Video-22

Topics to cover:

- Pivot and Unpivot in SQL

Pivot and Unpivot

Pivoting and unpivoting are techniques used to transform data from a row-wise format to a column-wise format (pivot) or vice versa (unpivot). These operations are often used when you want to reshape your data for reporting or analysis

Pivoting : Pivoting is the process of converting row-level data into column-level data. This is useful when you have data in a "long" format, and you want to summarize it or make it more readable.

Country	Year	Profit (USD)
USA	2020	495875
USA	2021	459875
France	2020	145685
France	2021	201457
Germany	2020	178563
Germany	2021	165478

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Pivot and Unpivot

Unpivoting : Unpivoting is the process of converting column-level data into row-level data. This is useful when you have data in a "wide" format, and you want to normalize it or make it suitable for further analysis.

Country	2020	2021
USA	495875	459875
France	145685	201457
Germany	178563	165478

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USA	2020	495875
USA	2021	459875
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 # Pivoting:

```
CREATE TABLE sales (
    product VARCHAR(10),
    month   VARCHAR(10),
    sales   INT );

INSERT INTO sales (product, month, sales) VALUES
('A', 'Jan', 100),
('A', 'Feb', 120),
('B', 'Jan', 90),
('B', 'Feb', 110);

SELECT * FROM sales;

SELECT product,
    SUM(CASE WHEN month = 'Jan' THEN sales END) AS Jan_sales,
    SUM(CASE WHEN month = 'Feb' THEN sales END) AS Feb_sales
FROM sales
GROUP BY product;
```

 # UnPivoting

```
CREATE TABLE student_scores (
    student_id INT,
    math_score INT,
    science_score INT,
    history_score INT );

INSERT INTO student_scores (student_id, math_score, science_score, history_score) VALUES
    (1, 95, 88, 75),
    (2, 88, 92, 80),
    (3, 90, 85, 78);

SELECT * FROM student_scores;

SELECT student_id, 'math' AS subject, math_score AS score FROM student_scores
UNION ALL
SELECT student_id, 'science' AS subject, science_score AS score FROM student_scores
UNION ALL
SELECT student_id, 'history' AS subject, history_score AS score FROM student_scores;
```