**Question 4:**

1) list all products which had sold less than msrp price.

select distinct p.productname from orderDetails o inner join products p on p.productcode=o.productcode and o.priceeach<p.msrp;

This query results in all the products which sold out with less prices than the initial provided price. This query is generally used to identify the lose

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| 1969 Harley Davidson Ultimate Chopper |

| 1952 Alpine Renault 1300 |

| 1996 Moto Guzzi 1100i |

| 2003 Harley-Davidson Eagle Drag Bike |

| 1972 Alfa Romeo GTA |

| 1962 LanciaA Delta 16V |

| 1968 Ford Mustang |

| 2001 Ferrari Enzo |

| 1958 Setra Bus |

| 2002 Suzuki XREO |

| 1969 Corvair Monza |

| 1968 Dodge Charger |

| 1969 Ford Falcon |

| 1970 Plymouth Hemi Cuda |

| 1957 Chevy Pickup |

| 1969 Dodge Charger |

| 1940 Ford Pickup Truck |

| 1993 Mazda RX-7 |

| 1937 Lincoln Berline |

| 1936 Mercedes-Benz 500K Special Roadster |

| 1965 Aston Martin DB5 |

| 1980s Black Hawk Helicopter |

| 1917 Grand Touring Sedan |

| 1948 Porsche 356-A Roadster |

| 1995 Honda Civic |

| 1998 Chrysler Plymouth Prowler |

| 1911 Ford Town Car |

| 1964 Mercedes Tour Bus |

| 1932 Model A Ford J-Coupe |

| 1926 Ford Fire Engine |

| P-51-D Mustang |

| 1936 Harley Davidson El Knucklehead |

| 1928 Mercedes-Benz SSK |

| 1999 Indy 500 Monte Carlo SS |

| 1913 Ford Model T Speedster |

| 1934 Ford V8 Coupe |

| 1999 Yamaha Speed Boat |

| 18th Century Vintage Horse Carriage |

| 1903 Ford Model A |

| 1992 Ferrari 360 Spider red |

| Collectable Wooden Train |

| 1969 Dodge Super Bee |

| 1917 Maxwell Touring Car |

| 1976 Ford Gran Torino |

| 1948 Porsche Type 356 Roadster |

| 1957 Vespa GS150 |

| 1941 Chevrolet Special Deluxe Cabriolet |

| 1970 Triumph Spitfire |

| 1932 Alfa Romeo 8C2300 Spider Sport |

| 1904 Buick Runabout |

| 1940s Ford truck |

| 1939 Cadillac Limousine |

| 1957 Corvette Convertible |

| 1957 Ford Thunderbird |

| 1970 Chevy Chevelle SS 454 |

| 1970 Dodge Coronet |

| 1997 BMW R 1100 S |

| 1966 Shelby Cobra 427 S/C |

| 1928 British Royal Navy Airplane |

| 1939 Chevrolet Deluxe Coupe |

| 1960 BSA Gold Star DBD34 |

| 18th century schooner |

| 1938 Cadillac V-16 Presidential Limousine |

| 1962 Volkswagen Microbus |

| 1982 Ducati 900 Monster |

| 1949 Jaguar XK 120 |

| 1958 Chevy Corvette Limited Edition |

| 1900s Vintage Bi-Plane |

| 1952 Citroen-15CV |

| 1982 Lamborghini Diablo |

| 1912 Ford Model T Delivery Wagon |

| 1969 Chevrolet Camaro Z28 |

| 1971 Alpine Renault 1600s |

| 1937 Horch 930V Limousine |

| 2002 Chevy Corvette |

| 1940 Ford Delivery Sedan |

| 1956 Porsche 356A Coupe |

| Corsair F4U ( Bird Cage) |

| 1936 Mercedes Benz 500k Roadster |

| 1992 Porsche Cayenne Turbo Silver |

| 1936 Chrysler Airflow |

| 1900s Vintage Tri-Plane |

| 1961 Chevrolet Impala |

| 1980's GM Manhattan Express |

| 1997 BMW F650 ST |

| 1982 Ducati 996 R |

| 1954 Greyhound Scenicruiser |

| 1950's Chicago Surface Lines Streetcar |

| 1996 Peterbilt 379 Stake Bed with Outrigger |

| 1928 Ford Phaeton Deluxe |

| 1974 Ducati 350 Mk3 Desmo |

| 1930 Buick Marquette Phaeton |

| Diamond T620 Semi-Skirted Tanker |

| 1962 City of Detroit Streetcar |

| 2002 Yamaha YZR M1 |

| The Schooner Bluenose |

| American Airlines: B767-300 |

| The Mayflower |

| HMS Bounty |

| America West Airlines B757-200 |

| The USS Constitution Ship |

| 1982 Camaro Z28 |

| ATA: B757-300 |

| F/A 18 Hornet 1/72 |

| The Titanic |

| The Queen Mary |

| American Airlines: MD-11S |

| Boeing X-32A JSF |

| Pont Yacht |

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2) What is the difference in the amount received for each month of 2004 compared to 2003?

select p.amount - q.amount as Amount  
from   
(select sum(amount) as amount,paymentdate from payments where year(paymentdate)=2003   
group by   
month(paymentdate))q,  
(select sum(amount) as amount,paymentdate from payments where year(paymentdate)=2004   
group by   
month(paymentdate))p group by month(p.paymentdate);

This query has 2 sub queries p and q. p gives the sum of payments for every month of 2004 and q gives for 2003. Finally result of these amount are subtracted in the final query.

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| Amount |

+--------------------+

| 207884.51 |

| 80384.38999999998 |

| 378335.58999999997 |

| 146978.34000000003 |

| 182256.80000000002 |

| 159575.24000000002 |

| 257923.86 |

| 351826.68 |

| 450177.91000000003 |

| 158835.81000000003 |

| 830919.6799999998 |

| 793017.9999999999 |

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3) Number of quantities ordered whose order status is 'On Hold'

select sum(quantityordered)

from orderdetails where ordernumber in (select ordernumber from orders where status='On Hold');

In the query the subquery give the all the ordernumber from orders table. In the main query we will all all the quantityordered based on the ordernumber from the subquery.

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| sum(quantityordered) |

+----------------------+

| 1994 |

+----------------------+

4) Number of repeated customer(s) places orders, (customers are identified based on the phone number).

select a.sum-b.sum from

(select count(phone) as sum from customers)a,

(select count(\*) as sum

from (select distinct phone

from customers) as internalquery)b ;

Based on the customer's phone number we are identify the number of distinct phone numbers and we also identify the number of customers (includes repeated customers). In the main query we subtract both the sub query to get the result.

+-------------+

| a.sum-b.sum |

+-------------+

| 1 |

+-------------+

5 Find the days(mon,tu,we,…) in ascending order based on the number of orders. (Busiest days)

select dayname(orderdate), count(\*)

from orders

group by dayname(orderDate)

order by 2 desc;

Based on the number of customers in a give day, It will display all the days in ascending order.

In this query I used a function dayname() with return day of the give date and I used group by function to group the data based on the days(

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| dayname(orderdate) | count(\*) |

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| Friday | 69 |

| Wednesday | 64 |

| Thursday | 59 |

| Tuesday | 56 |

| Monday | 50 |

| Saturday | 17 |

| Sunday | 11 |

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6) List all the countries and number of customers in that country

select country, count(customerNumber)   
from customers   
group by country ;

Using group by on country and displayed all the countries and number of customers

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| country | count(customerNumber) |

+--------------+-----------------------+

| Australia | 5 |

| Austria | 2 |

| Belgium | 2 |

| Canada | 3 |

| Denmark | 2 |

| Finland | 3 |

| France | 12 |

| Germany | 13 |

| Hong Kong | 1 |

| Ireland | 2 |

| Israel | 1 |

| Italy | 4 |

| Japan | 2 |

| Netherlands | 1 |

| New Zealand | 4 |

| Norway | 3 |

| Philippines | 1 |

| Poland | 1 |

| Portugal | 2 |

| Russia | 1 |

| Singapore | 3 |

| South Africa | 1 |

| Spain | 7 |

| Sweden | 2 |

| Switzerland | 3 |

| UK | 5 |

| USA | 36 |

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7) Average number of days it takes to ship orders

select avg(p.sum) from (select datediff(shippeddate,orderdate) as sum from orders)p;

This query contains two queries, one for identifying number of days it had taken for each order and the main query for doing average on those days.

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| avg(p.sum) |

+------------+

| 3.7564 |

+------------+

8) How much value of the products available in this company ( (number products) x (number of products))

select sum(p.costper) from (select buyprice\*quantityinstock as costper from products)p;

subquery multiplies buyprice and quantityinstock for all proudcts and main query adds all of them. Which give the amount

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| sum(p.costper) |

+--------------------+

| 30534316.229999993 |

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9) All the customers whose lastname start with b and first name ends with a

select distinct contactlastName,contactfirstName from customers where contactlastName like "B%" and contactfirstname like "%a";

we use ‘like’ and delimiter % to identify rest of the characters.

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| contactlastName | contactfirstName |

+-----------------+------------------+

| Benitez | Violeta |

+-----------------+------------------+

10)How many distinct products does ClassicModels sell?

select distinct count(productname) from products;

We use distinct to identify the unique product in the proudcts table.

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| count(productname) |

+--------------------+

| 110 |

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