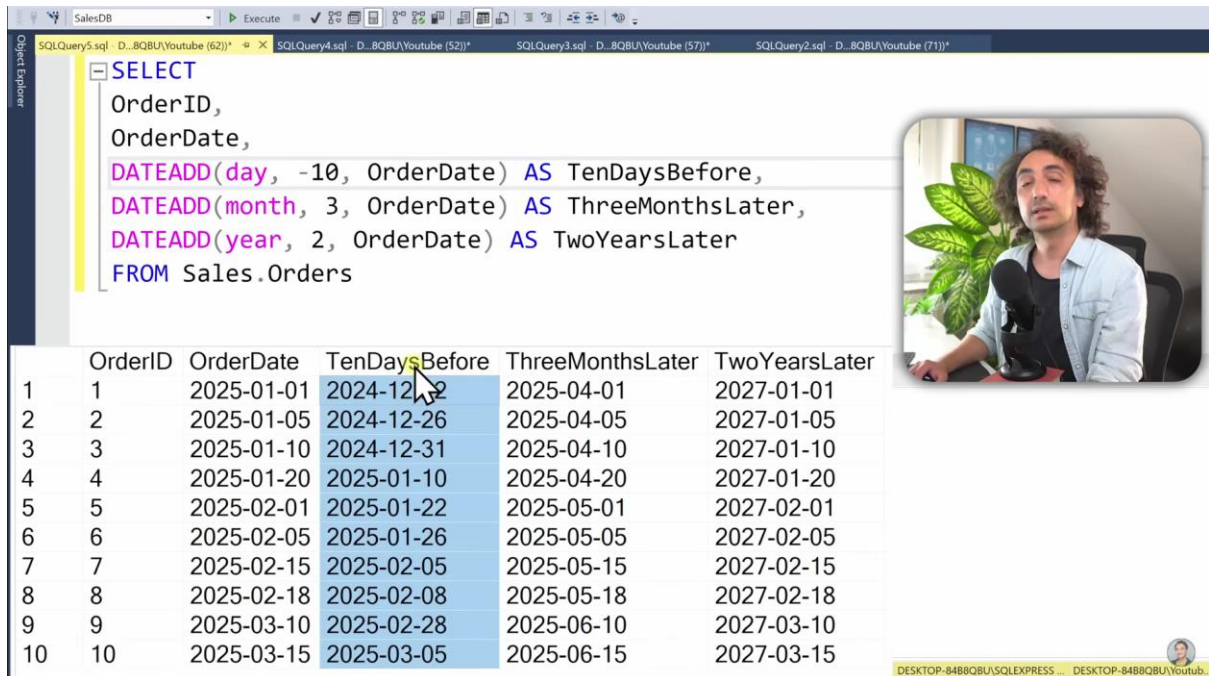


DATEADD AND DATEDIFF:

DATEADD:

Adds or subtracts a specific time interval to/from the date.



```
SELECT
  OrderID,
  OrderDate,
  DATEADD(day, -10, OrderDate) AS TenDaysBefore,
  DATEADD(month, 3, OrderDate) AS ThreeMonthsLater,
  DATEADD(year, 2, OrderDate) AS TwoYearsLater
FROM Sales.Orders
```

	OrderID	OrderDate	TenDaysBefore	ThreeMonthsLater	TwoYearsLater
1	1	2025-01-01	2024-12-22	2025-04-01	2027-01-01
2	2	2025-01-05	2024-12-26	2025-04-05	2027-01-05
3	3	2025-01-10	2024-12-31	2025-04-10	2027-01-10
4	4	2025-01-20	2025-01-10	2025-04-20	2027-01-20
5	5	2025-02-01	2025-01-22	2025-05-01	2027-02-01
6	6	2025-02-05	2025-01-26	2025-05-05	2027-02-05
7	7	2025-02-15	2025-02-05	2025-05-15	2027-02-15
8	8	2025-02-18	2025-02-08	2025-05-18	2027-02-18
9	9	2025-03-10	2025-02-28	2025-06-10	2027-03-10
10	10	2025-03-15	2025-03-05	2025-06-15	2027-03-15

DATEDIFF:

Find the difference between two dates.

Syntax

```
DATEDIFF(part, start_date, end_date)
```

Examples

```
DATEDIFF(year, OrderDate, ShipDate)
```

```
DATEDIFF(day, OrderDate, ShipDate)
```

QUERY 1: CALCULATE THE AGE OF EMPLOYEES.

```
SELECT
EmployeeID,
BirthDate,
DATEDIFF(year, BirthDate, GETDATE()) AS Employee_Age
FROM Sales.Employees
```

	EmployeeID	BirthDate	Employee_Age
1	1	1988-12-05	37
2	2	1972-11-25	53
3	3	1986-01-05	39
4	4	1977-02-10	48
5	5	1982-02-11	43

QUERY 2: FIND THE AVERAGE SHIPPING DURATION IN DAYS FOR EACH MONTH.

```
SELECT
MONTH(OrderDate) AS Order_Month,
AVG(DATEDIFF(day, OrderDate, ShipDate)) AS Shipping_Duration
FROM Sales.Orders
GROUP BY MONTH(OrderDate)
```

	Order_Month	Shipping_Duration
1	1	7
2	2	7
3	3	5

QUERY 3: TIME GAP ANALYSIS.

FIND THE NUMBER OF DAYS BETWEEN EACH ORDER AND PREVIOUS ORDER.

We use LAG() to access a value from the previous row.

```
SELECT
OrderID,
OrderDate AS CurrentOrderDate,
LAG(OrderDate) OVER (ORDER BY OrderDate) AS PreviousOrderDate,
DATEDIFF(day, LAG(OrderDate) OVER (ORDER BY OrderDate), OrderDate) AS Difference
FROM Sales.Orders
```

	OrderID	CurrentOrderDate	PreviousOrderDate	Difference
1	1	2025-01-01	NULL	NULL
2	2	2025-01-05	2025-01-01	4
3	3	2025-01-10	2025-01-05	5
4	4	2025-01-20	2025-01-10	10
5	5	2025-02-01	2025-01-20	12
6	6	2025-02-05	2025-02-01	4
7	7	2025-02-15	2025-02-05	10
8	8	2025-02-18	2025-02-15	3
9	9	2025-03-10	2025-02-18	20
10	10	2025-03-15	2025-03-10	5