films.customer\_id AND sg\_customer.bulan = films.bulan AND films.rank = 1**

**ORDER BY**

**customer\_id ASC;**

**Hasil :**



3. Melihat informasi keterlambatan sewa seperti :

1. Film yang paling sering terlambat dikembalikan
2. Berapa jumlah pembatalan dalam periode tertentu

Hint : Rumus untuk mengecek apakah penyewaan tersebut dinyatakan terlambat

Adalah, membandingkan rental duration film dan jarak antara tanggal peminjaman dan tanggal kembali.

**Query :**

**WITH Pinjam AS (**

**SELECT**

***f*.film\_id,**

***i*.inventory\_id,**

***r*.rental\_id,**

***f*.title,**

***r*.customer\_id,**

***f*.rental\_duration,**

***r*.rental\_date,**

***r*.return\_date,**

**EXTRACT(day FROM *r*.return\_date - *r*.rental\_date) AS *Durasi\_penggunaan\_asli***

**FROM**

**film *f***

**JOIN**

**inventory *i* ON *f*.film\_id = *i*.film\_id**

**JOIN**

**rental *r* ON *i*.inventory\_id = *r*.inventory\_id**

**),**

**Keterlambatan AS (**

**SELECT**

**film\_id,**

**COUNT(\*) AS Jumlah\_keterlambatan\_pengembalian\_tiap\_film**

**FROM**

**Pinjam**

**WHERE**

**Durasi\_penggunaan\_asli > rental\_duration**

**GROUP BY**

**film\_id**

**),**

**Pembatalan as(**

**select**

**film\_id,**

**count(\*) as pembatalan**

**from pinjam**

**where return\_date is null**

**group by film\_id**

**)**

**SELECT**

**p.film\_id,**

**p.rental\_id,**

**p.customer\_id,**

**p.rental\_date,**

**p.return\_date,**

**p.rental\_duration,**

**p.durasi\_penggunaan\_asli,**

**case**

**when**

**p.durasi\_penggunaan\_asli > p.rental\_duration then p.durasi\_penggunaan\_asli - p.rental\_duration**

**else 0**

**end as durasi\_terlambat\_hari,**

**p.title,**

**k.Jumlah\_keterlambatan\_pengembalian\_tiap\_film,**

**pl.pembatalan**

**FROM**

**pinjam p**

**JOIN**

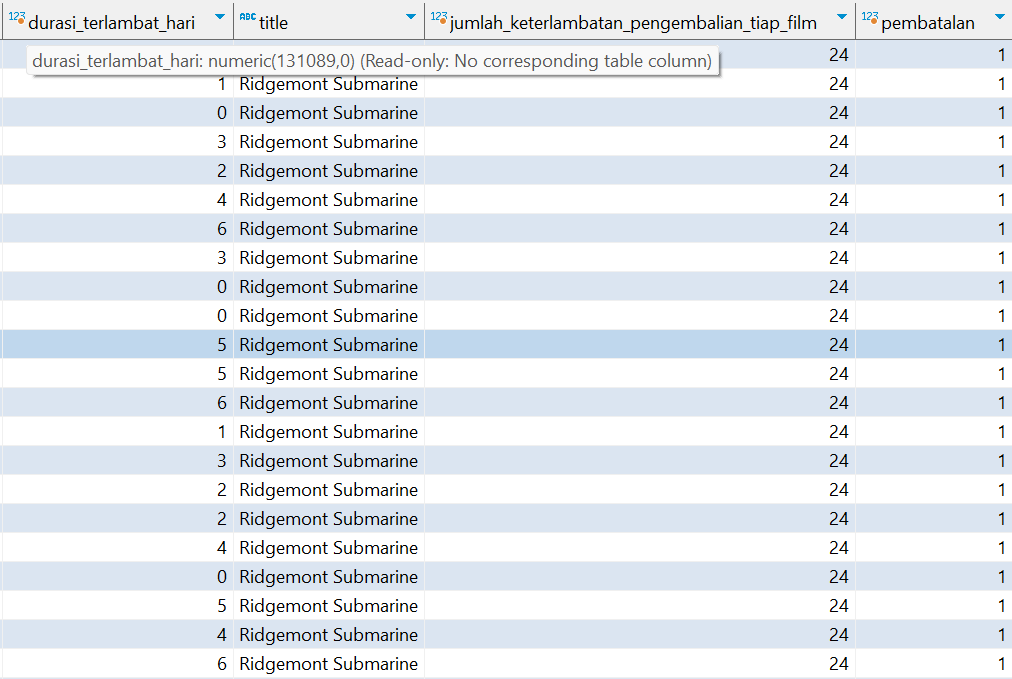
**Keterlambatan k ON p.film\_id = k.film\_id**

**join**

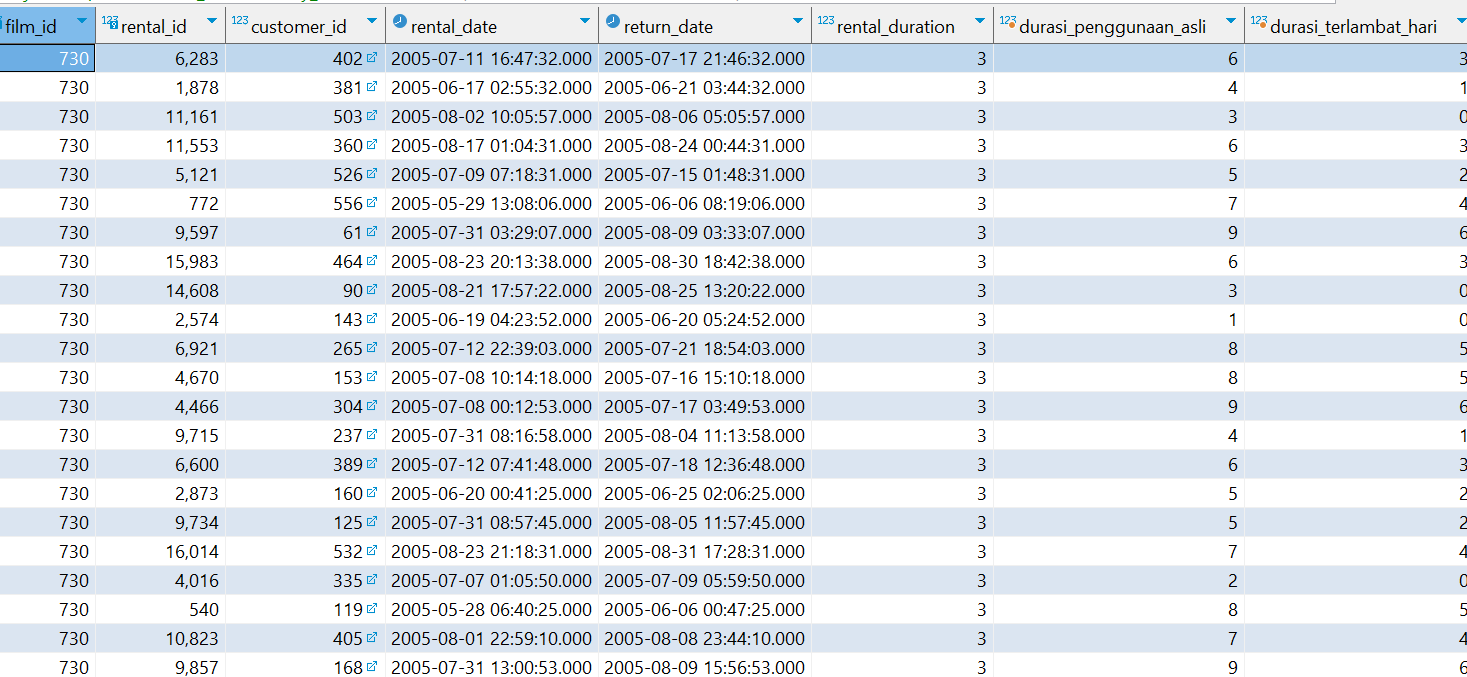
**pembatalan Pl on pl.film\_id = p.film\_id**

**ORDER BY**

**k.Jumlah\_keterlambatan\_pengembalian\_tiap\_film desc;**



**Hasil :**

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