

JOBSHEET

PRAKTIKUM BASIS DATA LANJUT

Jurusan Teknologi Informasi
POLITEKNIK NEGERI MALANG



PERTEMUAN 11

SQL SERVER – STORE PROCEDURE

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



Jurusan Teknologi Informasi Politeknik Negeri Malang

Jobsheet Minggu-14: Stored Procedure

Mata Kuliah Basis Data Lanjut (BDL)

Pengampu: Tim Ajar Basis Data Lanjut

November 2023

Topik

Membuat Stored Procedure

Tujuan

1. Mengembalikan hasil dengan Stored Procedure.
2. Melewatkan parameter ke Procedure.
3. Membuat stored procedure sederhana, yang menyertakan pernyataan SELECT.
4. Membangun dan menjalankan SQL dinamis dengan EXEC dan sp_executesql.

Petunjuk Umum

1. Ikuti langkah-langkah pada bagian-bagian praktikum sesuai dengan urutan yang diberikan.
2. Anda dapat menggunakan SQL Server 2012 Standard Edition untuk mencoba praktikum pada jobsheet ini. Sesuaikan dengan kondisi komputer Anda.
3. Jawablah semua pertanyaan bertanda [Soal-X] yang terdapat pada langkah-langkah tertentu di setiap bagian praktikum.
4. 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.
5. 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_Tugas14_Kelas_2DigitNomorAbsen_NamaLengkapAnda.pdf**
 - Contoh:
 - o **BDL_Tugas14_TI2Q_99_JoeBiden.pdf**
 - Perhatikan baik-baik format penamaanya.
 - 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: Menggunakan pernyataan EXECUTE Untuk Memanggil Stored Procedure**

Langkah	Keterangan																														
1	<p>Skenario :</p> <p>Departemen TI telah menyediakan kode T-SQL untuk membuat stored procedure untuk mengambil 10 pelanggan teratas berdasarkan jumlah penjualan. Percobaan bagian ini berisi tentang latihan stored procedure.</p> <p>Untuk melakukan percobaan pada praktikum bagian 1 ini terlebih dahulu lakukan login pada SQL Server Management Studio (SSMS). Pastikan database terhubung dengan “TSQL2012”.</p>																														
2	<p>Jalankan kode T-SQL untuk membuat stored procedur Sales.GetTopCustomers berikut:</p> <pre>CREATE PROCEDURE Sales.GetTopCustomers AS SELECT TOP(10) c.custid, c.contactname, SUM(o.val) AS salesvalue FROM Sales.OrderValues AS o INNER JOIN Sales.Customers AS c ON c.custid = o.custid GROUP BY c.custid, c.contactname ORDER BY salesvalue DESC;</pre>																														
3	<p>[Soal-1] Tuliskan pernyataan T-SQL untuk menjalankan prosedur yang telah dibuat sebelumnya!</p> <pre>-- SOAL 1 EXEC Sales.GetTopCustomers;</pre>																														
4	<p>[Soal-2] Letakkan hasil eksekusi soal no. 1 pada bagian ini dan pastikan hasilnya sama dengan gambar di bawah ini.</p> <table><thead><tr><th>custid</th><th>contactname</th><th>salesvalue</th></tr></thead><tbody><tr><td>63</td><td>Veronesi, Giorgio</td><td>110277.32</td></tr><tr><td>20</td><td>Kane, John</td><td>104874.99</td></tr><tr><td>71</td><td>Navarro, Tomás</td><td>104361.96</td></tr><tr><td>...</td><td></td><td></td></tr><tr><td>...</td><td></td><td></td></tr><tr><td>...</td><td></td><td></td></tr><tr><td>24</td><td>San Juan, Patricia</td><td>29567.57</td></tr><tr><td>51</td><td>Taylor, Maurice</td><td>28872.19</td></tr><tr><td>89</td><td>Smith Jr., Ronaldo</td><td>27363.61</td></tr></tbody></table> <p>(10 row(s) affected)</p>	custid	contactname	salesvalue	63	Veronesi, Giorgio	110277.32	20	Kane, John	104874.99	71	Navarro, Tomás	104361.96			24	San Juan, Patricia	29567.57	51	Taylor, Maurice	28872.19	89	Smith Jr., Ronaldo	27363.61
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Results

Messages

	custid	contactname	salesvalue
1	63	Veronesi, Giorgio	109711.88
2	20	Kane, John	105920.99
3	71	Navarro, Tomás	101633.96
4	65	Moore, Michael	54226.80
5	37	Cr?ciun, Ovidiu V.	51931.41
6	24	San Juan, Patricia	33394.77
7	39	Song, Lolan	32034.14
8	34	Cohen, Shy	31560.12
9	51	Taylor, Maurice	29501.94
10	89	Smith Jr., Ronaldo	27363.61

5

Departemen TI telah merubah stored procedure dari percobaan 1 langkah 2 dengan kode T-SQL di bawah ini :

```
ALTER PROCEDURE Sales.GetTopCustomers
AS
SELECT  c.custid, c.contactname,
SUM(o.val) AS salesvalue
FROM Sales.OrderValues AS o
INNER JOIN Sales.Customers AS c
ON c.custid = o.custid
GROUP BY c.custid, c.contactname
ORDER BY salesvalue DESC
OFFSET 0 ROWS FETCH NEXT 10 ROWS ONLY;
```

6

[Soal-3] Tuliskan pernyataan T-SQL yang akan menjalankan prosedur pada percobaan 1 langkah 5 di atas!

```
-- SOAL 3
EXEC Sales.GetTopCustomers;
```

7

[Soal-4] Letakkan hasil eksekusi soal no. 3 pada bagian ini dan pastikan hasilnya sama dengan gambar di bawah ini.

custid	contactname	salesvalue
63	Veronesi, Giorgio	110277.32
20	Kane, John	104874.99
71	Navarro, Tomás	104361.96
...		
...		
...		
24	San Juan, Patricia	29567.57
51	Taylor, Maurice	28872.19
89	Smith Jr., Ronaldo	27363.61

(10 row(s) affected)



	<div><div>Results</div><div>Messages</div><table><tr><th></th><th>custid</th><th>contactname</th><th>salesvalue</th></tr><tr><td>1</td><td>63</td><td>Veronesi, Giorgio</td><td>109711.88</td></tr><tr><td>2</td><td>20</td><td>Kane, John</td><td>105920.99</td></tr><tr><td>3</td><td>71</td><td>Navarro, Tomás</td><td>101633.96</td></tr><tr><td>4</td><td>65</td><td>Moore, Michael</td><td>54226.80</td></tr><tr><td>5</td><td>37</td><td>Cr?ciun, Ovidiu V.</td><td>51931.41</td></tr><tr><td>6</td><td>24</td><td>San Juan, Patricia</td><td>33394.77</td></tr><tr><td>7</td><td>39</td><td>Song, Lolan</td><td>32034.14</td></tr><tr><td>8</td><td>34</td><td>Cohen, Shy</td><td>31560.12</td></tr><tr><td>9</td><td>51</td><td>Taylor, Maurice</td><td>29501.94</td></tr><tr><td>10</td><td>89</td><td>Smith Jr., Ronaldo</td><td>27363.61</td></tr></table></div>		custid	contactname	salesvalue	1	63	Veronesi, Giorgio	109711.88	2	20	Kane, John	105920.99	3	71	Navarro, Tomás	101633.96	4	65	Moore, Michael	54226.80	5	37	Cr?ciun, Ovidiu V.	51931.41	6	24	San Juan, Patricia	33394.77	7	39	Song, Lolan	32034.14	8	34	Cohen, Shy	31560.12	9	51	Taylor, Maurice	29501.94	10	89	Smith Jr., Ronaldo	27363.61
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8	<p>[Soal-5] Apa perbedaan kode T-SQL untuk prosedur pada percobaan 1 langkah 2 dan langkah 5?</p> <p>Jawaban: perbedaan terletak pada penggunaan klausa, pada langkah 2 menggunakan klausa top yg mana digunakan untuk mengembalikan nilai 10 rows paling atas, sedangkan pada langkah 5 menggunakan klausa offset dan fetch, yg mana offset digunakan untuk menentukan jumlah baris yg akan dilewati sebelum mengembalikan data sedangkan fetch digunakan untuk menentukan jumlah baris yang akan ditampilkan</p>																																												
9	<p>Kesimpulan : Setelah menjalankan praktikum bagian ini, mahasiswa mengetahui bagaimana memanggil stored procedure menggunakan pernyataan EXECUTE.</p>																																												

**Praktikum – Bagian 2: Melewatkan Parameter ke Stored Procedure**

Langkah	Keterangan																														
1	<p>Skenario :</p> <p>Departemen TI memberikan tambahan modifikasi dari stored procedure di praktikum bagian 1. Stored procedure yang dimodifikasi akan melewati parameter yang menentukan tahun pesanan dan jumlah pelanggan yang akan diambil.</p> <p>Untuk melakukan percobaan pada praktikum bagian 2 ini, pastikan database terhubung dengan "TSQL".</p>																														
2	<p>Jalankan kode T-SQL berikut, untuk memodifikasi stored procedure Sales.GetTopCustomers untuk memasukkan parameter tahun pesanan (@orderyear) :</p> <pre>ALTER PROCEDURE Sales.GetTopCustomers @orderyear int AS SELECT c.custid, c.contactname, SUM(o.val) AS salesvalue FROM Sales.OrderValues AS o INNER JOIN Sales.Customers AS c ON c.custid = o.custid WHERE YEAR(o.orderdate) = @orderyear GROUP BY c.custid, c.contactname ORDER BY salesvalue DESC OFFSET 0 ROWS FETCH NEXT 10 ROWS ONLY;</pre>																														
3	<p>[Soal-6] Tuliskan pernyataan EXECUTE untuk memanggil stored procedure Sales.GetTopCustomers untuk tahun 2007!</p> <pre>-- SOAL 6 EXECUTE Sales.GetTopCustomers @orderyear = 2007;</pre>																														
4	<p>[Soal-7] Letakkan hasil eksekusi soal no. 6 pada bagian ini dan pastikan hasilnya sama dengan gambar di bawah ini.</p> <table><thead><tr><th>custid</th><th>contactname</th><th>salesvalue</th></tr></thead><tbody><tr><td>63</td><td>Veronesi, Giorgio</td><td>61109.92</td></tr><tr><td>71</td><td>Navarro, Tomás</td><td>57713.58</td></tr><tr><td>20</td><td>Kane, John</td><td>48096.27</td></tr><tr><td>...</td><td></td><td></td></tr><tr><td>...</td><td></td><td></td></tr><tr><td>...</td><td></td><td></td></tr><tr><td>5</td><td>Higginbotham, Tom</td><td>13849.02</td></tr><tr><td>35</td><td>Langohr, Kris</td><td>13482.74</td></tr><tr><td>24</td><td>San Juan, Patricia</td><td>13314.67</td></tr></tbody></table> <p>(10 row(s) affected)</p>	custid	contactname	salesvalue	63	Veronesi, Giorgio	61109.92	71	Navarro, Tomás	57713.58	20	Kane, John	48096.27			5	Higginbotham, Tom	13849.02	35	Langohr, Kris	13482.74	24	San Juan, Patricia	13314.67
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ResultsMessages

	custid	contactname	salesvalue
1	63	Veronesi, Giorgio	61109.92
2	71	Navarro, Tomás	54985.58
3	20	Kane, John	51777.27
4	51	Taylor, Maurice	23962.06
5	37	Cr?ciun, Ovidiu V.	20035.91
6	65	Moore, Michael	19383.75
7	73	Gonzalez, Nuria	16232.41
8	35	Langohr, Kris	13898.74
9	24	San Juan, Patricia	13813.87
10	5	Higginbotham, Tom	13787.02

5

[Soal-8] Tuliskan pernyataan EXECUTE untuk memanggil stored procedure Sales.GetTopCustomers untuk tahun 2008! Pastikan hasilnya sesuai dengan gambar berikut :

custid	contactname	salesvalue
20	Kane, John	41210.65
63	Veronesi, Giorgio	37217.32
71	Navarro, Tomás	36310.11
...		
...		
...		
89	Smith Jr., Ronaldo	15278.90
24	San Juan, Patricia	13644.07
76	Gulbis, Katrin	11644.60

(10 row(s) affected)

ResultsMessages

	custid	contactname	salesvalue
1	20	Kane, John	38575.65
2	63	Veronesi, Giorgio	37217.32
3	71	Navarro, Tomás	36310.11
4	65	Moore, Michael	24367.27
5	37	Cr?ciun, Ovidiu V.	22772.12
6	34	Cohen, Shy	21651.20
7	39	Song, Lolan	19582.78
8	89	Smith Jr., Ronaldo	15278.90
9	24	San Juan, Patricia	13644.07
10	76	Gulbis, Katrin	11148.60

-- SOAL 8
EXECUTE Sales.GetTopCustomers @orderyear = 2008;

6

[Soal-9] Tuliskan pernyataan EXECUTE untuk memanggil stored procedure Sales.GetTopCustomers tanpa parameter!

-- SOAL 9
EXECUTE Sales.GetTopCustomers;

Messages

Msg 201, Level 16, State 4, Procedure Sales.GetTopCustomers, Line 0 [Batch Start Line 50]
Procedure or function 'GetTopCustomers' expects parameter '@orderyear', which was not supplied.

Completion time: 2024-11-04T19:30:01.3702458+07:00

7

[Soal-10] Apakah hasil yang didaat dari soal no.9? Jika terdapat error, tuliskan pesan errornya!

Jawaban: Stored procedure tersebut membutuhkan parameter bernama '@orderyear' yang waiib diisi, tetapi parameter tersebut tidak disertakan saat procedure dipanggil.

8	<p>Jalankan kode T-SQL berikut untuk memodifikasi stored procedure Sales.GetTopCustomers:</p> <pre>ALTER PROCEDURE Sales.GetTopCustomers @orderyear int = NULL AS SELECT c.custid, c.contactname, SUM(o.val) AS salesvalue FROM Sales.OrderValues AS o INNER JOIN Sales.Customers AS c ON c.custid = o.custid WHERE YEAR(o.orderdate) = @orderyear OR @orderyear IS NULL GROUP BY c.custid, c.contactname ORDER BY salesvalue DESC OFFSET 0 ROWS FETCH NEXT 10 ROWS ONLY;</pre>																																																																										
9	<p>[Soal-11] Tulis pernyataan EXECUTE untuk memanggil stored procedure Sales.GetTopCustomers tanpa parameter! Pastikan hasilnya sesuai dengan gambar berikut :</p> <table><thead><tr><th>custid</th><th>contactname</th><th>salesvalue</th></tr></thead><tbody><tr><td>63</td><td>Veronesi, Giorgio</td><td>110277.32</td></tr><tr><td>20</td><td>Kane, John</td><td>104874.99</td></tr><tr><td>71</td><td>Navarro, Tomás</td><td>104361.96</td></tr><tr><td>...</td><td></td><td></td></tr><tr><td>...</td><td></td><td></td></tr><tr><td>...</td><td></td><td></td></tr><tr><td>24</td><td>San Juan, Patricia</td><td>29567.57</td></tr><tr><td>51</td><td>Taylor, Maurice</td><td>28872.19</td></tr><tr><td>89</td><td>Smith Jr., Ronaldo</td><td>27363.61</td></tr></tbody></table> <p>(10 row(s) affected)</p> <div><div>ResultsMessages</div><table><thead><tr><th></th><th>custid</th><th>contactname</th><th>salesvalue</th></tr></thead><tbody><tr><td>1</td><td>63</td><td>Veronesi, Giorgio</td><td>109711.88</td></tr><tr><td>2</td><td>20</td><td>Kane, John</td><td>105920.99</td></tr><tr><td>3</td><td>71</td><td>Navarro, Tomás</td><td>101633.96</td></tr><tr><td>4</td><td>65</td><td>Moore, Michael</td><td>54226.80</td></tr><tr><td>5</td><td>37</td><td>Cr?ciun, Ovidiu V.</td><td>51931.41</td></tr><tr><td>6</td><td>24</td><td>San Juan, Patricia</td><td>33394.77</td></tr><tr><td>7</td><td>39</td><td>Song, Lolan</td><td>32034.14</td></tr><tr><td>8</td><td>34</td><td>Cohen, Shy</td><td>31560.12</td></tr><tr><td>9</td><td>51</td><td>Taylor, Maurice</td><td>29501.94</td></tr><tr><td>10</td><td>89</td><td>Smith Jr., Ronaldo</td><td>27363.61</td></tr></tbody></table><div>-- SOAL 11 EXECUTE Sales.GetTopCustomers; -----</div></div>	custid	contactname	salesvalue	63	Veronesi, Giorgio	110277.32	20	Kane, John	104874.99	71	Navarro, Tomás	104361.96			24	San Juan, Patricia	29567.57	51	Taylor, Maurice	28872.19	89	Smith Jr., Ronaldo	27363.61		custid	contactname	salesvalue	1	63	Veronesi, Giorgio	109711.88	2	20	Kane, John	105920.99	3	71	Navarro, Tomás	101633.96	4	65	Moore, Michael	54226.80	5	37	Cr?ciun, Ovidiu V.	51931.41	6	24	San Juan, Patricia	33394.77	7	39	Song, Lolan	32034.14	8	34	Cohen, Shy	31560.12	9	51	Taylor, Maurice	29501.94	10	89	Smith Jr., Ronaldo	27363.61
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10	<p>[Soal-12] Jika terdapat modifikasi pada stored procedure, apakah mempengaruhi aplikasi atau memerlukan perubahan pada desain aplikasi?</p> <p>Jawaban: Modifikasi stored procedure dapat mempengaruhi aplikasi terutama jika ada perubahan pada parameter wajib, nama parameter, tipe data, atau struktur output. Untuk perubahan internal seperti optimasi query atau penambahan parameter opsional dengan nilai default biasanya tidak memerlukan modifikasi aplikasi.</p>																																																																										

Jalankan kode T-SQL yang disediakan untuk menambahkan parameter @n ke stored procedure Sales.GetTopCustomers. Parameter tersebut digunakan untuk menentukan berapa banyak pelanggan yang akan diambil. Nilai defaultnya adalah 10.

```
ALTER PROCEDURE Sales.GetTopCustomers
@orderyear int = NULL,
@n int = 10
AS
SELECT c.custid, c.contactname,
SUM(o.val) AS salesvalue
FROM Sales.OrderValues AS o
INNER JOIN Sales.Customers AS c
ON c.custid = o.custid
WHERE YEAR(o.orderdate) = @orderyear
OR
@orderyear IS NULL
GROUP BY c.custid, c.contactname
ORDER BY salesvalue DESC
OFFSET 0 ROWS FETCH NEXT @n ROWS ONLY;
```

[Soal-13] Tulis pernyataan EXECUTE untuk memanggil stored procedure Sales.GetTopCustomers tanpa parameter! Pastikan hasilnya sesuai dengan gambar berikut :

custid	contactname	salesvalue
63	Veronesi, Giorgio	110277.32
20	Kane, John	104874.99
71	Navarro, Tomás	104361.96
...		
...		
...		
24	San Juan, Patricia	29567.57
51	Taylor, Maurice	28872.19
89	Smith Jr., Ronaldo	27363.61

(10 row(s) affected)

Results		Messages	
	custid	contactname	salesvalue
1	63	Veronesi, Giorgio	109711.88
2	20	Kane, John	105920.99
3	71	Navarro, Tomás	101633.96
4	65	Moore, Michael	54226.80
5	37	Cr?ciun, Ovidiu V.	51931.41
6	24	San Juan, Patricia	33394.77
7	39	Song, Lolan	32034.14
8	34	Cohen, Shy	31560.12
9	51	Taylor, Maurice	29501.94
10	89	Smith Jr., Ronaldo	27363.61

```
-- SOAL 13
EXECUTE Sales.GetTopCustomers;
```

13

[Soal-14]. Tuliskan pernyataan EXECUTE untuk memanggil stored procedure Sales.GetTopCustomers untuk mengambil 20 orang pelanggan! Pastikan hasilnya sesuai dengan gambar berikut :

```

custid      contactname      salesvalue
-----
63          Veronesi, Giorgio    110277.32
20          Kane, John         104874.99
71          Navarro, Tomás         104361.96
...
...
10          Bassols, Pilar Colome    20801.61
68          Myrcha, Jacek           19343.78
44          Louverdis, George       19261.42

(20 row(s) affected)

```

Results		Messages	
	custid	contactname	salesvalue
1	63	Veronesi, Giorgio	109711.88
2	20	Kane, John	105920.99
3	71	Navarro, Tomás	101633.96
4	65	Moore, Michael	54226.80
5	37	Cr?ciun, Ovidiu V.	51931.41
6	24	San Juan, Patricia	33394.77
7	39	Song, Lolan	32034.14
8	34	Cohen, Shy	31560.12
9	51	Taylor, Maurice	29501.94
10	89	Smith Jr., Ronaldo	27363.61
11	25	Carlson, Jason	26656.57
12	62	Misiec, Anna	26507.50
13	59	Meston, Tosh	24863.58
14	5	Higginbotham, Tom	24307.58
15	76	Gulbis, Katrin	23592.78
16	35	Langohr, Kris	23184.76
17	44	Louverdis, George	21226.42

```

-- SOAL 14
EXECUTE Sales.GetTopCustomers @n = 20;

```

14

[Soal-15] Apakah aplikasi yang menggunakan stored procedure perlu diubah jika parameter lain ditambahkan?

Jawaban: Jika parameter baru yang ditambahkan bersifat opsional (memiliki nilai default), maka aplikasi tidak perlu diubah. Namun jika parameter baru tersebut bersifat wajib (required), maka aplikasi perlu dimodifikasi untuk menyertakan nilai parameter tersebut saat memanggil stored procedure.



15	<p>Jalankan kode T-SQL berikut yang memodifikasi stored procedure Sales.GetTopCustomers untuk mengembalikan nama pelanggan/konsumen berdasarkan posisi tertentu dalam peringkat total penjualan yang disediakan oleh parameter @customerpos. Stored procedure ini juga menyediakan parameter baru bernama @customername yang memiliki opsi OUTPUT.</p> <pre>ALTER PROCEDURE Sales.GetTopCustomers @customerpos int = 1, @customername nvarchar(30) OUTPUT AS SET @customername = (SELECT c.contactname FROM Sales.OrderValues AS o INNER JOIN Sales.Customers AS c ON c.custid = o.custid GROUP BY c.custid, c.contactname ORDER BY SUM(o.val) DESC OFFSET @customerpos - 1 ROWS FETCH NEXT 1 ROW ONLY);</pre>
16	<p>Departemen TI juga memberikan kode T-SQL untuk mendeklarasikan variabel baru @outcustomername. Variabel ini digunakan sebagai output parameter stored procedure yang dibuat.</p> <pre>DECLARE @outcustomername nvarchar(30);</pre>
17	<p>Kesimpulan: Setelah menjalankan praktikum bagian ini, mahasiswa mengetahui bagaimana memanggil stored procedure yang memiliki parameter.</p>

**Praktikum – Bagian 3: Executing System Stored Procedures**

Langkah	Keterangan																																																																																				
1	<p>Skenario :</p> <p>Praktikum pada bagian ini akan mempelajari bagaimana menjalankan beberapa sistem yang paling sering digunakan untuk menyimpan informasi tentang tabel dan kolom.</p> <p>Untuk melakukan percobaan pada praktikum bagian 3 ini, pastikan database terhubung dengan “TSQL”.</p>																																																																																				
2	<p>[Soal-16] Tuliskan pernyataan EXECUTE untuk memanggil stored procedure tersimpan sys.sp_help tanpa parameter, dengan hasil yang sesuai tampilan di bawah ini!</p> <div><table><thead><tr><th></th><th>Name</th><th>Owner</th><th>Object_type</th></tr></thead><tbody><tr><td>1</td><td>CustGroups</td><td>dbo</td><td>view</td></tr><tr><td>2</td><td>customerid</td><td>dbo</td><td>view</td></tr><tr><td>3</td><td>CustOrders</td><td>dbo</td><td>view</td></tr><tr><td>4</td><td>EmpOrders</td><td>dbo</td><td>view</td></tr><tr><td>5</td><td>OrderTotalsByYear</td><td>dbo</td><td>view</td></tr><tr><td>6</td><td>OrderValues</td><td>dbo</td><td>view</td></tr><tr><td>7</td><td>a</td><td>dbo</td><td>user table</td></tr><tr><td>8</td><td>Categories</td><td>dbo</td><td>user table</td></tr></tbody></table><div>Query executed successfully. MENTARI-PC\MENTARI (11.0 SP2) MENTARI-PC\TOSHIBA (51) TSQL2012 00:00:00 2162 rows</div></div> <div><div>Results</div><table><thead><tr><th></th><th>Name</th><th>Owner</th><th>Object_type</th></tr></thead><tbody><tr><td>1</td><td>CustGroups</td><td>dbo</td><td>view</td></tr><tr><td>2</td><td>CustOrders</td><td>dbo</td><td>view</td></tr><tr><td>3</td><td>EmpOrders</td><td>dbo</td><td>view</td></tr><tr><td>4</td><td>OrderTotalsByYear</td><td>dbo</td><td>view</td></tr><tr><td>5</td><td>OrderValues</td><td>dbo</td><td>view</td></tr><tr><td>6</td><td>PivotCustGroups</td><td>dbo</td><td>view</td></tr><tr><td>7</td><td>ProductsBeverages</td><td>dbo</td><td>view</td></tr><tr><td>8</td><td>Categories</td><td>dbo</td><td>user table</td></tr><tr><td>9</td><td>Customers</td><td>dbo</td><td>user table</td></tr><tr><td>10</td><td>Employees</td><td>dbo</td><td>user table</td></tr><tr><td>11</td><td>EmployeesBackup</td><td>dbo</td><td>user table</td></tr></tbody></table><div>Query executed successfully.</div><pre>-- SOAL 16 EXEC sys.sp_help;</pre></div>		Name	Owner	Object_type	1	CustGroups	dbo	view	2	customerid	dbo	view	3	CustOrders	dbo	view	4	EmpOrders	dbo	view	5	OrderTotalsByYear	dbo	view	6	OrderValues	dbo	view	7	a	dbo	user table	8	Categories	dbo	user table		Name	Owner	Object_type	1	CustGroups	dbo	view	2	CustOrders	dbo	view	3	EmpOrders	dbo	view	4	OrderTotalsByYear	dbo	view	5	OrderValues	dbo	view	6	PivotCustGroups	dbo	view	7	ProductsBeverages	dbo	view	8	Categories	dbo	user table	9	Customers	dbo	user table	10	Employees	dbo	user table	11	EmployeesBackup	dbo	user table
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3	<p>[Soal-17] Tuliskan pernyataan EXECUTE untuk memanggil store prosedur sys.sp_help untuk tabel tertentu dengan melewati parameter Sales.Customer, dengan hasil yang sesuai tampilan di bawah ini!</p>																																																																																				



Query executed successfully. MENTARI-PC\MENTARI (11.0 SP2) MENTARI-PC\TOSHIBA (51) TSQL2012 00:00:00 13 rows

Name	Owner	Type	Created_datetime
Customers	dbo	user table	2017-11-26 09:22:16.967

Column_name	Type	Computed	Length	Prec	Scale	Nullable	TrimTrailingBlanks	FixedLenNullInSource	Collation
custid	int	no	4	10	0	no	(n/a)	(n/a)	NULL
companyname	nvarchar	no	80			no	(n/a)	(n/a)	Latin1_General_CI_AS
contactname	nvarchar	no	60			no	(n/a)	(n/a)	Latin1_General_CI_AS
contacttitle	nvarchar	no	60			no	(n/a)	(n/a)	Latin1_General_CI_AS
address	nvarchar	no	120			no	(n/a)	(n/a)	Latin1_General_CI_AS
city	nvarchar	no	30			no	(n/a)	(n/a)	Latin1_General_CI_AS
region	nvarchar	no	30			yes	(n/a)	(n/a)	Latin1_General_CI_AS
postalcode	nvarchar	no	20			yes	(n/a)	(n/a)	Latin1_General_CI_AS
country	nvarchar	no	30			no	(n/a)	(n/a)	Latin1_General_CI_AS

Identity	Seed	Increment	Not For Replication
custid	1	1	0

RowGuidCol

1
No rowguidcol column defined.

Data_located_on_filegroup

1
PRIMARY

index_name	index_description	index_keys
pk_custid	nonclustered located on PRIMARY	city
pk_companyname	nonclustered located on PRIMARY	companyname
pk_contactname	nonclustered located on PRIMARY	contactname
pk_contacttitle	nonclustered located on PRIMARY	contacttitle
pk_region	nonclustered located on PRIMARY	region
pk_postalcode	clustered, unique, primary key loc...	postalcode

constraint_name	constraint_type	delete_action	update_action	status_enabled	status_for_replication	constraint_keys
PK_Customers	PRIMARY KEY (clustered)	(n/a)	(n/a)	(n/a)	(n/a)	custid

Table is referenced by foreign key

1
TSQL2012 Sales.Orders PK_Orders_Customers

Query executed successfully.

-- SOAL 17

```
EXEC sys.sp_help 'Sales.Customers';
```

[Soal-18] Tuliskan pernyataan EXECUTE untuk memanggil stored prosedur sys.sp_helptext, kemudian lewatkan stored prosedur Sales.GetTopCustomers yang disimpan sebagai parameter, dengan hasil yang sesuai tampilan di bawah ini!

4

Query executed successfully. MENTARI-PC\MENTARI (11.0 SP2) MENTARI-PC\TOSHIBA (51) TSQL2012 00:00:00 13 rows

Results Messages

Text
1 CREATE PROCEDURE Sales.GetTopCustomers
2 @customerpos int = 1,
3 @customename nvarchar(30) OUTPUT
4 AS
5 SET @customename = (
6 SELECT c.contactname
7 FROM Sales.OrderValues AS o
8 INNER JOIN Sales.Customers AS c
9 ON c.custid = o.custid
10 GROUP BY c.custid, c.contactname
11 ORDER BY SUM(o.val) DESC
12 OFFSET @customerpos - 1 ROWS FETCH NEXT 1 ROW ONLY
13);



	<pre>-- SOAL 18 EXECUTE sys.sp_helptext 'Sales.GetTopCustomers'; -----</pre>																																																																																																																																																																																																																																																																																																																																				
5	<p>[Soal-19] Tulislah pernyataan EXECUTE untuk memanggil stored procedure sys.sp_columns untuk tabel Sales.Customers. Terdapat dua parameter yang harus dilewati, yaitu: @table_name dan @table_owner, dengan hasil yang sesuai tampilan di bawah ini!</p>																																																																																																																																																																																																																																																																																																																																				
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LAPTOP-CEEMFUHE (16.0 RTM) LAPTOP-CEEMFUHE\JAG (53) TSQL 00:00:23 11 rows</p> <pre>-- SOAL 19 EXECUTE sys.sp_columns @table_name = 'Customers', @table_owner = 'Sales'; -----</pre>		TABLE_QUALIFIER	TABLE_OWNER	TABLE_NAME	COLUMN_NAME	DATA_TYPE	TYPE_NAME	PRECISION	LENGTH	SCALE	1	TSQL2012	Sales	Customers	custid	4	int identity	10	4	0	2	TSQL2012	Sales	Customers	companyname	-9	nvarchar	40	80	NULL	3	TSQL2012	Sales	Customers	contactname	-9	nvarchar	30	60	NULL	4	TSQL2012	Sales	Customers	contacttitle	-9	nvarchar	30	60	NULL	5	TSQL2012	Sales	Customers	address	-9	nvarchar	60	120	NULL	6	TSQL2012	Sales	Customers	city	-9	nvarchar	15	30	NULL	7	TSQL2012	Sales	Customers	region	-9	nvarchar	15	30	NULL	8	TSQL2012	Sales	Customers	postalcode	-9	nvarchar	10	20	NULL	9	TSQL2012	Sales	Customers	country	-9	nvarchar	15	30	NULL	10	TSQL2012	Sales	Customers	phone	-9	nvarchar	24	48	NULL	11	TSQL2012	Sales	Customers	fax	-9	nvarchar	24	48	NULL	TABLE_QUALIFIER	TABLE_OWNER	TABLE_NAME	COLUMN_NAME	DATA_TYPE	TYPE_NAME	PRECISION	LENGTH	SCALE	RADIX	NULLABLE	REMARKS	COLUMN_DEF	SQL_DATA_TYPE	SQL_DATETIME_SUB	CHAR_OCTET_LENGTH	ORDINAL	1	TSQL	Sales	Customers	custid	4	int identity	10	4	0	10	0	NULL	NULL	4	NULL	1	2	TSQL	Sales	Customers	companyname	-9	nvarchar	40	80	NULL	NULL	0	NULL	NULL	-9	NULL	2	3	TSQL	Sales	Customers	contactname	-9	nvarchar	30	60	NULL	NULL	0	NULL	NULL	-9	NULL	3	4	TSQL	Sales	Customers	contacttitle	-9	nvarchar	30	60	NULL	NULL	0	NULL	NULL	-9	NULL	4	5	TSQL	Sales	Customers	address	-9	nvarchar	60	120	NULL	NULL	0	NULL	NULL	-9	NULL	5	6	TSQL	Sales	Customers	city	-9	nvarchar	15	30	NULL	NULL	0	NULL	NULL	-9	NULL	6	7	TSQL	Sales	Customers	region	-9	nvarchar	15	30	NULL	NULL	1	NULL	NULL	-9	NULL	7	8	TSQL	Sales	Customers	postalcode	-9	nvarchar	10	20	NULL	NULL	1	NULL	NULL	-9	NULL	8	9	TSQL	Sales	Customers	country	-9	nvarchar	15	30	NULL	NULL	0	NULL	NULL	-9	NULL	9	10	TSQL	Sales	Customers	phone	-9	nvarchar	24	48	NULL	NULL	0	NULL	NULL	-9	NULL	10	11	TSQL	Sales	Customers	fax	-9	nvarchar	24	48	NULL	NULL	1	NULL	NULL	-9	NULL	11
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5	TSQL	Sales	Customers	address	-9	nvarchar	60	120	NULL	NULL	0	NULL	NULL	-9	NULL	5																																																																																																																																																																																																																																																																																																																					
6	TSQL	Sales	Customers	city	-9	nvarchar	15	30	NULL	NULL	0	NULL	NULL	-9	NULL	6																																																																																																																																																																																																																																																																																																																					
7	TSQL	Sales	Customers	region	-9	nvarchar	15	30	NULL	NULL	1	NULL	NULL	-9	NULL	7																																																																																																																																																																																																																																																																																																																					
8	TSQL	Sales	Customers	postalcode	-9	nvarchar	10	20	NULL	NULL	1	NULL	NULL	-9	NULL	8																																																																																																																																																																																																																																																																																																																					
9	TSQL	Sales	Customers	country	-9	nvarchar	15	30	NULL	NULL	0	NULL	NULL	-9	NULL	9																																																																																																																																																																																																																																																																																																																					
10	TSQL	Sales	Customers	phone	-9	nvarchar	24	48	NULL	NULL	0	NULL	NULL	-9	NULL	10																																																																																																																																																																																																																																																																																																																					
11	TSQL	Sales	Customers	fax	-9	nvarchar	24	48	NULL	NULL	1	NULL	NULL	-9	NULL	11																																																																																																																																																																																																																																																																																																																					
6	<p>Eksekusi pernyataan T-SQL berikut untuk menghapus stored procedure Sales.GetTopCustomers:</p> <pre>DROP PROCEDURE Sales.GetTopCustomers;</pre>																																																																																																																																																																																																																																																																																																																																				
7	<p>Kesimpulan: Setelah melakukan praktikum bagian ini, mahasiswa memiliki pengetahuan dasar cara memanggil berbagai sistem stored procedure yang berbeda-beda.</p>																																																																																																																																																																																																																																																																																																																																				

--- Selamat Mengerjakan ---