Value Window Functions

LEAD() & LAG() –

Access value from next row

Example –

SELECT pizza\_id, order\_id, total\_price,

LEAD(total\_price) OVER(ORDER BY order\_id) Lead1

FROM pizza\_sales

SELECT pizza\_id, order\_id, total\_price,

LEAD(total\_price, 3) OVER(ORDER BY order\_id) Lead3

FROM pizza\_sales

SELECT pizza\_id, order\_id, total\_price,

LAG(total\_price) OVER(ORDER BY order\_id) Lag1

FROM pizza\_sales

SELECT pizza\_id, order\_id, total\_price,

LAG(total\_price, 3) OVER(ORDER BY order\_id) Lag3

FROM pizza\_sales

SELECT pizza\_id, order\_id, total\_price,

LEAD(total\_price) OVER(ORDER BY order\_id) Lead1,

LAG(total\_price) OVER(ORDER BY order\_id) Lag1,

LEAD(total\_price, 3) OVER(ORDER BY order\_id) Lead3,

LAG(total\_price, 3) OVER(ORDER BY order\_id) Lag3

FROM pizza\_sales

Time Series Analysis –

Example –

SELECT \*, CurrentM - PreviousM AS MOM,

ROUND(CAST((CurrentM - PreviousM) AS FLOAT)/PreviousM \* 100, 1) AS MOMPercent

FROM (

SELECT MONTH(order\_date) order\_month,

SUM(total\_price) CurrentM,

LAG(SUM(total\_price)) OVER(ORDER BY MONTH(order\_date)) PreviousM

FROM pizza\_sales

GROUP BY MONTH(order\_date)

)t

Customer Retention Analysis –

Example –

SELECT pizza\_id, AVG(DaysUntilNext) AvgDays,

RANK() OVER(ORDER BY AVG(DaysUntilNext) ASC) RankAvg

FROM (

SELECT order\_id, pizza\_id, order\_date AS CurrentOrder,

LEAD(order\_date) OVER(PARTITION BY pizza\_id ORDER BY order\_date) NextOrder,

DATEDIFF(DAY, order\_date, LEAD(order\_date) OVER(PARTITION BY pizza\_id ORDER BY order\_date)) DaysUntilNext

FROM pizza\_sales

--ORDER BY pizza\_id, order\_date

)t

GROUP BY pizza\_id

FIRST\_VALUE() & LAST\_VALUE() –

Example –

SELECT pizza\_id, order\_id, total\_price,

FIRST\_VALUE(total\_price) OVER(ORDER BY order\_id)

FROM pizza\_sales

SELECT pizza\_id, order\_id, total\_price,

LAST\_VALUE(total\_price) OVER(ORDER BY order\_id)

FROM pizza\_sales

SELECT pizza\_id, order\_id, total\_price,

FIRST\_VALUE(total\_price) OVER(ORDER BY order\_id),

LAST\_VALUE(total\_price) OVER(ORDER BY order\_id)

FROM pizza\_sales