

# **JOBSHEET**

## **PRAKTIKUM BASIS DATA LANJUT**

**Jurusan Teknologi Informasi**  
**POLITEKNIK NEGERI MALANG**

**2023**



### **PERTEMUAN 7**

**SQL SERVER - Window Ranking, Offset, Fungsi Agregat**

#### **Team Teaching:**

Dwi Puspitasari, S.Kom., M.Kom.

Yan Watequlis Syaifudin, ST., MMT., PhD.

Annisa Puspa Kirana, S. Kom, M.Kom

Dika Rizky Yunianto, S.Kom, M.Kom

Muhammad Shulhan Khairy, S.Kom, M.Kom

Habibie Ed Dien, S.Kom., M.T.



Jurusan Teknologi Informasi Politeknik Negeri Malang

## **Jobsheet-7: Pengantar Transact-SQL dan Statement**

### **SELECT, Join, Sorting, dan Filtering data**

#### **Mata Kuliah Basis Data Lanjut**

**Pengampu:** Tim Ajar Basis Data Lanjut

*September 2024*

---

#### **Topik**

1. Membuat Window dengan OVER
2. Melakukan eksplorasi Fungsi Window

#### **Tujuan**

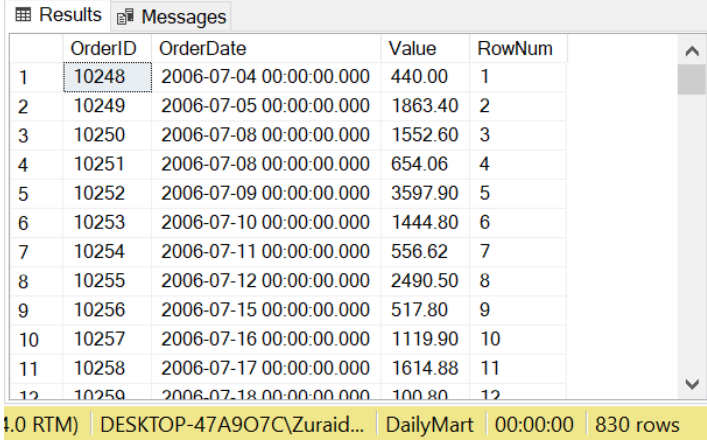
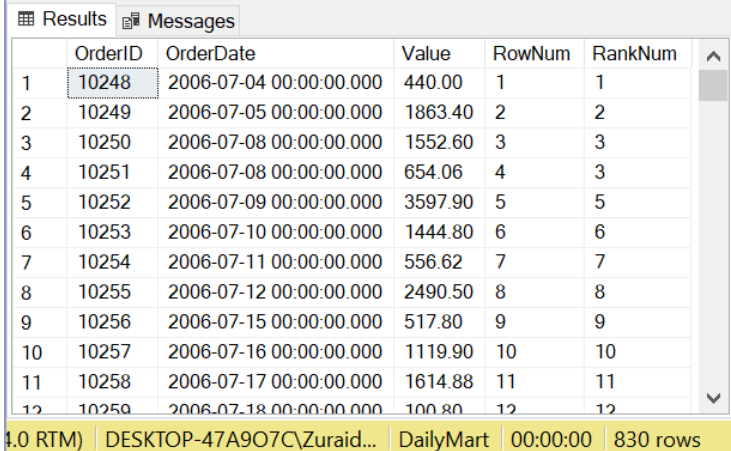
Mahasiswa diharapkan dapat:

1. Mahasiswa memahami cara menjelaskan komponen T-SQL yang digunakan untuk mendefinisikan window dan hubungan kedua hal tersebut
2. Mahasiswa memahami cara menuliskan query menggunakan klausa OVER dengan partitioning, ordering, dan framing untuk mendefinisikan window
3. Mahasiswa memahami cara menuliskan query menggunakan fungsi window agregat
4. Mahasiswa memahami cara menuliskan query menggunakan fungsi window ranking
5. Mahasiswa memahami cara menuliskan query menggunakan fungsi window offset

#### **Petunjuk Umum**

1. Ikuti langkah-langkah pada bagian-bagian praktikum sesuai dengan urutan yang diberikan.
2. Jawablah semua pertanyaan bertanda **[Soal-X]** yang terdapat pada langkah-langkah tertentu di setiap bagian praktikum.
3. Dalam setiap langkah pada praktikum terdapat penjelasan yang akan membantu Anda dalam menjawab pertanyaan-pertanyaan pada petunjuk nomor 3, maka baca dan kerjakanlah semua bagian praktikum dalam jobsheet ini.
4. Tulis jawaban dari soal-soal pada petunjuk nomor 3 pada sebuah laporan yang dikerjakan menggunakan aplikasi word processing (Word, OpenOffice, atau yang lain yang sejenis). Ekspor sebagai file **PDF** dengan format nama sebagai berikut:
  - **BDL\_Kelas\_03\_NamaLengkapAnda.pdf**
  - Kumpulkan file PDF tersebut sebagai laporan praktikum kepada dosen pengampu.
  - Selain pada nama file, cantumkan juga identitas Anda pada halaman pertama laporan tersebut.

## Praktikum – Bagian 1: Fungsi ROW\_NUMBER() dan RANK()

| Langkah | Keterangan  |
|---------|---|
| 1       | <p><b>[Soal-1]</b> Tulislah query untuk menampilkan kolom OrderID, OrderDate, dan Value dari View Sales.OrderValues. Gunakan fungsi ROW_NUMBER untuk mengembalikan nomor baris yang diurutkan berdasarkan kolom OrderDate dan beri nama alias RowNum</p>  |
| 2       | <p><b>[Soal-2]</b> Salin query pada soal no 1 kemudian modifikasi dengan menambahkan kolom bernama RankNum. RankNum diperoleh menggunakan fungsi RANK dengan urutan peringkat berdasarkan kolom OrderDate</p>   |
| 3       | <p><b>[Soal-3]</b> Apakah perbedaan antara fungsi RANK dan fungsi ROW_NUMBER?</p>   |
| 4       | <p><b>[Soal-4]</b> Tuliskan query untuk menampilkan kolom CustomerID, OrderID, OrderDate, dan Value dari View Sales.OrderValues. Tampilkan nomor urut order untuk masing-masing customer dengan fungsi RANK(). Urutan dilakukan berdasarkan kolom OrderDate secara descending. Beri nama alias OrderRankNum.</p>                            |

| Results |            | Messages |                         |        |              |  |
|---------|------------|----------|-------------------------|--------|--------------|--|
|         | CustomerID | OrderID  | OrderDate               | Value  | OrderRankNum |  |
| 1       | 1          | 11011    | 2008-04-09 00:00:00.000 | 933.50 | 1            |  |
| 2       | 1          | 10952    | 2008-03-16 00:00:00.000 | 471.20 | 2            |  |
| 3       | 1          | 10835    | 2008-01-15 00:00:00.000 | 845.80 | 3            |  |
| 4       | 1          | 10702    | 2007-10-13 00:00:00.000 | 330.00 | 4            |  |
| 5       | 1          | 10692    | 2007-10-03 00:00:00.000 | 878.00 | 5            |  |
| 6       | 1          | 10643    | 2007-08-25 00:00:00.000 | 814.50 | 6            |  |
| 7       | 2          | 10926    | 2008-03-04 00:00:00.000 | 514.40 | 1            |  |
| 8       | 2          | 10759    | 2007-11-28 00:00:00.000 | 320.00 | 2            |  |
| 9       | 2          | 10625    | 2007-08-08 00:00:00.000 | 479.75 | 3            |  |
| 10      | 2          | 10308    | 2006-09-18 00:00:00.000 | 88.80  | 4            |  |
| 11      | 3          | 10856    | 2008-01-28 00:00:00.000 | 660.00 | 1            |  |
| 12      | 3          | 10682    | 2007-09-25 00:00:00.000 | 375.50 | 2            |  |

cal) (14.0 RTM) | DESKTOP-47A9O7C\Zuraid... | DailyMart | 00:00:00 | 830 rows

5

**[Soal-5]** Tuliskan query untuk menampilkan kolom CustomerID, OrderID, OrderDate, dan Value dari view Sales.OrderValues. Tambahkan dua kolom berikut:

- OrderYear yaitu nilai tahun dari kolom OrderDate
- OrderRankNum yaitu nomor urut yang dipartisi berdasarkan pelanggan dan tahun pesanan serta diurutkan berdasarkan nilai pesanan dalam urutan menurun

| Results |            | Messages |                         |         |           |              |
|---------|------------|----------|-------------------------|---------|-----------|--------------|
|         | CustomerID | OrderID  | OrderDate               | Value   | OrderYear | OrderRankNum |
| 1       | 1          | 10692    | 2007-10-03 00:00:00.000 | 878.00  | 2007      | 1            |
| 2       | 1          | 10643    | 2007-08-25 00:00:00.000 | 814.50  | 2007      | 2            |
| 3       | 1          | 10702    | 2007-10-13 00:00:00.000 | 330.00  | 2007      | 3            |
| 4       | 1          | 11011    | 2008-04-09 00:00:00.000 | 933.50  | 2008      | 1            |
| 5       | 1          | 10835    | 2008-01-15 00:00:00.000 | 845.80  | 2008      | 2            |
| 6       | 1          | 10952    | 2008-03-16 00:00:00.000 | 471.20  | 2008      | 3            |
| 7       | 2          | 10308    | 2006-09-18 00:00:00.000 | 88.80   | 2006      | 1            |
| 8       | 2          | 10625    | 2007-08-08 00:00:00.000 | 479.75  | 2007      | 1            |
| 9       | 2          | 10759    | 2007-11-28 00:00:00.000 | 320.00  | 2007      | 2            |
| 10      | 2          | 10926    | 2008-03-04 00:00:00.000 | 514.40  | 2008      | 1            |
| 11      | 3          | 10365    | 2006-11-27 00:00:00.000 | 403.20  | 2006      | 1            |
| 12      | 3          | 10573    | 2007-06-19 00:00:00.000 | 2082.00 | 2007      | 1            |

Que... | (local) (14.0 RTM) | DESKTOP-47A9O7C\Zuraid... | DailyMart | 00:00:00 | 830 rows

6

**[Soal-6]** Salin query jawaban soal nomor 5 dan modifikasi untuk memfilter hanya pesanan dengan dua peringkat paling awal berdasarkan kolom orderrankno!

| Results |            | Messages |                         |         |           |              |
|---------|------------|----------|-------------------------|---------|-----------|--------------|
|         | CustomerID | OrderID  | OrderDate               | Value   | OrderYear | OrderRankNum |
| 1       | 1          | 10692    | 2007-10-03 00:00:00.000 | 878.00  | 2007      | 1            |
| 2       | 1          | 10643    | 2007-08-25 00:00:00.000 | 814.50  | 2007      | 2            |
| 3       | 1          | 11011    | 2008-04-09 00:00:00.000 | 933.50  | 2008      | 1            |
| 4       | 1          | 10835    | 2008-01-15 00:00:00.000 | 845.80  | 2008      | 2            |
| 5       | 2          | 10308    | 2006-09-18 00:00:00.000 | 88.80   | 2006      | 1            |
| 6       | 2          | 10625    | 2007-08-08 00:00:00.000 | 479.75  | 2007      | 1            |
| 7       | 2          | 10759    | 2007-11-28 00:00:00.000 | 320.00  | 2007      | 2            |
| 8       | 2          | 10926    | 2008-03-04 00:00:00.000 | 514.40  | 2008      | 1            |
| 9       | 3          | 10365    | 2006-11-27 00:00:00.000 | 403.20  | 2006      | 1            |
| 10      | 3          | 10573    | 2007-06-19 00:00:00.000 | 2082.00 | 2007      | 1            |
| 11      | 3          | 10535    | 2007-05-13 00:00:00.000 | 1940.85 | 2007      | 2            |
| 12      | 3          | 10856    | 2008-01-28 00:00:00.000 | 660.00  | 2008      | 1            |

Que... | (local) (14.0 RTM) | DESKTOP-47A9O7C\Zuraid... | DailyMart | 00:00:00 | 418 rows

## Praktikum – Bagian 2: Window OFFSET Function

| Langkah | Keterangan   |                         |         |           |          |           |      |   |       |                         |        |      |      |   |       |                         |         |        |         |   |       |                         |         |         |         |   |       |                         |        |         |         |   |       |                         |         |        |         |   |       |                         |         |         |          |   |       |                         |        |         |         |   |       |                         |         |        |         |   |       |                         |        |         |          |    |       |                         |         |        |        |    |       |                         |         |         |        |    |       |                         |        |         |          |
|---------|--|-------------------------|---------|-----------|----------|-----------|------|---|-------|-------------------------|--------|------|------|---|-------|-------------------------|---------|--------|---------|---|-------|-------------------------|---------|---------|---------|---|-------|-------------------------|--------|---------|---------|---|-------|-------------------------|---------|--------|---------|---|-------|-------------------------|---------|---------|----------|---|-------|-------------------------|--------|---------|---------|---|-------|-------------------------|---------|--------|---------|---|-------|-------------------------|--------|---------|----------|----|-------|-------------------------|---------|--------|--------|----|-------|-------------------------|---------|---------|--------|----|-------|-------------------------|--------|---------|----------|
| 1       | <p>[Soal-7] Buatlah CTE (<i>common table expression</i>) dengan nama OrderRows yang mengembalikan kolom OrderID, OrderDate, dan Value dari view Sales.OrderValues. Tambahkan kolom RowNum yang merupakan hasil dari fungsi ROW_NUMBERurut berdasarkan kolom OrderDate dan OrderID!</p>   |                         |         |           |          |           |      |   |       |                         |        |      |      |   |       |                         |         |        |         |   |       |                         |         |         |         |   |       |                         |        |         |         |   |       |                         |         |        |         |   |       |                         |         |         |          |   |       |                         |        |         |         |   |       |                         |         |        |         |   |       |                         |        |         |          |    |       |                         |         |        |        |    |       |                         |         |         |        |    |       |                         |        |         |          |
| 2       | <p>[Soal-8] Buatlah query untuk menampilkan selisih nilai order terhadap nilai order sebelumnya. Tuliskan SELECT statement terhadap CTE OrderRows dan lakukan LEFT JOIN dengan CTE yang sama untuk membandingkan nilai Value dan PrevValue. PrevValue merupakan nilai kolom Value pada nomor urut sebelumnya. Tampilkan kolom OrderID, OrderDate, Value, dan PrevValue serta selisih nilai Value dan PrevValue yang diberi nama alias Diff.</p> <div><div>ResultsMessages</div><table><tr><th></th><th>OrderID</th><th>OrderDate</th><th>Value</th><th>PrevValue</th><th>Diff</th></tr><tr><td>1</td><td>10248</td><td>2006-07-04 00:00:00.000</td><td>440.00</td><td>NULL</td><td>NULL</td></tr><tr><td>2</td><td>10249</td><td>2006-07-05 00:00:00.000</td><td>1863.40</td><td>440.00</td><td>1423.40</td></tr><tr><td>3</td><td>10250</td><td>2006-07-08 00:00:00.000</td><td>1552.60</td><td>1863.40</td><td>-310.80</td></tr><tr><td>4</td><td>10251</td><td>2006-07-08 00:00:00.000</td><td>654.06</td><td>1552.60</td><td>-898.54</td></tr><tr><td>5</td><td>10252</td><td>2006-07-09 00:00:00.000</td><td>3597.90</td><td>654.06</td><td>2943.84</td></tr><tr><td>6</td><td>10253</td><td>2006-07-10 00:00:00.000</td><td>1444.80</td><td>3597.90</td><td>-2153.10</td></tr><tr><td>7</td><td>10254</td><td>2006-07-11 00:00:00.000</td><td>556.62</td><td>1444.80</td><td>-888.18</td></tr><tr><td>8</td><td>10255</td><td>2006-07-12 00:00:00.000</td><td>2490.50</td><td>556.62</td><td>1933.88</td></tr><tr><td>9</td><td>10256</td><td>2006-07-15 00:00:00.000</td><td>517.80</td><td>2490.50</td><td>-1972.70</td></tr><tr><td>10</td><td>10257</td><td>2006-07-16 00:00:00.000</td><td>1119.90</td><td>517.80</td><td>602.10</td></tr><tr><td>11</td><td>10258</td><td>2006-07-17 00:00:00.000</td><td>1614.88</td><td>1119.90</td><td>494.98</td></tr><tr><td>12</td><td>10259</td><td>2006-07-18 00:00:00.000</td><td>100.80</td><td>1614.88</td><td>-1514.08</td></tr></table><div>l) (14.0 RTM)   DESKTOP-47A907C\Zuraid...   DailyMart   00:00:02   830 rows</div></div> |                         | OrderID | OrderDate | Value    | PrevValue | Diff | 1 | 10248 | 2006-07-04 00:00:00.000 | 440.00 | NULL | NULL | 2 | 10249 | 2006-07-05 00:00:00.000 | 1863.40 | 440.00 | 1423.40 | 3 | 10250 | 2006-07-08 00:00:00.000 | 1552.60 | 1863.40 | -310.80 | 4 | 10251 | 2006-07-08 00:00:00.000 | 654.06 | 1552.60 | -898.54 | 5 | 10252 | 2006-07-09 00:00:00.000 | 3597.90 | 654.06 | 2943.84 | 6 | 10253 | 2006-07-10 00:00:00.000 | 1444.80 | 3597.90 | -2153.10 | 7 | 10254 | 2006-07-11 00:00:00.000 | 556.62 | 1444.80 | -888.18 | 8 | 10255 | 2006-07-12 00:00:00.000 | 2490.50 | 556.62 | 1933.88 | 9 | 10256 | 2006-07-15 00:00:00.000 | 517.80 | 2490.50 | -1972.70 | 10 | 10257 | 2006-07-16 00:00:00.000 | 1119.90 | 517.80 | 602.10 | 11 | 10258 | 2006-07-17 00:00:00.000 | 1614.88 | 1119.90 | 494.98 | 12 | 10259 | 2006-07-18 00:00:00.000 | 100.80 | 1614.88 | -1514.08 |
|         | OrderID  | OrderDate               | Value   | PrevValue | Diff     |           |      |   |       |                         |        |      |      |   |       |                         |         |        |         |   |       |                         |         |         |         |   |       |                         |        |         |         |   |       |                         |         |        |         |   |       |                         |         |         |          |   |       |                         |        |         |         |   |       |                         |         |        |         |   |       |                         |        |         |          |    |       |                         |         |        |        |    |       |                         |         |         |        |    |       |                         |        |         |          |
| 1       | 10248  | 2006-07-04 00:00:00.000 | 440.00  | NULL      | NULL     |           |      |   |       |                         |        |      |      |   |       |                         |         |        |         |   |       |                         |         |         |         |   |       |                         |        |         |         |   |       |                         |         |        |         |   |       |                         |         |         |          |   |       |                         |        |         |         |   |       |                         |         |        |         |   |       |                         |        |         |          |    |       |                         |         |        |        |    |       |                         |         |         |        |    |       |                         |        |         |          |
| 2       | 10249  | 2006-07-05 00:00:00.000 | 1863.40 | 440.00    | 1423.40  |           |      |   |       |                         |        |      |      |   |       |                         |         |        |         |   |       |                         |         |         |         |   |       |                         |        |         |         |   |       |                         |         |        |         |   |       |                         |         |         |          |   |       |                         |        |         |         |   |       |                         |         |        |         |   |       |                         |        |         |          |    |       |                         |         |        |        |    |       |                         |         |         |        |    |       |                         |        |         |          |
| 3       | 10250  | 2006-07-08 00:00:00.000 | 1552.60 | 1863.40   | -310.80  |           |      |   |       |                         |        |      |      |   |       |                         |         |        |         |   |       |                         |         |         |         |   |       |                         |        |         |         |   |       |                         |         |        |         |   |       |                         |         |         |          |   |       |                         |        |         |         |   |       |                         |         |        |         |   |       |                         |        |         |          |    |       |                         |         |        |        |    |       |                         |         |         |        |    |       |                         |        |         |          |
| 4       | 10251  | 2006-07-08 00:00:00.000 | 654.06  | 1552.60   | -898.54  |           |      |   |       |                         |        |      |      |   |       |                         |         |        |         |   |       |                         |         |         |         |   |       |                         |        |         |         |   |       |                         |         |        |         |   |       |                         |         |         |          |   |       |                         |        |         |         |   |       |                         |         |        |         |   |       |                         |        |         |          |    |       |                         |         |        |        |    |       |                         |         |         |        |    |       |                         |        |         |          |
| 5       | 10252  | 2006-07-09 00:00:00.000 | 3597.90 | 654.06    | 2943.84  |           |      |   |       |                         |        |      |      |   |       |                         |         |        |         |   |       |                         |         |         |         |   |       |                         |        |         |         |   |       |                         |         |        |         |   |       |                         |         |         |          |   |       |                         |        |         |         |   |       |                         |         |        |         |   |       |                         |        |         |          |    |       |                         |         |        |        |    |       |                         |         |         |        |    |       |                         |        |         |          |
| 6       | 10253  | 2006-07-10 00:00:00.000 | 1444.80 | 3597.90   | -2153.10 |           |      |   |       |                         |        |      |      |   |       |                         |         |        |         |   |       |                         |         |         |         |   |       |                         |        |         |         |   |       |                         |         |        |         |   |       |                         |         |         |          |   |       |                         |        |         |         |   |       |                         |         |        |         |   |       |                         |        |         |          |    |       |                         |         |        |        |    |       |                         |         |         |        |    |       |                         |        |         |          |
| 7       | 10254  | 2006-07-11 00:00:00.000 | 556.62  | 1444.80   | -888.18  |           |      |   |       |                         |        |      |      |   |       |                         |         |        |         |   |       |                         |         |         |         |   |       |                         |        |         |         |   |       |                         |         |        |         |   |       |                         |         |         |          |   |       |                         |        |         |         |   |       |                         |         |        |         |   |       |                         |        |         |          |    |       |                         |         |        |        |    |       |                         |         |         |        |    |       |                         |        |         |          |
| 8       | 10255  | 2006-07-12 00:00:00.000 | 2490.50 | 556.62    | 1933.88  |           |      |   |       |                         |        |      |      |   |       |                         |         |        |         |   |       |                         |         |         |         |   |       |                         |        |         |         |   |       |                         |         |        |         |   |       |                         |         |         |          |   |       |                         |        |         |         |   |       |                         |         |        |         |   |       |                         |        |         |          |    |       |                         |         |        |        |    |       |                         |         |         |        |    |       |                         |        |         |          |
| 9       | 10256  | 2006-07-15 00:00:00.000 | 517.80  | 2490.50   | -1972.70 |           |      |   |       |                         |        |      |      |   |       |                         |         |        |         |   |       |                         |         |         |         |   |       |                         |        |         |         |   |       |                         |         |        |         |   |       |                         |         |         |          |   |       |                         |        |         |         |   |       |                         |         |        |         |   |       |                         |        |         |          |    |       |                         |         |        |        |    |       |                         |         |         |        |    |       |                         |        |         |          |
| 10      | 10257  | 2006-07-16 00:00:00.000 | 1119.90 | 517.80    | 602.10   |           |      |   |       |                         |        |      |      |   |       |                         |         |        |         |   |       |                         |         |         |         |   |       |                         |        |         |         |   |       |                         |         |        |         |   |       |                         |         |         |          |   |       |                         |        |         |         |   |       |                         |         |        |         |   |       |                         |        |         |          |    |       |                         |         |        |        |    |       |                         |         |         |        |    |       |                         |        |         |          |
| 11      | 10258  | 2006-07-17 00:00:00.000 | 1614.88 | 1119.90   | 494.98   |           |      |   |       |                         |        |      |      |   |       |                         |         |        |         |   |       |                         |         |         |         |   |       |                         |        |         |         |   |       |                         |         |        |         |   |       |                         |         |         |          |   |       |                         |        |         |         |   |       |                         |         |        |         |   |       |                         |        |         |          |    |       |                         |         |        |        |    |       |                         |         |         |        |    |       |                         |        |         |          |
| 12      | 10259  | 2006-07-18 00:00:00.000 | 100.80  | 1614.88   | -1514.08 |           |      |   |       |                         |        |      |      |   |       |                         |         |        |         |   |       |                         |         |         |         |   |       |                         |        |         |         |   |       |                         |         |        |         |   |       |                         |         |         |          |   |       |                         |        |         |         |   |       |                         |         |        |         |   |       |                         |        |         |          |    |       |                         |         |        |        |    |       |                         |         |         |        |    |       |                         |        |         |          |
| 3       | <p>[Soal-9] Tuliskan query untuk memperoleh hasil yang sama dengan query pada soal-8 tetapi menggunakan fungsi LAG(). Query yang dibuat pada soal ini tidak menggunakan CTE.</p>   |                         |         |           |          |           |      |   |       |                         |        |      |      |   |       |                         |         |        |         |   |       |                         |         |         |         |   |       |                         |        |         |         |   |       |                         |         |        |         |   |       |                         |         |         |          |   |       |                         |        |         |         |   |       |                         |         |        |         |   |       |                         |        |         |          |    |       |                         |         |        |        |    |       |                         |         |         |        |    |       |                         |        |         |          |
| 4       | <p>[Soal-10] Buatlah sebuah CTE bernama SalesMonth2007 yang mengembalikan jumlah pesanan pada setiap bulan dengan 2 kolom berikut:</p> <ul style="list-style-type: none"><li>Month yaitu nilai bulan (angka) dari kolom OrderDate</li><li>Value (agregat dari kolom Value)</li></ul> <p>Filter hasilnya hanya untuk pesanan yang dilakukan pada tahun 2007</p>   |                         |         |           |          |           |      |   |       |                         |        |      |      |   |       |                         |         |        |         |   |       |                         |         |         |         |   |       |                         |        |         |         |   |       |                         |         |        |         |   |       |                         |         |         |          |   |       |                         |        |         |         |   |       |                         |         |        |         |   |       |                         |        |         |          |    |       |                         |         |        |        |    |       |                         |         |         |        |    |       |                         |        |         |          |
| 5       | <p>[Soal-11] Tuliskan query SELECT yang mengembalikan Month dan Value dari CTE SalesMonth2007. Tambahkan 3 kolom berikut:</p> <ul style="list-style-type: none"><li>AvgOfPrev3Months (rata-rata penjualan tiga bulan sebelumnya)</li><li>Diffjanuary (selisih nilai Value dengan Value pada bulan Januari. Gunakan fungsi FIRST_VALUE)</li><li>NextVal (nilai dari kolom Value pada bulan selanjutnya)</li></ul>   |                         |         |           |          |           |      |   |       |                         |        |      |      |   |       |                         |         |        |         |   |       |                         |         |         |         |   |       |                         |        |         |         |   |       |                         |         |        |         |   |       |                         |         |         |          |   |       |                         |        |         |         |   |       |                         |         |        |         |   |       |                         |        |         |          |    |       |                         |         |        |        |    |       |                         |         |         |        |    |       |                         |        |         |          |

Results

Messages

|    | Month | Value    | AvgOfPrev3Months | Diff.January | NextVal  |
|----|-------|----------|------------------|--------------|----------|
| 1  | 1     | 61258.08 | NULL             | 0.00         | 38483.64 |
| 2  | 2     | 38483.64 | 61258.080000     | -22774.44    | 38547.23 |
| 3  | 3     | 38547.23 | 49870.860000     | -22710.85    | 53032.95 |
| 4  | 4     | 53032.95 | 46096.316666     | -8225.13     | 53781.30 |
| 5  | 5     | 53781.30 | 43354.606666     | -7476.78     | 36362.82 |
| 6  | 6     | 36362.82 | 48453.826666     | -24895.26    | 51020.86 |
| 7  | 7     | 51020.86 | 47725.690000     | -10237.22    | 47287.68 |
| 8  | 8     | 47287.68 | 47054.993333     | -13970.40    | 55629.27 |
| 9  | 9     | 55629.27 | 44890.453333     | -5628.81     | 66749.23 |
| 10 | 10    | 66749.23 | 51312.603333     | 5491.15      | 43533.80 |
| 11 | 11    | 43533.80 | 56555.393333     | -17724.28    | 71398.44 |
| 12 | 12    | 71398.44 | 55304.100000     | 10140.36     | NULL     |

14.0 RTM)
DESKTOP-47A9O7C\Zuraid...
DailyMart
00:00:00
12 rows

6

[Soal-12]

Salin query dari soal-11. Tambahkan dua kolom berikut:

- AvgOfLast3Months (rata-rata penjualan 3 bulan terakhir)
- RunningTotalValue (nilai penjualan kumulatif sampai dengan tertentu)

Results

Messages

|    | Month | Value    | AvgOfPrev3Months | AvgOfLast3Months | RunningTotalValue | Diff.January | NextVal  |
|----|-------|----------|------------------|------------------|-------------------|--------------|----------|
| 1  | 1     | 61258.08 | NULL             | 61258.080000     | 61258.08          | 0.00         | 38483.64 |
| 2  | 2     | 38483.64 | 61258.080000     | 49870.860000     | 99741.72          | -22774.44    | 38547.23 |
| 3  | 3     | 38547.23 | 49870.860000     | 46096.316666     | 138288.95         | -22710.85    | 53032.95 |
| 4  | 4     | 53032.95 | 46096.316666     | 43354.606666     | 191321.90         | -8225.13     | 53781.30 |
| 5  | 5     | 53781.30 | 43354.606666     | 48453.826666     | 245103.20         | -7476.78     | 36362.82 |
| 6  | 6     | 36362.82 | 48453.826666     | 47725.690000     | 281466.02         | -24895.26    | 51020.86 |
| 7  | 7     | 51020.86 | 47725.690000     | 47054.993333     | 332486.88         | -10237.22    | 47287.68 |
| 8  | 8     | 47287.68 | 47054.993333     | 44890.453333     | 379774.56         | -13970.40    | 55629.27 |
| 9  | 9     | 55629.27 | 44890.453333     | 51312.603333     | 435403.83         | -5628.81     | 66749.23 |
| 10 | 10    | 66749.23 | 51312.603333     | 56555.393333     | 502153.06         | 5491.15      | 43533.80 |
| 11 | 11    | 43533.80 | 56555.393333     | 55304.100000     | 545686.86         | -17724.28    | 71398.44 |
| 12 | 12    | 71398.44 | 55304.100000     | 60560.490000     | 617085.30         | 10140.36     | NULL     |

Query executed successfu...

(local) (14.0 RTM)

DESKTOP-47A9O7C\Zuraid...

DailyMart

00:00:00

12 rows

## Praktikum – Bagian 3: Window Aggregate Function

| Langkah | Keterangan   |
|---------|--|
| 1       | <p><b>[Soal-13]</b> Tuliskan query untuk menampilkan kolom CustomerID, OrderID, OrderDate, dan Value dari view Sales.OrderValues. Urutkan berdasarkan CustomerID. Tambahkan kolom bernama PercentOfCustTotal yang merupakan persentase masing-masing nilai order (Value) terhadap seluruh order (Total of Value) yang dilakukan oleh setiap pelanggan.</p> |



Results

Messages

|    | CustomerID | OrderID | OrderDate               | Value   | PercentOfCustTotal        |
|----|------------|---------|-------------------------|---------|---------------------------|
| 1  | 1          | 10643   | 2007-08-25 00:00:00.000 | 814.50  | 19.0615492628130119354084 |
| 2  | 1          | 10692   | 2007-10-03 00:00:00.000 | 878.00  | 20.5476246197051252047742 |
| 3  | 1          | 10702   | 2007-10-13 00:00:00.000 | 330.00  | 7.7229113035338169904049  |
| 4  | 1          | 10835   | 2008-01-15 00:00:00.000 | 845.80  | 19.7940556985724315469225 |
| 5  | 1          | 10952   | 2008-03-16 00:00:00.000 | 471.20  | 11.0273812309852562602387 |
| 6  | 1          | 11011   | 2008-04-09 00:00:00.000 | 933.50  | 21.8464778843903580622513 |
| 7  | 2          | 10926   | 2008-03-04 00:00:00.000 | 514.40  | 36.6655974910011048148544 |
| 8  | 2          | 10759   | 2007-11-28 00:00:00.000 | 320.00  | 22.8090808653195053280587 |
| 9  | 2          | 10625   | 2007-08-08 00:00:00.000 | 479.75  | 34.1958017035532271285506 |
| 10 | 2          | 10308   | 2006-09-18 00:00:00.000 | 88.80   | 6.3295199401261627285363  |
| 11 | 3          | 10365   | 2006-11-27 00:00:00.000 | 403.20  | 5.7403352515240647040567  |
| 12 | 3          | 10507   | 2007-04-15 00:00:00.000 | 749.06  | 10.6643242150461704048132 |
| 13 | 3          | 10535   | 2007-05-13 00:00:00.000 | 1940.85 | 27.6317700221242087819157 |

Query...

(local) (14.0 RTM)

DESKTOP-47A9O7C\Zuraid...

DailyMart

00:00:00

830 rows

2

**[Soal-14]** Salin query pada soal-13 dan modifikasi dengan menambahkan kolom RunningTotalValue. Kolom ini merupakan total pembelian **sementara** yang pernah dilakukan pelanggan sejak order pertama kali hingga OrderID saat itu.

| Results |            | Messages |                         |        |                           |                   |
|---------|------------|----------|-------------------------|--------|---------------------------|-------------------|
|         | CustomerID | OrderID  | OrderDate               | Value  | PercentOfCustTotal        | RunningTotalValue |
| 1       | 1          | 10643    | 2007-08-25 00:00:00.000 | 814.50 | 19.0615492628130119354084 | 814.50            |
| 2       | 1          | 10692    | 2007-10-03 00:00:00.000 | 878.00 | 20.5476246197051252047742 | 1692.50           |
| 3       | 1          | 10702    | 2007-10-13 00:00:00.000 | 330.00 | 7.7229113035338169904049  | 2022.50           |
| 4       | 1          | 10835    | 2008-01-15 00:00:00.000 | 845.80 | 19.7940556985724315469225 | 2868.30           |
| 5       | 1          | 10952    | 2008-03-16 00:00:00.000 | 471.20 | 11.0273812309852562602387 | 3339.50           |
| 6       | 1          | 11011    | 2008-04-09 00:00:00.000 | 933.50 | 21.8464778843903580622513 | 4273.00           |
| 7       | 2          | 10308    | 2006-09-18 00:00:00.000 | 88.80  | 6.3295199401261627285363  | 88.80             |
| 8       | 2          | 10625    | 2007-08-08 00:00:00.000 | 479.75 | 34.1958017035532271285506 | 568.55            |
| 9       | 2          | 10759    | 2007-11-28 00:00:00.000 | 320.00 | 22.8090808653195053280587 | 888.55            |
| 10      | 2          | 10926    | 2008-03-04 00:00:00.000 | 514.40 | 36.6655974910011048148544 | 1402.95           |
| 11      | 3          | 10365    | 2006-11-27 00:00:00.000 | 403.20 | 5.7403352515240647040567  | 403.20            |
| 12      | 3          | 10507    | 2007-04-15 00:00:00.000 | 749.06 | 10.6643242150461704048132 | 1152.26           |

<

>

Query executed succ... (local) (14.0 RTM) DESKTOP-47A9O7C\Zuraid... DailyMart 00:00:00 830 rows

**-- Selamat Mengerjakan --**