

# Our First SELECT

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DATA TIER ARCHITECT

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# Our First SELECT



## Query execution order

### Terminology

- Sets
- Expressions
- Operators
- Functions
- Aliases
- Data types

## From-less SELECTs



SELECT 5

FROM 1

WHERE 2

GROUP BY 3

HAVING 4

ORDER BY 6

OFFSET - FETCH 7

◀ List of expressions to return

◀ Defines the source data set

◀ Row filter

◀ Combines rows into groups

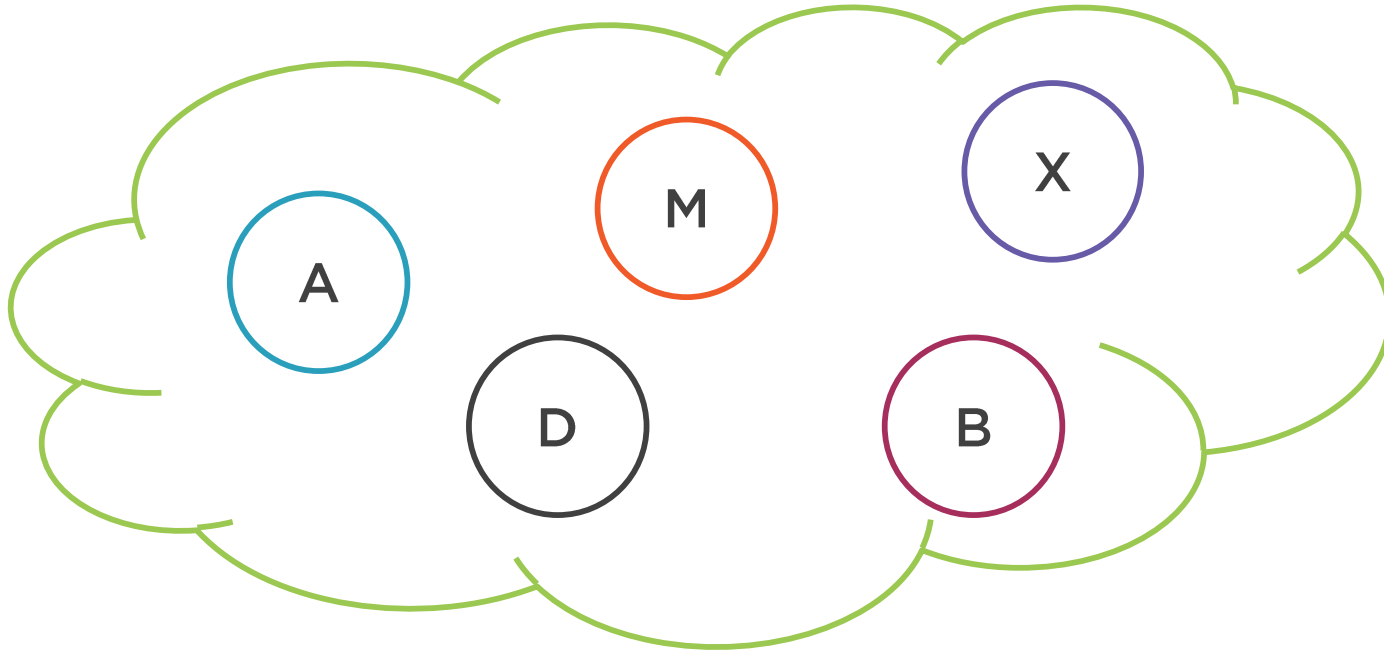
◀ Group filter

◀ Presentation order

◀ Paging specification



# Mathematical Sets



**Unique elements**

**No order**



# Sets in SQL

Name	Address	Phone
John	13 Foothill St.	508-233-4284
Jack	1 Eldorado Ave.	404-485-0029
Jill	25 Everest St.	769-244-2592



# Aliasing


Employees

Data Sets

C1	C2	C3	C4

$\pi r^2$

AS Circle-Area

'0001-01-01'

AS Anno-Domini

(first name + last name)

AS Full-Name

Expressions



# Standard SQL Data Types



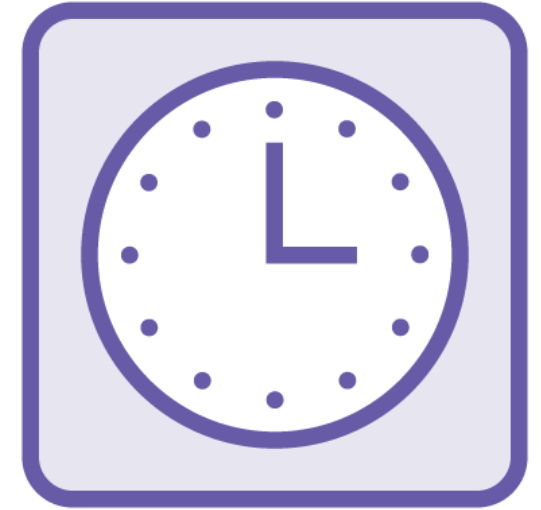
**Numeric**



**Strings**

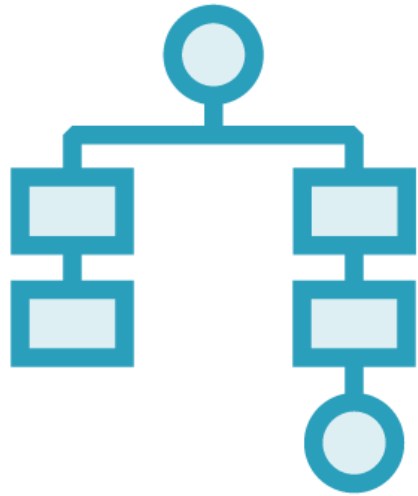
00110110  
01001011  
10110010

**Binary**



**Temporal**

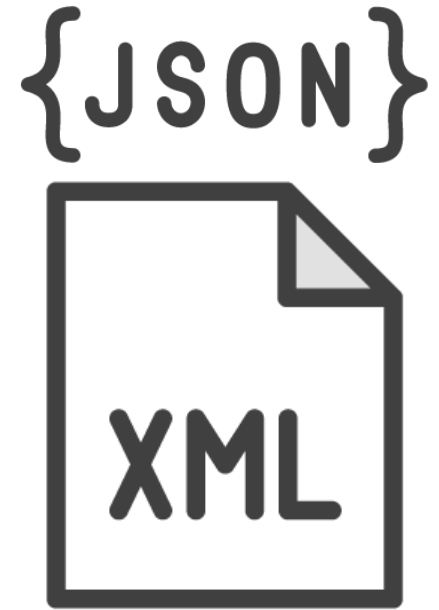
# Special Data Types in T-SQL



Hierarchy



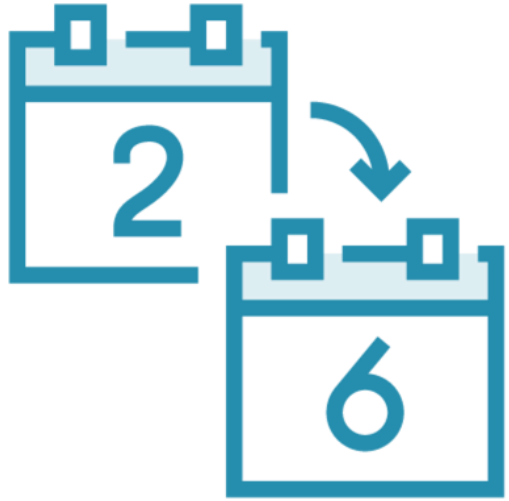
Spatial



Document



# Missing Data Types in T-SQL



Interval



Boolean

# Operators and Functions

+  
-  
\*  
/  
%

Arithmetic

SUBSTRING  
UPPER  
LTRIM  
+

String

GETDATE  
YEAR  
DATEDIFF  
DATEADD

Date and Time

&  
|  
^  
~

Bitwise

>  
<  
<>  
=  
!=  
LIKE

Comparison

AND  
OR  
NOT  
IN  
ANY  
BETWEEN

Logical



# Demo



## Our first SELECT



# Review



## Query execution order

### Terminology

- Sets
- Expressions
- Operators
- Functions
- Aliases
- Data types

### From-less SELECTs