**CMSC/CIS 255 Fall 2016**

**Table Expressions Exercise**

Use TSQL2012.

1. (a) Create a view called Sales.TotalOrderValue containing, for each order the orderid, orderdate, custid and total value of the order.

IF OBJECT\_ID('Sales.TotalOrderValue') IS NOT NULL

DROP VIEW Sales.TotalOrderValue;

GO

CREATE VIEW Sales.TotalOrderValue

AS

SELECT O.orderid, O.orderdate, O.custid, SUM(OD.qty \* OD.unitprice) AS TotalValue

FROM Sales.Orders AS O

INNER JOIN Sales.OrderDetails AS OD

ON O.orderid = OD.orderid

GROUP BY O.orderid, O.orderdate, O.custid;

GO

(b) Use the view in (a) to show, for each order, what percentage the order’s total value is of the total value of all orders by that customer.

SELECT TV1.orderid, TV1.custid, (TV1.TotalValue / (SELECT SUM(TV.TotalValue)

FROM Sales.TotalOrderValue AS TV

WHERE TV.custid = TV1.custid

GROUP BY TV.custid) \* 100) AS Percentage

FROM Sales.TotalOrderValue AS TV1;

1. Show, for each customer, the change in how much they spent from each year to the next.

WITH YearlyTotalSpent AS

(

SELECT T.custid, YEAR(T.orderdate) AS Year, SUM(T.TotalValue) AS TotalSpent

FROM Sales.TotalOrderValue AS T

WHERE T.custid IN (SELECT T1.custid

FROM Sales.TotalOrderValue AS T1)

GROUP BY T.custid, YEAR(T.orderdate)

)

SELECT Cur.custid, Cur.Year,

FROM YearlyTotalSpent AS Cur JOIN YearlyTotalSpent AS Prev

ON Cur.Year = Prev.Year + 1 AND CUR.custid = Prev.custid

ORDER BY CUR.custid, Cur.Year;

1. Create an inline TVF called Sales.GetLargeOrders which accepts as inputs a product id and quantity amount. The function should return the orderid and quantity ordered for every order where the given product id was ordered in an amount larger than the given quantity.

IF OBJECT\_ID('Sales.GetLargeOrders') IS NOT NULL

DROP FUNCTION Sales.GetLargeOrders;

GO

CREATE FUNCTION Sales.GetLargeOrders(@productid AS INT, @qty AS INT) RETURNS TABLE

AS

RETURN

SELECT S.orderid, S.qty

FROM Sales.OrderDetails AS S

WHERE S.productid = @productid AND S.qty > @qty;

GO

E.g. SELECT \* FROM Sales.GetLargeOrders(11, 20)

should return all orderid’s and quantities where productid 11 was ordered more than 20 times. The result should be:

