Problem Set for Aggregate Queries (AdventureWorks2014)

1. Write a query using the Production.Product table that returns the minimum, maximum, and average ListPrice.
2. Write a query that returns the average freight amount for each TerritoryID in the Sales.SalesOrderHeader table.
3. Write a query that returns a count of detail lines in the Sales.SalesOrderDetail table for each SalesOrderID. Include only orders that have at least three detail lines.
4. Write a query that groups the products by ProductModelID along with a count. Display the rows that have a count that equals 1.
5. Change the previous query so that only the products that are red or blue are included.
6. Write a query joining the Person.Person, Sales.Customer, and Sales.SalesOrderHeader table. Return a list of the customers with their names and the count of orders each one has placed.

1. Write a query using the Production.Product table that returns the minimum, maximum, and average ListPrice for each product. Include the ProductID and Name in the results.

```
SELECT MIN(ListPrice) AS MinPrice,
        MAX(ListPrice) AS MaxPrice,
        AVG(ListPrice) AS AvgPrice
FROM Production.Product;
```

2. Write a query that returns the average freight for each TerritoryID in the Sales.SalesOrderHeader table.

```
SELECT TerritoryID, AVG(Freight) AS AvgFreight
FROM Sales.SalesOrderHeader
GROUP BY TerritoryID;
```

3. Write a query that returns a count of detail lines in the Sales.SalesOrderDetail table for each SalesOrderID. Include only orders that have at least three detail lines.

```
SELECT SalesOrderID, COUNT(*) CountOfDetails
FROM Sales.SalesOrderDetail
GROUP BY SalesOrderID
HAVING COUNT(*) >= 3;
```

4. Write a query that groups the products by ProductModelID along with a count. Display the rows that have a count that equals 1.

```
SELECT ProductModelID, COUNT(*)  CountOfProducts
FROM Production.Product
GROUP BY ProductModelID
HAVING COUNT(*) = 1;
```

5. Change the previous query so that only the products that are red or blue are included.

```
SELECT ProductModelID, COUNT(*)  CountOfProducts
FROM Production.Product
WHERE Color IN ('Red','Blue')
GROUP BY ProductModelID
HAVING COUNT(*) = 1;
```

6. Write a query joining the Person.Person, Sales.Customer, and Sales.SalesOrderHeader table. Return a list of the customers with their names and the count of orders each one has placed.

```
SELECT Cust.CustomerID, Pers.FirstName, Pers.LastName,
        COUNT(*) AS CountOfSales
FROM Person.Person AS Pers
INNER JOIN Sales.Customer AS Cust ON Pers.BusinessEntityID = Cust.CustomerID
INNER JOIN Sales.SalesOrderHeader AS SOH ON Cust.CustomerID = SOH.CustomerID
GROUP BY Cust.CustomerID, Pers.FirstName, Pers.LastName;
```