***Listing 1.1 – SUM() function with the OVER() clause.***

SELECT OrderYear,OrderMonth,SalesAmount,

SUM(SalesAmount) OVER(

PARTITION BY OrderYear

ORDER BY OrderMonth ASC

ROWS BETWEEN UNBOUNDED PRECEDING AND CURRENT ROW

) AS AmountTotal

FROM OverExample

ORDER BY OrderYear,OrderMonth

GO

***Listing 1.2 – SQL Server 2022 Named Window feature***

SELECT OrderYear,OrderMonth,SalesAmount,

SUM(SalesAmount) OVER **SalesWindow** AS SQPRangeUPCR

FROM OverExample

WINDOW **SalesWindow** AS (

PARTITION BY OrderYear

ORDER BY OrderMonth

RANGE BETWEEN UNBOUNDED PRECEDING AND CURRENT ROW

);

GO

***Listing 1.3 – Creating the test table***

CREATE TABLE #TestTable (

Row SMALLINT,

[Year]SMALLINT,

[Month]SMALLINT,

Amount DECIMAL(10,2)

);

INSERT INTO #TestTable VALUES

-- 2010

(1,2010,1,10),

(2,2010,2,10),

(3,2010,3,10),

(4,2010,4,10),

**(5,2010,5,10),**

**(6,2010,5,10),**

(7,2010,6,10),

(8,2010,7,10),

(9,2010,8,10),

(10,2010,9,10),

(11,2010,10,10),

(12,2010,11,10),

(13,2010,12,10),

-- 2011

(14,2011,1,10),

(15,2011,2,10),

(16,2011,3,10),

(17,2011,4,10),

**(18,2011,5,10),**

**(19,2011,5,10),**

(20,2011,6,10),

**(21,2011,7,10),**

**(22,2011,7,10),**

**(23,2011,7,10),**

(24,2011,8,10),

(25,2011,9,10),

(26,2011,10,10),

(27,2011,11,10),

(28,2011,12,10);

***Listing 1.4 – Range, current row, and unbounded following***

SELECT Row,[Year],[Month],Amount,

SUM(Amount) OVER (

PARTITION BY [Year]

ORDER BY [Month]

RANGE BETWEEN CURRENT ROW AND UNBOUNDED FOLLOWING

) AS RollingSalesTotal

FROM #TestTable

ORDER BY [Year],[Month] ASC

GO

***Listing 1.5 – Practice Table OverExample***

CREATE TABLE OverExample(

OrderYear SMALLINT,

OrderMonth SMALLINT,

SalesAmount DECIMAL(10,2)

);

INSERT INTO OverExample VALUES

(2010,1,10000.00),

(2010,2,10000.00),

(2010,2,10000.00),

--missing rows

(2010,8,10000.00),

(2010,8,10000.00),

(2010,9,10000.00),

(2010,10,10000.00),

(2010,11,10000.00),

(2010,12,10000.00),

-- 2011

(2011,1,10000.00),

(2011,2,10000.00),

(2011,2,10000.00),

--missing rows

(2011,10,10000.00),

(2011,11,10000.00),

(2011,12,10000.00);

GO

***Listing 1.6 - Scenario 1***

SELECT OrderYear,OrderMonth,SalesAmount,

SUM(SalesAmount) OVER (

) AS NPBNOB,

SUM(SalesAmount) OVER (

PARTITION BY OrderYear

) AS PBNOB,

SUM(SalesAmount) OVER (

PARTITION BY OrderYear

ORDER BY OrderMonth

ROWS BETWEEN UNBOUNDED PRECEDING AND UNBOUNDED FOLLOWING

) AS PBOBUPUF

FROM OverExample;

GO

***Listing 1.7 – Scenario 2 - various default versus window frame clauses***

SELECT OrderYear,OrderMonth,SalesAmount,

SUM(SalesAmount) OVER (

ORDER BY OrderYear,OrderMonth

) AS NPBOB,

-- sames as PBOBRangeUPCR

SUM(SalesAmount) OVER (

PARTITION BY OrderYear

ORDER BY OrderMonth

) AS PBOB,

SUM(SalesAmount) OVER (

ORDER BY OrderYear,OrderMonth

RANGE BETWEEN UNBOUNDED PRECEDING AND CURRENT ROW

) AS NPBOBRangeUPCR,

-- same as PBOB

SUM(SalesAmount) OVER (

PARTITION BY OrderYear

ORDER BY OrderMonth

RANGE BETWEEN UNBOUNDED PRECEDING AND CURRENT ROW

) AS PBOBRangeUPCR

FROM OverExample;

GO

***Listing 1.8 – ROWS versus RANGE comparison***

SELECT OrderYear,OrderMonth,SalesAmount,

SUM(SalesAmount) OVER (

PARTITION BY OrderYear

ORDER BY OrderMonth

ROWS BETWEEN UNBOUNDED PRECEDING AND CURRENT ROW

) AS POBRowsUPCR,

SUM(SalesAmount) OVER (

PARTITION BY OrderYear

ORDER BY OrderMonth

RANGE BETWEEN UNBOUNDED PRECEDING AND CURRENT ROW

) AS PBOBRangeUPCR

FROM OverExample;

GO

***Listing 1.9a – ORDER BY without subquery***

WITH YearQtrSales (

SalesYear,

SalesQtr,

SalesMonth,

SalesTotal

)

AS

(

SELECT

SalesYear,

SalesQtr,

SalesMonth,

SalesTotal

FROM dbo.TestSales

)

SELECT

SalesYear,

SalesQtr,

SalesMonth,

SalesTotal,

SUM(SalesTotal) OVER(

ORDER BY SalesYear,SalesQtr,SalesMonth

ROWS BETWEEN UNBOUNDED PRECEDING AND CURRENT ROW

) AS RollMonthlySales1

FROM YearQtrSales

ORDER BY

SalesYear,

SalesQtr,

SalesMonth

GO

***Listing 1.9b – ORDER BY with subquery***

WITH YearQtrSales (

SalesYear,

SalesQtr,

SalesMonth,

SalesTotal

)

AS

(

SELECT

SalesYear,

SalesQtr,

SalesMonth,

SalesTotal

FROM dbo.TestSales

)

SELECT

SalesYear,

SalesQtr,

SalesMonth,

SalesTotal,

SUM(SalesTotal) OVER(

**ORDER BY (SELECT (1))**

ROWS BETWEEN UNBOUNDED PRECEDING AND CURRENT ROW

) AS RollMonthlySales2

FROM YearQtrSales

ORDER BY

SalesYear,

SalesQtr,

SalesMonth

GO

***Listing 1.10 – Named Windows***

SELECT OrderYear

,OrderMonth

,SUM(SalesAmount) OVER **SalesWindow** AS TotalSales

FROM dbo.OverExample

WINDOW **SalesWindow** AS (

PARTITION BY OrderYear

ORDER BY OrderMonth

RANGE BETWEEN UNBOUNDED PRECEDING AND CURRENT ROW

)

GO