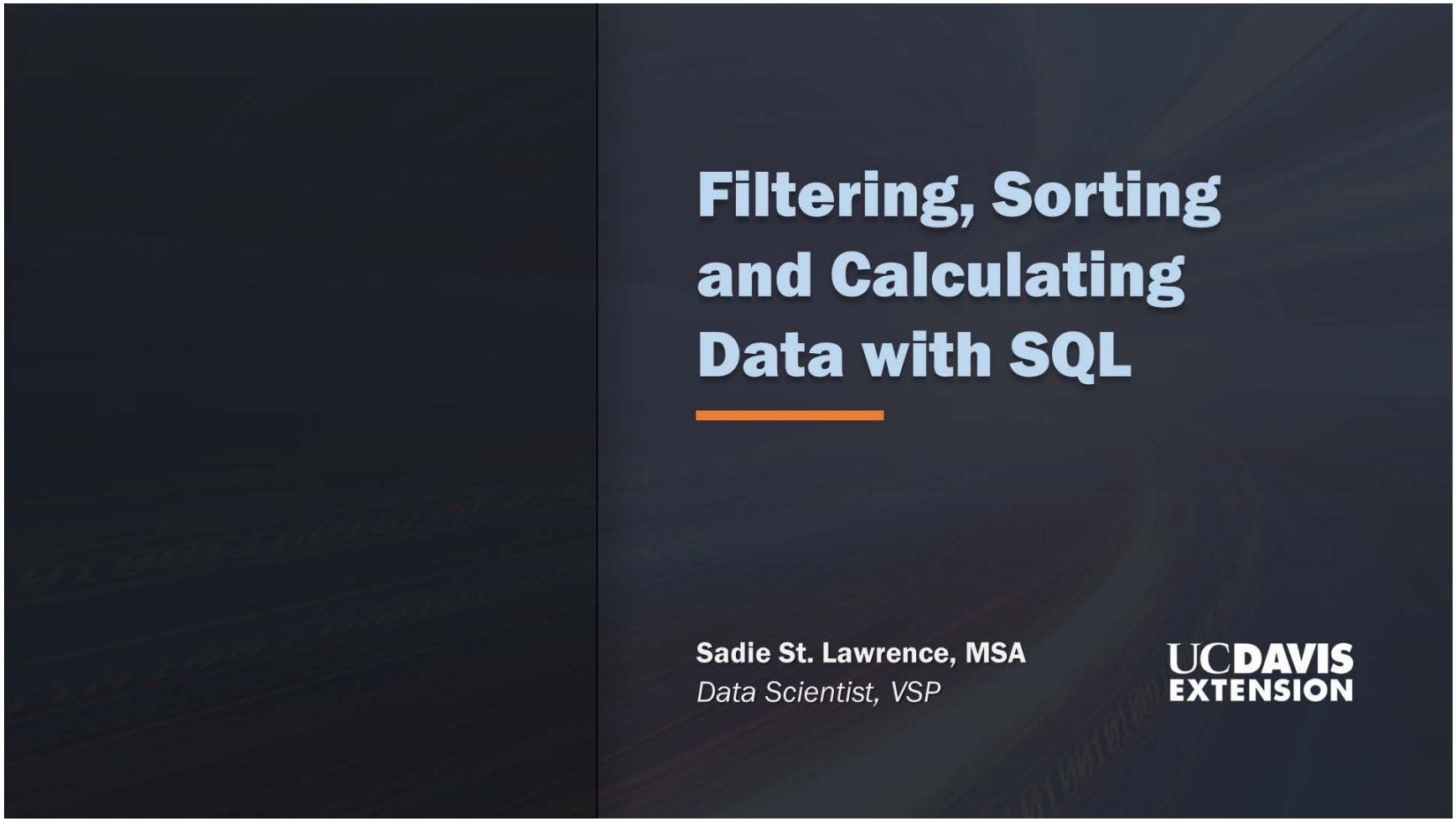
Slide 1: Filtering, Sorting and Calculating Data with SQL



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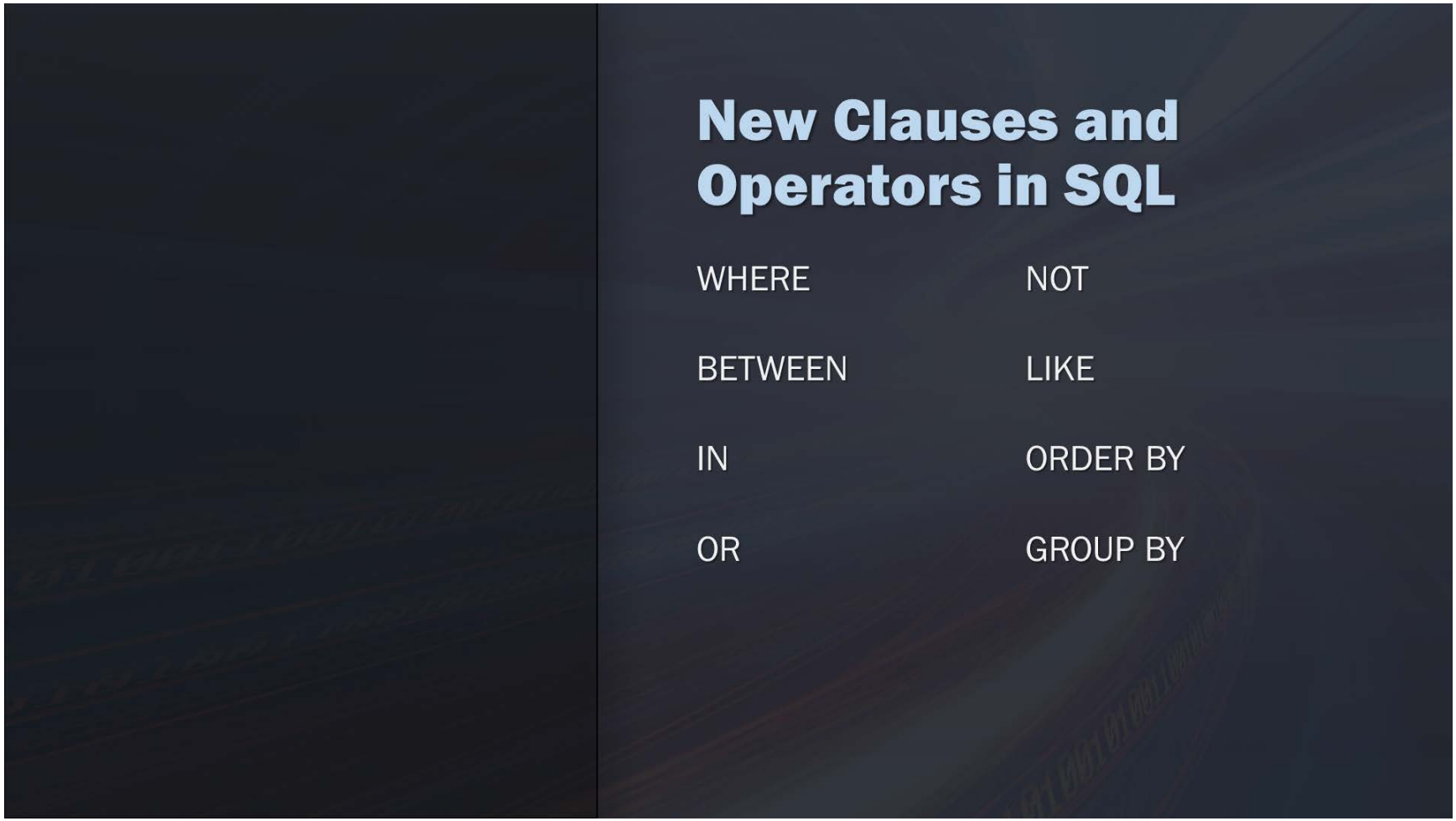
Slide 2: New Clauses and Operators in SQL



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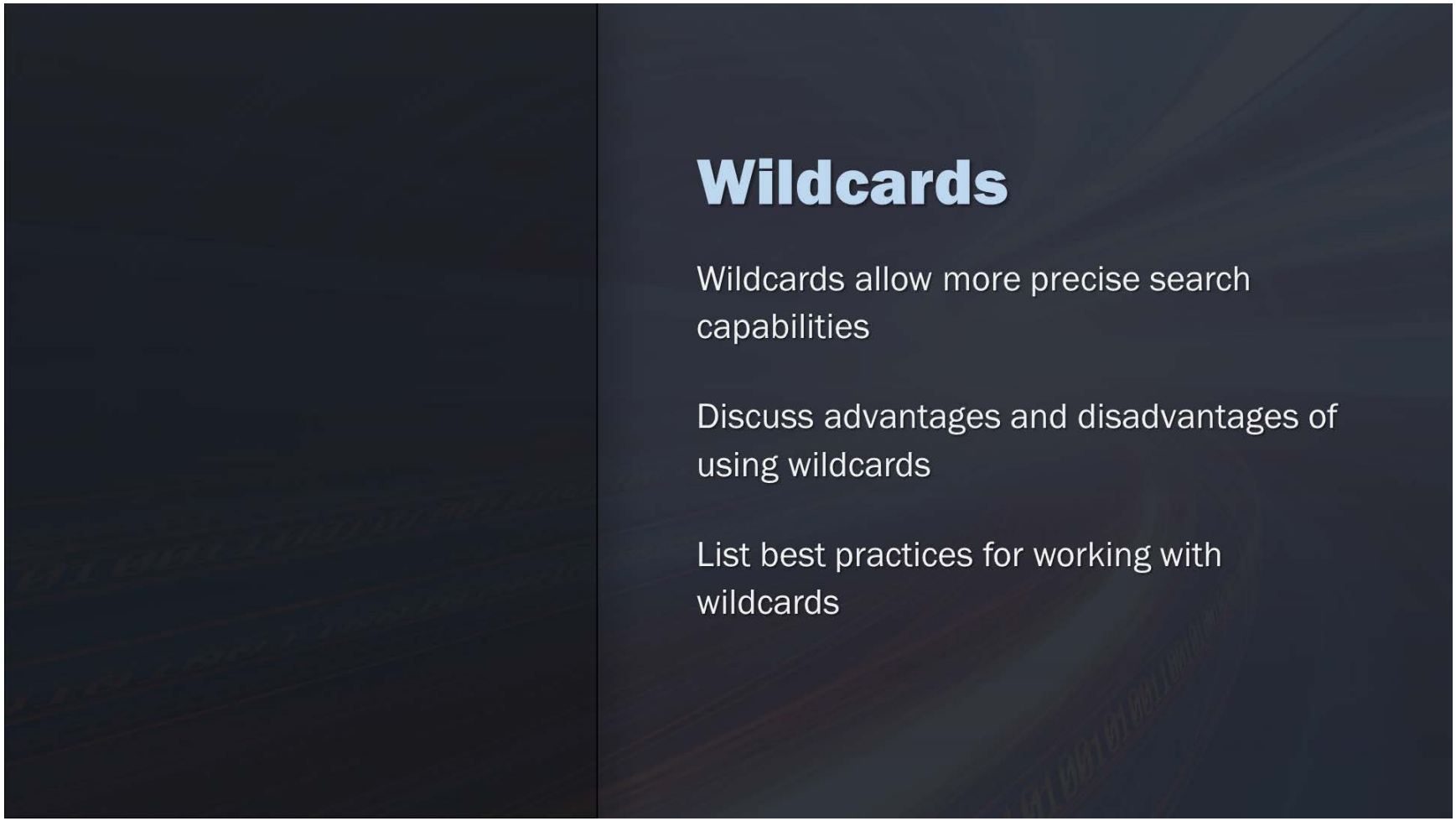
Slide 3: Wildcards



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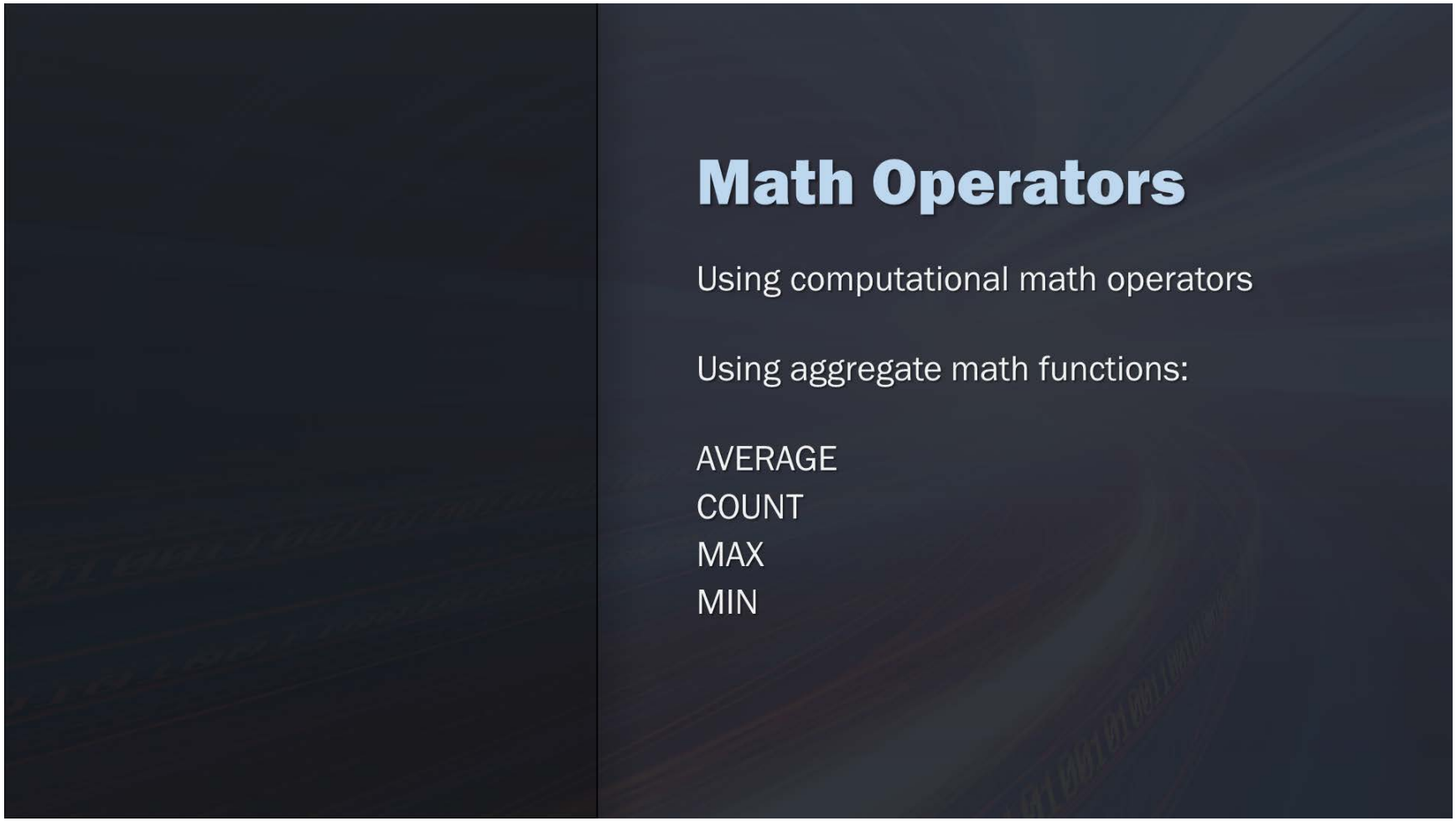
Slide 4: Math Operators



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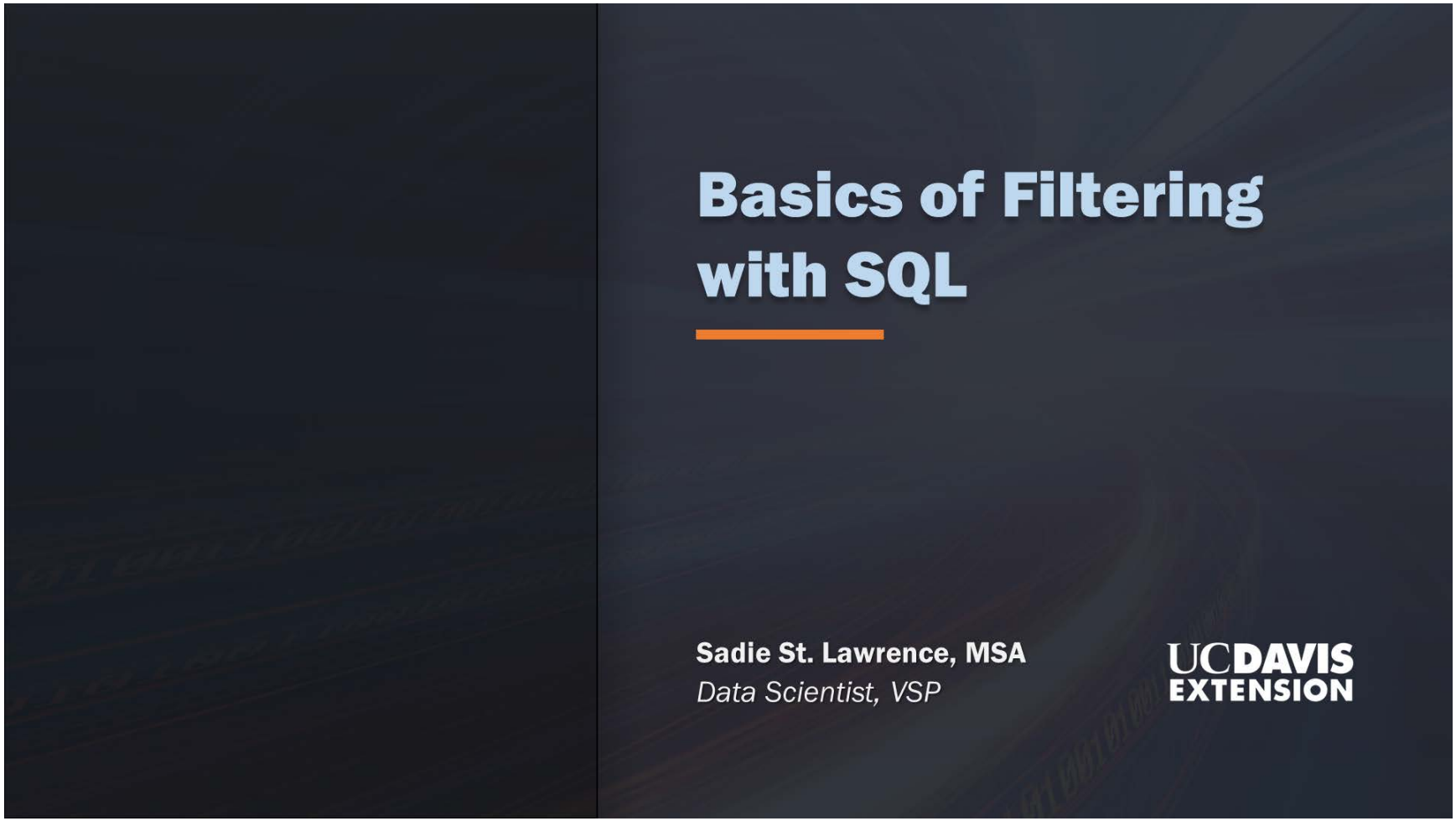
Slide 1: Basics of Filtering with SQL



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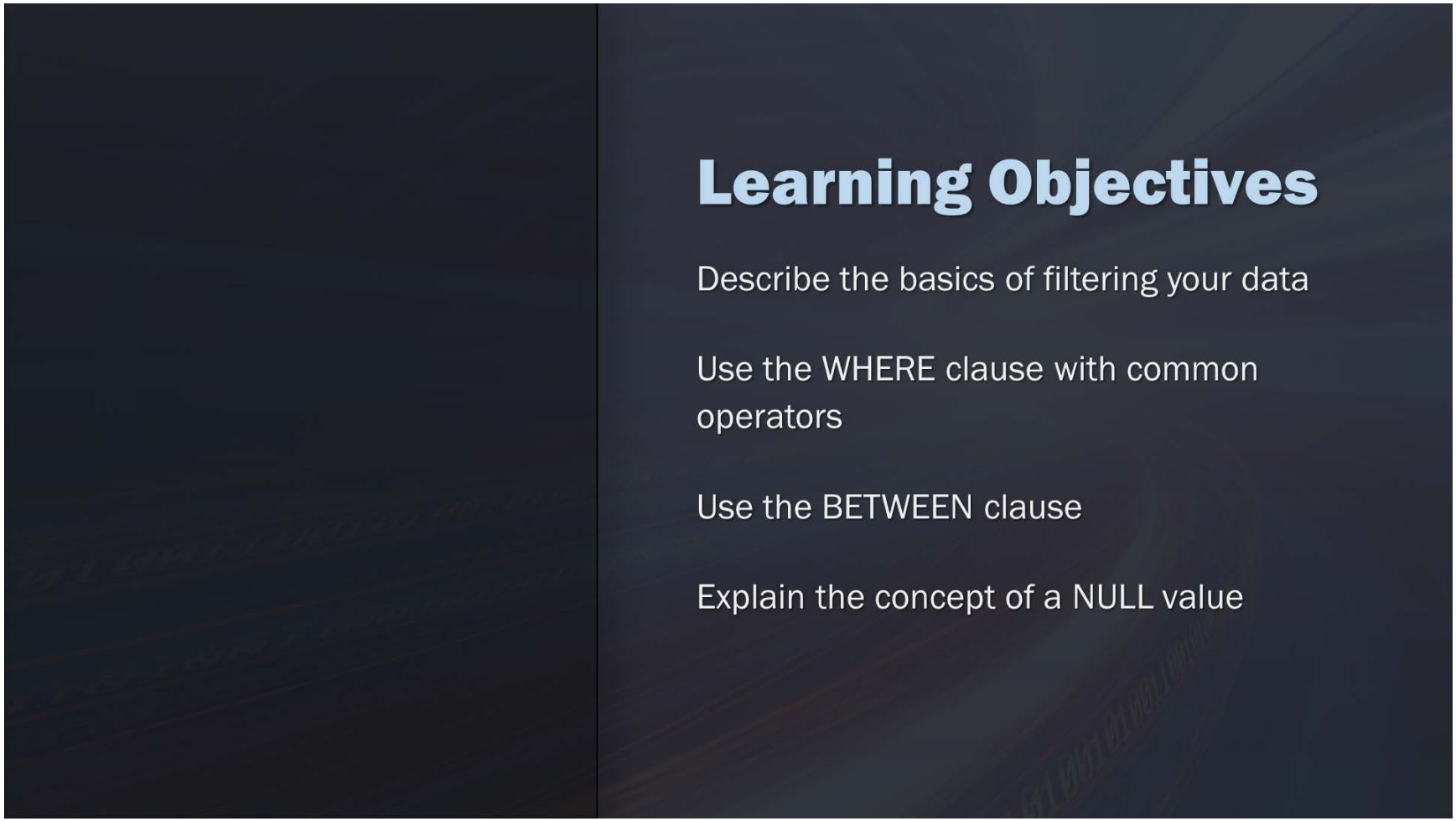
Slide 2: L earning Objectives



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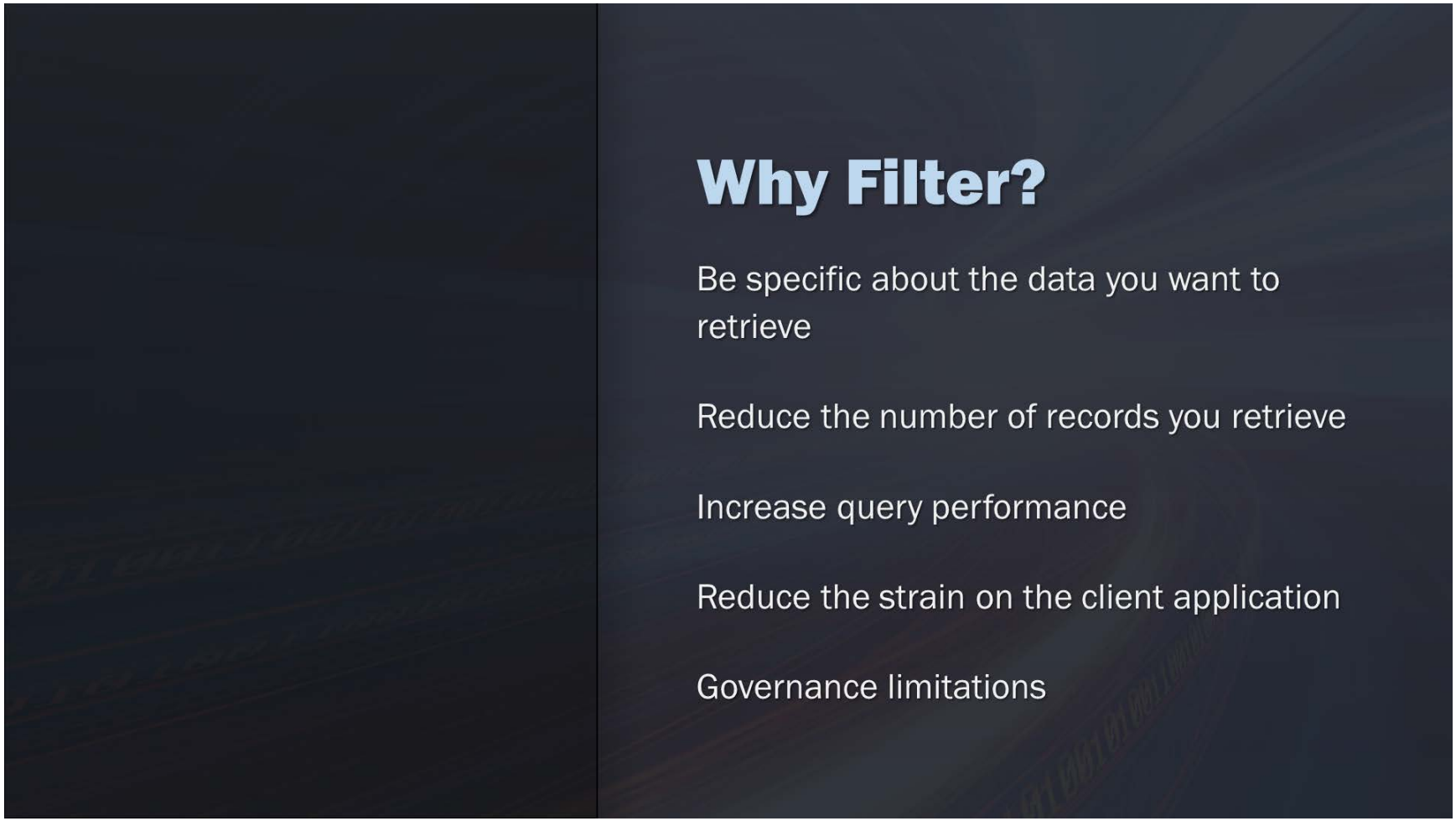
Slide 3: Why Filter?



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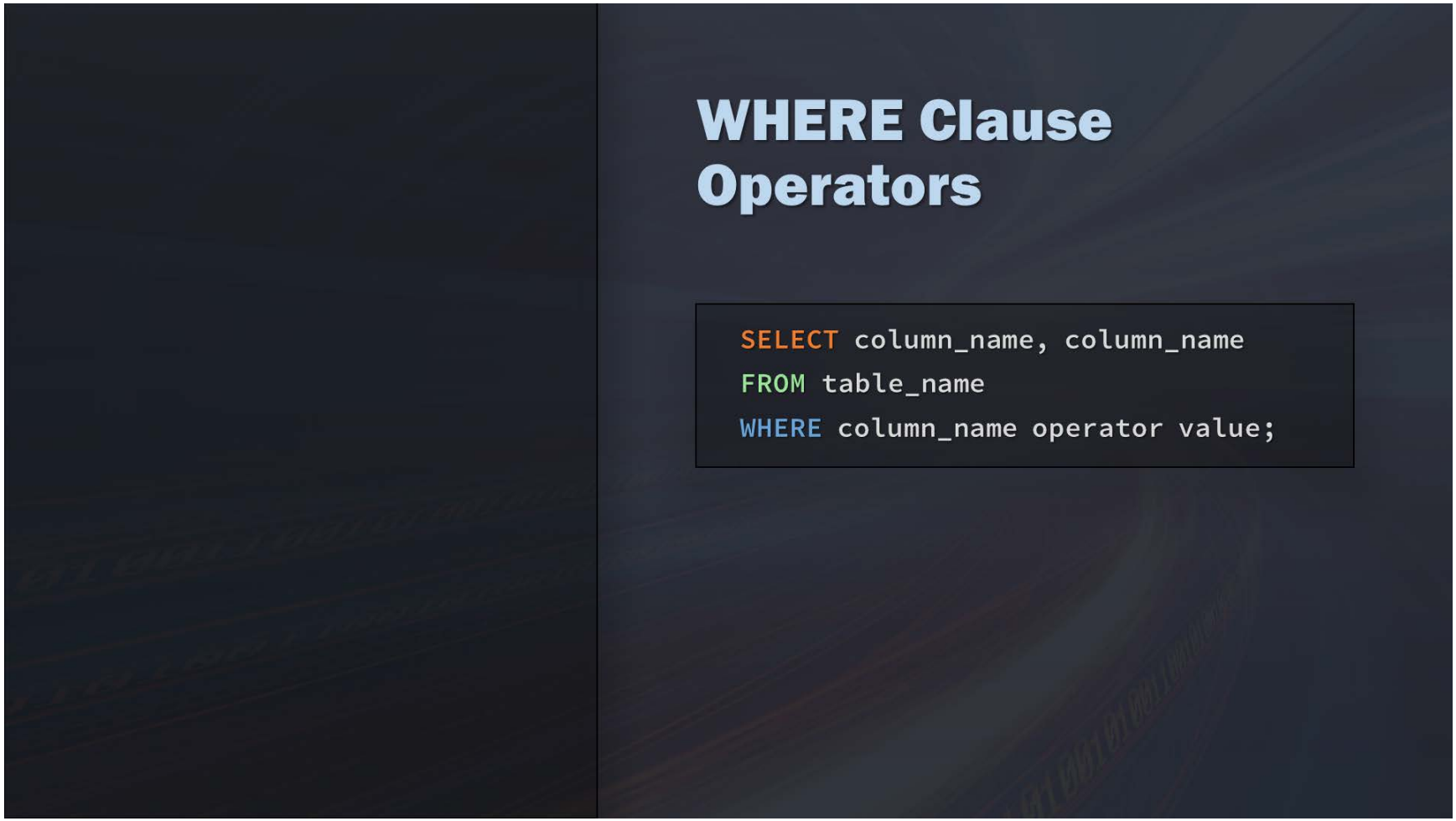
Slide 4: WHERE Clause Operators



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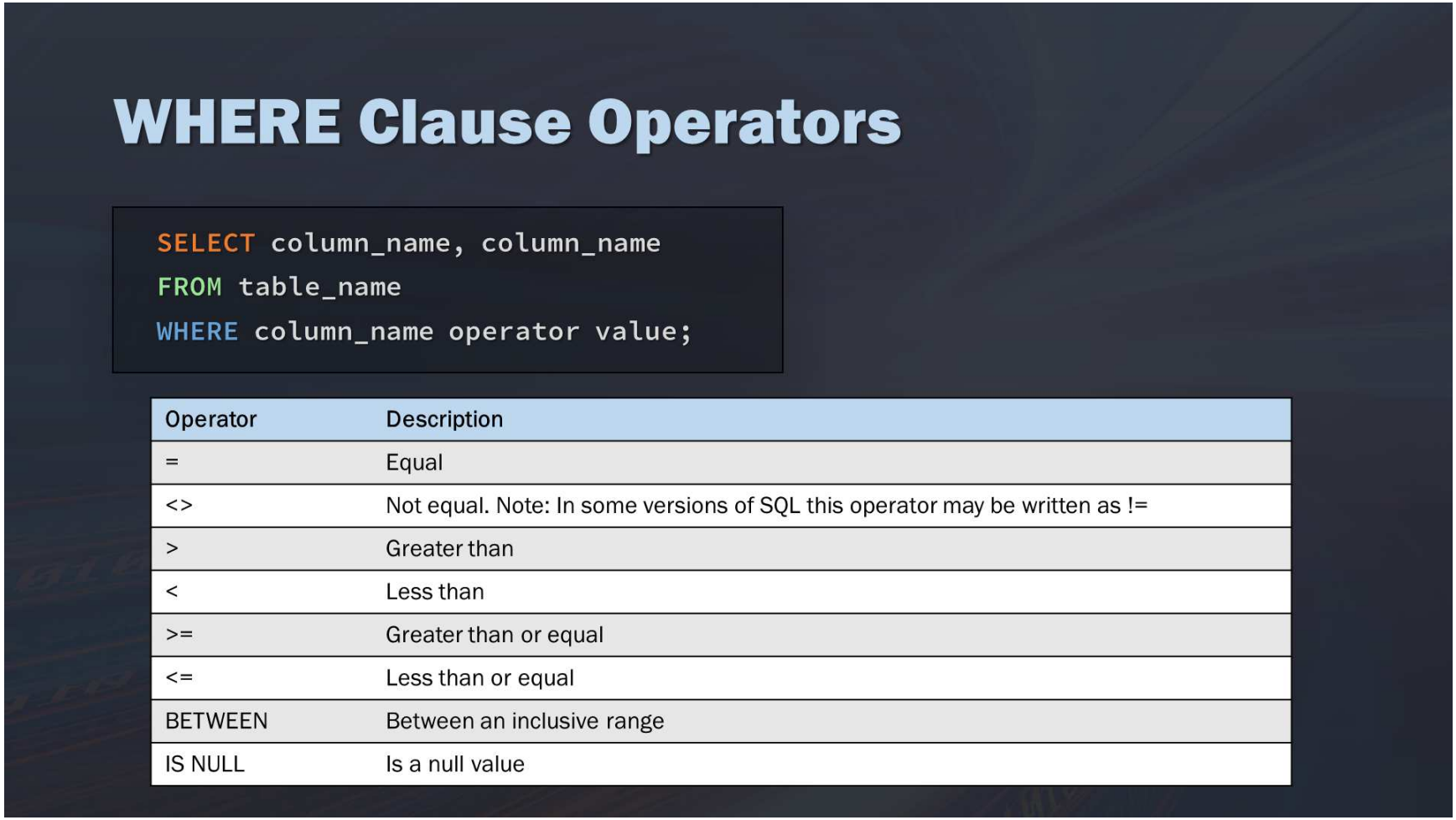
Slide 5: WHERE Clause Operators



Operator	Description
=	Equal
<>	Not equal. Note: In some versions of SQL this operator may be written as !=
>	Greater than
<	Less than
>=	Greater than or equal
<=	Less than or equal
BETWEEN	Between an inclusive range
IS NULL	Is a null value

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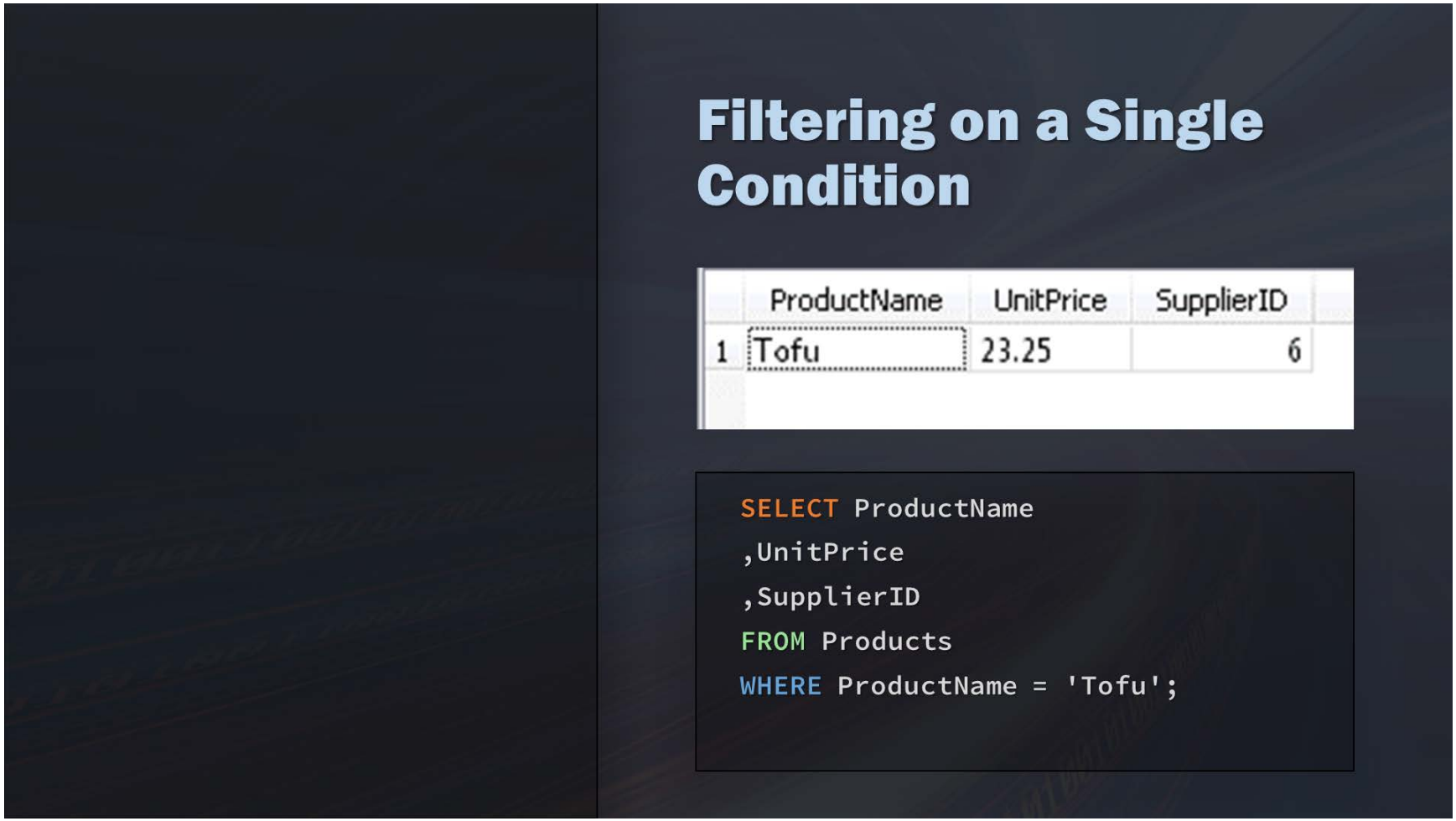
Slide 6: Filtering on a Single Condition



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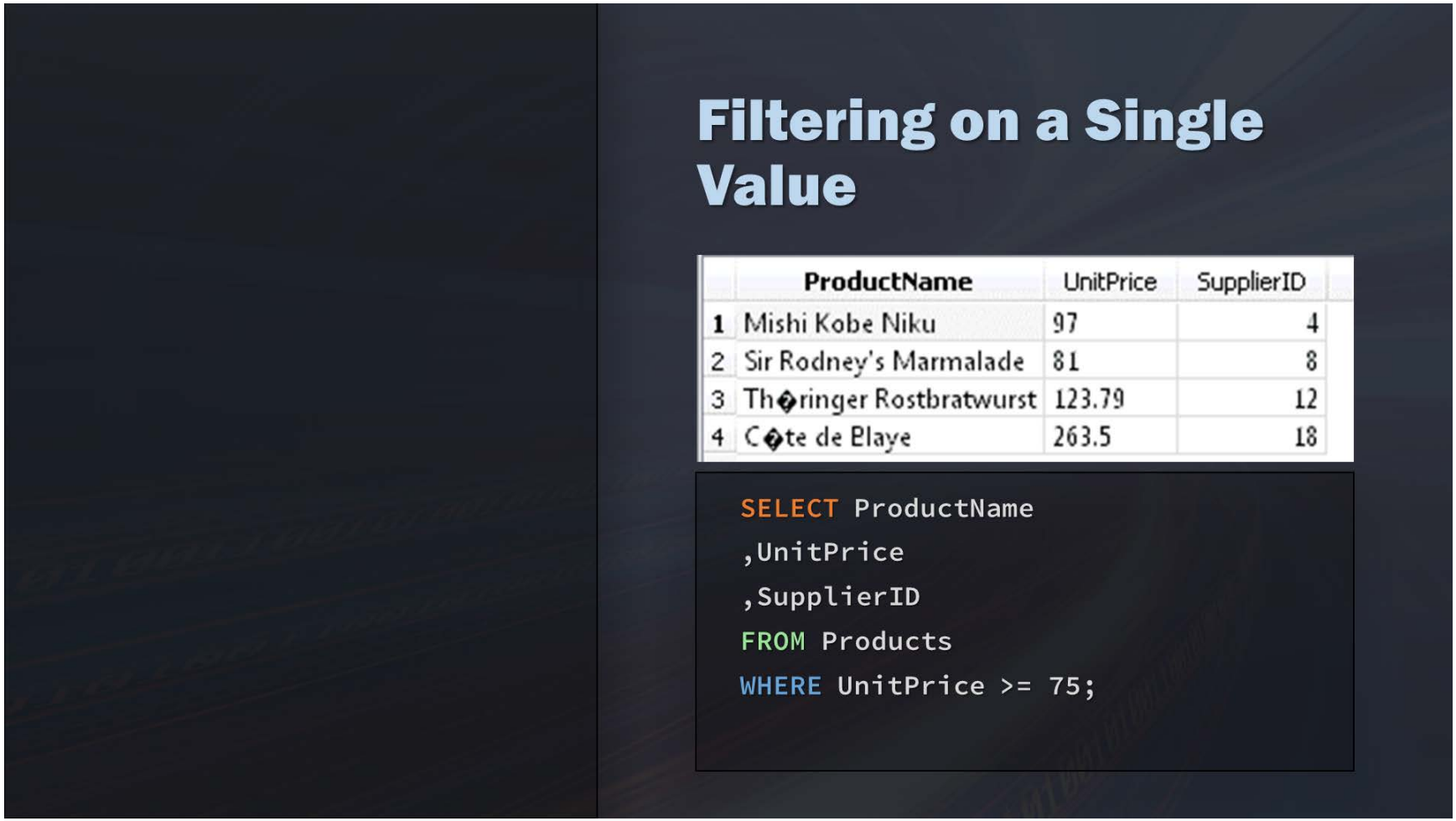
Slide 7: Filtering on a Single Value



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Slide 8: Checking for Non-Matches

Checking for Non-Matches

```
SELECT ProductName
,UnitPrice
,SupplierID
FROM Products
WHERE ProductName <>'Alice
Mutton';
```

	ProductName	UnitPrice	SupplierID
1	Chai	18	1
2	Chang	19	1
3	Aniseed Syrup	10	1
4	Chef Anton's Cajun Seasoning	22	2
5	Chef Anton's Gumbo Mix	21.35	2
6	Grandma's Boysenberry Spread	25	3
7	Uncle Bob's Organic Dried Pears	30	3
8	Northwoods Cranberry Sauce	40	3
9	Mishi Kobe Niku	97	4
10	Ikura	31	4
11	Queso Cabrales	21	5
12	Queso Manchego La Pastora	38	5
13	Konbu	6	6

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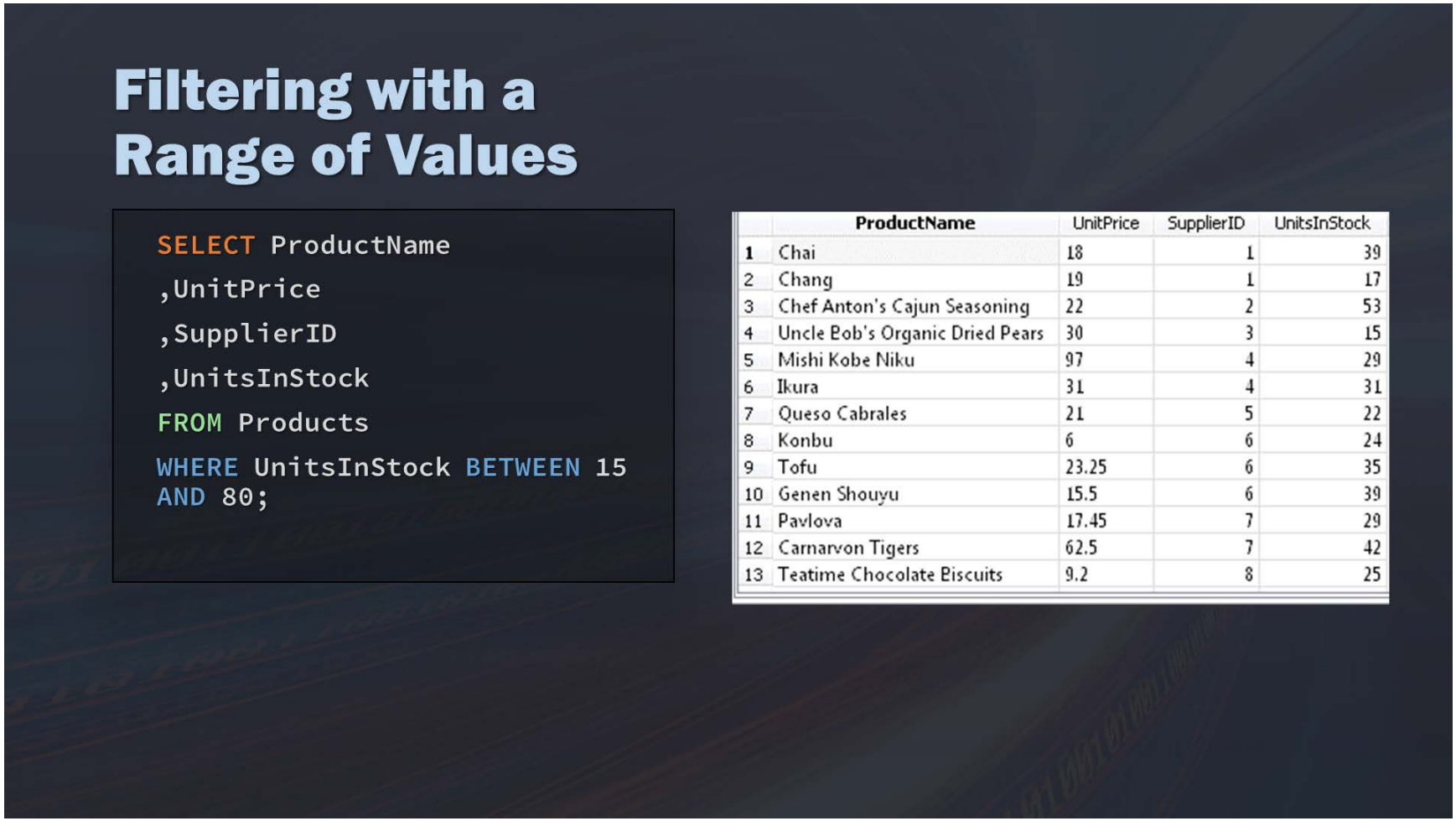
Slide 9: Filtering with a Range of Values



	ProductName	UnitPrice	SupplierID	UnitsInStock
1	Chai	18	1	39
2	Chang	19	1	17
3	Chef Anton's Cajun Seasoning	22	2	53
4	Uncle Bob's Organic Dried Pears	30	3	15
5	Mishi Kobe Niku	97	4	29
6	Ikura	31	4	31
7	Queso Cabrales	21	5	22
8	Konbu	6	6	24
9	Tofu	23.25	6	35
10	Genen Shouyu	15.5	6	39
11	Pavlova	17.45	7	29
12	Carnarvon Tigers	62.5	7	42
13	Teatime Chocolate Biscuits	9.2	8	25

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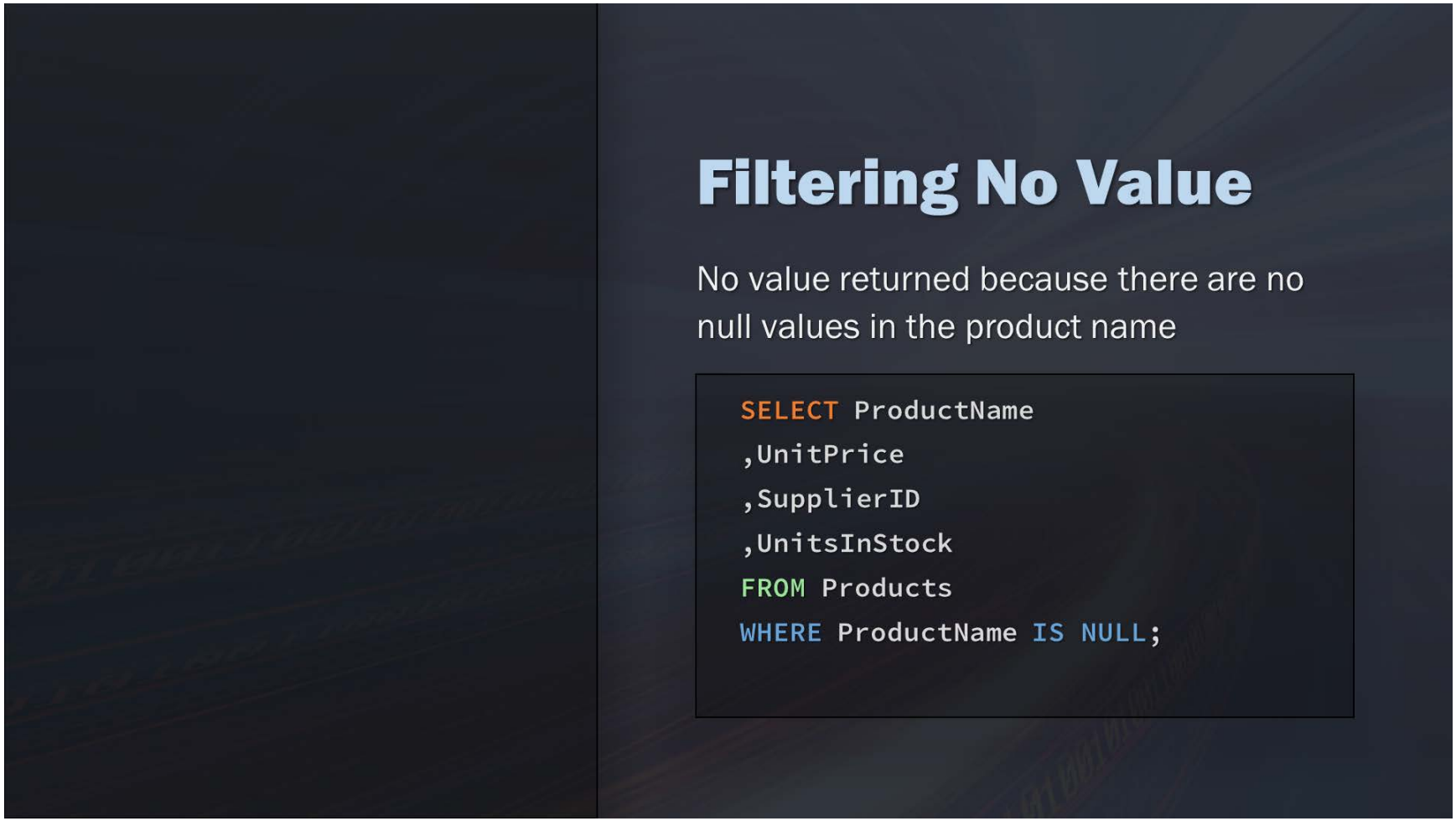
Slide 10: Filtering No Value



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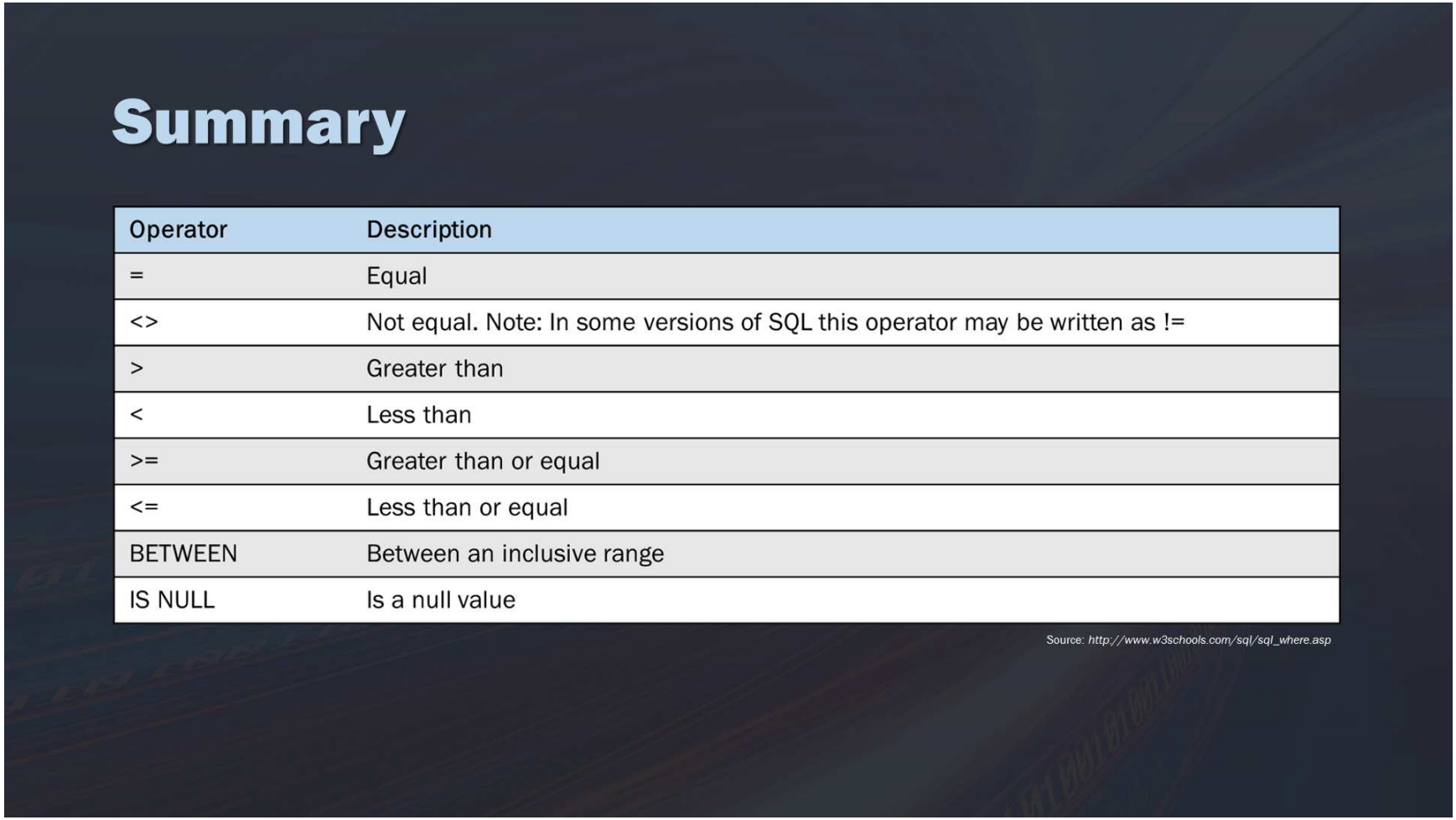
Slide 11: Summary



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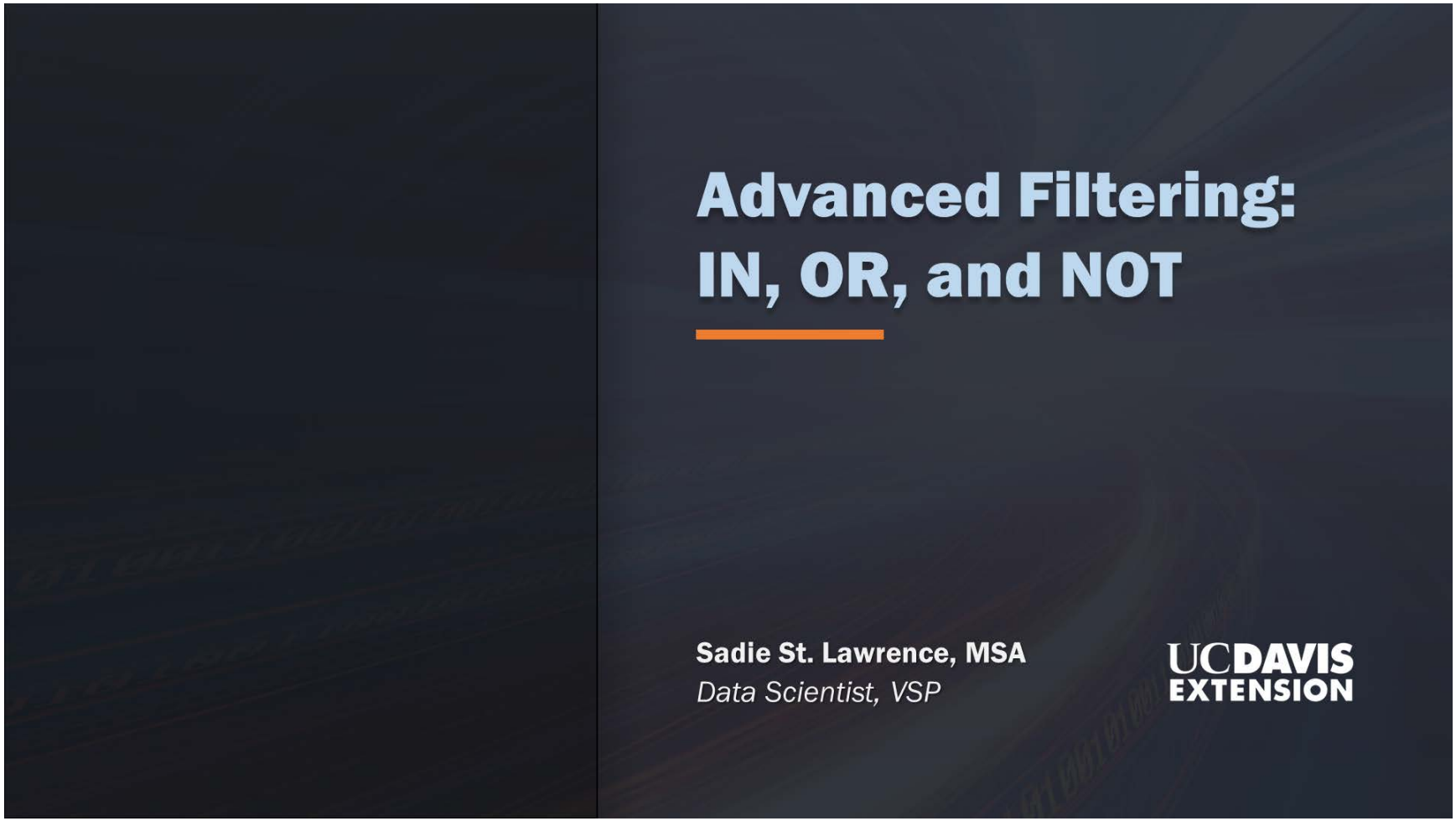
Slide 1: Advanced Filtering: IN, OR, and NOT



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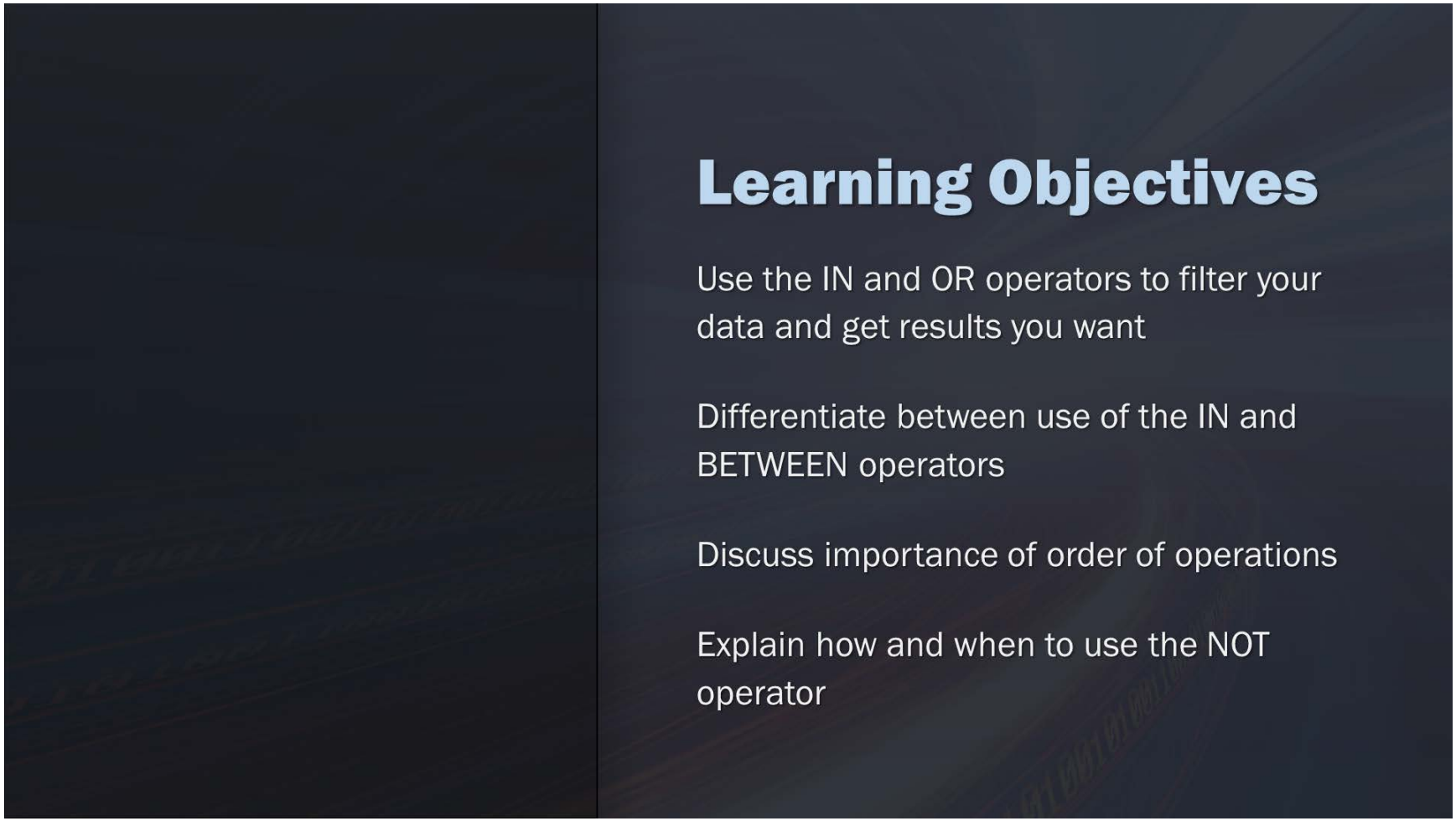
Slide 2: L earning Objectives



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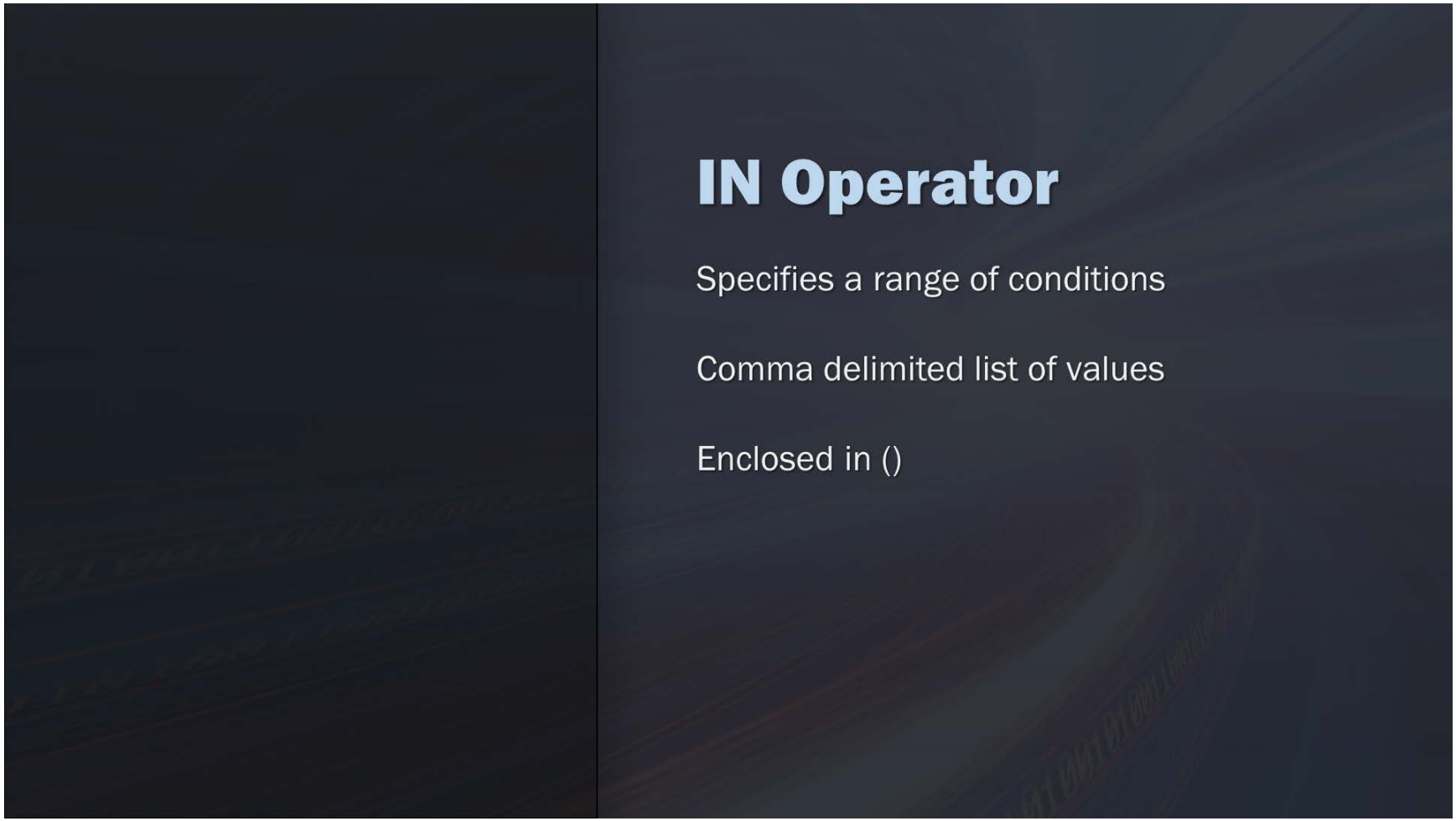
Slide 3: IN Operator



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Slide 4: IN Operator Example

IN Operator Example

```
SELECT
ProductID
,UnitPrice
,SupplierID
From Products
WHERE SupplierID IN (9, 10,
11);
```

	ProductID	UnitPrice	SupplierID
1	22	21	9
2	23	9	9
3	24	4.5	10
4	25	14	11
5	26	31.23	11
6	27	43.9	11

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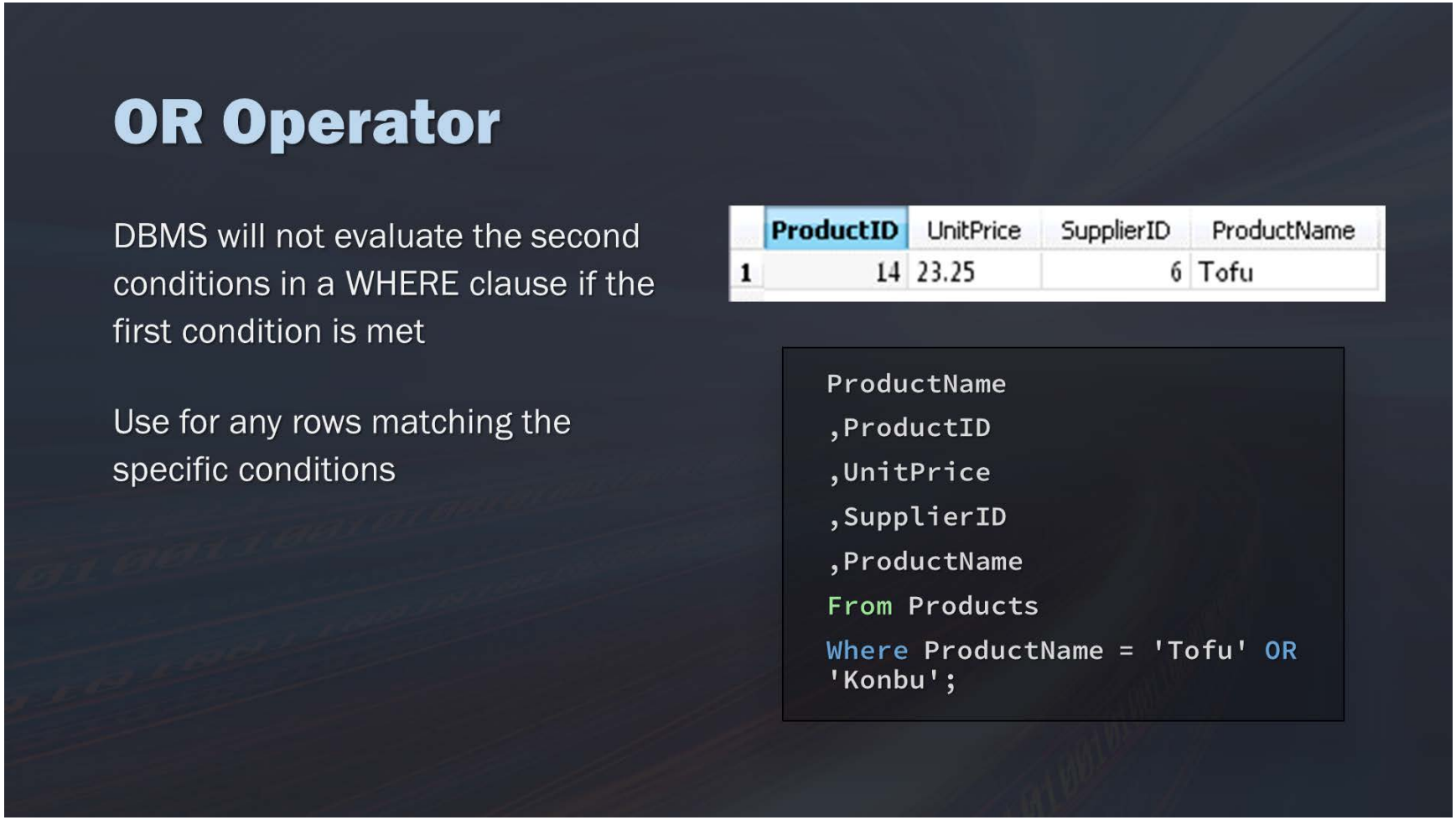
Slide 5: OR Operator



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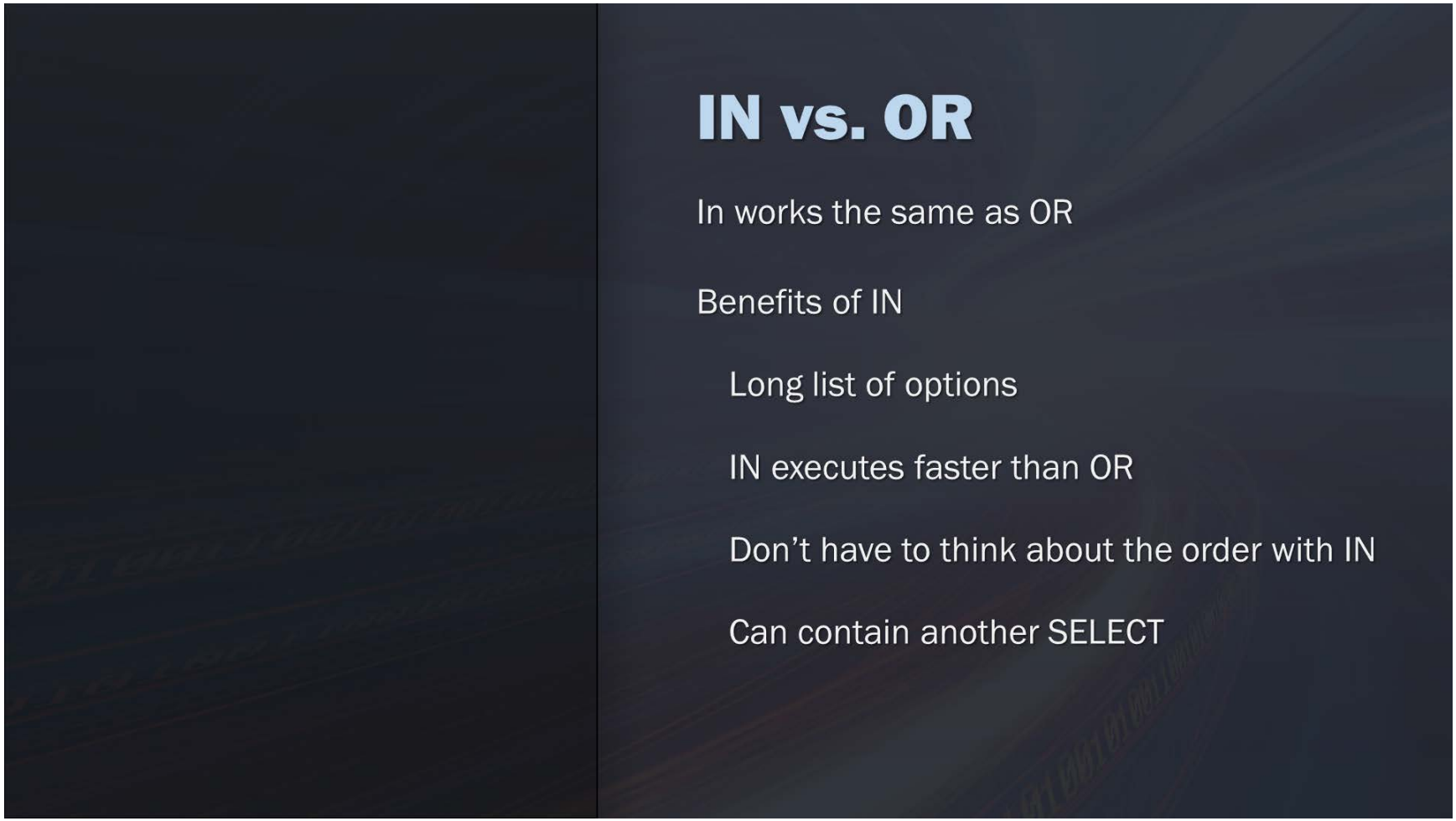
Slide 6: IN vs. OR



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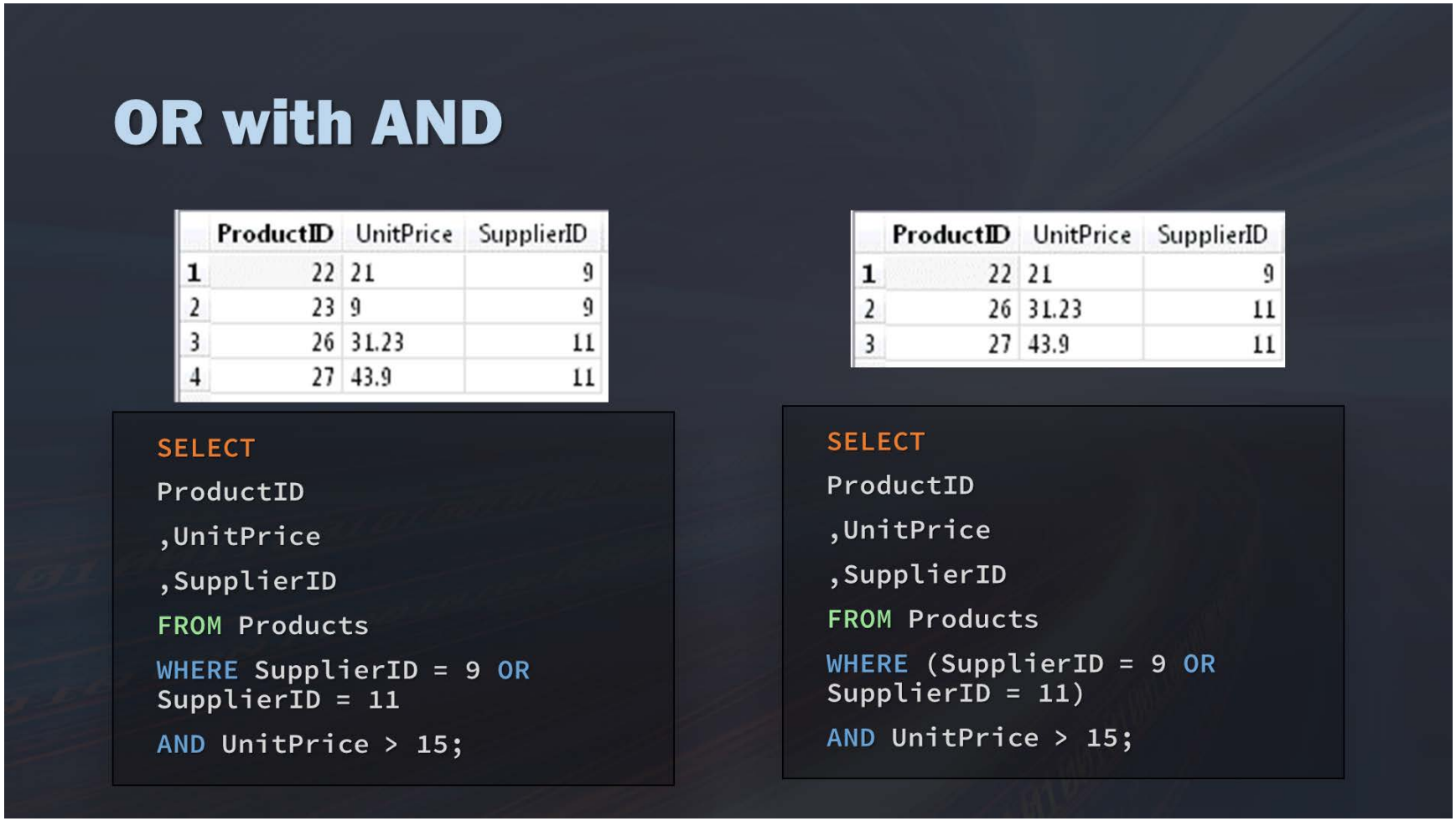
Slide 7: OR with AND



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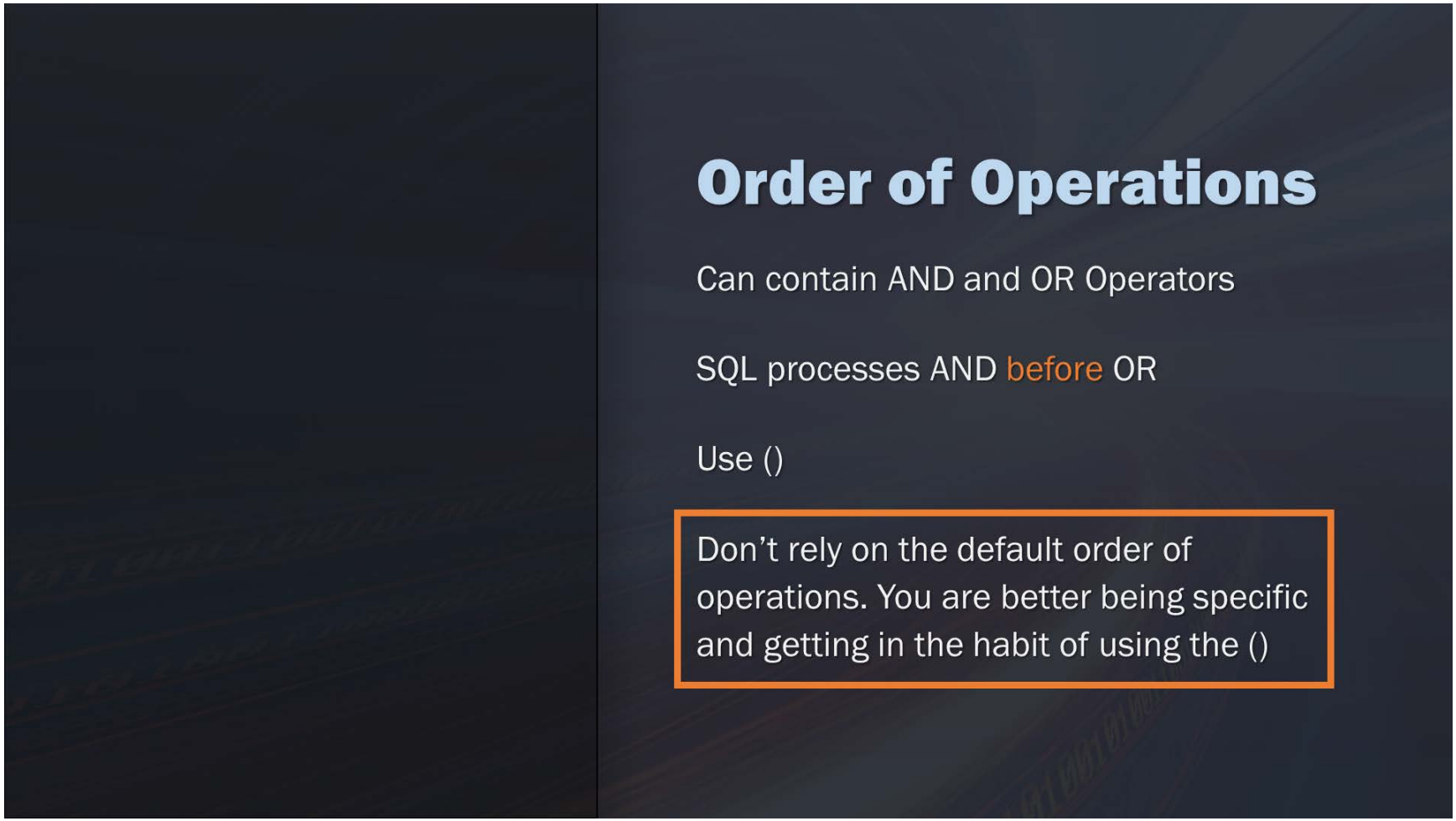
Slide 8: Order of Operations



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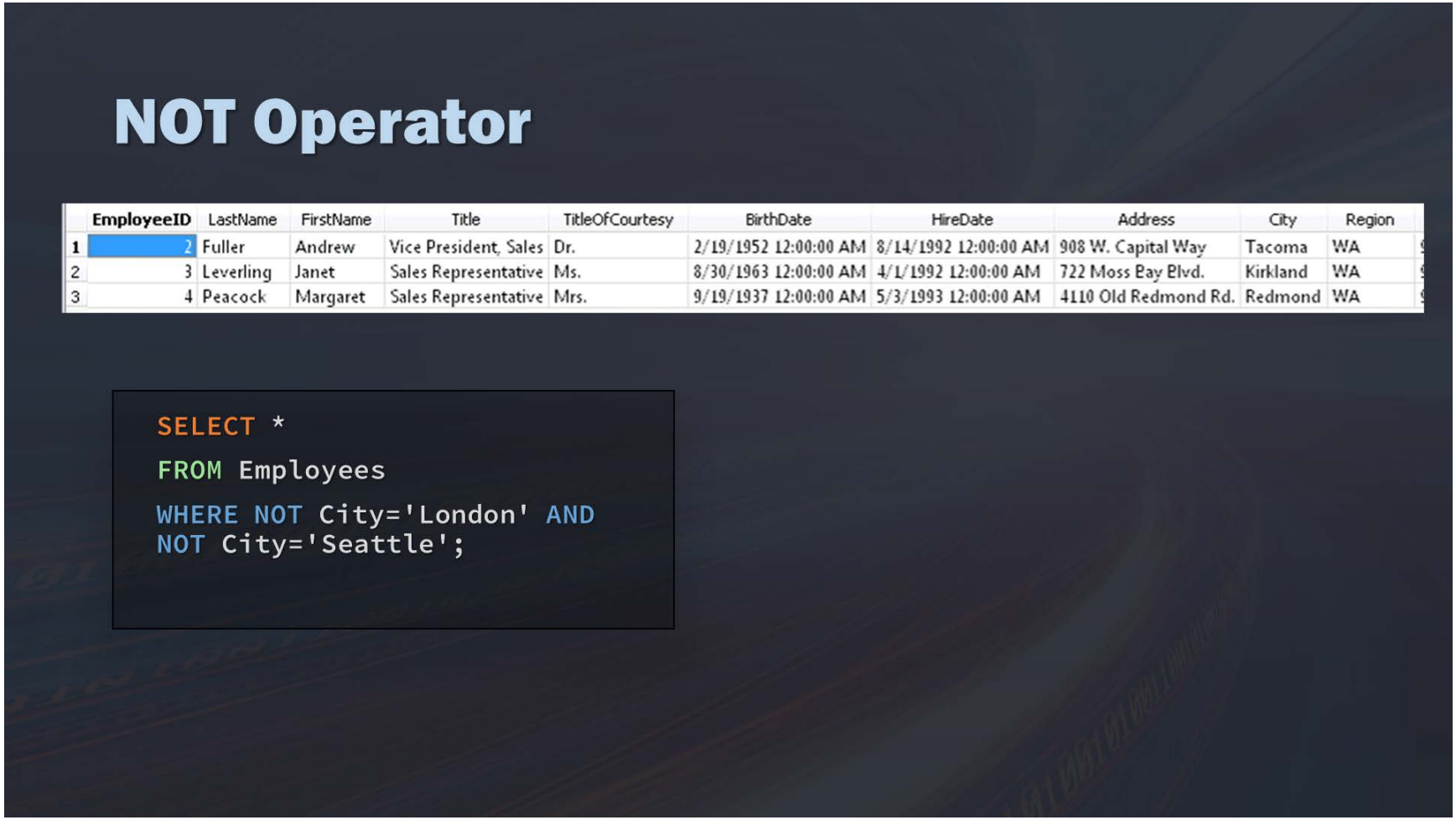
Slide 9: NOT Operator



	EmployeeID	LastName	FirstName	Title	TitleOfCourtesy	BirthDate	HireDate	Address	City	Region
1	2	Fuller	Andrew	Vice President, Sales	Dr.	2/19/1952 12:00:00 AM	8/14/1992 12:00:00 AM	908 W. Capital Way	Tacoma	WA
2	3	Leverling	Janet	Sales Representative	Ms.	8/30/1963 12:00:00 AM	4/1/1992 12:00:00 AM	722 Moss Bay Blvd.	Kirkland	WA
3	4	Peacock	Margaret	Sales Representative	Mrs.	9/19/1937 12:00:00 AM	5/3/1993 12:00:00 AM	4110 Old Redmond Rd.	Redmond	WA

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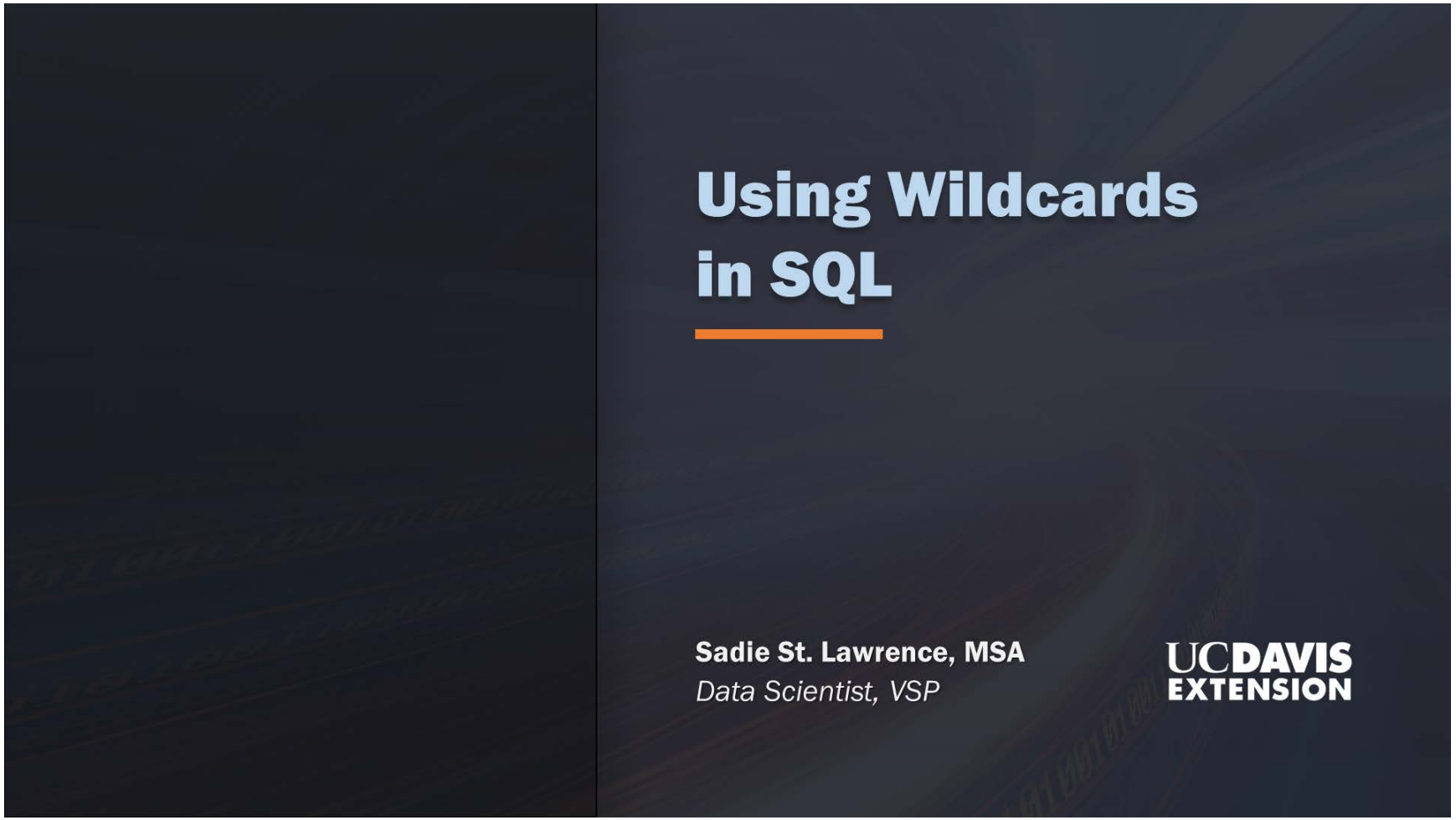
Slide 1: Using Wildcards in SQL



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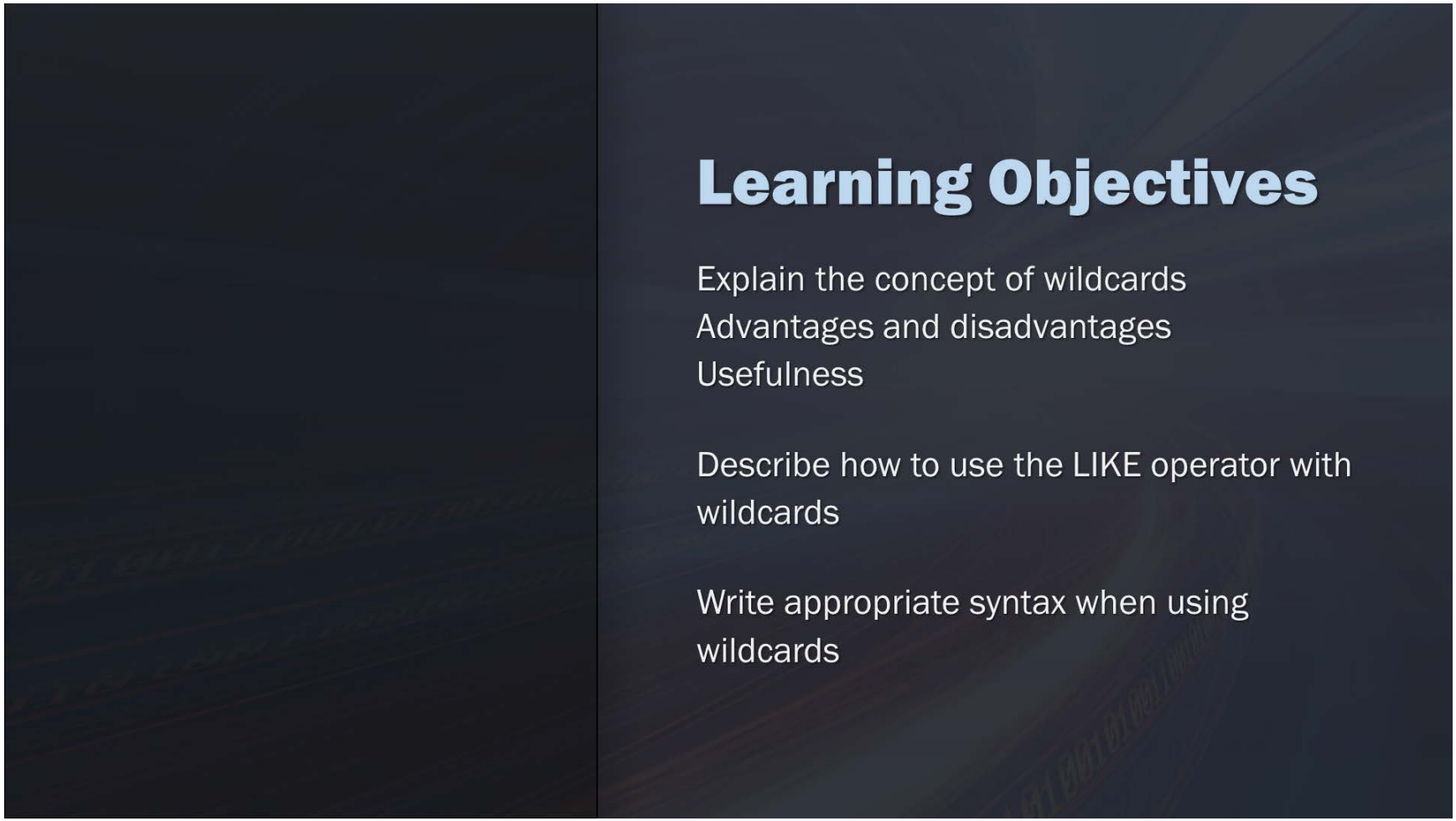
Slide 2: Learning Objectives



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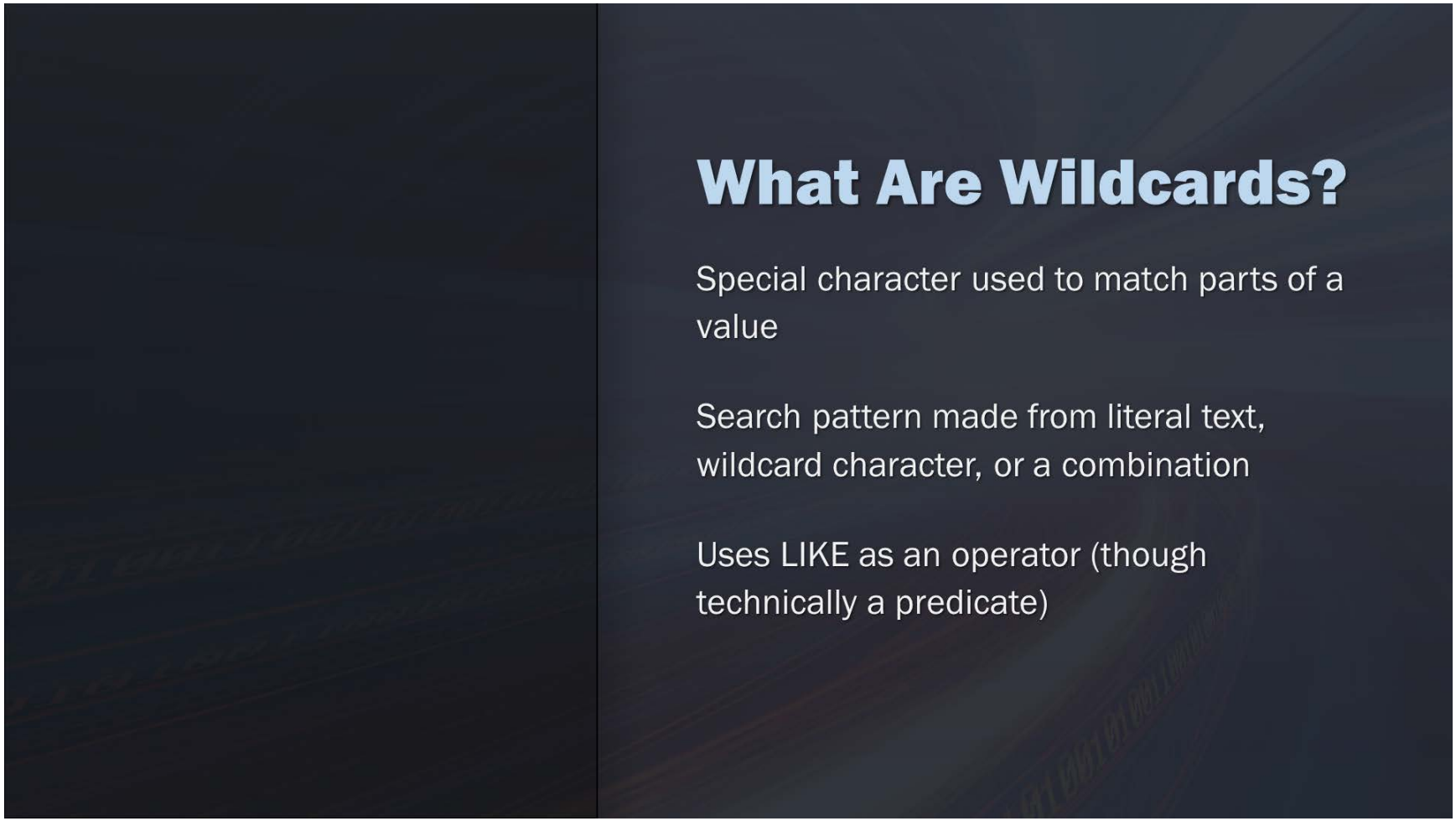
Slide 3: What Are Wildcards?



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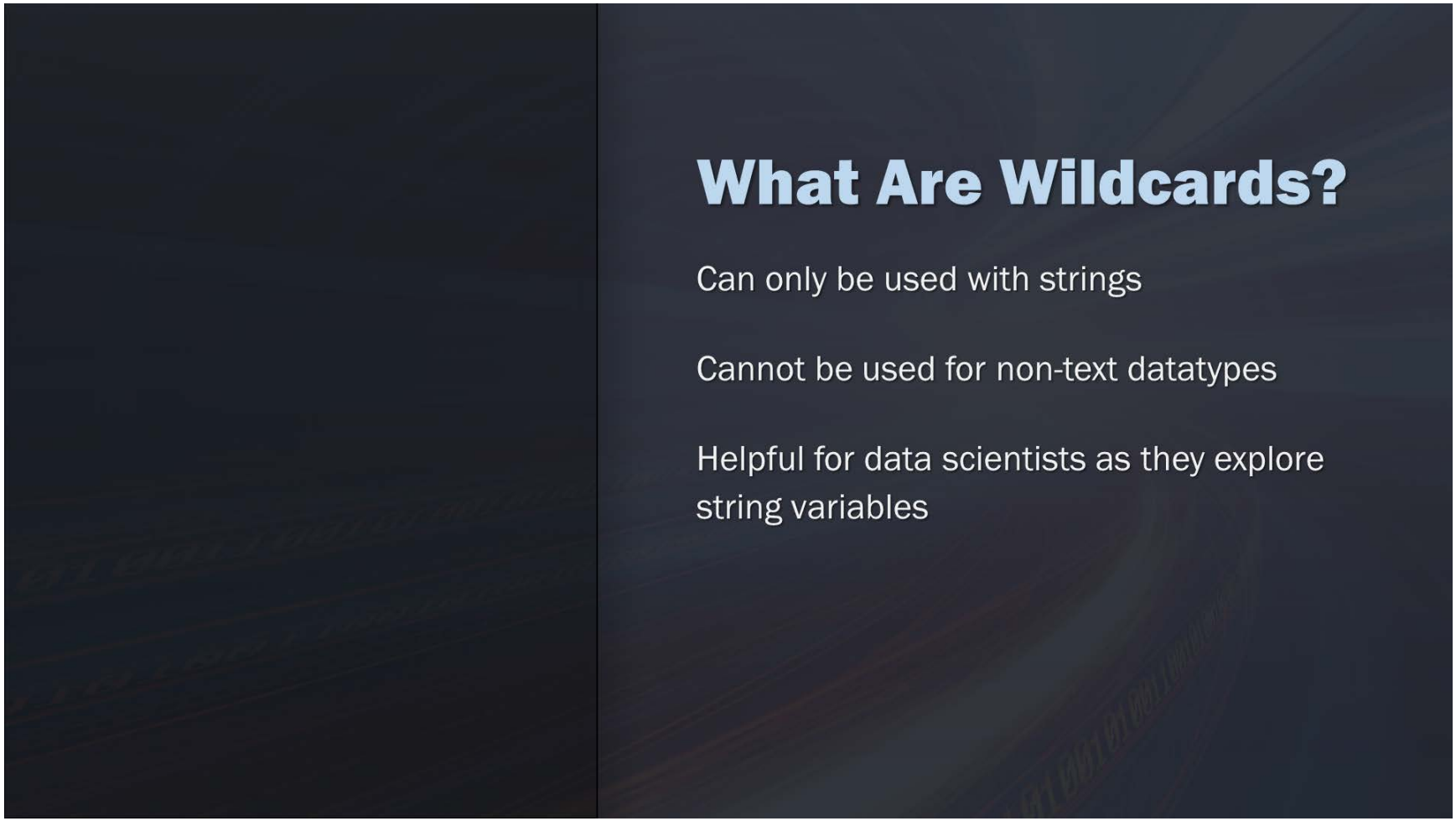
Slide 4: What Are Wildcards?



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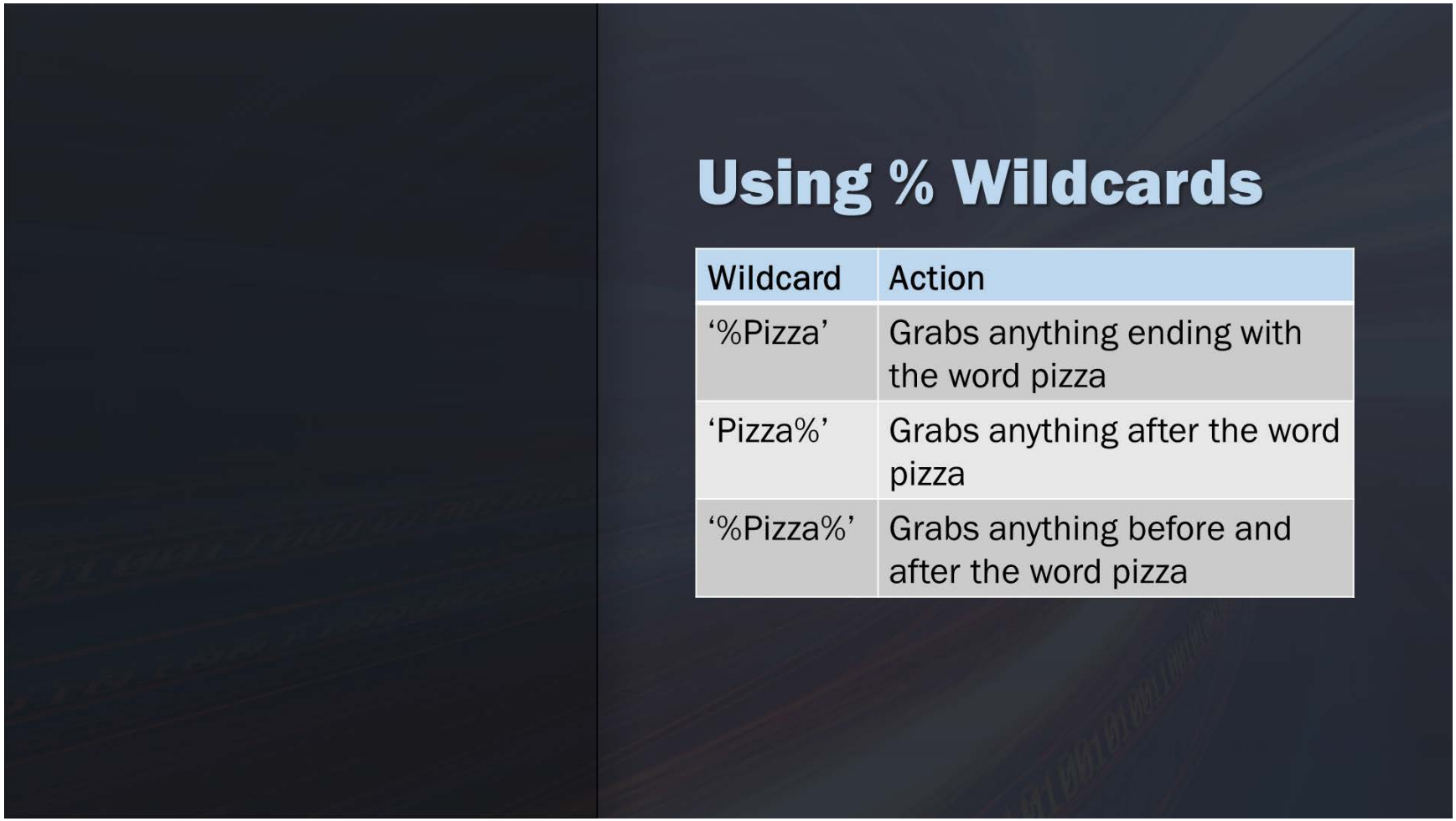
Slide 5: Using % Wildcards



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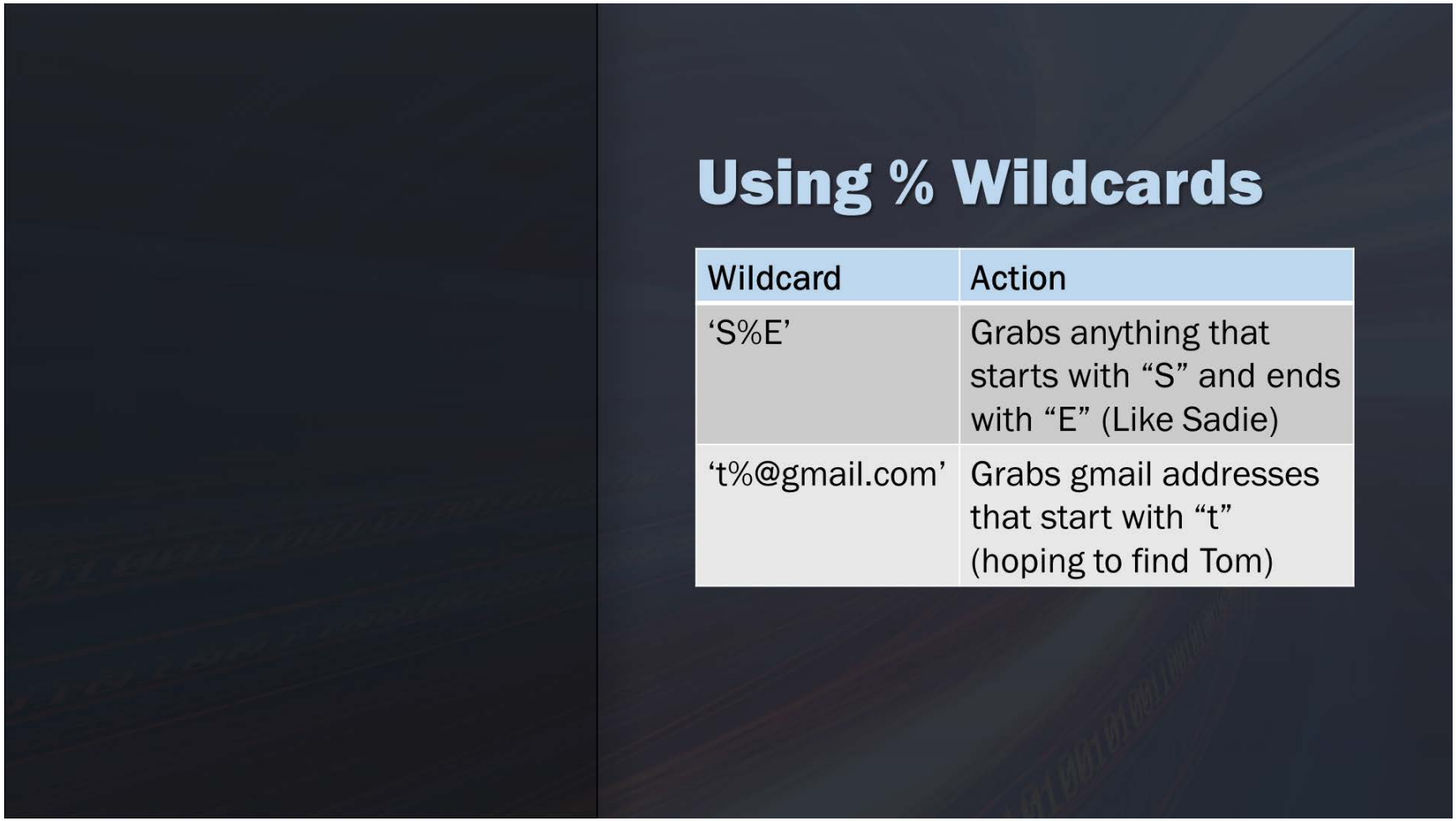
Slide 6: Using % Wildcards



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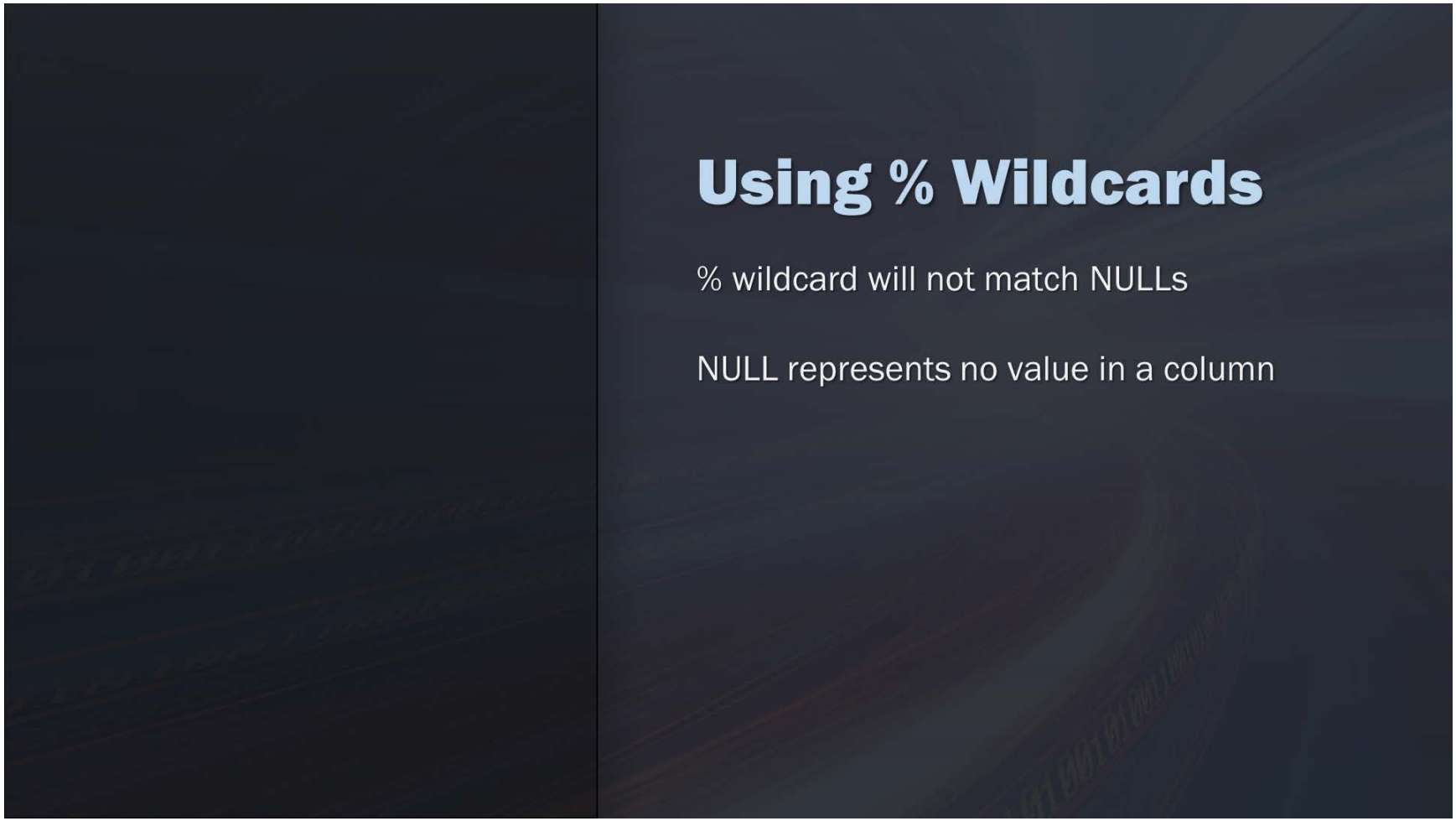
Slide 7: Using % Wildcards



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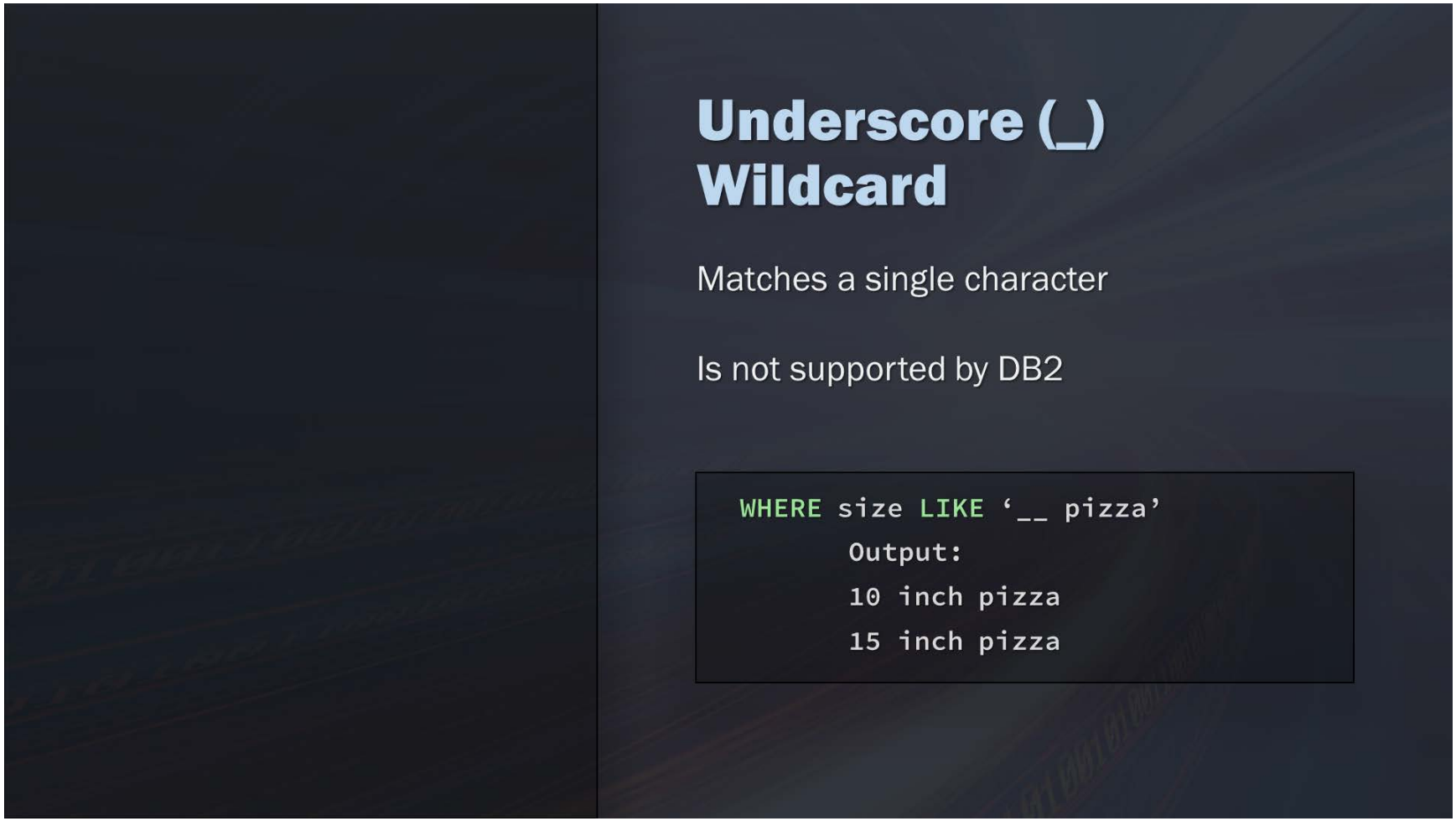
Slide 8: Underscre (_) Wildcard



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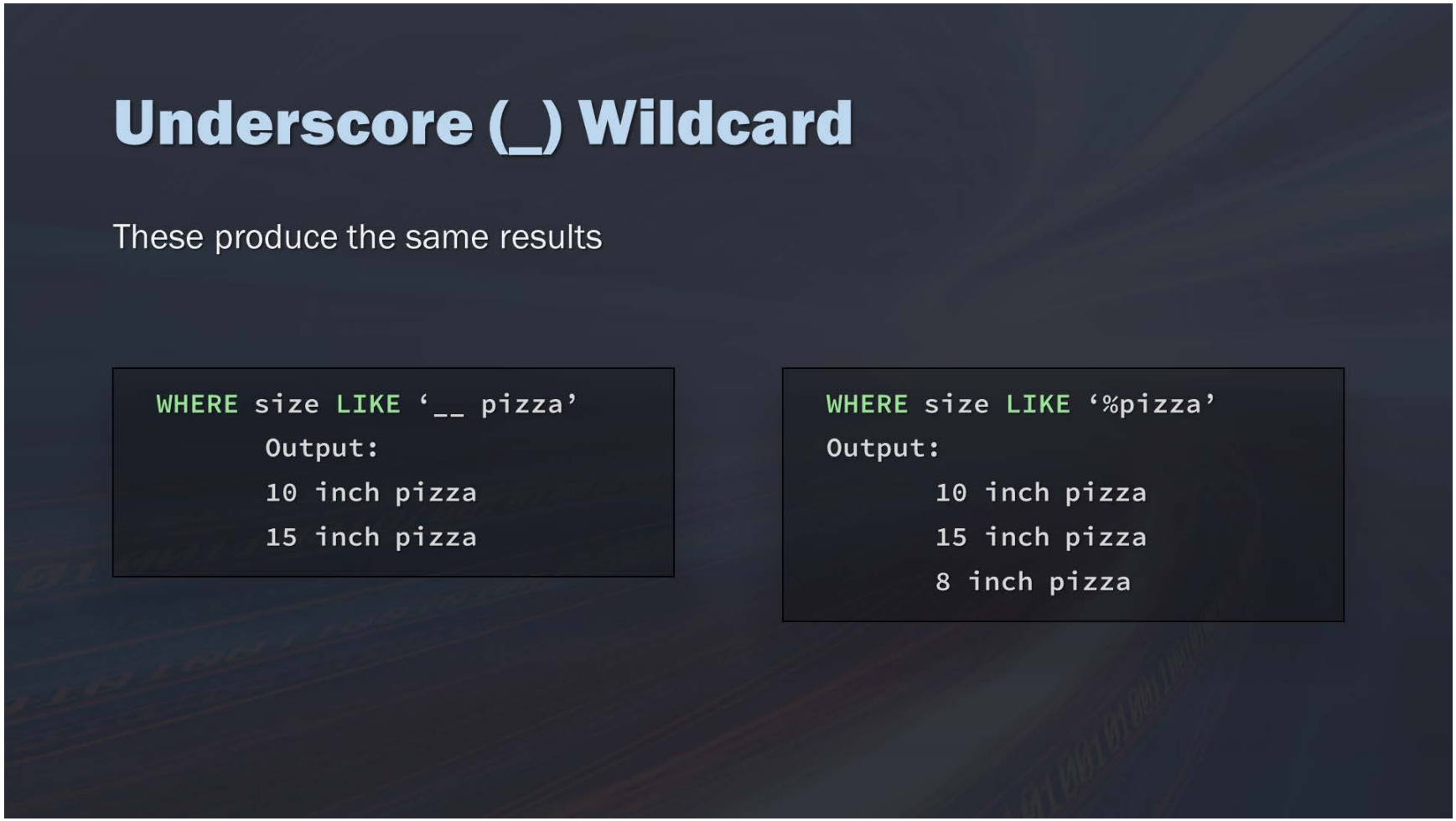
Slide 9: Underscre (_) Wildcard



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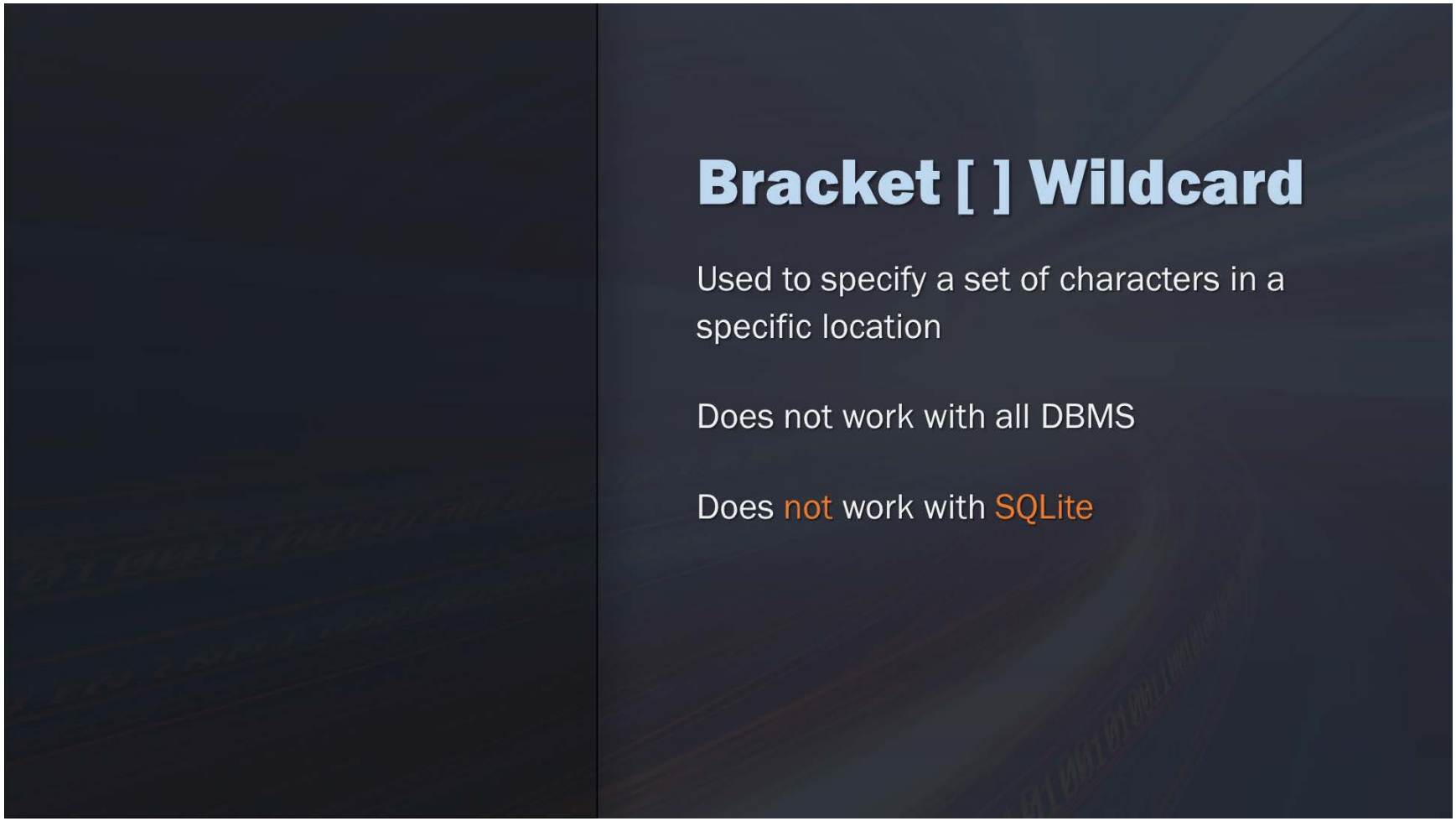
Slide 10: Bracket [ ] Wildcard



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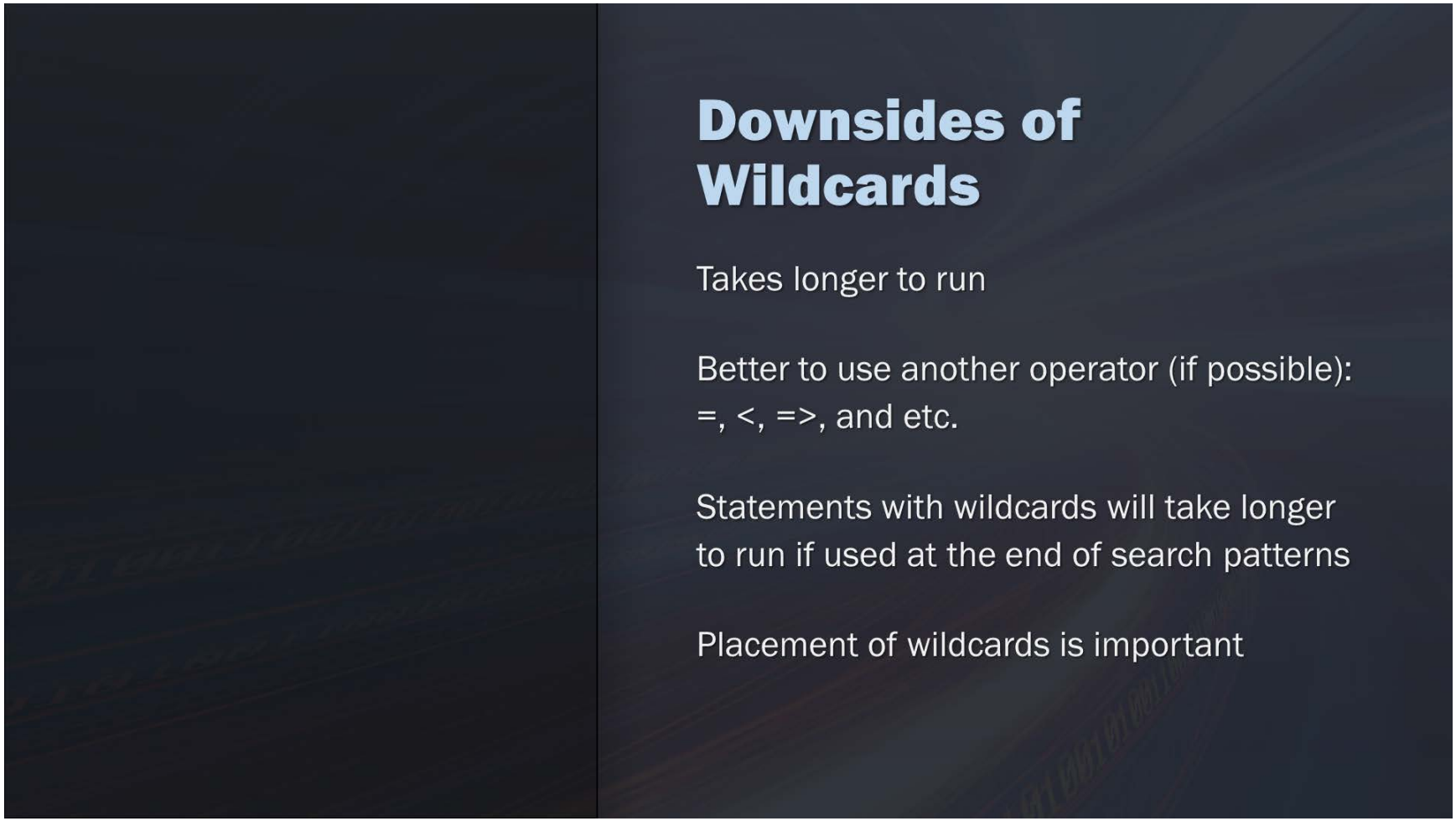
Slide 11: Downsides of Wildcards



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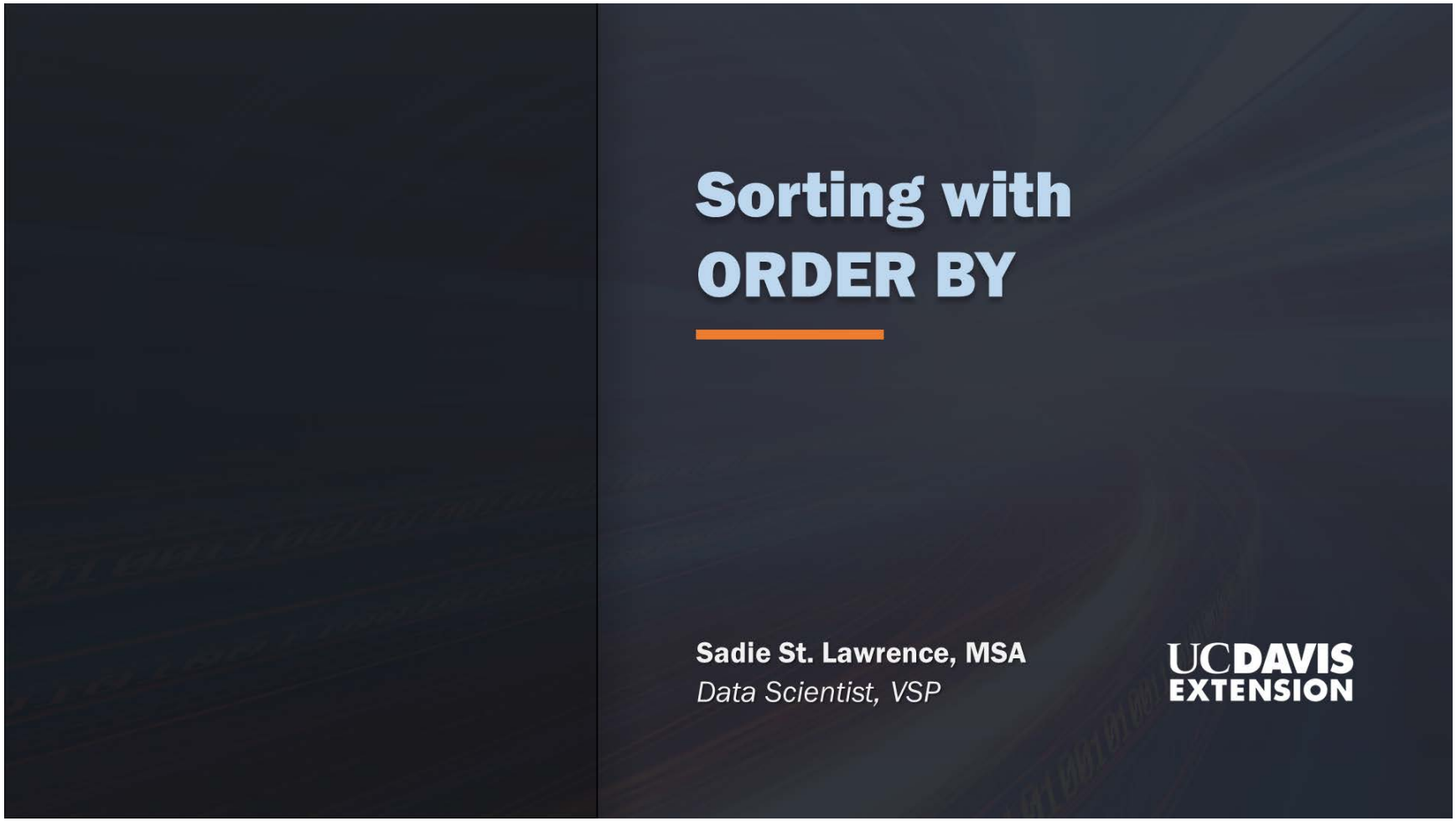
Slide 1: Sorting with ORDER BY



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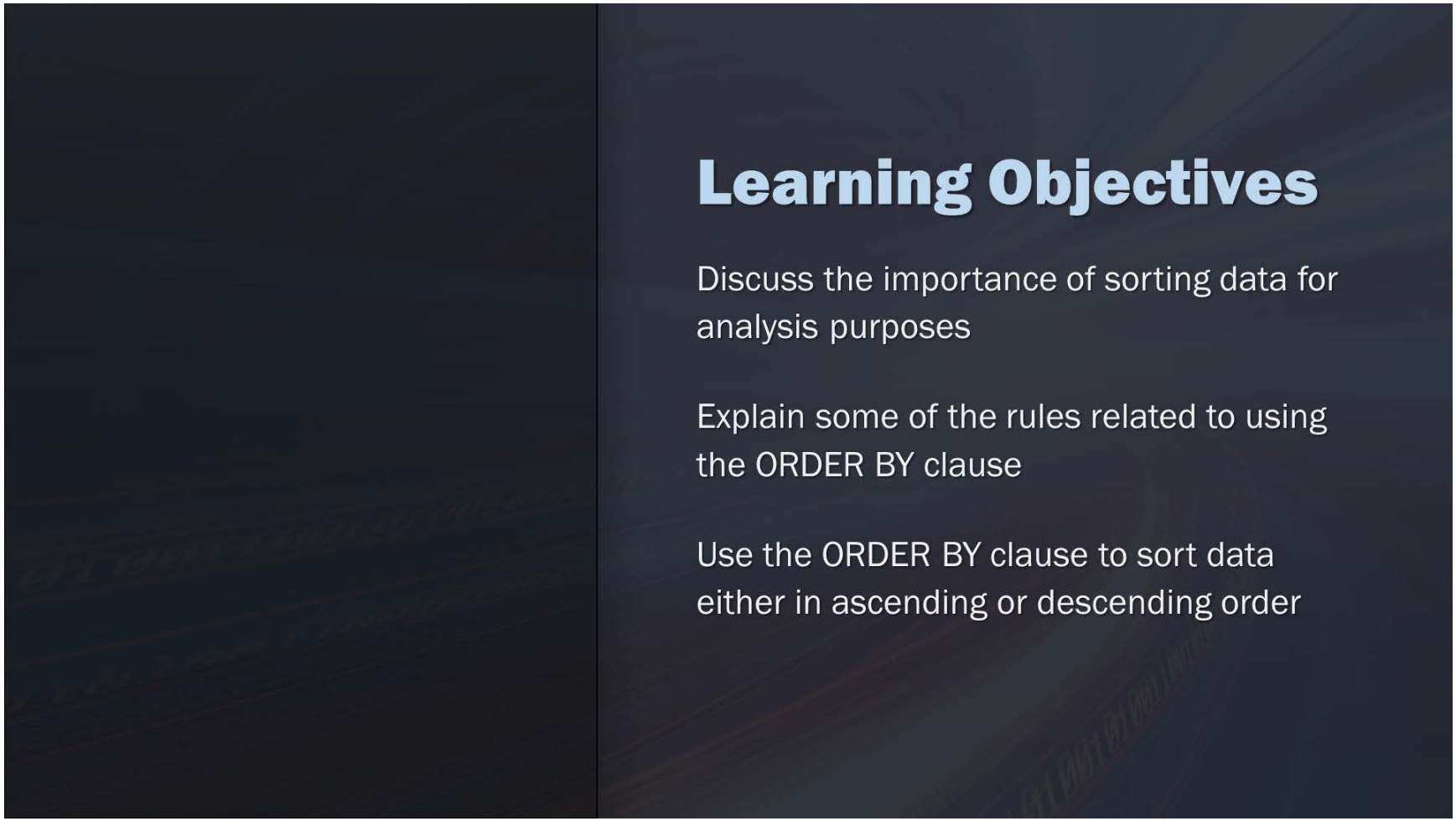
Slide 2: Learning Objectives



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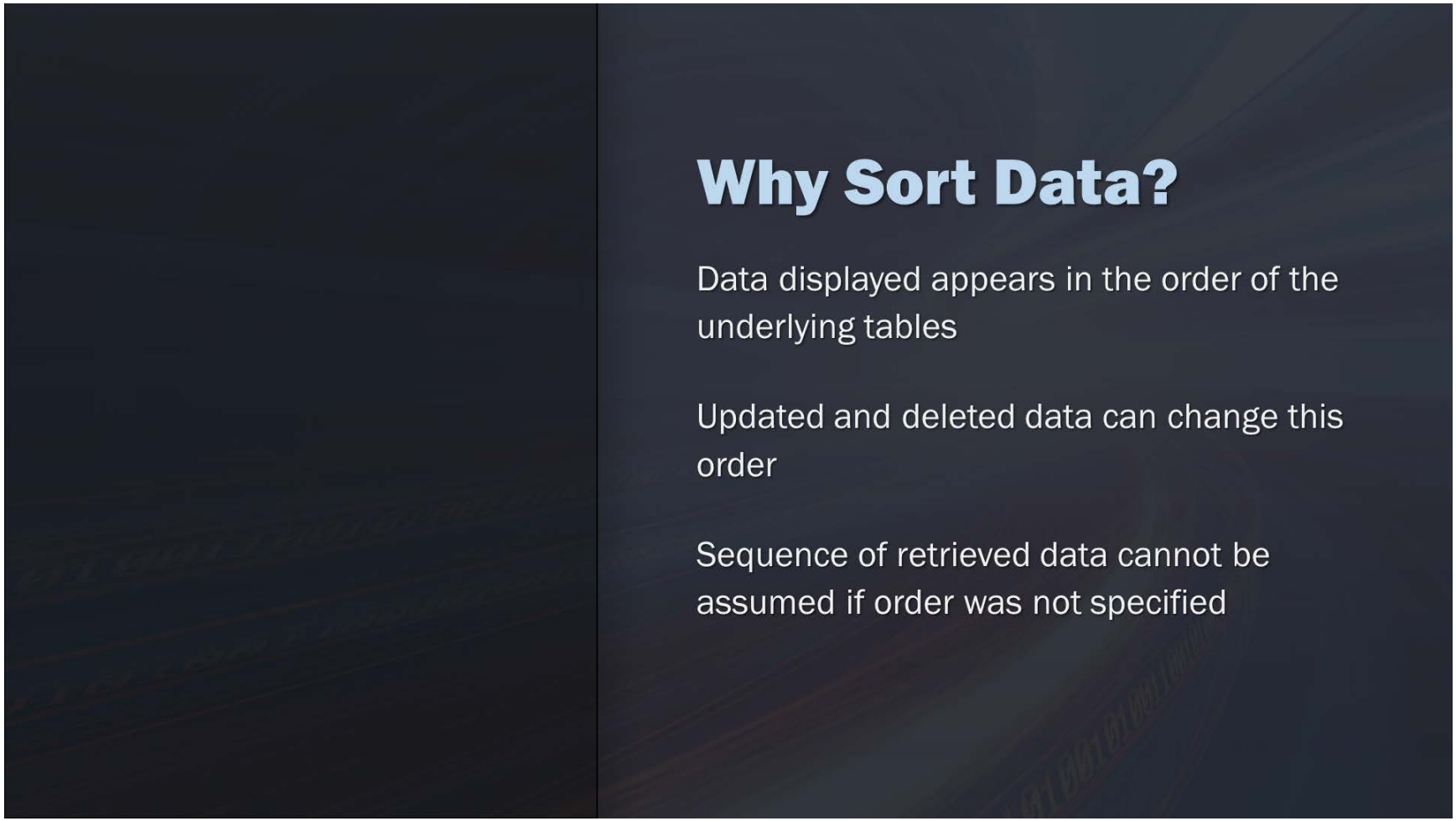
Slide 3: Why Sort Data?



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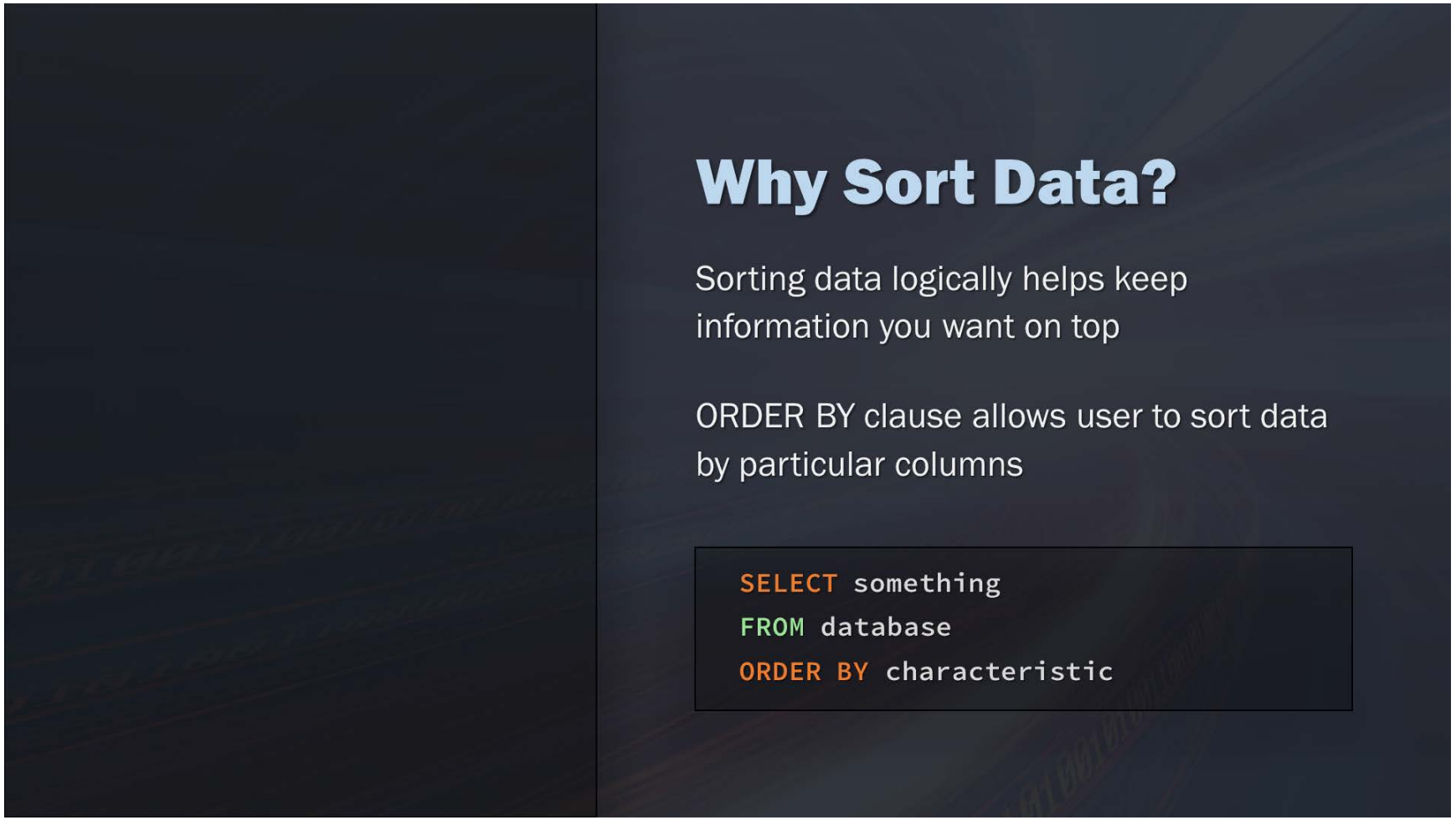
Slide 4: Why Sort Data?



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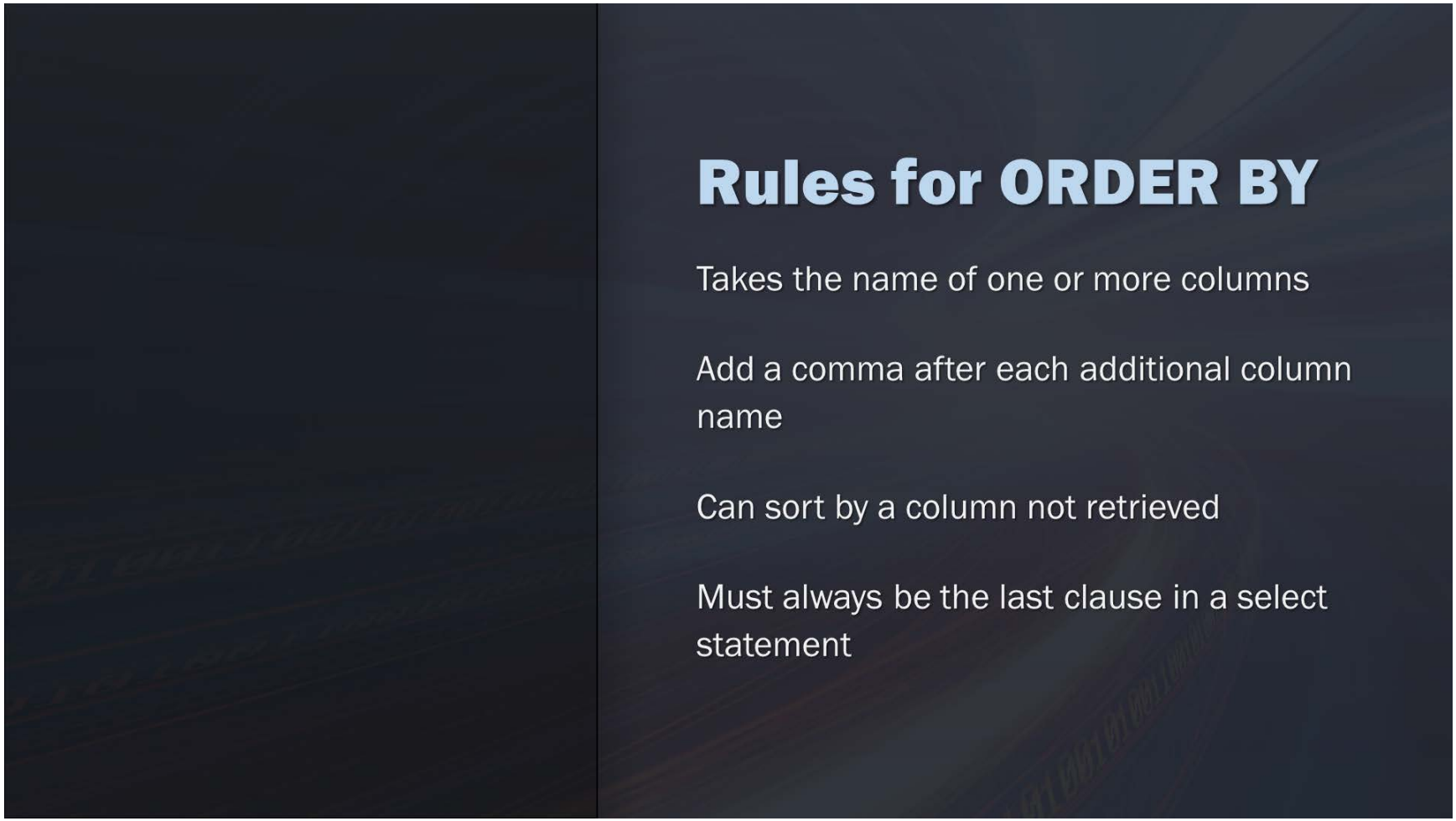
Slide 5: Rules for ORDER BY



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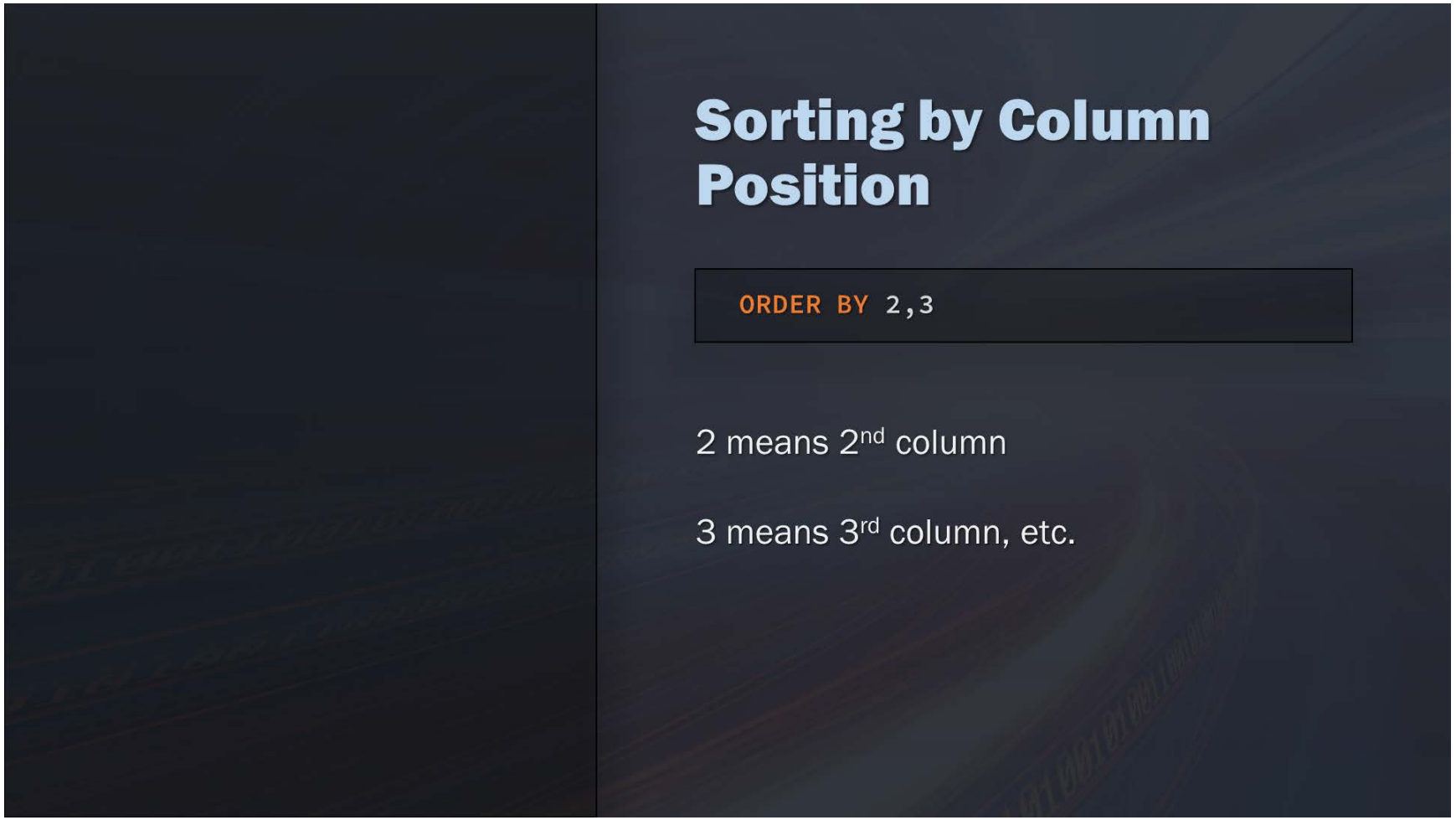
Slide 6: Sorting by Column Position



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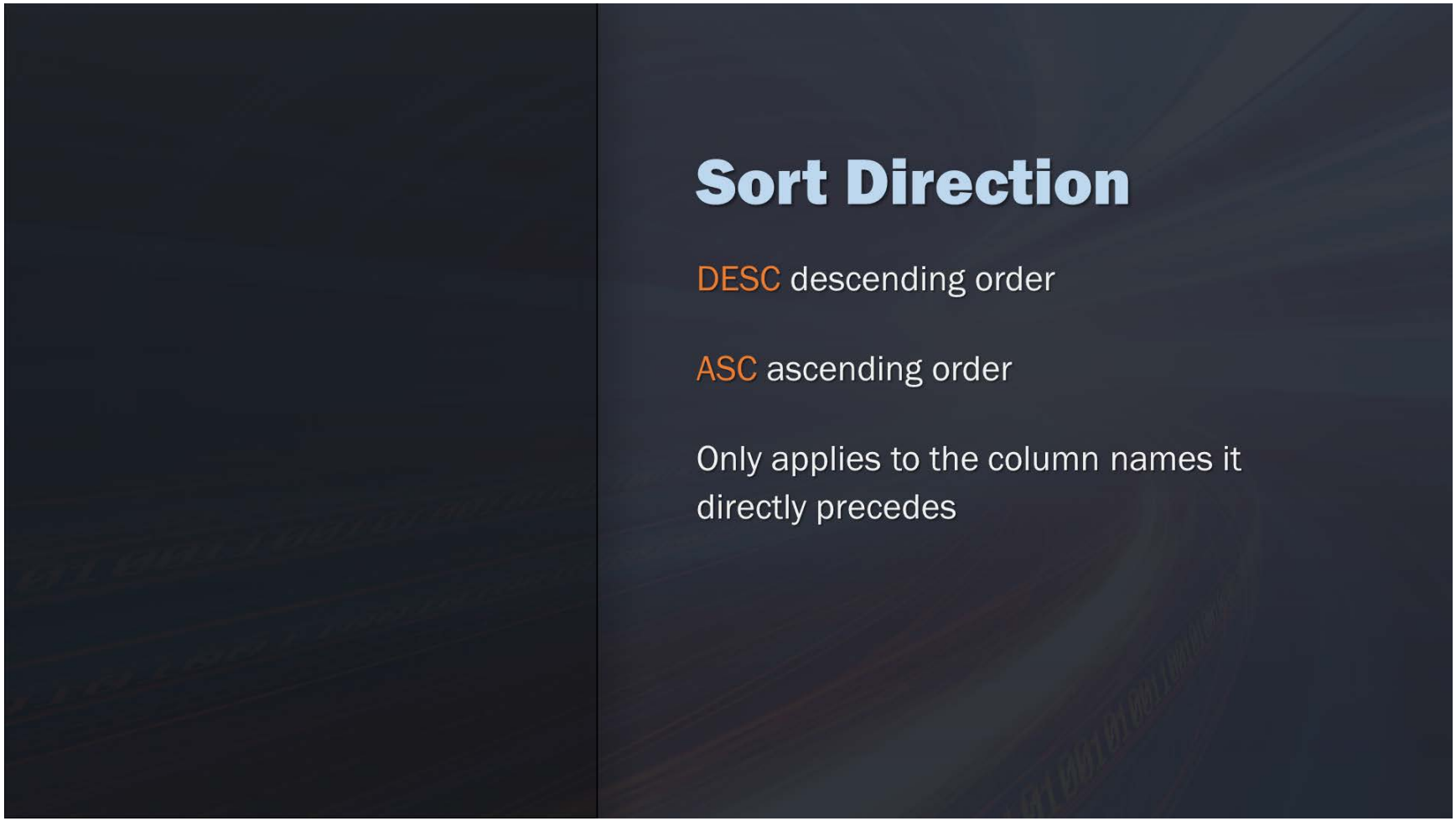
Slide 7: Sort Direction



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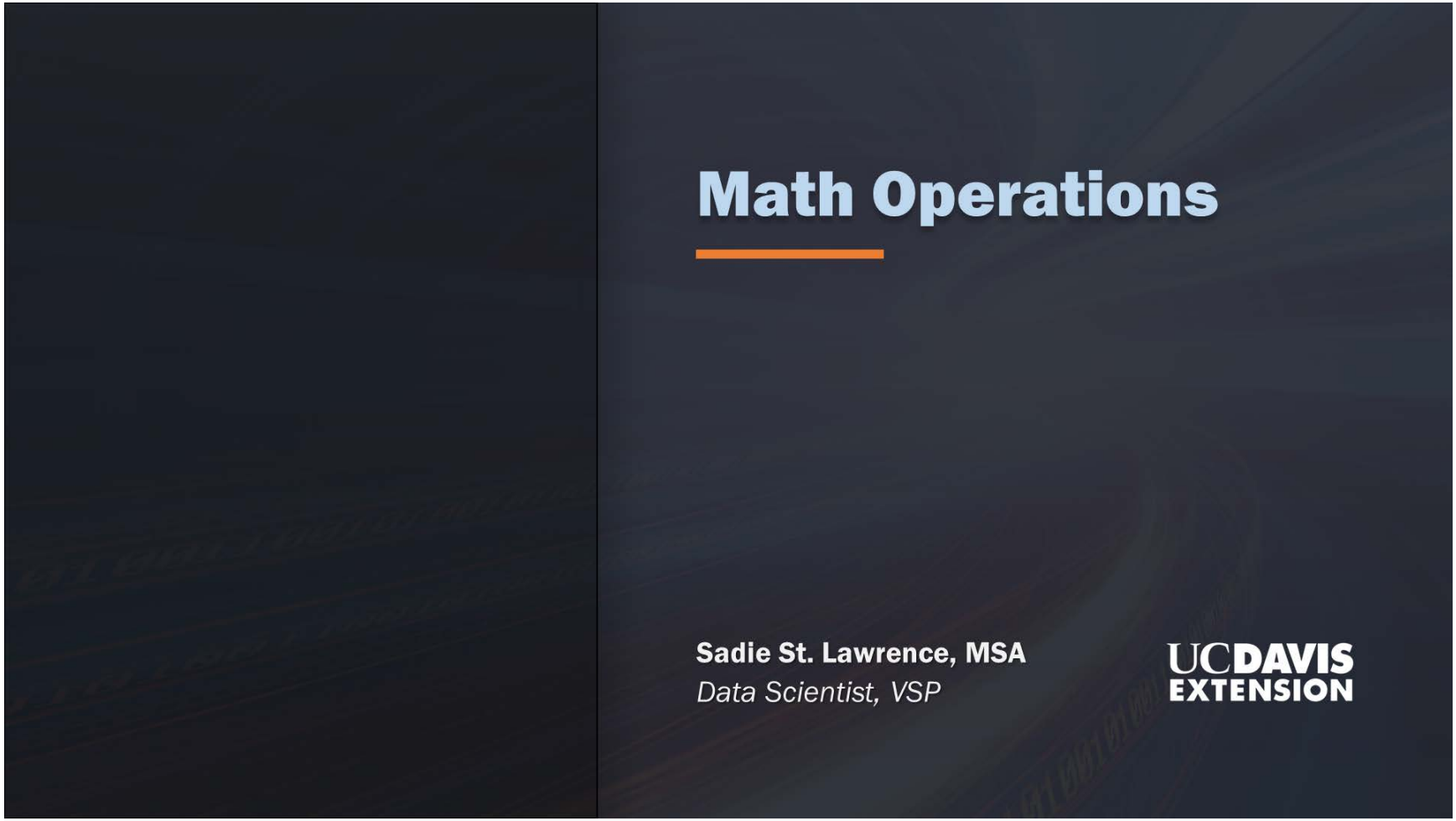
Slide 1: Math Operations



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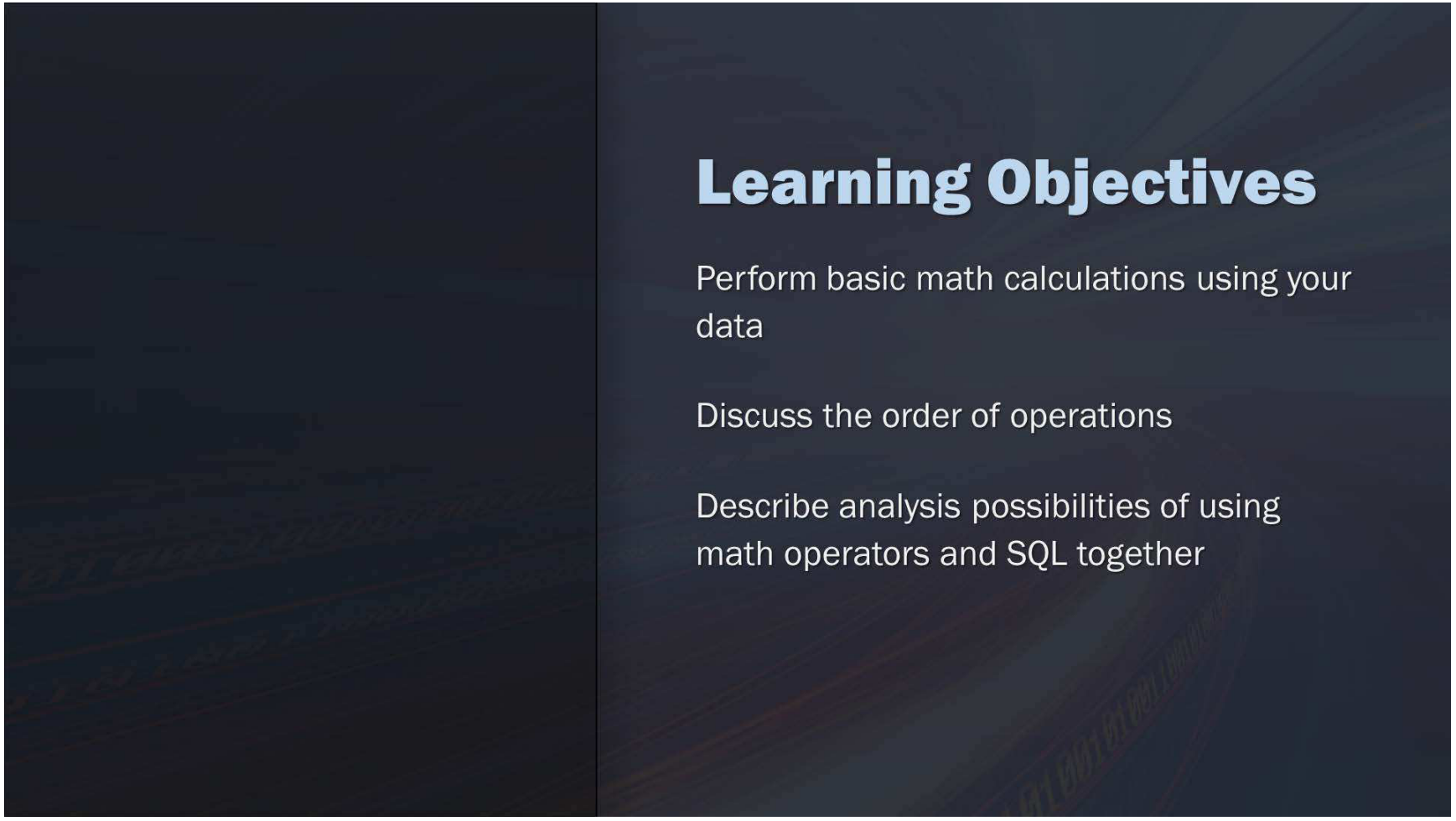
Slide 2: Learning Objectives



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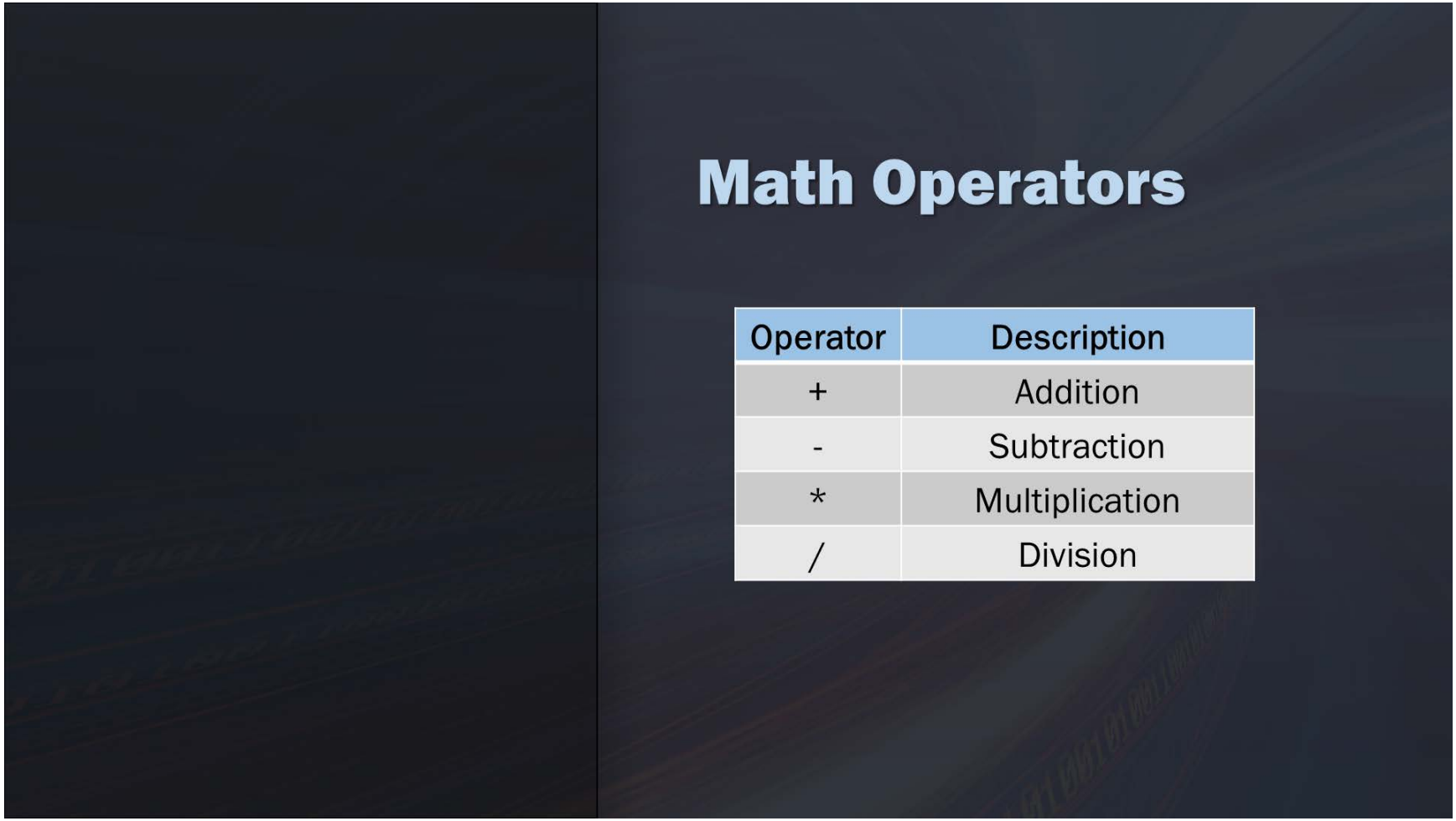
Slide 3: Math Operators



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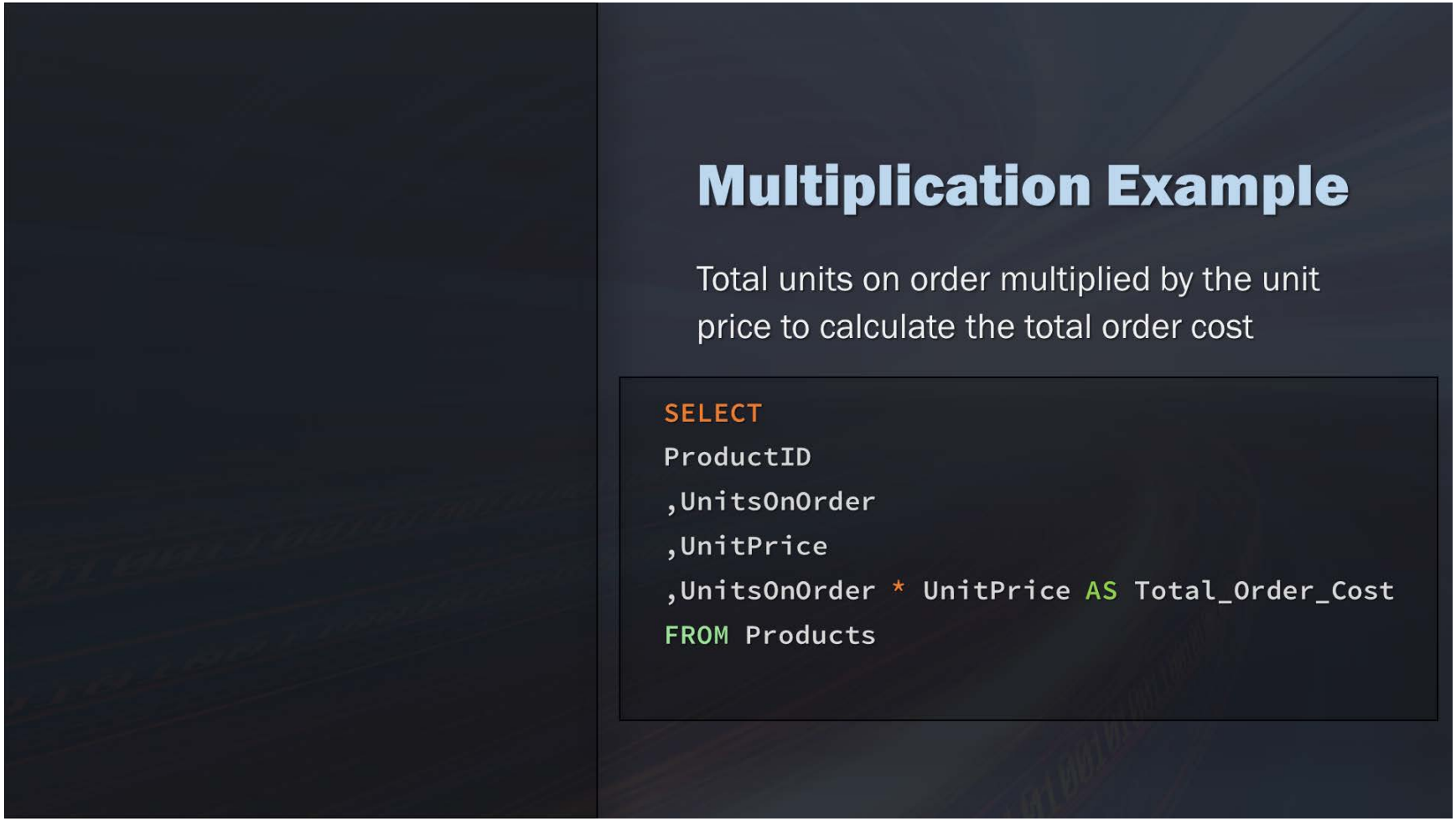
Slide 4: Multiplication Example



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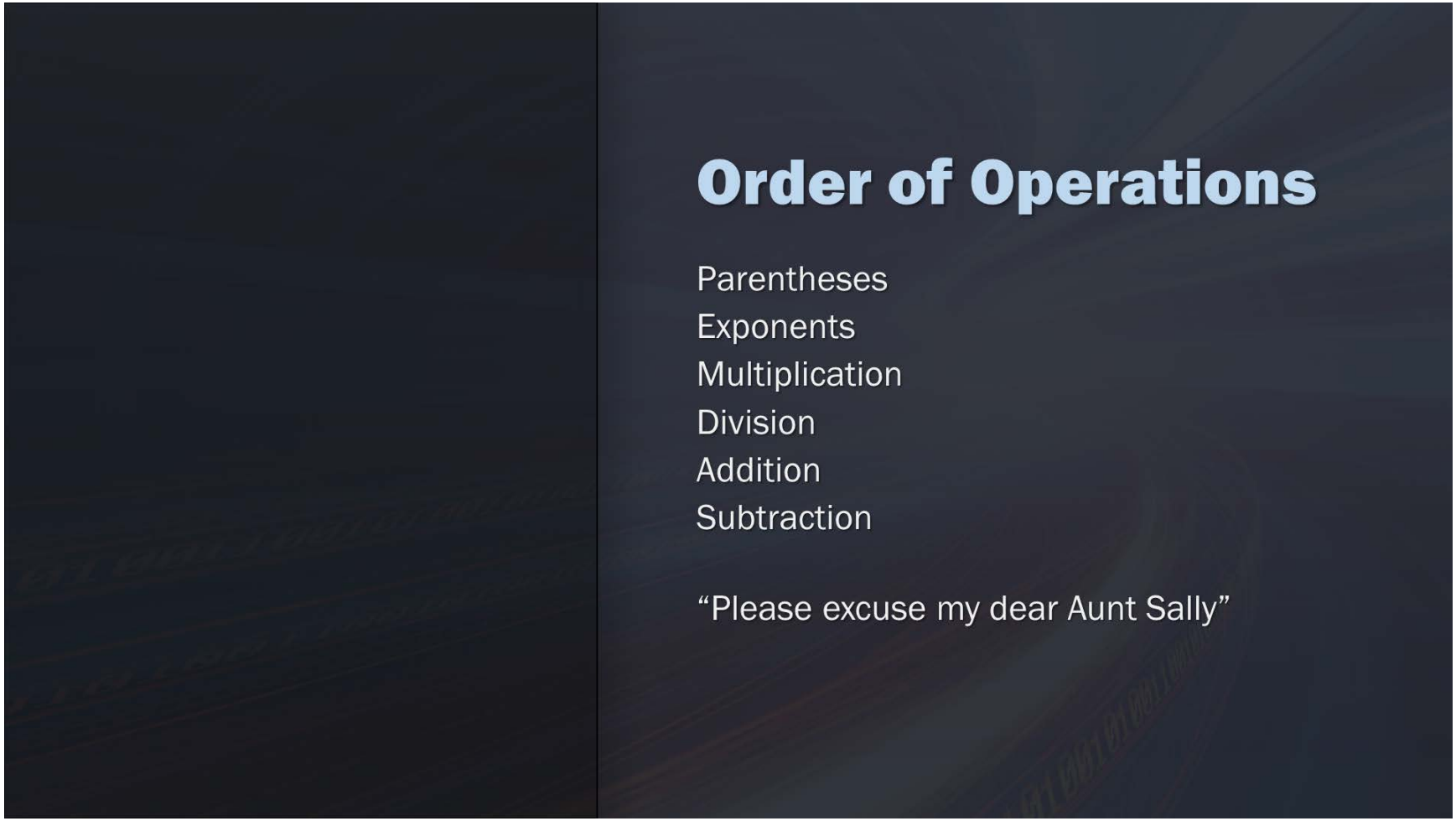
Slide 5: Order of Operations



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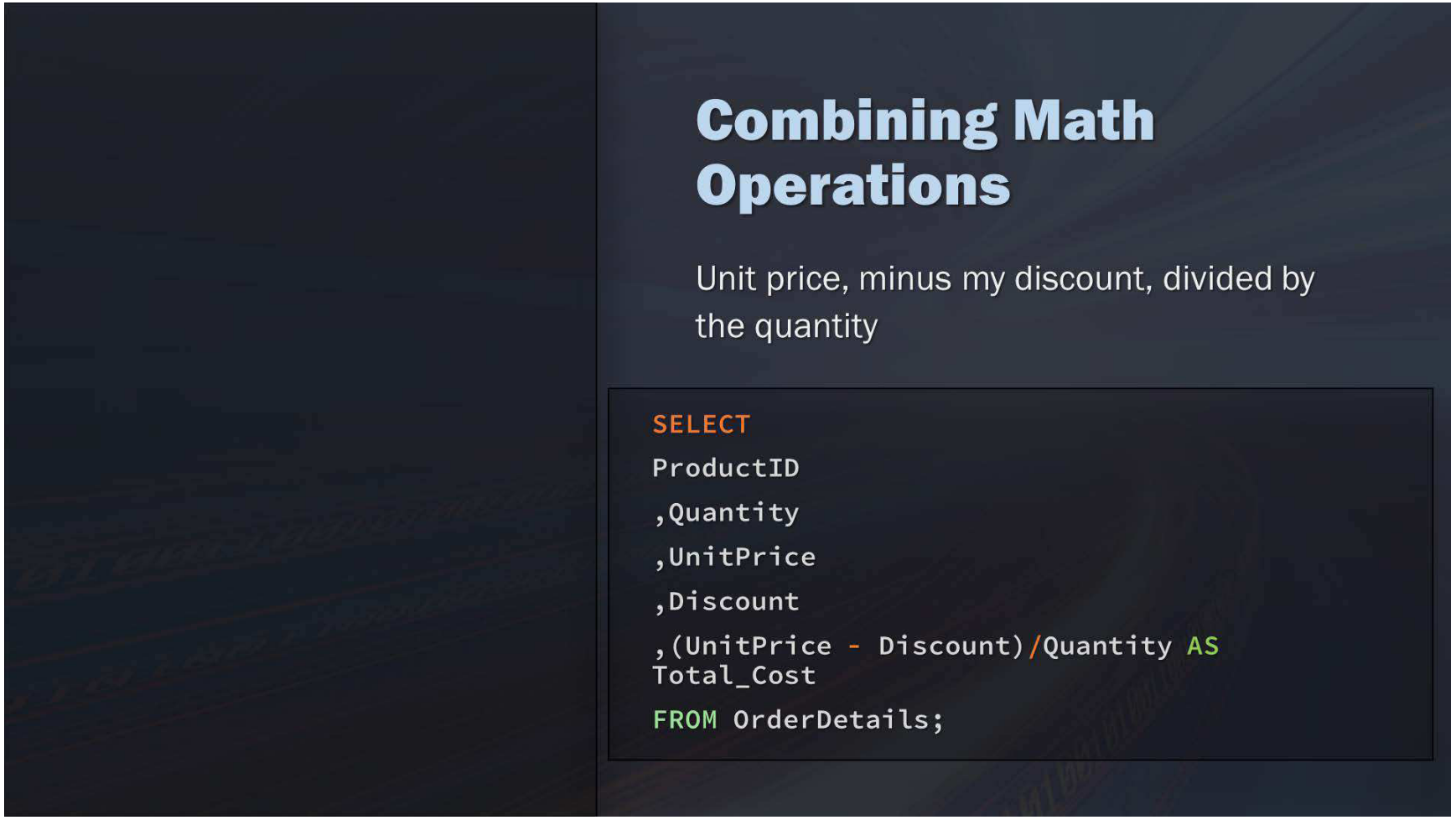
Slide 6: Combining Math Operations



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Slide 1: Aggregate Functions

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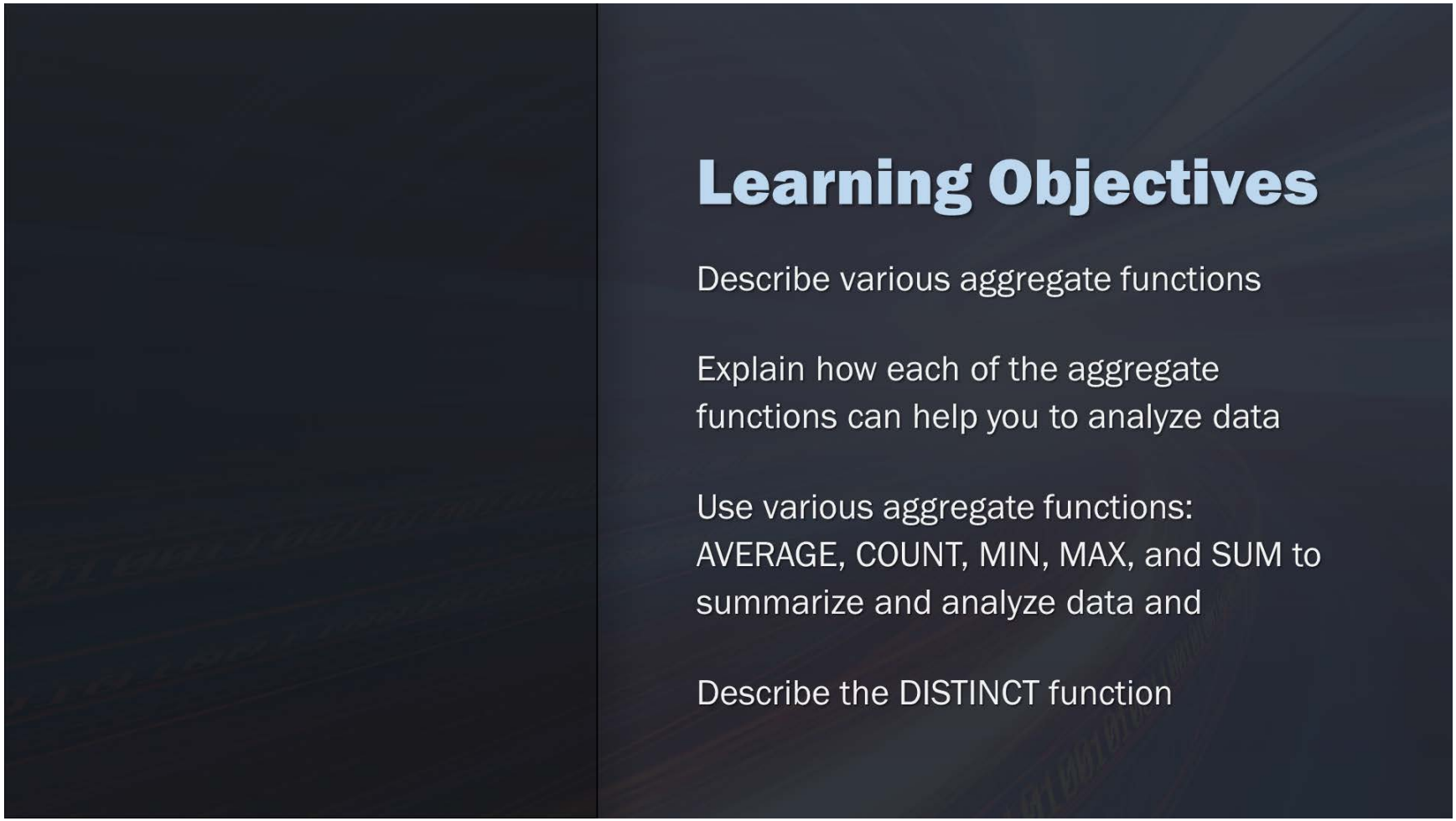
Slide 2: Learning Objectives



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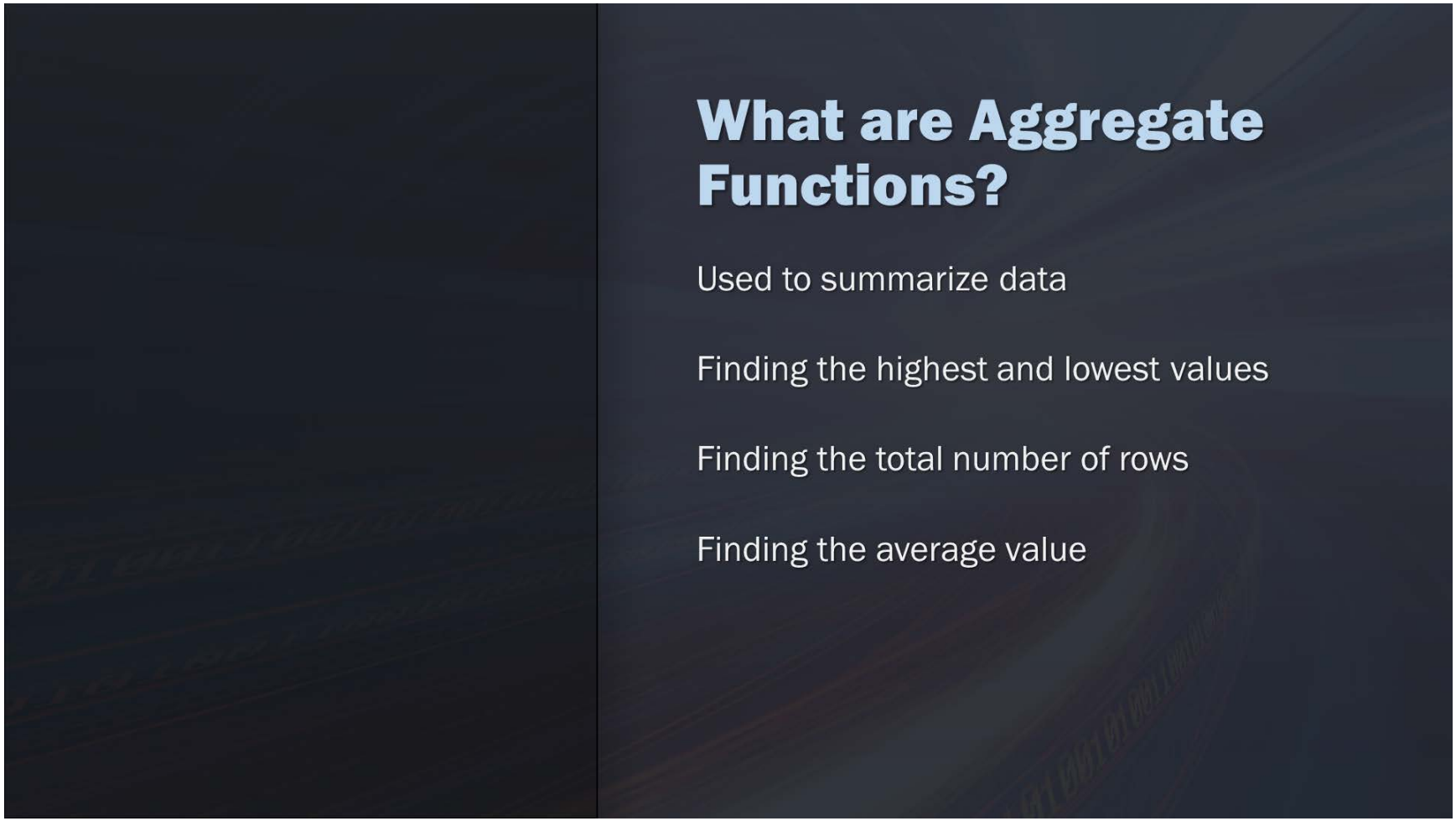
Slide 3: What are Aggregate Functions?



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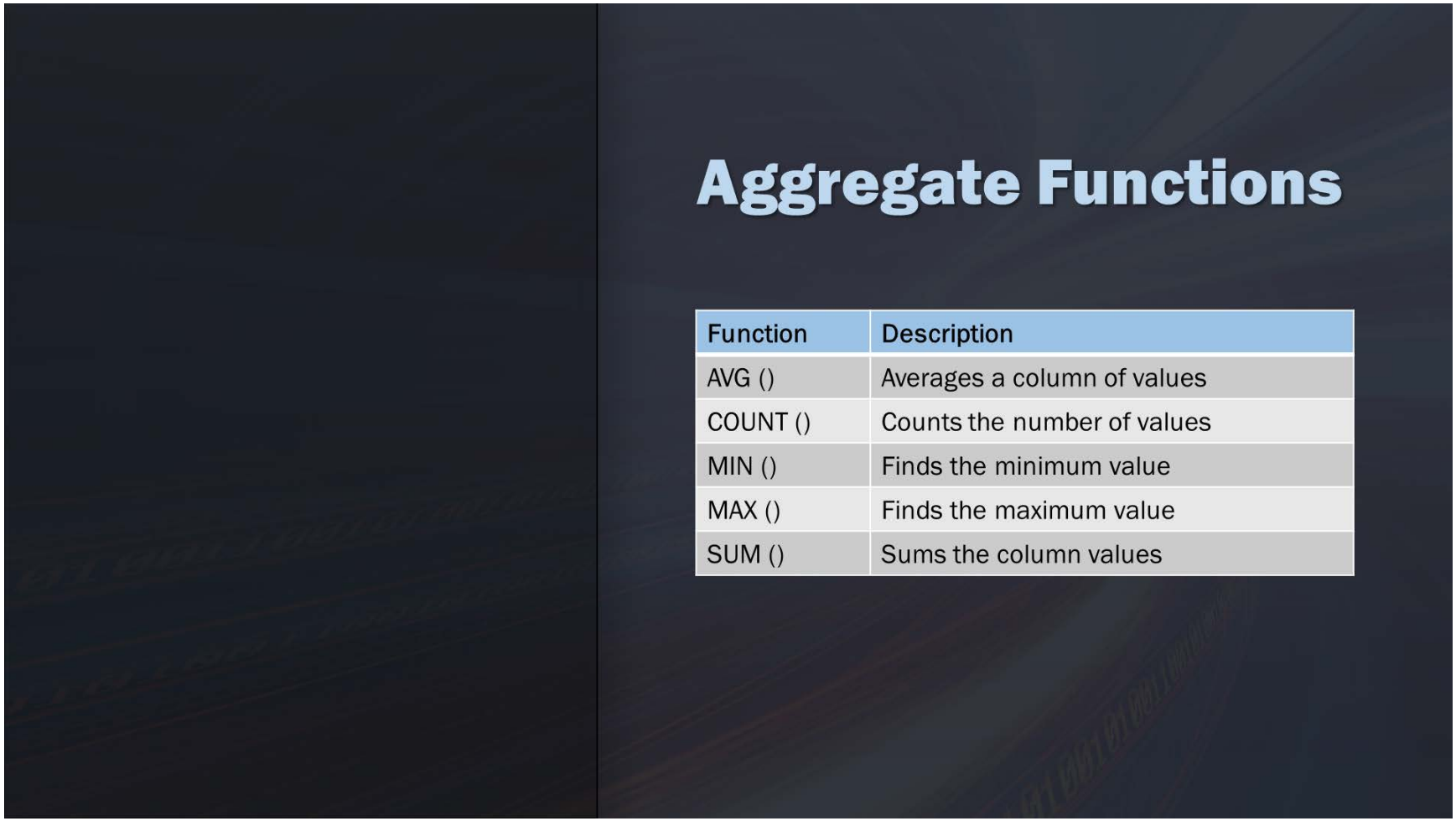
Slide 4: Aggregate Functions



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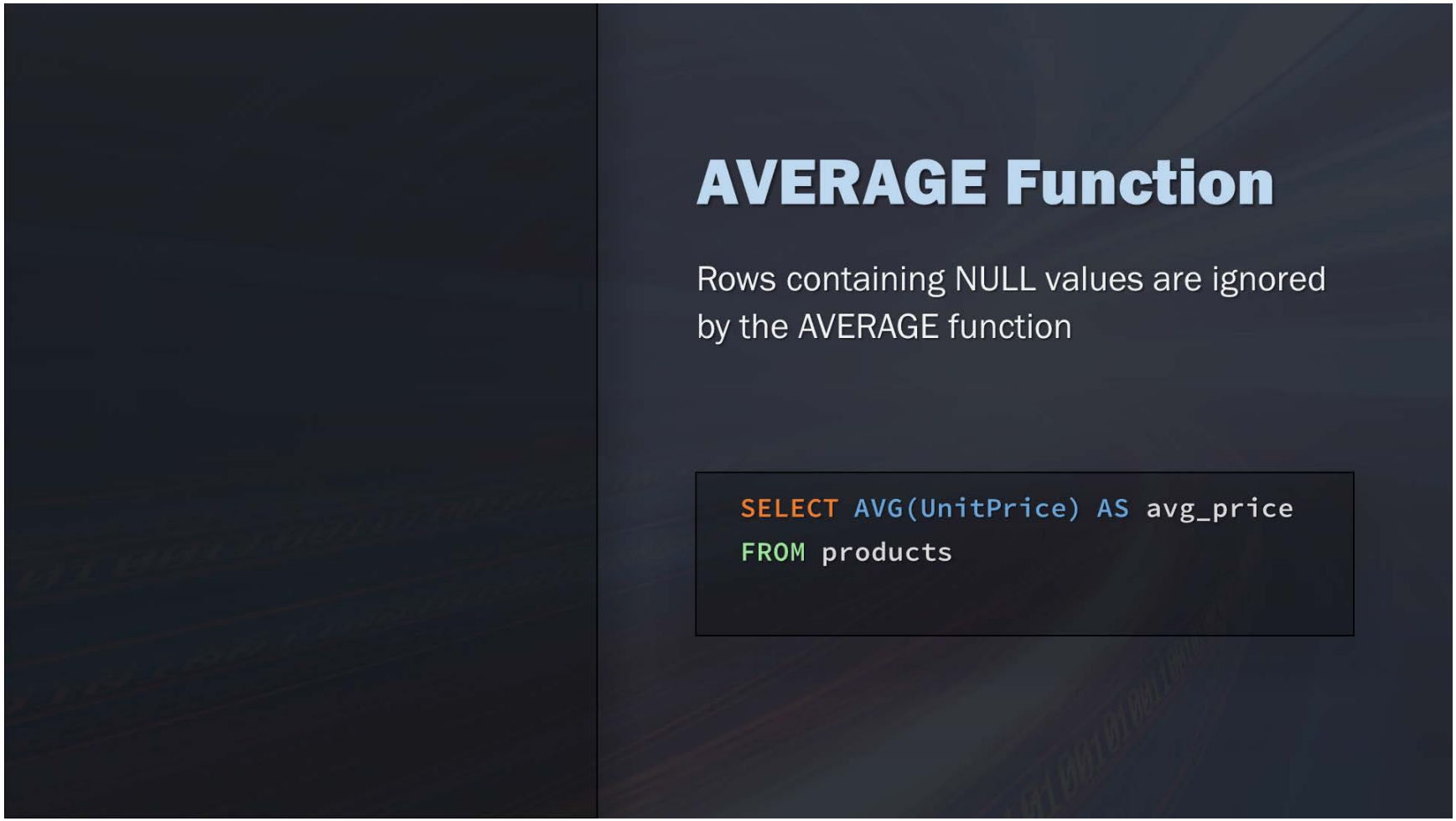
Slide 5: AVERAGE Function



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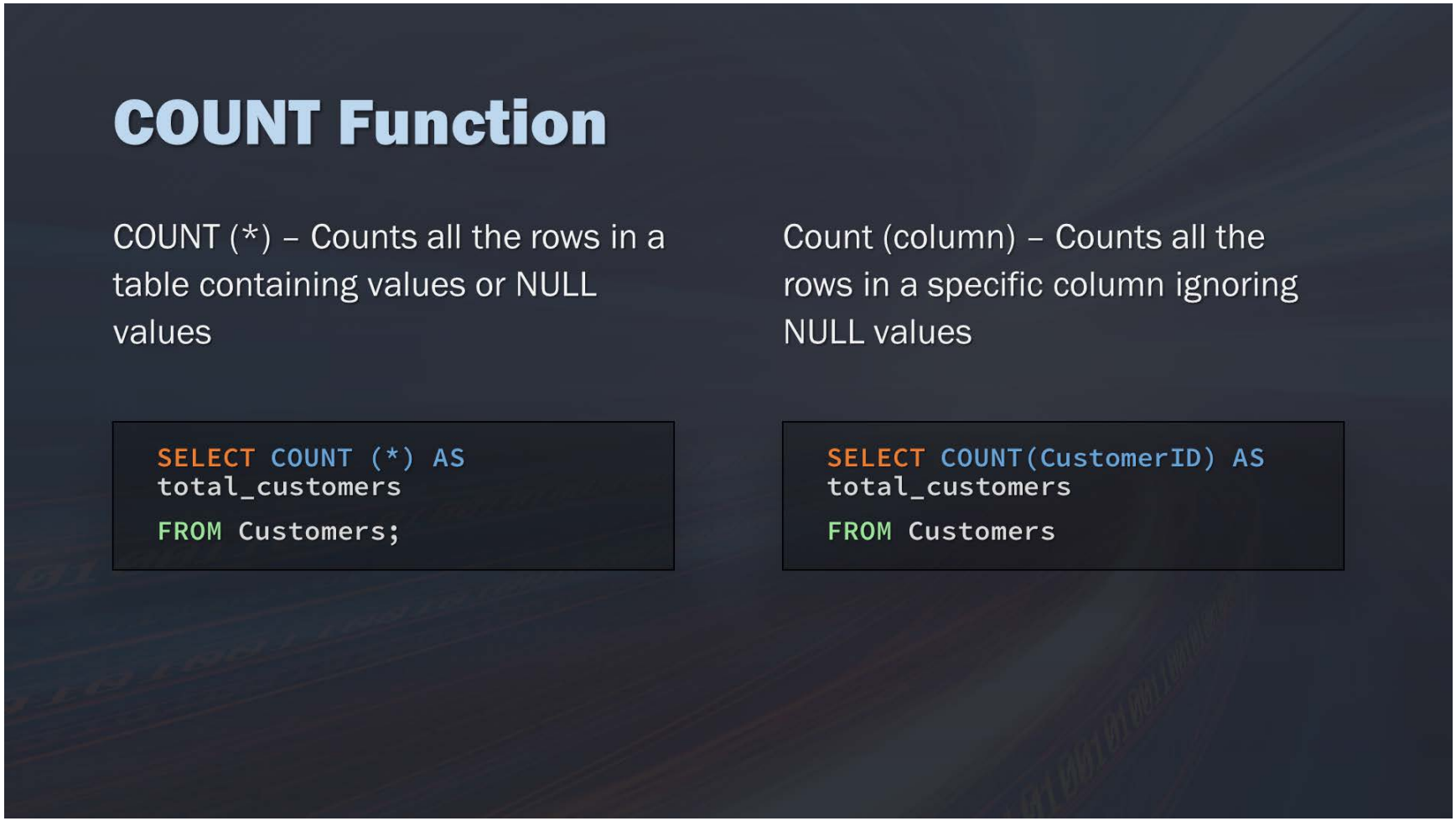
Slide 6: COUNT Function



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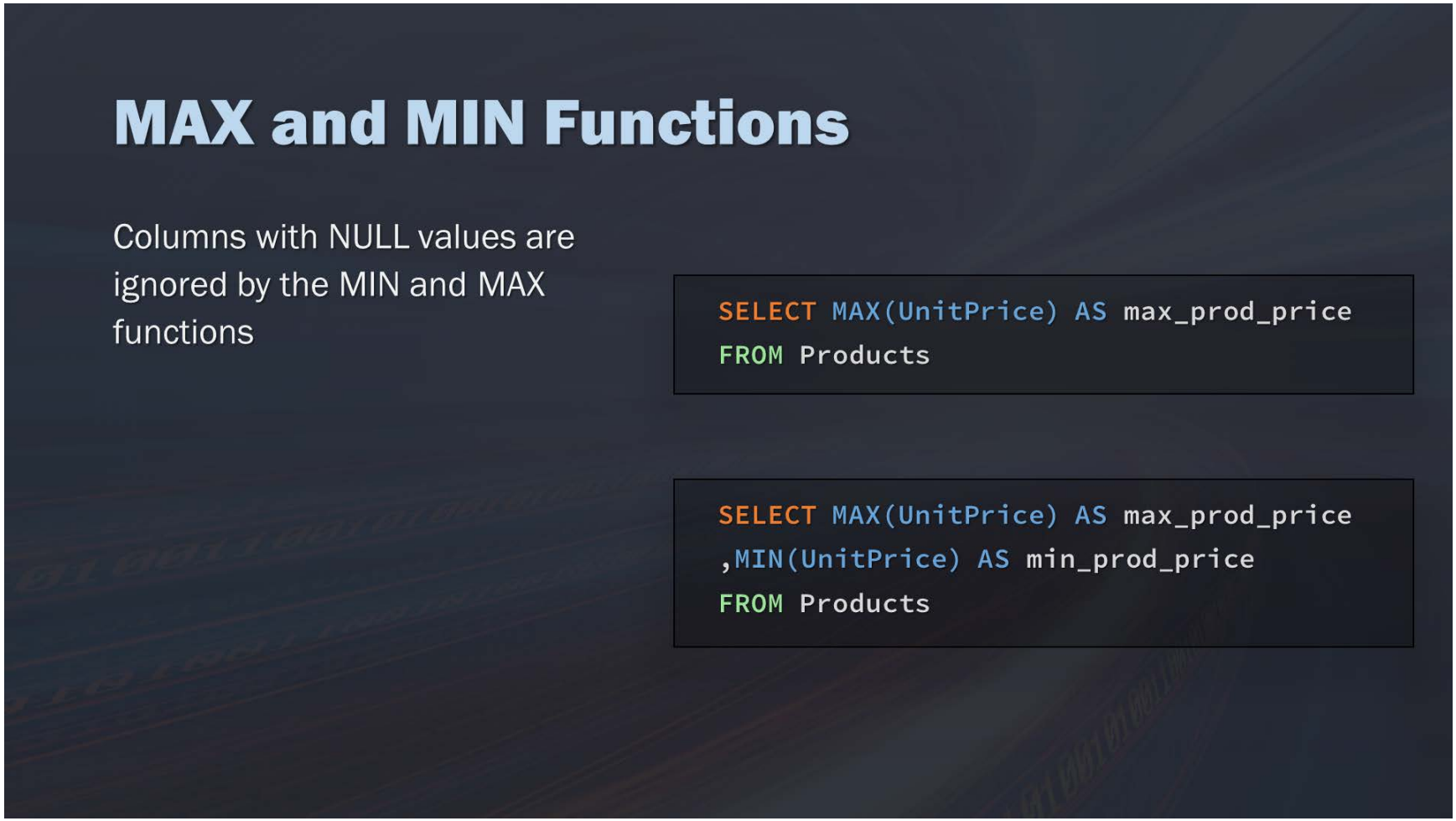
Slide 7: MAX and MIN Functions



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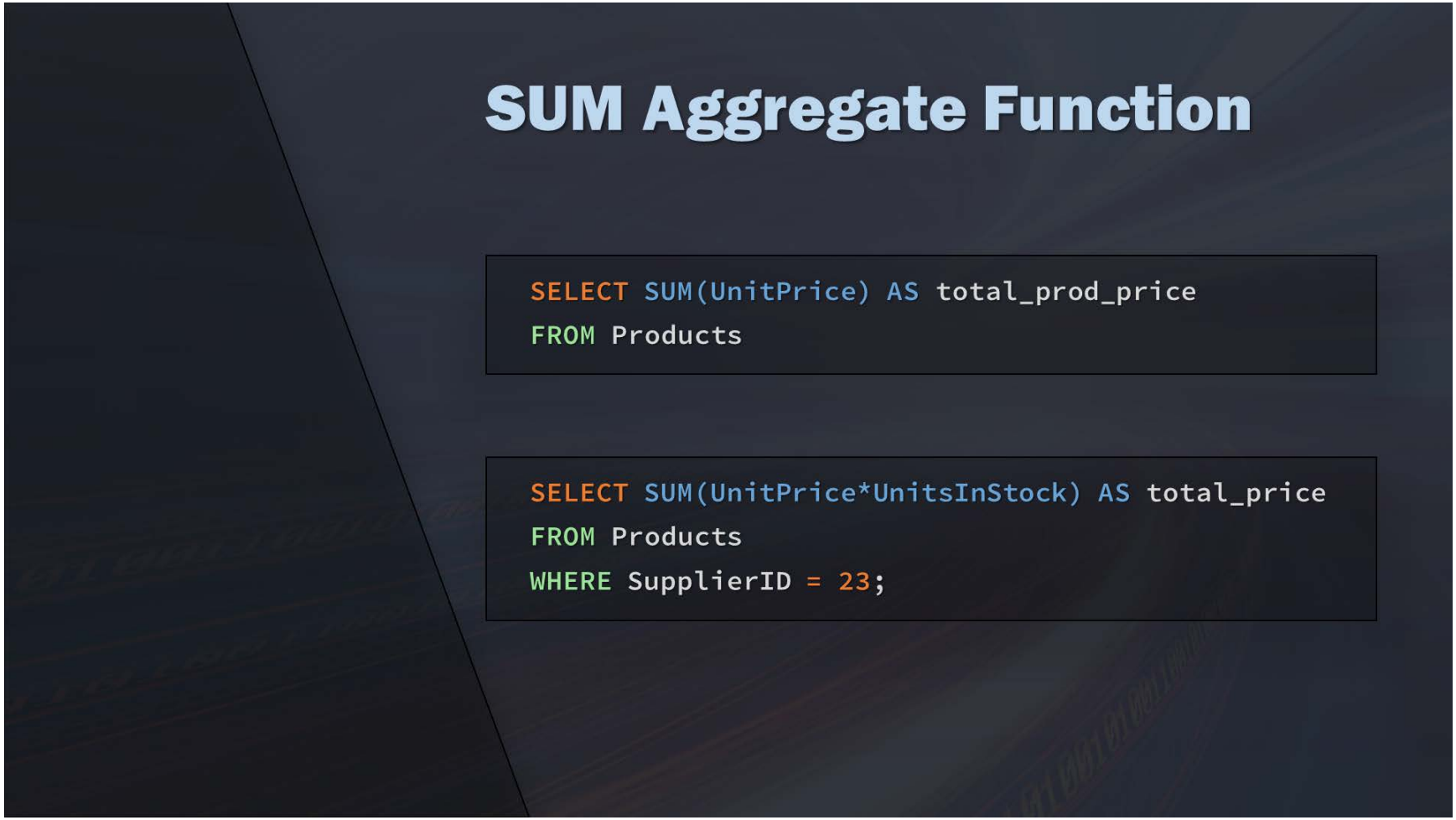
Slide 8: SUM Aggregate Function



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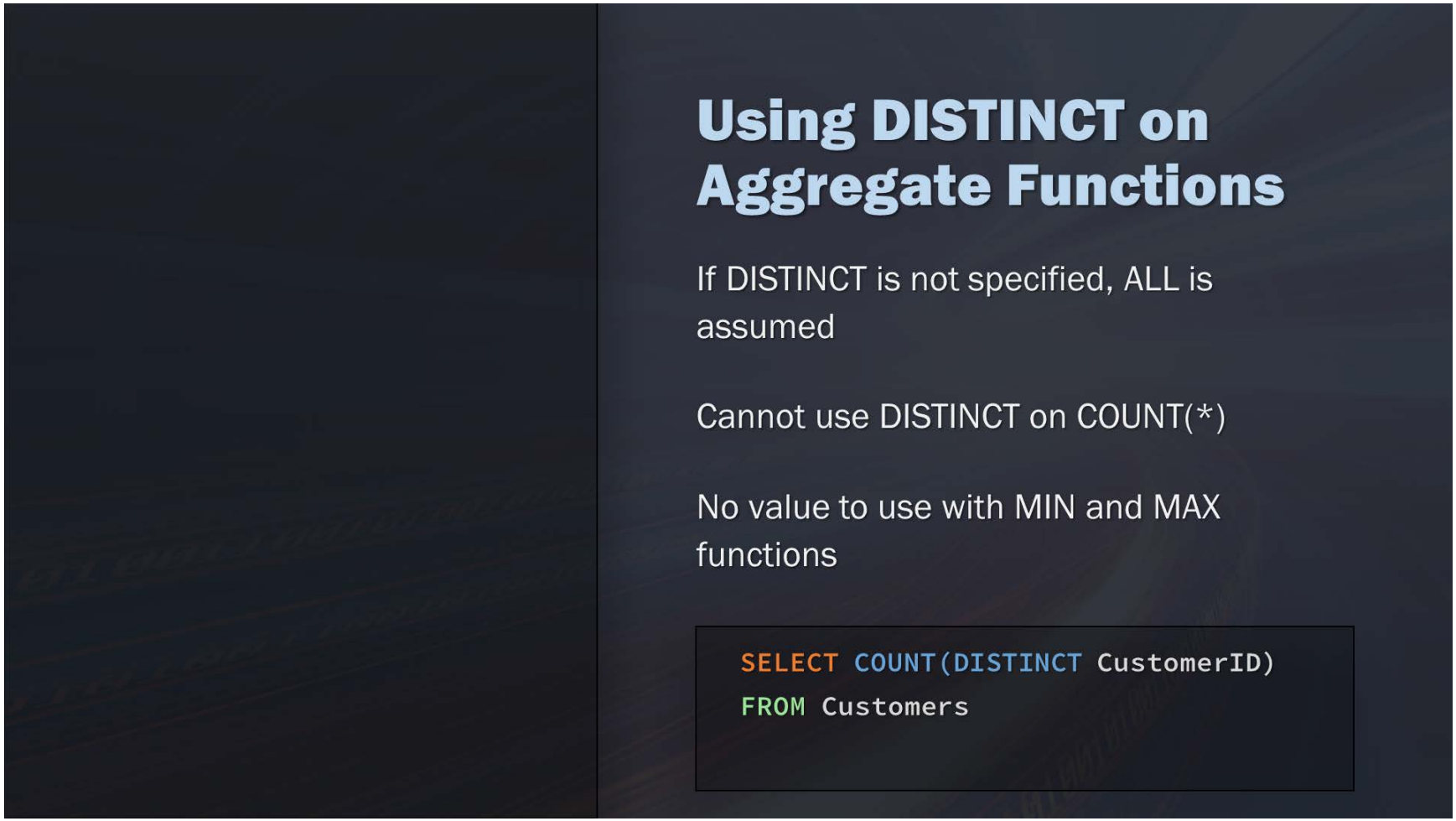
Slide 9: Using DISTINCT on Aggregate Functions



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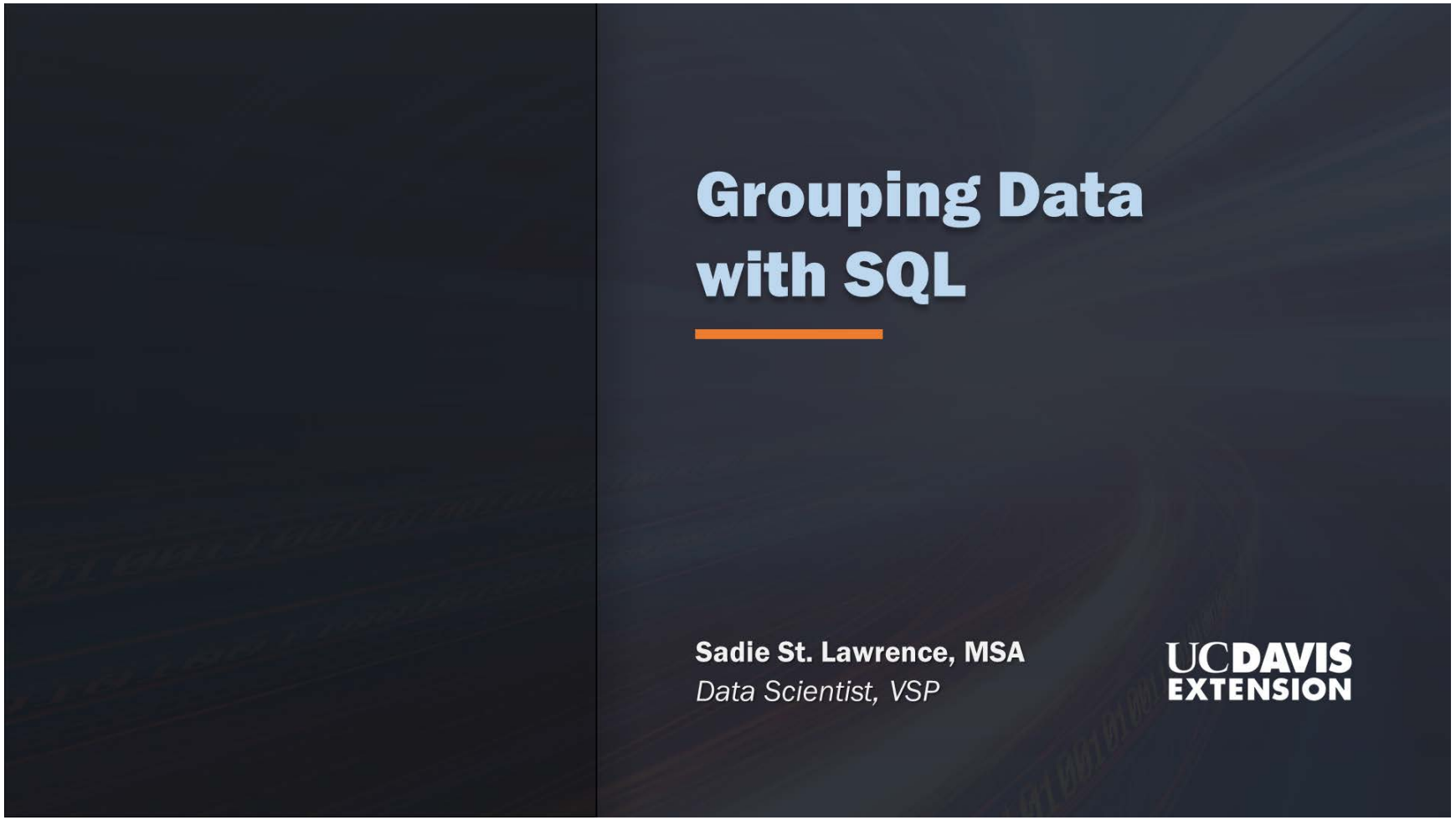
Slide 1: Grouping Data with SQL



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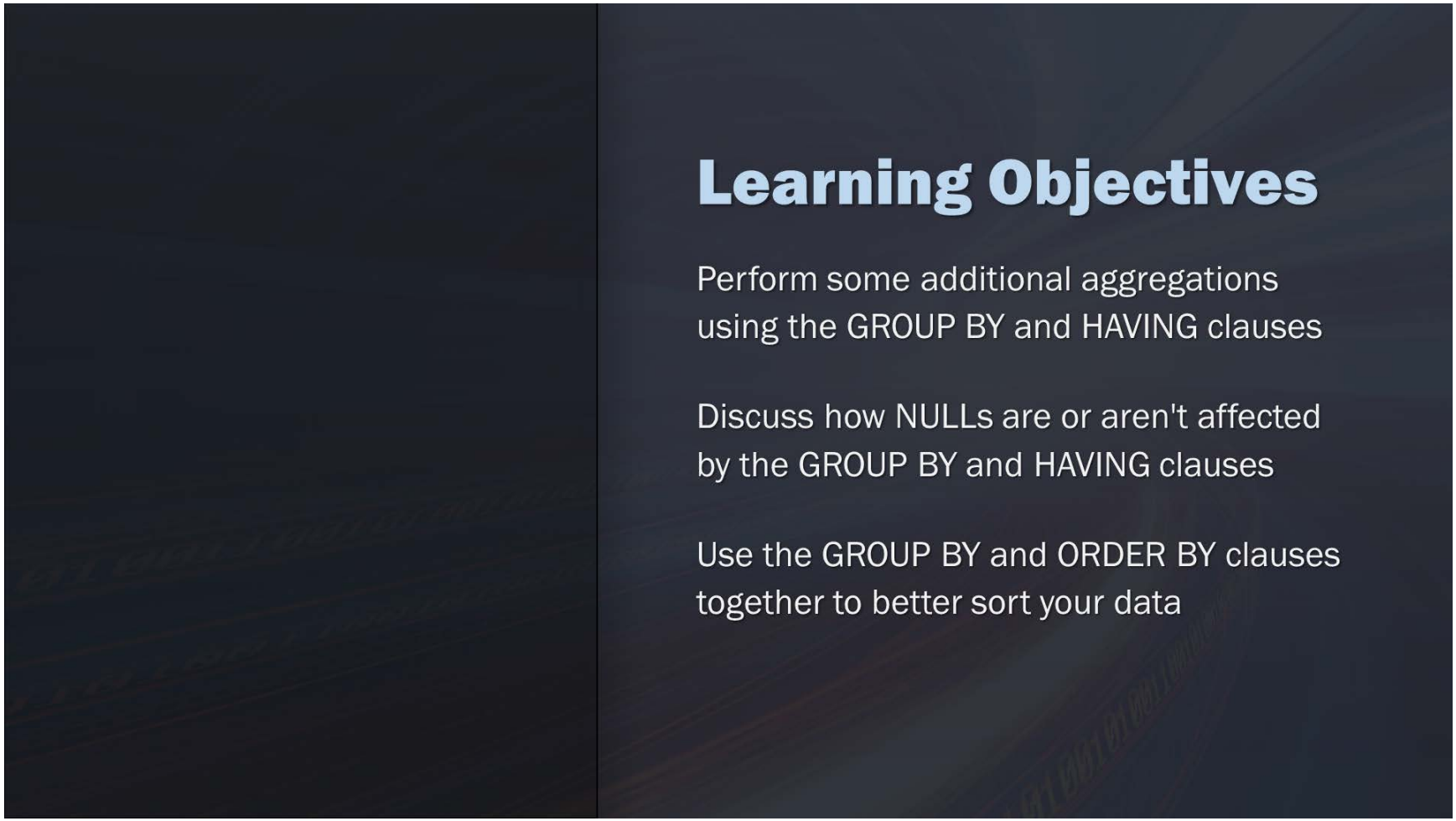
Slide 2: Learning Objectives



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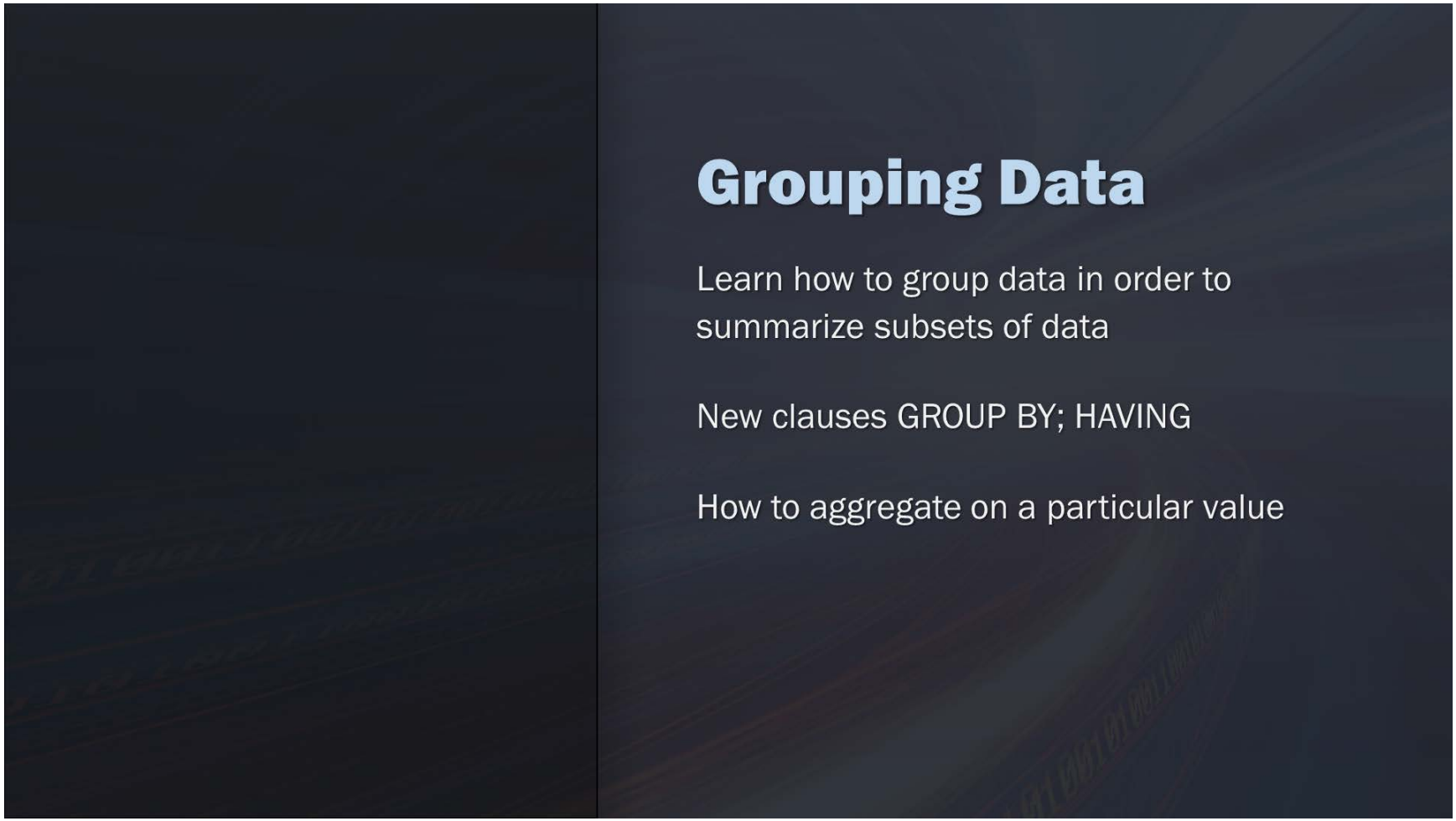
Slide 3: Grouping Data



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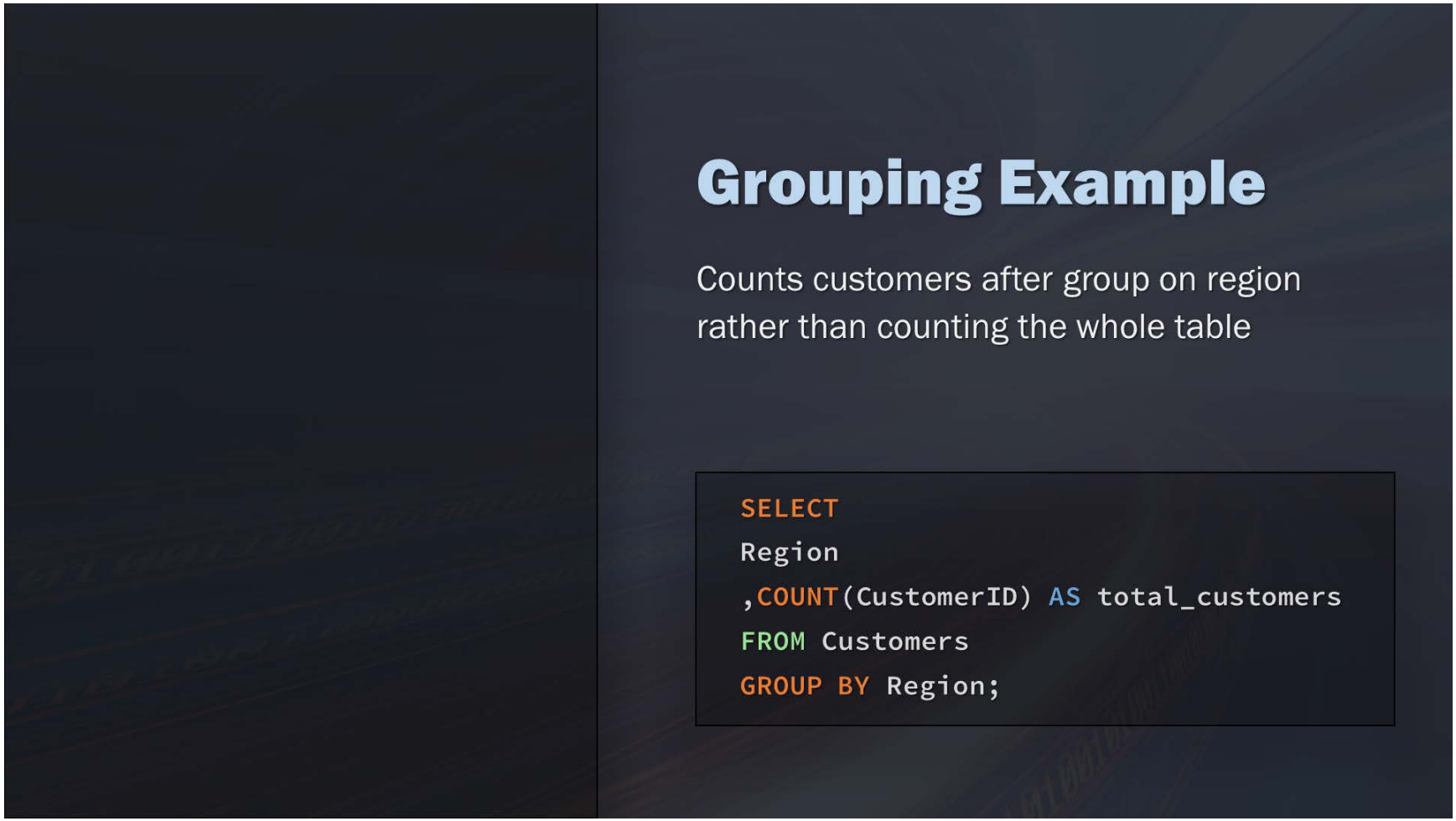
Slide 4: Grouping Example



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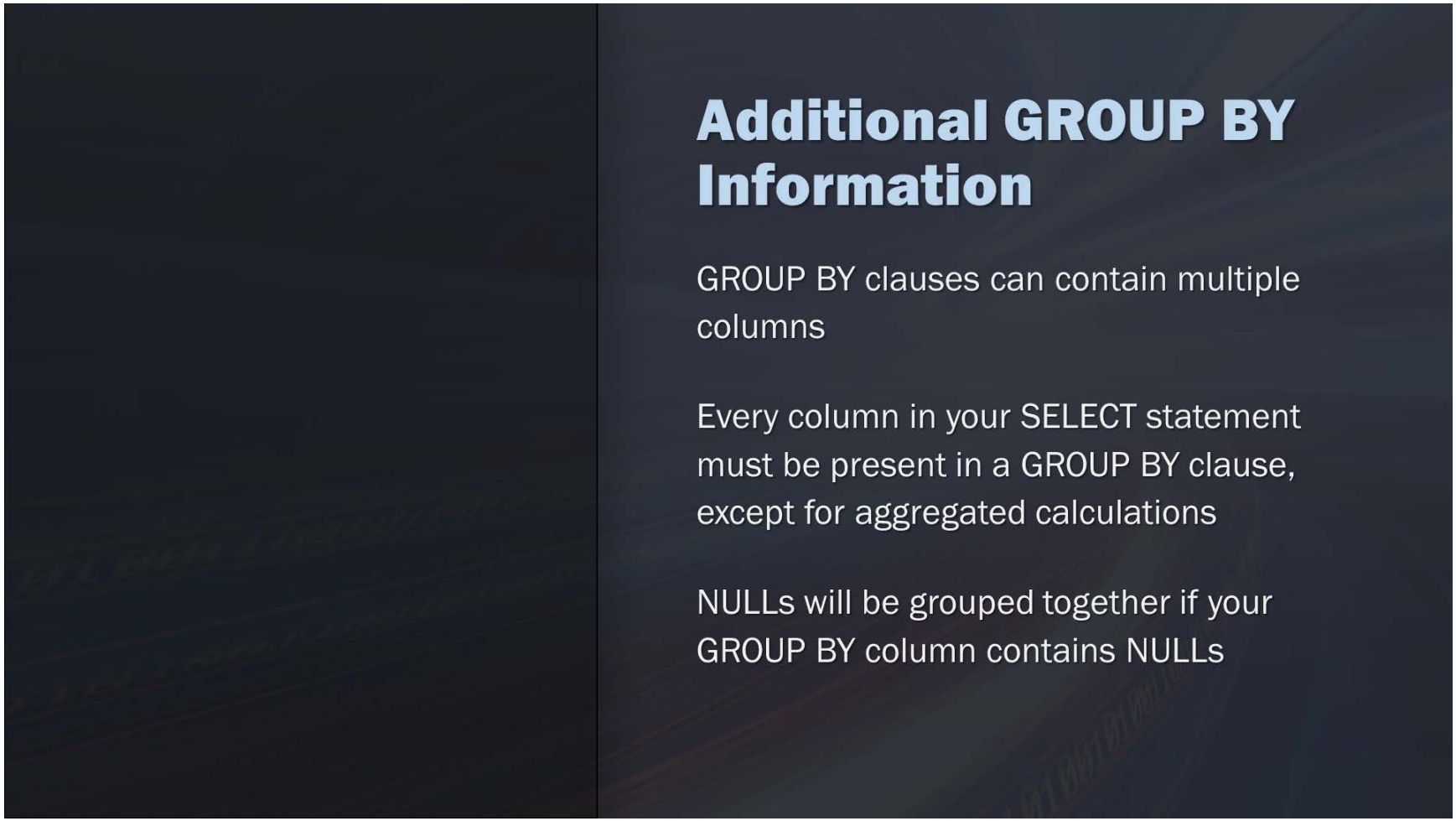
Slide 5: Additional GROUP BY Information



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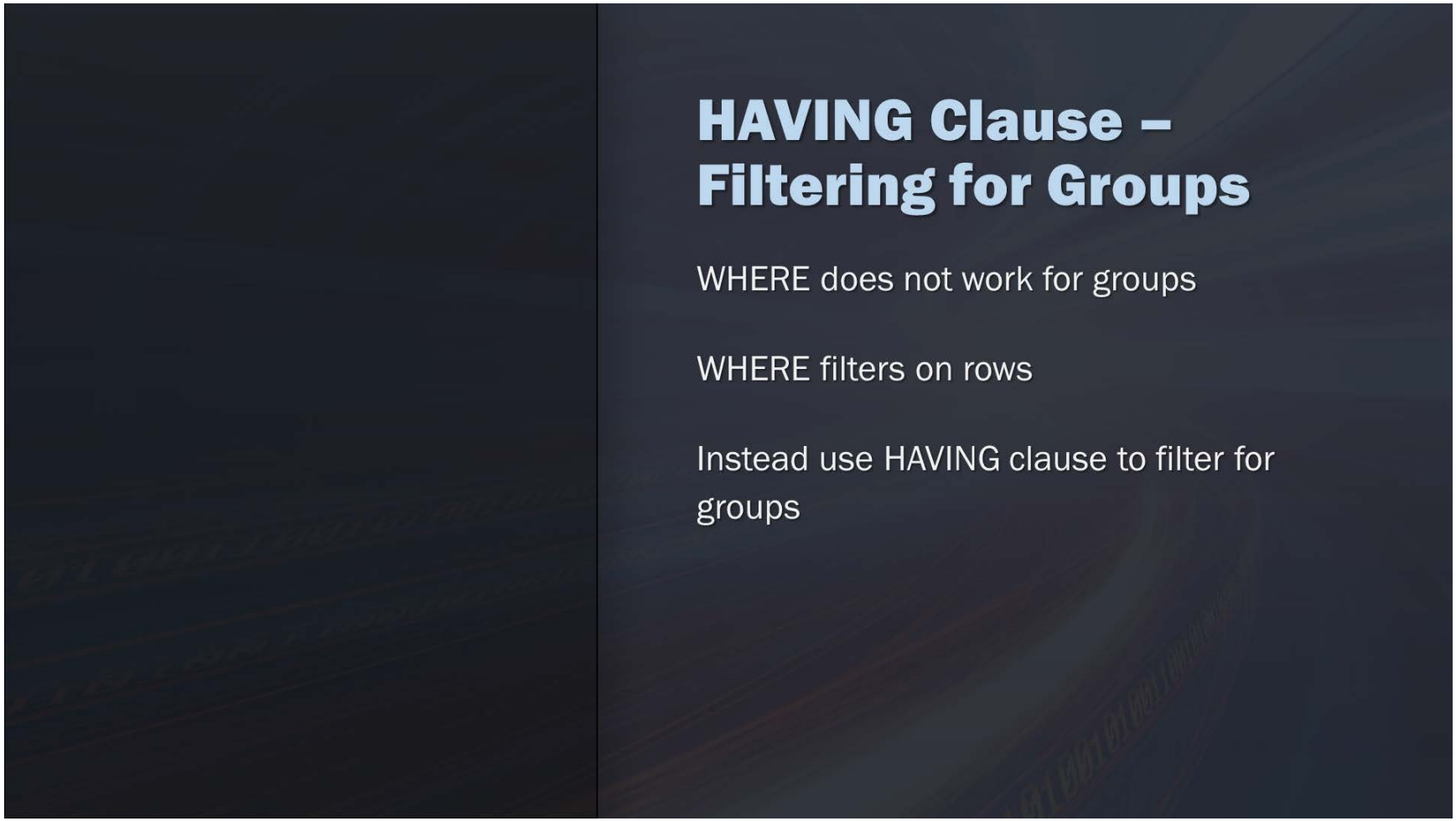
Slide 6: HAVING Calause – Filtering for Groups



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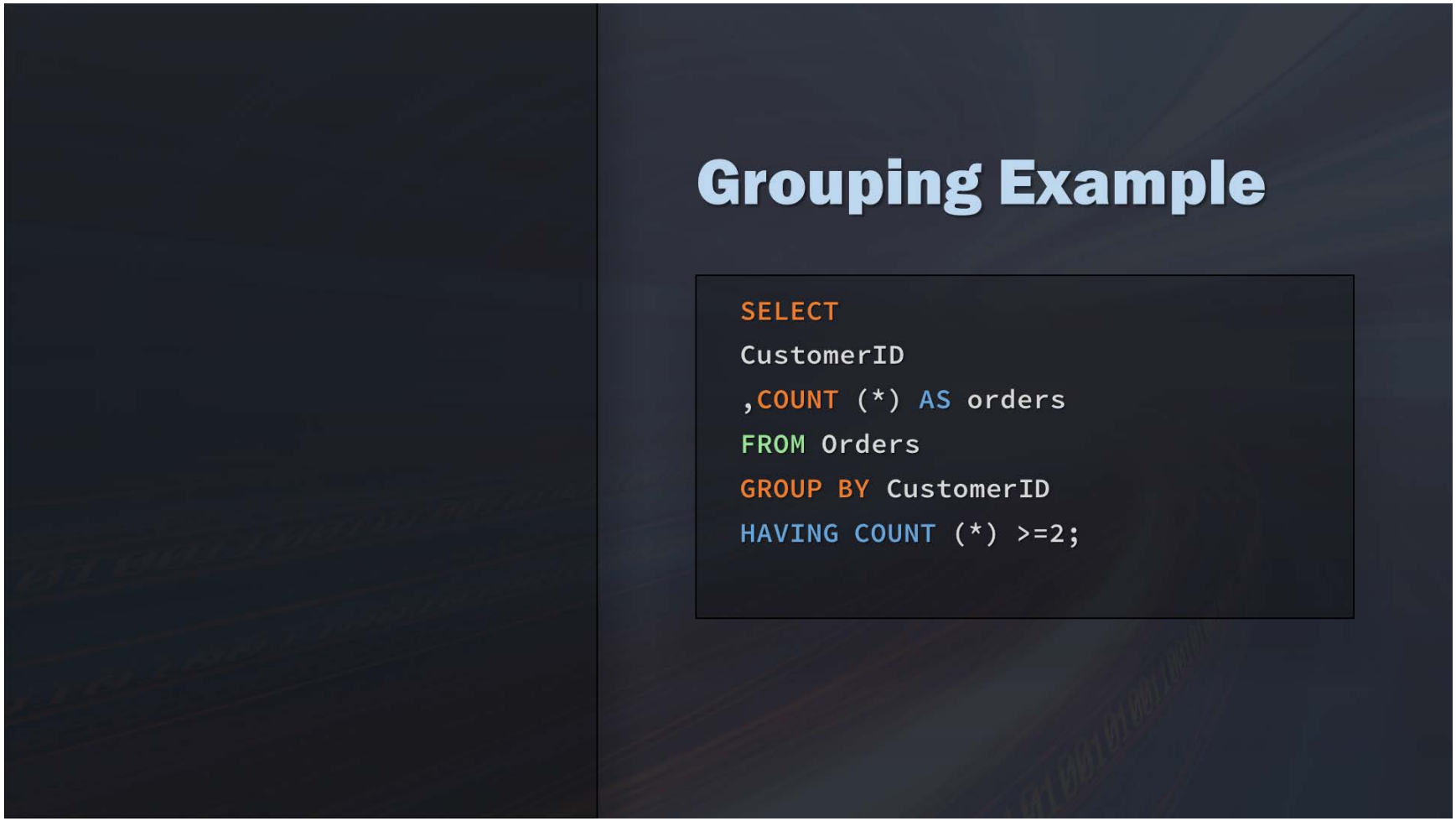
Slide 7: Grouping Example



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Slide 8: WHERE vs. HAVING

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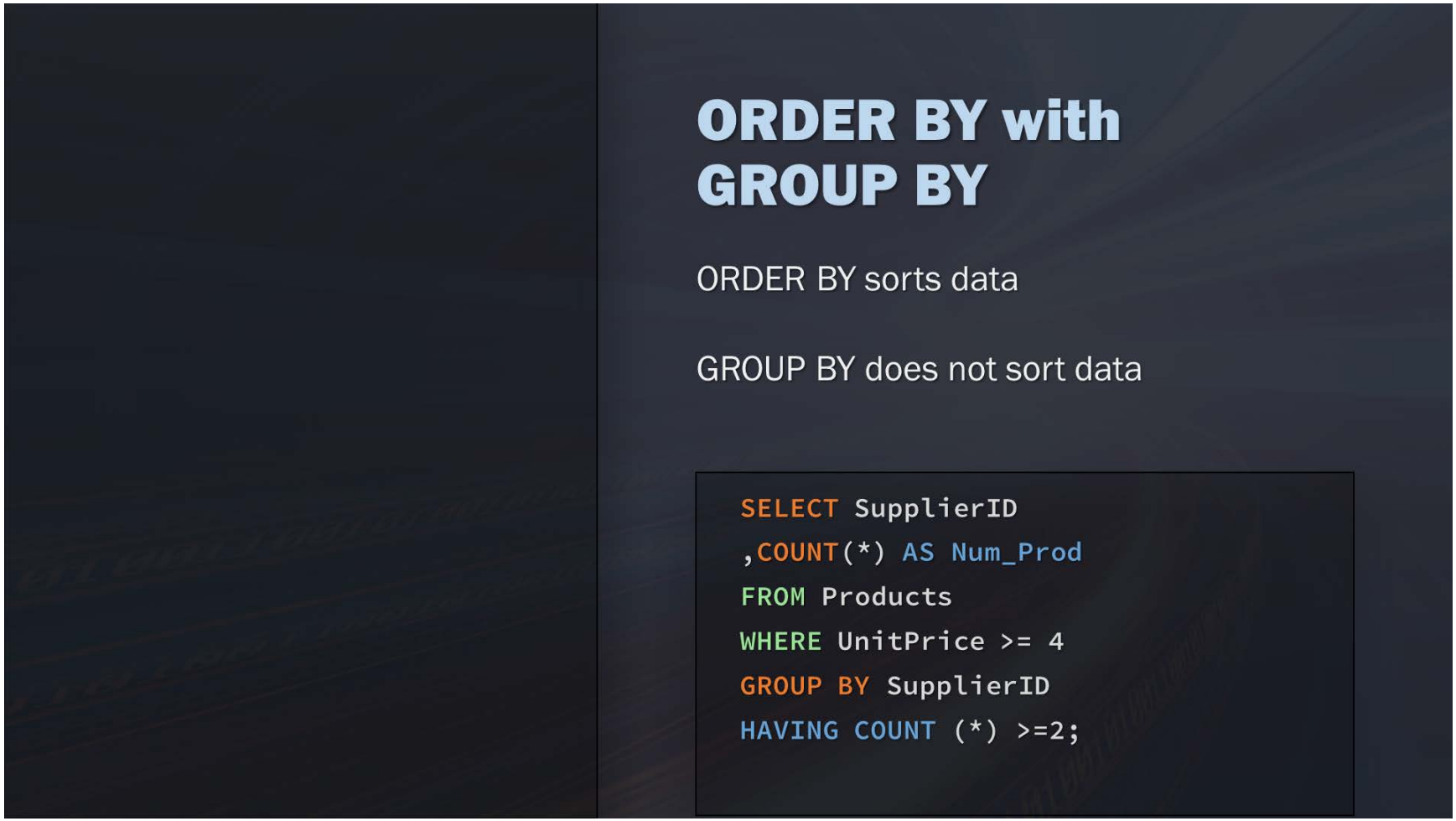
Slide 9: ORDER BY with GROUP BY



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Slide 1: Putting It All Together

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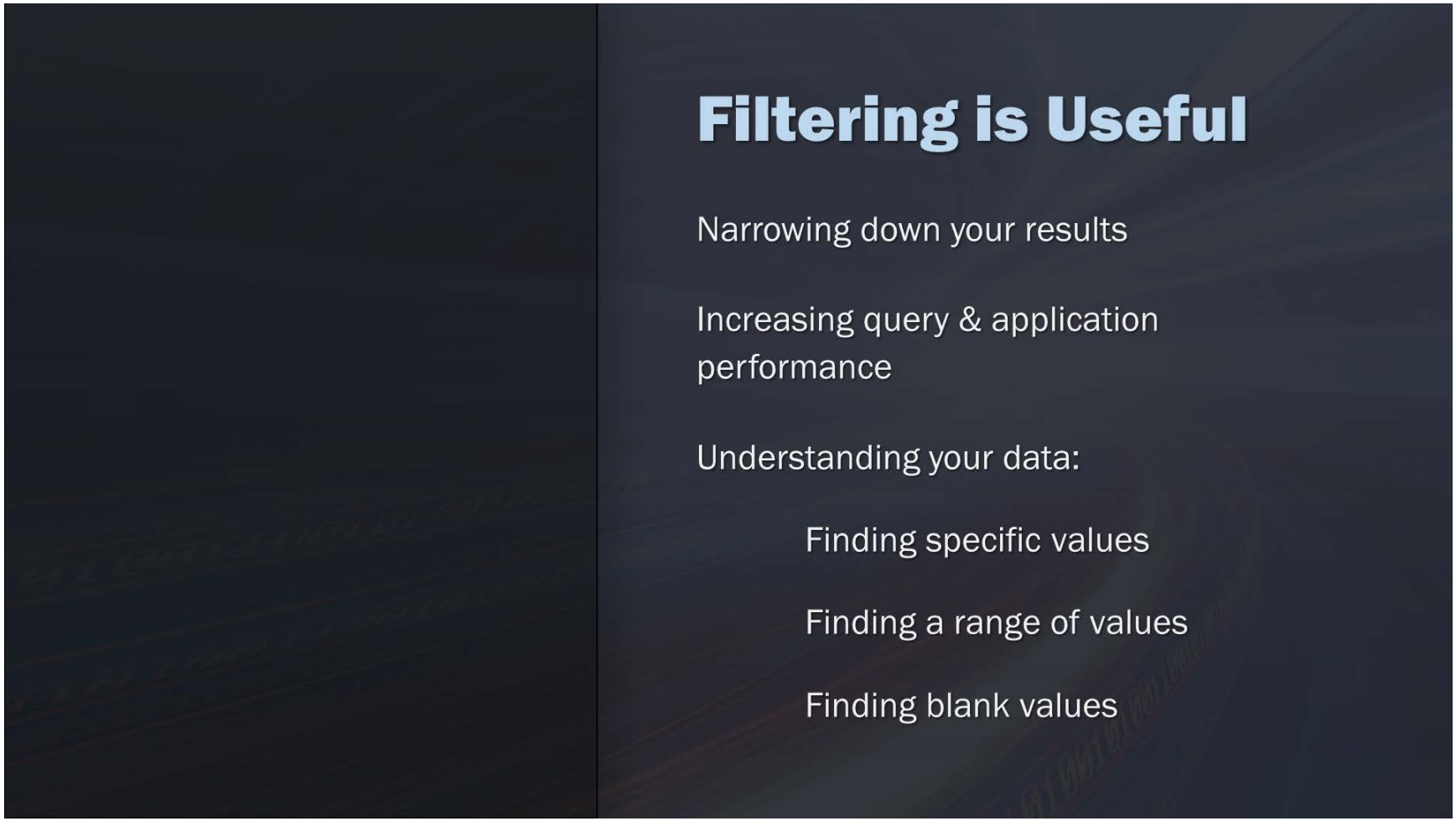
Slide 2: Filtering is Useful



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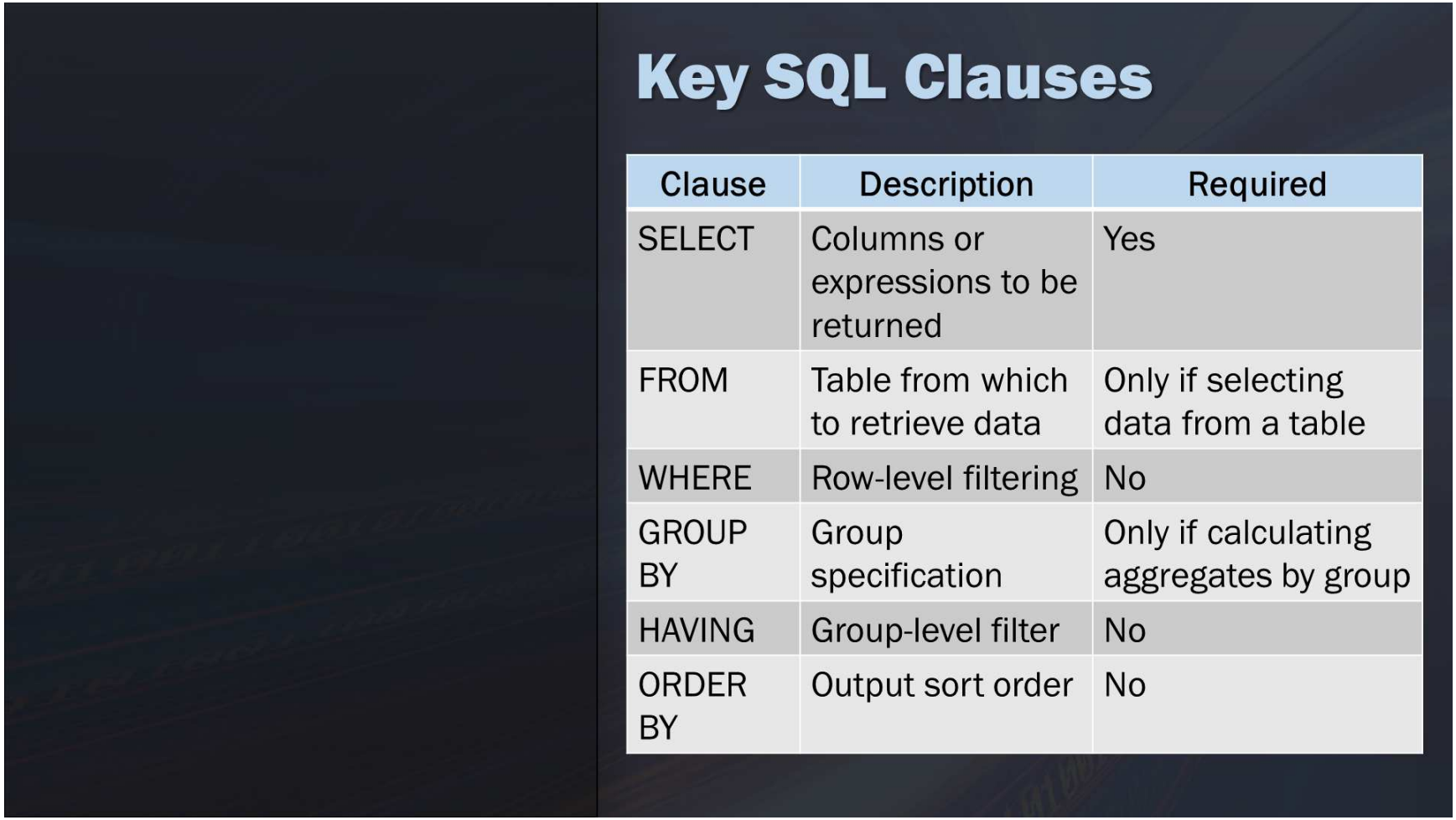
Slide 3: Key SQL Clauses



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