1. Identify the make and model of the car that has sold the most

```
SELECT Make,Model,CarCount
FROM ( SELECT Make,Model,COUNT(VIN) as CarCount
       FROM SaleDetails NATURAL JOIN CAR
       GROUP BY Make,Model )
WHERE CarCount = ( SELECT MAX(COUNT(VIN))
                   FROM SaleDetails NATURAL JOIN Car
                   GROUP BY Make,Model )
ORDER BY Make asc ;
```

2. Identify the cities where more than 20 customers are from

```
SELECT City, COUNT(City) as CityCount
FROM Customer
GROUP BY City
HAVING COUNT(CITY) > 20
ORDER BY CityCount asc ;
```

3. Identify employee with lowest average customer satisfaction rating

```
SELECT EId, AvgRating
FROM ( SELECT EId,AVG(CustomerRating) as AvgRating
       FROM SaleDetails NATURAL JOIN Employee
       GROUP BY EId )
WHERE AvgRating = ( SELECT MIN(AVG(CustomerRating))
                    FROM SaleDetails NATURAL JOIN Employee
                    GROUP BY EId )
ORDER BY EId asc ;
```

4. Calculate the total cost that is spent on servicing cars that are under warranty

```
SELECT SUM(Service_Cost) as Total_ServiceCost
FROM ServiceDetails
WHERE Service_Type = 'Warranty' ;
```

5. Generate list of cars that are still under warranty, and the name and email address of the customer it belongs to

```
SELECT Warranty_End_Date,Car.Make, Car.Model, Customer.FirstName,
       Customer.LastName, Customer.EmailID
FROM SaleDetails Join Customer on SaleDetails.CustomerID = Customer.CustomerID
     Join Car on SaleDetails.VIN = Car.VIN
WHERE Warranty_End_Date > sysdate ;
```

6. Identify the dealer location that has made the most money in the given date range i.e., '01-NOV-2014' and '30-DEC-2014'

```
SELECT Location
FROM Dealer
WHERE DealerId = (
      SELECT Dealer_Id
      FROM Employee join SaleDetails on Employee.EID = SaleDetails.EId
      WHERE Employee.EID  in (
            SELECT Sales_ID
            FROM (
                  SELECT SaleDetails.EId as Sales_ID,SellingPrice,
                        BuyingPrice, Refurbish_Cost, SellingPrice -
                        BuyingPrice - Refurbish_Cost as Profit
                  FROM SaleDetails INNER JOIN BuyDetails
                       on SaleDetails.VIN = BuyDetails.VIN
                       JOIN RefurbishDetails
                       on BuyDetails.VIN = RefurbishDetails.VIN
                       AND sellingdate BETWEEN '01-NOV-2014' AND '30-DEC-2014'
                  )
            WHERE Profit =
                  ( SELECT MAX(SellingPrice - BuyingPrice - Refurbish_Cost)
                    FROM SaleDetails
                    INNER JOIN BuyDetails on SaleDetails.VIN = BuyDetails.VIN
                    JOIN RefurbishDetails on BuyDetails.VIN =
                         RefurbishDetails.VIN
                   AND sellingdate BETWEEN '01-NOV-2014' AND '30-DEC-2014')
                              ));
```

7. Identify the month that has the maximum car sales in a given year,e.g. 2008

```
SELECT Year, Month, MaxSales
FROM ( SELECT EXTRACT(year from SellingDate)as Year,
              EXTRACT(month from SellingDate)as Month,
              COUNT(EXTRACT(month from SellingDate)) as MaxSales
        FROM SaleDetails
        WHERE EXTRACT(year from SellingDate)='2008'
        GROUP BY EXTRACT(year from SellingDate),
                 EXTRACT(month from SellingDate)
      )
WHERE MaxSales =( SELECT MAX(COUNT(EXTRACT(month from SellingDate)))
                  FROM saledetails
                  WHERE EXTRACT(year from SellingDate)='2008'
                  GROUP BY EXTRACT(month from SellingDate)
                 )
ORDER BY Month asc;
```

8. Calculate the commission that should be paid to each sales employee for a particular month, e.g. March 2014

```
SELECT Sales_ID, SUM(Profit), 0.25 * SUM(PROFIT) as Commission
FROM
    ( SELECT SellingDate, SaleDetails.EId as Sales_ID,SellingPrice,
              BuyingPrice, Refurbish_Cost, SellingPrice - BuyingPrice -
              Refurbish_Cost as Profit
      FROM SaleDetails INNER JOIN BuyDetails
           on SaleDetails.VIN = BuyDetails.VIN
           JOIN RefurbishDetails on BuyDetails.VIN = RefurbishDetails.VIN
      WHERE SellingDate BETWEEN '01-MAR-2014' AND '01-APR-2014'
     )
GROUP BY Sales_ID
ORDER BY Sales_ID asc;
```

9. List all sales employees with their total number of sales

```
SELECT EId, FirstName, LastName,
      ( SELECT COUNT(SaleDetails.EId)
        FROM SaleDetails
        WHERE SaleDetails.EId = Employee.EId ) as SalesCount
FROM Employee
WHERE EId < 'Emp081';
```

10. Identify employees making more/less than some number of sales i.e., 2 over a given time range

```
 SELECT FirstName,LastName
 FROM Employee
 WHERE EID in ( SELECT EID
                FROM SaleDetails
                WHERE SellingDate BETWEEN '01-Jan-2011' AND '30-DEC-2014'
                GROUP BY EID
                HAVING count(EID)>2 );
```

11. Generate list of how many times each sales employee has received a particular rating

```
SELECT EId, CustomerRating, COUNT(VIN) as Number_of_sales
FROM SaleDetails
GROUP BY ROLLUP(EId, CustomerRating);
```

```
UPDATE Customer
SET  FirstName ='Priyanka', LastName = 'Murthy'
WHERE CustomerID = 'Cust167';


UPDATE Customer
SET  FirstName ='Nathan', LastName = 'Huang'
WHERE CustomerID = 'Cust160';

UPDATE Customer
SET  FirstName ='Sriranga', LastName = 'Ramakrishna'
WHERE CustomerID = 'Cust025';



SQL> SELECT Warranty_End_Date,Car.Make, Car.Model,Customer.CustomerID,
Customer.FirstName,
  2         Customer.LastName, Customer.EmailID
  3  FROM SaleDetails Join Customer on SaleDetails.Customer_ID =
Customer.CustomerID
     Join Car on SaleDetails.VIN = Car.VIN
WHERE Warranty_End_Date > sysdate ;
  4    5
WARRANTY_ MAKE                 MODEL               CUSTOMERID FIRSTNAME
LASTNAME            EMAILID
--------- -------------------- -------------------- ----------
------------------ ------------------- ------------------------------------
13-FEB-18 Ford                 Mustang             Cust160    Nathan
Huang               RyanHarris@hexa.org
26-NOV-17 Honda                Civic               Cust167    Priyanka
Murthy              TravisHead@zoho.com
19-JAN-18 Ford                 Taurus              Cust025    Sriranga
Ramakrishna         NajibullahZadran@hotmail.com
```