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SQL Server Tutorial

Part 108 - Over clause in SQL Server

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In this session we will learn

Over clause in SQL Server

Link to Dot Net Basics, ASP.NET, C#, ADO.NET and SQL Server video series http://www.youtube.com/user/kudvenkat/playlists

Suggested Videos

Part 105 - Grouping function in SQL Server Part 106 - Grouping_ld function in SQL Server

Part 107 - Debugging SQL Server stored procedures

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The OVER clause combined with PARTITION BY is used to break up data into partitions. The specified function operates for each partition

Syntax: function (...) OVER (PARTITION BY col1, Col2, ...)

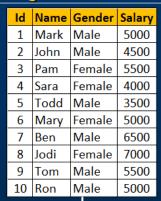
For example: COUNT (Gender) OVER (PARTITION BY Gender) will partition the data by GENDER i.e there will 2 partitions (Male and Female) and then the COUNT() function is applied over each partition

Any of the following functions can be used

COUNT(), AVG(), SUM(), MIN(), MAX(), ROW_NUMBER(), RANK(), DENSE_RANK() etc

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SELECT Gender, COUNT(*) AS GenderTotal, AVG(Salary) AS AvgSal,
MIN(Salary) AS MinSal, MAX(Salary) AS MaxSal
FROM Employees
GROUP BY Gender

Gender	GenderTotal	AvgSal	MinSal	MaxSal
Female	4	5375	4000	7000
Male	6	5000	3500	6500

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What if we want non-aggregated values (like employee Name and Salary) in result set along with aggregated values

Id	Name	Gender	Salary
1	Mark	Male	5000
2	John	Male	4500
3	Pam	Female	5500
4	Sara	Female	4000
5	Todd	Male	3500
6	Mary	Female	5000
7	Ben	Male	6500
8	Jodi	Female	7000
9	Tom	Male	5500
10	Ron	Male	5000

Name	Salary	Gender	GenderTotals	AvgSal	MinSal	MaxSal
Pam	5500	Female	4	5375	4000	7000
Sara	4000	Female	4	5375	4000	7000
Mary	5000	Female	4	5375	4000	7000
Jodi	7000	Female	4	5375	4000	7000
Tom	5500	Male	6	5000	3500	6500
Ron	5000	Male	6	5000	3500	6500
Ben	6500	Male	6	5000	3500	6500
Todd	3500	Male	6	5000	3500	6500
Mark	5000	Male	6	5000	3500	6500
John	4500	Male	6	5000	3500	6500

Column 'Employees.Name' is invalid in the select list because it is not contained in either an aggregate function or the GROUP BY clause

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```
One way to achieve this is by including the aggregations in a sub query and then JOINING it with the main query SELECT Name, Salary, Employees.Gender, Genders.GenderTotals,
```

```
SELECT Name, Salary, Employees.Gender, Genders.GenderTotals,
Genders.AvgSal, Genders.MinSal, Genders.MaxSal
FROM Employees
INNER JOIN
(SELECT Gender, COUNT(*) AS GenderTotals,
AVG(Salary) AS AvgSal,
MIN(Salary) AS MinSal, MAX(Salary) AS MaxSal
FROM Employees
GROUP BY Gender) AS Genders
ON Genders.Gender = Employees.Gender
```

Better way of doing this is by using the OVER clause combined with PARTITION BY

```
SELECT Name, Salary, Gender,

COUNT(Gender) OVER(PARTITION BY Gender) AS GenderTotals,

AVG(Salary) OVER(PARTITION BY Gender) AS AvgSal,

MIN(Salary) OVER(PARTITION BY Gender) AS MinSal,

MAX(Salary) OVER(PARTITION BY Gender) AS MaxSal

FROM Employees
```

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