



# Select Queries

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# Agenda

- Introduction to Select Queries
- Using Joins
- Writing Sub-Queries
- Using Functions



# SELECT Statements

SELECT < Column List >  
From < Table Name >  
Where < Conditions >  
Group By < Column Name >  
Having < Condition >  
Order By < Column Name >

## Retrieving Data

- Creating column alias
- Displaying multiple column values in one column
- Writing expressions
- Eliminating duplicate values
- Retrieving top row/rows

## Filtering Data

- Comparison Operators ( = , < , > etc.)
- Ranges (BETWEEN and NOT BETWEEN)
- Lists (IN and NOT IN)
- Null Values (IS NULL and IS NOT NULL)
- Combination of the conditions (AND, OR, NOT)
- Pattern Matches (LIKE and NOT LIKE)

## Pattern Matching Using WHERE Clause

- Patterns are creating using wildcard characters
- LIKE keyword is used for passing a pattern to WHERE clause.

Wildcards	Meaning
%	Any string of zero or more characters.
_	Any single character
[ ]	Any single character within the specified range
[ ^ ]	Any single character not within the specified range

# Set Operators

- Union
- Union All
- Except
- Intersect

# Joins

- INNER JOIN
- OUTER JOINS
  - LEFT OUTER JOIN
  - RIGHT OUTER JOIN
  - FULL JOIN or FULL OUTER JOIN
- CROSS JOINS
- SELF JOINS



## Subquery

- A nested queries
- Innermost query supplies result to outer query
- Up to 32 level of nesting is possible.

## Built-in Functions

- System Functions
- String Functions
- Date and Time Functions
- Conversions Functions
- Aggregate Functions

## System Functions

- DB\_NAME and DB\_ID
- HOST\_ID and HOST\_NAME
- OBJECT\_ID and OBJECT\_NAME
- USER\_ID and USER\_NAME

# String Functions

- ASCII(), CHAR() and CHARINDEX()
- LEFT() and RIGHT()
- SUBSTRING()
- LEN()
- LOWER() and UPPER()
- LTRIM() and RTRIM()
- REPLACE(), REPLICATE() and REVERSE()
- SPACE() and STUFF()

# Date and Time Functions

- GETDATE()
- DAY()
- MONTH()
- YEAR()
- DATEPART()
- DATENAME()
- DATEADD()
- DATEDIFF()

# Conversion Functions

- CAST()
- CONVERT()

# Aggregate Functions

- Count
- Min
- Max
- Avg
- Sum

# Summary

- SELECT statements
- Joins
- Subqueries
- Functions



## Bibliography, Important Links

- <https://msdn.microsoft.com/en-us/library/ms189499.aspx>
- [https://technet.microsoft.com/en-us/library/ms191472\(v=sql.105\).aspx](https://technet.microsoft.com/en-us/library/ms191472(v=sql.105).aspx)
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- <http://www.codeproject.com/Tips/712941/Types-of-Join-in-SQL-Server>
- <https://msdn.microsoft.com/en-us/library/ms181984.aspx>
- <https://msdn.microsoft.com/en-us/library/ms186724.aspx>
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# Any Questions?



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Thank you!