**Project 2**

**Lidor Aviv**

--Q1

SELECT ProductID,

Name,

Color,

ListPrice,

Size

FROM Production.Product

EXCEPT

SELECT t2.ProductID,

Name,

Color,

ListPrice,

Size

FROM Sales.SalesOrderDetail t2

JOIN

Production.Product t1

ON t1.ProductID = t2.ProductID

UPDATE Sales.Customer

SET PersonID = CustomerID

WHERE CustomerID <= 290

UPDATE Sales.Customer

SET PersonID = CustomerID+1700

WHERE CustomerID >= 300

AND CustomerID <=350

UPDATE Sales.Customer

SET PersonID = CustomerID +1700

WHERE CustomerID >= 352

AND CustomerID <= 701

--Q2

SELECT t1.CustomerID,

ISNULL (t2.LastName, 'Unknown') AS LastName,

ISNULL (t2.FirstName, 'Unknown') AS FirstName

FROM Sales.Customer t1

LEFT JOIN

Person.Person t2

ON t1.PersonID = t2.BusinessEntityID

WHERE NOT EXISTS (

SELECT CustomerID

FROM Sales.SalesOrderHeader t3

WHERE t3.CustomerID = t1.CustomerID)

ORDER BY CustomerID ASC

--Q3

SELECT \*

FROM(SELECT t1.CustomerID,

t3.FirstName,

t3.LastName,

COUNT(\*) AS "CountOfOrders",

ROW\_NUMBER() OVER(ORDER BY Count(\*) DESC) AS RN

FROM Sales.Customer t1

JOIN Sales.SalesOrderHeader t2

ON t1.CustomerID = t2.CustomerID

JOIN Person.Person t3

ON t3.BusinessEntityID = t1.PersonID

GROUP BY t1.CustomerID , t3.FirstName, t3.LastName

) tt

WHERE RN <= 10

--Q4

SELECT t2.FirstName,

t2.LastName,

t1.JobTitle,

t1.HireDate,

COUNT(\*) OVER(PARTITION BY t1.JobTitle)AS "CountOfTitle"

FROM HumanResources.Employee t1

JOIN Person.Person t2

ON t1.BusinessEntityID = t2.BusinessEntityID

GROUP BY t2.FirstName,

t2.LastName,

t1.JobTitle,

t1.HireDate

--Q5

WITH CTE\_Cus AS (

SELECT t1.SalesOrderID,

t2.CustomerID,

t3.LastName,

t3.FirstName,

t2.PersonID,

t1.OrderDate AS "LastOrder",

LAG(OrderDate,1) OVER(PARTITION BY PersonID ORDER BY OrderDate) AS "PreviousOrder"

FROM Sales.SalesOrderHeader t1

JOIN Sales.Customer t2

ON t1.CustomerID = t2.CustomerID

JOIN Person.Person t3

ON t3.BusinessEntityID = t2.PersonID

)

SELECT SalesOrderID,

CustomerID,

LastName,

FirstName,

LastOrder,

PreviousOrder

FROM CTE\_Cus t4

WHERE LastOrder IN (SELECT MAX(LastOrder)

FROM CTE\_Cus t5

WHERE t4.CustomerID = t5.CustomerID)

--Q6

SELECT [YEAR],

SalesOrderID,

LastName,

FirstName,

Total

FROM ( SELECT tt.[YEAR],

tt.SalesOrderID,

tt.LastName,

tt.FirstName,

tt.Total,

ROW\_NUMBER() OVER(PARTITION BY [YEAR] ORDER BY Total DESC) AS "RN"

FROM

( SELECT YEAR(t2.OrderDate) AS "YEAR",

t1.SalesOrderID,

t4.LastName,

t4.FirstName,

SUM(t1.LineTotal) AS "Total"

FROM Sales.SalesOrderDetail t1

JOIN Sales.SalesOrderHeader t2

ON t1.SalesOrderID = t2.SalesOrderID

JOIN Sales.Customer t3

ON t3.CustomerID = t2.CustomerID

JOIN Person.Person t4

ON t4.BusinessEntityID = t3.PersonID

GROUP BY YEAR(t2.OrderDate),

t1.SalesOrderID,

t4.LastName,

t4.FirstName

) tt

) tt1

WHERE RN < 2

--Q7

SELECT M AS 'Monthly',

[2011],

[2012],

[2013],

[2014]

FROM (

SELECT YEAR(t2.OrderDate) AS 'Y',

MONTH(t2.OrderDate) AS 'M',

t1.SalesOrderID

FROM Sales.SalesOrderDetail t1

JOIN Sales.SalesOrderHeader t2

ON t1.SalesOrderID = t2.SalesOrderID

GROUP BY YEAR(t2.OrderDate),

MONTH(t2.OrderDate) ,

t1.SalesOrderID) tt

PIVOT(COUNT(SalesOrderID) FOR Y in ([2011],[2012],[2013],[2014])) AS pvt

ORDER BY M

--Q8

WITH CTE\_Ord AS

(SELECT YEAR(t2.OrderDate) AS 'Y',

MONTH(t2.OrderDate) AS 'M',

SUM(t1.LineTotal) AS 'SumPrice',

SUM(SUM(t1.LineTotal))OVER(PARTITION BY YEAR(t2.OrderDate) ORDER BY MONTH(t2.OrderDate)) AS 'Money'

FROM Sales.SalesOrderDetail t1

JOIN Sales.SalesOrderHeader t2

ON t1.SalesOrderID = t2.SalesOrderID

GROUP BY YEAR(t2.OrderDate) ,

MONTH(t2.OrderDate))

SELECT Y AS 'Year',

M AS 'Month',

CAST(SumPrice AS NVARCHAR(50)) AS 'Sum\_Price',

[Money]

FROM CTE\_Ord

UNION

SELECT Y,

Null,

CAST('GrandTotal' AS NVARCHAR(50)),

SUM(SumPrice) OVER(PARTITION BY Y ORDER BY Y)

FROM CTE\_Ord

--Q9

WITH CTE\_Emp AS

(SELECT DepartmentName,

EmployeesId,

[Employees Full Name],

HireDate,

EndDate,

Seniority

FROM(

SELECT t3.[Name] AS 'DepartmentName',

t1.BusinessEntityID AS 'EmployeesId',

t4.FirstName+' '+t4.LastName AS 'Employees Full Name',

t1.HireDate,

t2.EndDate,

DATEDIFF(MONTH,t1.HireDate,GETDATE()) AS 'Seniority'

FROM HumanResources.Employee t1

JOIN HumanResources.EmployeeDepartmentHistory t2

ON t1.BusinessEntityID = t2.BusinessEntityID

JOIN HumanResources.Department t3

ON t3.DepartmentID = t2.DepartmentID

JOIN Person.Person t4

ON t4.BusinessEntityID = t1.BusinessEntityID

WHERE EndDate is null

GROUP BY t3.[Name],

t1.BusinessEntityID,

t4.FirstName,

t4.LastName,

t2.EndDate,

t1.HireDate) tt)

SELECT DepartmentName,

EmployeesId,

[Employees Full Name],

HireDate,

Seniority,

LAG([Employees Full Name],1) OVER(PARTITION BY DepartmentName ORDER BY HireDate) AS 'PreviusEmpName',

LAG(HireDate,1) OVER(PARTITION BY DepartmentName ORDER BY hiredate) AS 'PreviusEmpDate',

DATEDIFF(DAY,LAG(HireDate,1) OVER(PARTITION BY DepartmentName ORDER BY HireDate),HireDate) AS 'DiffDAYS'

FROM CTE\_Emp

GROUP BY DepartmentName,

EmployeesId,

[Employees Full Name],

HireDate,

Seniority

ORDER BY DepartmentName,HireDate DESC

--Q10

SELECT t2.HireDate,

t3.DepartmentID,

STRING\_AGG(CAST(t2.BusinessEntityID AS VARCHAR(10)) + t1.LastName + ' ' + t1.FirstName, ' , ') AS 'Emp'

FROM Person.Person t1

JOIN HumanResources.Employee t2

ON t1.BusinessEntityID = t2.BusinessEntityID

JOIN HumanResources.EmployeeDepartmentHistory t3

ON t3.BusinessEntityID = t2.BusinessEntityID

WHERE t3.EndDate is null

GROUP BY t2.HireDate, t3.DepartmentID

ORDER BY t2.HireDate