SQL Practice Exercises (not graded)

For questions 1-11, submit the SQL statements along with a screenshot of SQL Server output. Use the AdventureWorks2012 database in SQL server. Explain your SQL statements as necessary. The desired screenshot of the output for some statements is given below.

1. Retrieve the average price and the sum of year-to-date sales, grouped by product ID and special offer ID in *Sales.SalesOrderDetail* table.

	ProductID	SpecialOfferID	Average Price	SubTotal
1	707	11	15.7455	2971.175850
2	707	8	16.8221	2452.662180
3	707	3	18.9272	2191.058910
4	707	1	31.3436	141271.252000
5	707	2	20.0556	8886.245452
6	708	8	16.8221	2316.403170
7	708	11	15.7455	2997.943200
8	708	3	18.9753	3461.676690
9	708	2	20.0502	11689.730276
10	708	1	30.9648	140403.764500
11	709	2	5.51	723.573200

2. Retrieve only the rows with list prices greater than $1000 in Production.Product table. Group and order the results by *ProductModelID*.

	ProductModelID	Average List Price
1	5	1357.05
2	6	1431.50
3	7	1003.91
4	19	3387.49
5	20	2307.49
6	21	1079.99
7	25	3578.27

3. Retrieve products whose average order quantity is five or more in *Sales.SalesOrderDetail* table. Group the rows by *ProductID*.

	ProductID
1	862
2	863
3	864

4. Retrieve total sales and the discounts for each product using *Production.Product and Sales.SalesOrderDetail.* Descending order by ProductName.

	ProductName	NonDiscountSales	Discounts
1	Women's Tights, S	44.994	0.00
2	Women's Tights, S	89.988	0.00
3	Women's Tights, S	224.97	0.00
4	Women's Tights, S	565.4246	11.3085
5	Women's Tights, S	134.982	0.00
6	Women's Tights, S	224.97	0.00
7	Women's Tights, S	179.976	0.00
8	Women's Tights, S	44.994	0.00
9	Women's Tights, S	89.988	0.00
10	Women's Tights, S	44.994	0.00
11	Women's Tights, S	224.97	0.00

5. **Retrieve ProductID, ProductName, OrderQty, and UnitPrice of customers. It will use two tables: Production.Product and Sales.SalesOrderDetail.**

	ProductID	ProductName	OrderQty	UnitPrice
1	776	Mountain-100 Black, 42	1	2024.994
2	777	Mountain-100 Black, 44	3	2024.994
3	778	Mountain-100 Black, 48	1	2024.994
4	771	Mountain-100 Silver, 38	1	2039.994
5	772	Mountain-100 Silver, 42	1	2039.994
6	773	Mountain-100 Silver, 44	2	2039.994
7	774	Mountain-100 Silver, 48	1	2039.994
8	714	Long-Sleeve Logo Jersey, M	3	28.8404
9	716	Long-Sleeve Logo Jersey, XL	1	28.8404
10	709	Mountain Bike Socks, M	6	5.70

6. Select all names in *HumanResources.Department* table that start with “Pr”.

	DepartmentID	Name	GroupName	ModifiedDate
1	7	Production	Manufacturing	2002-06-01 00:00:00.000
2	8	Production Control	Manufacturing	2002-06-01 00:00:00.000

7. Using the Sales.SalesOrderHeader table, create a new column called "TotalDueCast" which show only two decimal points. Use the CAST function.

	SalesOrderNumber	TotalDue	TotalDueCast
1	SO43659	23153.2339	23153.23
2	SO43660	1457.3288	1457.33
3	SO43661	36865.8012	36865.80
4	SO43662	32474.9324	32474.93
5	SO43663	472.3108	472.31
6	SO43664	27510.4109	27510.41
7	SO43665	16158.6961	16158.70
8	SO43666	5694.8564	5694.86
9	SO43667	6876.3649	6876.36
10	SO43668	40487.7233	40487.72

8. Update the list price of the product (*Production.Product*) by 10% where product sub-category (*Production.ProductSubcategory*) is socks.

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(4 row(s) affected)
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9. Return only the rows for Product that have a product line of R and that have days to manufacture that is less than 4 in the Production.Product table.

	Name	ProductNumber	Price
1	Headlights - Dual-Beam	LT-H902	34.99
2	Headlights - Weatherproof	LT-H903	44.99
3	HL Road Frame - Black, 44	FR-R92B-44	1431.50
4	HL Road Frame - Black, 48	FR-R92B-48	1431.50
5	HL Road Frame - Black, 52	FR-R92B-52	1431.50
6	HL Road Frame - Black, 58	FR-R92B-58	1431.50
7	HL Road Frame - Black, 62	FR-R92B-62	1431.50
8	HL Road Frame - Red, 44	FR-R92R-44	1431.50
9	HL Road Frame - Red, 48	FR-R92R-48	1431.50

10. Return unique job titles from the HumanResources.Employee table.

	JobTitle
1	Accountant
2	Accounts Manager
3	Accounts Payable Specialist
4	Accounts Receivable Specialist
5	Application Specialist
6	Assistant to the Chief Financial Officer
7	Benefits Specialist
8	Buyer
9	Chief Executive Officer

11. Using the Sales.SalesOrderDetail table, find the average price of each type of product for orders of 10 or more items. Order the results by average price.

	ProductID	Average Price
1	873	1.3282
2	870	2.8325
3	877	4.5343
4	712	5.0313
5	875	5.08
6	874	5.2142
7	709	5.3243
8	844	11.5942
9	952	11.7392

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