Wrapping Up

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Course Review

Course review

Take away

Feedback

Next steps

Additional resources
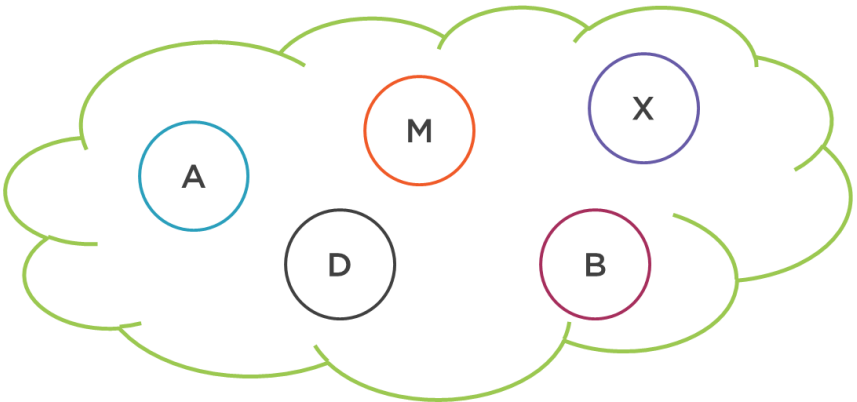
Farewell

What is T-SQL?

Our First SELECT

SELECT	5
FROM	1
WHERE	2
GROUP BY	3
HAVING	4
ORDER BY	6
OFFSET - FETCH	7

1 2 3

A B C

00110110
01001011
10110010

A M X D B

+ /	SUBSTRING	GETDATE
- %	UPPER	YEAR
*	LTRIM	DATEDIFF
	+	DATEADD
Arithmetic	**String**	**Date and Time**

& ^	> =	AND IN
| ~	< !=	OR ANY
	<> LIKE	NOT BETWEEN
Bitwise	**Comparison**	**Logical**

The FROM clause

Customers

Customer 🔑	Country
Jack	USA
Kelly	USA
Sunil	India
Chen	China
Bob	NULL

Items

Item 🔑	Color
Headphones	White
MP3 Player	Black
Audio Cable	Blue
Amplifier	Black
Turntable	White

Order Items

OrderID 🔑	Item 🔑	Qty	Price
1	MP3 Player	1	27.00
1	Headphones	1	35.50
2	Turntable	1	170.00
3	Amplifier	1	148.00
3	Audio Cable	3	12.50
4	Amplifier	1	133.50
4	Audio Cable	2	11.00
4	Turntable	2	155.50

Orders

OrderID 🔑	Customer	OrderDate
1	Jack	1/1/2019
2	Bob	1/1/2019
3	Jack	1/15/2019
4	Chen	1/16/2019
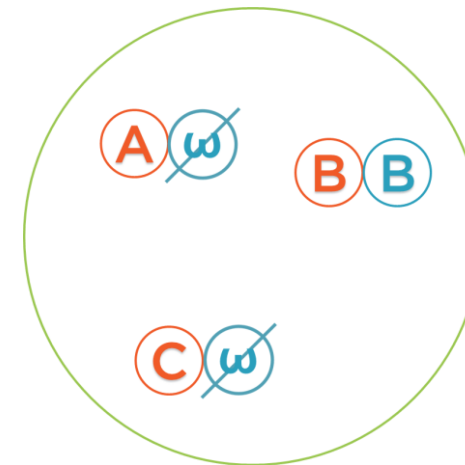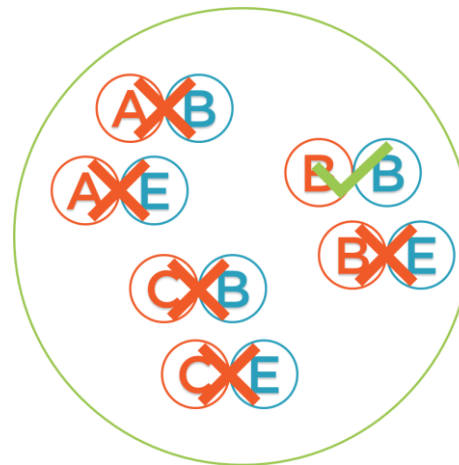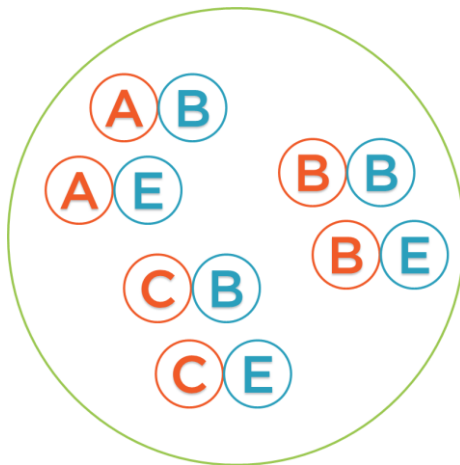
Filtering rows with WHERE

```
X > ALL (A, B, C)

X > ANY|SOME (A, B, C)

X IN (A, B, C)

X NOT IN (A, B, C)

X BETWEEN A AND B

X LIKE ( <pattern> )
```

X = NULL

X <> NULL

X IS NULL

X IS NOT NULL

Combining Rows

GROUP BY Country

Customer	Country	Group
Jack	USA	1
Kelly		
Sunil	India	2
Chen	China	3
Bob	NULL	4

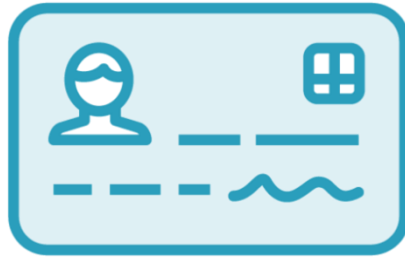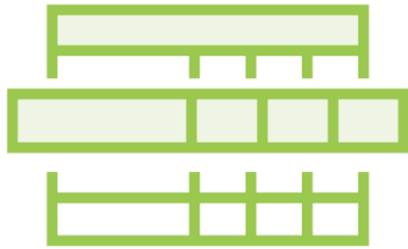|		
Minimum	Maximum	Average
Count	Standard deviation	Variance

Returning Data


```
ISNULL (X, Y)

COALESCE (X, Y, Z)

CASE
    WHEN X IS NULL
        THEN Y
    ELSE Z
END

NULLIF (X, Y)
```

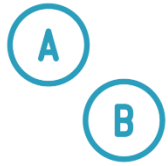# Ordering and Paging

Presentation **Business** **Database**

```
SELECT TOP(5) WITH TIES OrderID
FROM Orders
ORDER BY OrederDate DESC;


SELECT OrderID
FROM Orders
ORDER BY OrderDate DESC
OFFSET 0 ROWS
FETCH NEXT 5 ROWS ONLY;
```

Takeaway

SQL is based on the relational model; you must start thinking in sets

Query execution order should become your second nature

Dealing with NULLs isn't easy, but the alternatives are far worse

Don't sweat over syntax; focus on foundations and understanding

Feedback

Please help us improve

- Which parts did you like most?

- What would you have done differently?

- What parts were too short? too long?

- Additional training you would like to see

Next Steps

- **Practice**
- **Practice**
- **Practice**
- **Take additional SQL training and reading**
- **Master the relational model**
- **Get involved in the SQL community**

Additional Resources

- **app.pluralsight.com/search/?q=sql%20server**

- **app.pluralsight.com/search/?q=SQL**

- **docs.microsoft.com/en-us/sql**

- **stackoverflow.com**

- **wikipedia.org**

Thank You!

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