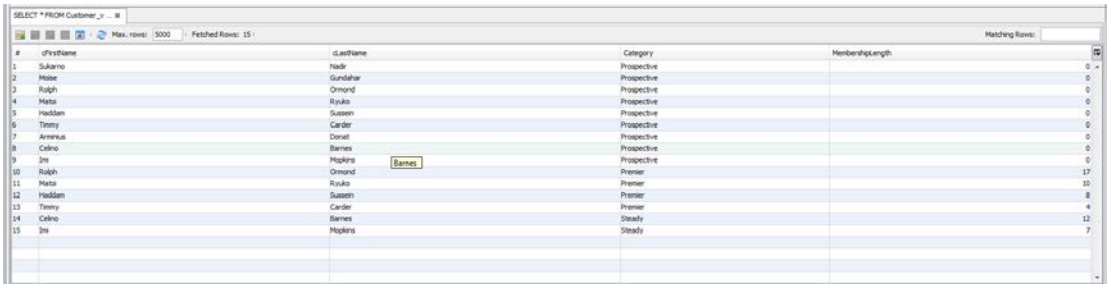
VIEW

1. Customer_v – for each customer, indicate his or her name as well as the customer type (prospect, steady or premier) as well as the number of years that customer has been with us.

    a. create view Customer_v as select cFirstName, cLastName,'Prospective'as Category, 0 as MembershipLength from Prospective p inner join Customer c1 UNION select cFirstName, cLastName,'Premier'as Category, (2017-YEAR(c2.cJoinedDate)) as MembershipLength from Premier p inner join Current c2 on p.cID=c2.cID inner join Customer c3 on p.cID=c3.cID UNION select cFirstName, cLastName,'Steady'as Category, (2017-YEAR(c4.cJoinedDate)) as MembershipLength from Steady s inner join Current c4 on s.cID=c4.cID inner join Customer c5 on s.cID=c5.cID;

    b.

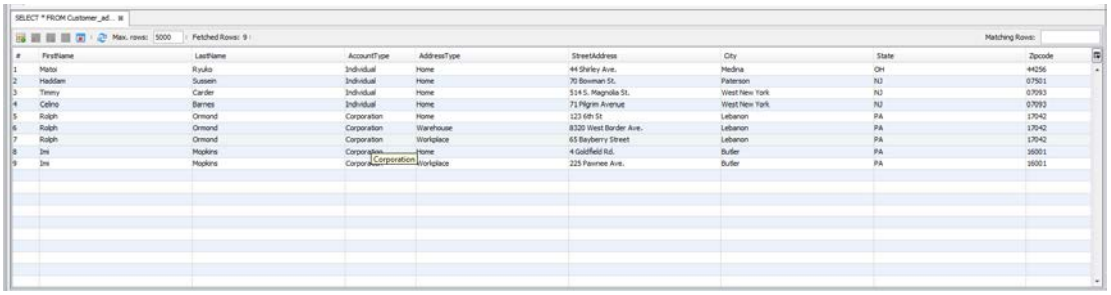
    c. 

#	cFirstName	cLastName	Category	MembershipLength
1	Sukarno	Nadir	Prospective	0
2	Moise	Gundahar	Prospective	0
3	Rolph	Ormond	Prospective	0
4	Matoi	Ryuko	Prospective	0
5	Haddam	Sussein	Prospective	0
6	Timmy	Carder	Prospective	0
7	Arminius	Donet	Prospective	0
8	Celino	Barnes	Prospective	0
9	Imi	Mopkins	Prospective	0
10	Rolph	Ormond	Premier	17
11	Matoi	Ryuko	Premier	10
12	Haddam	Sussein	Premier	8
13	Timmy	Carder	Premier	4
14	Celino	Barnes	Steady	12
15	Imi	Mopkins	Steady	7

2. Customer_addresses_v – for each customer, indicate whether they are an individual or a corporate account, and display all of the addresses that we are managing for that customer.

    a. create view Customer_addresses_v as select cFirstName as FirstName,cLastName as LastName,'Individual' as AccountType, aType as AddressType, aAddress as StreetAddress,zip.zCity as City, zip.zState as State, zip.zZIPCode as Zipcode from Address left outer join Customer on Address.cID=Customer.cID left outer join ZIPLocation zip on Address.zZIPCode=zip.zZIPCode GROUP by Address.cID Having count(Address.cID)=1 UNION select c.cFirstName as FirstName, c.cLastName as LastName,'Corporation' as AccountType, a.aType as AddressType, a.aAddress as StreetAddress,zip1.zCity as City, zip1.zState as State, zip1.zZIPCode as Zipcode from Address a left outer join Customer c on a.cID=c.cID left outer join ZIPLocation zip1 on zip1.zZIPCode=a.zZIPCode where a.cID in (select c1.cID from Address a1 left outer join Customer c1 on a1.cID=c1.cID GROUP BY c1.cFirstName HAVING COUNT(a1.cID)>1);

    b.

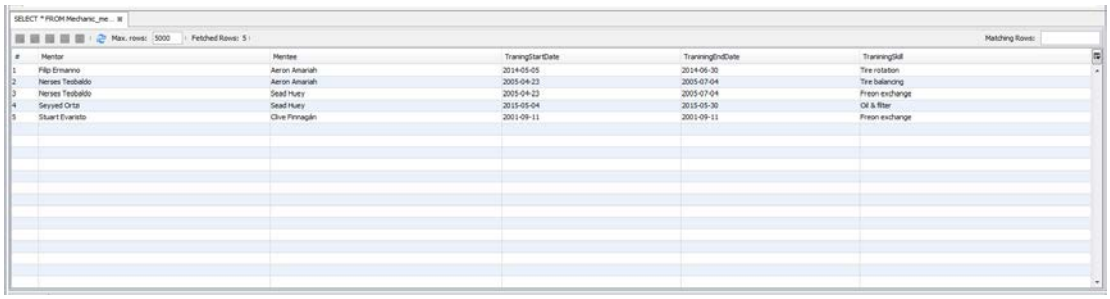
    c. 

#	FirstName	LastName	AccountType	AddressType	StreetAddress	City	State	Zipcode
1	Matoi	Ryuko	Individual	Home	44 Shirley Ave.	Medina	OH	44256
2	Haddam	Sussein	Individual	Home	70 Bowman St.	Paterson	NJ	07501
3	Timmy	Carder	Individual	Home	514 S. Magnolia St.	West New York	NJ	07093
4	Celino	Barnes	Individual	Home	71 Pilgrim Avenue	West New York	NJ	07093
5	Rolph	Ormond	Corporation	Home	123 6th St	Lebanon	PA	17042
6	Rolph	Ormond	Corporation	Warehouse	8320 West Border Ave.	Lebanon	PA	17042
7	Rolph	Ormond	Corporation	Workplace	65 Bayberry Street	Lebanon	PA	17042
8	Imi	Mopkins	Corporation	Home	4 Goldfield Rd.	Butler	PA	16001
9	Imi	Mopkins	Corporation	Workplace	225 Pawnee Ave.	Butler	PA	16001

3. Mechanic_mentor_v – reports all of the mentor/mentee relationships at Dave's, sorted by the name of the mentor, then the name of the mentee.

    a. create view Mechanic_metor_v as select e1.eName as Mentor, e2.eName as Mentee, t.tsStartDate as TraningStartDate,t.tsEndDate as TraniningEndDate ,t.tsSkillTrained as TraniningSkill from Mechanic m1 inner join Employee e1 on m1.eID=e1.eID right outer join TrainingSkill t on t.tsTrainerID=m1.eID left outer join Mechanic m2 on m2.eID=t.tsTraineeID inner join Employee e2 on m2.eID=e2.eID order by e1.eName, e2.eName;

    b.

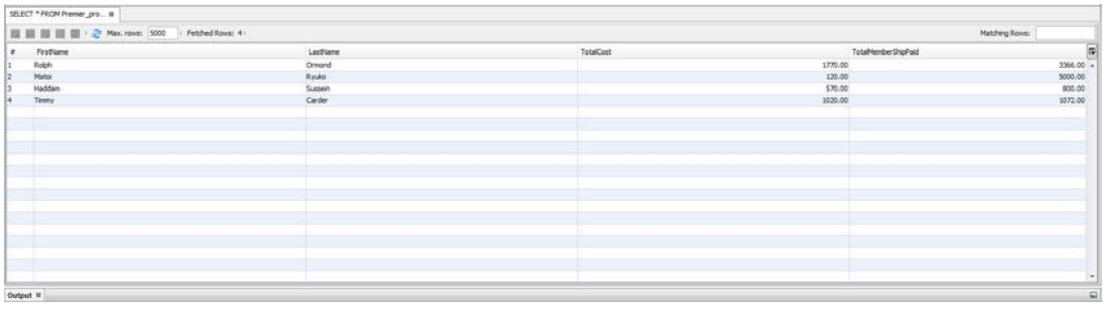
    c. 

#	Mentor	Mentee	TraningStartDate	TraningEndDate	TraningSkill
1	Filip Ermanno	Aeron Amariah	2014-05-05	2014-06-30	Tire rotation
2	Nerses Teobaldo	Aeron Amariah	2003-04-23	2003-07-04	Tire balancing
3	Nerses Teobaldo	Sead Huey	2003-04-23	2003-07-04	Freon exchange
4	Seyyed Orta	Sead Huey	2015-05-04	2015-05-30	Oil & filter
5	Stuart Evaristo	Clive Finnagin	2001-09-11	2001-09-11	Freon exchange

4. Premier_profits_v – On a year by year basis, show the premier customer's outlay versus what they would have been charged for the services which they received had they merely been steady customers.

    a. create view Premier_profits_v as select c.cFirstName as FirstName, c.cLastName as LastName, sum(m.miCost) as TotalCost, (p.pAnnualFee*(2017-YEAR(c2.cJoinedDate))) as TotalMemberShipPaid from ItemWork i left outer join MaintainItem m on i.miID=m.miID left outer join MaintainOrder mo on i.moID=mo.moID left outer join Vehicle v on mo.vVin=v.vVin left outer join Customer c on c.cID=v.cID left outer join Premier p on c.cID=p.cID left outer join Current c2 on c2.cID=p.cID where c.cID in (select p1.cID from Premier p1) group by c.cID ;

    b.

    c. 

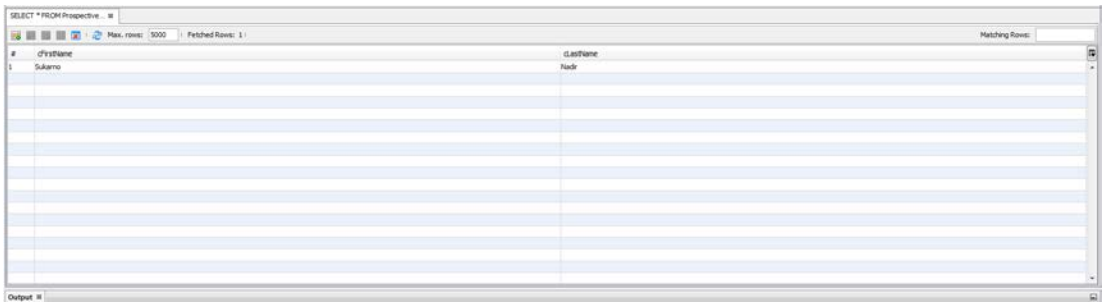
#	FirstName	LastName	TotalCost	TotalMemberShipPaid
1	Ralph	Ormond	1770.00	3366.00
2	Matoi	Ryuko	120.00	5000.00
3	Haddam	Sussein	570.00	800.00
4	Timmy	Carder	1020.00	1072.00

5. Prospective_resurrection_v – List all of the prospective customers who have had three or more contacts, and for whom the most recent contact was more than a year ago. They might be ripe for another attempt.

    a. create view Prospective_resurrection_v as select c1.cFirstName, c1.cLastName from Customer c1 inner join Prospective p1 on c1.cID=p1.cID where c1.cID NOT IN (select

p.cID from PromotionContact pc left outer join Prospective p on pc.cID=p.cID where pc.pcDate>'2013-12-31') AND p1.pDeadFlag=1;

b.

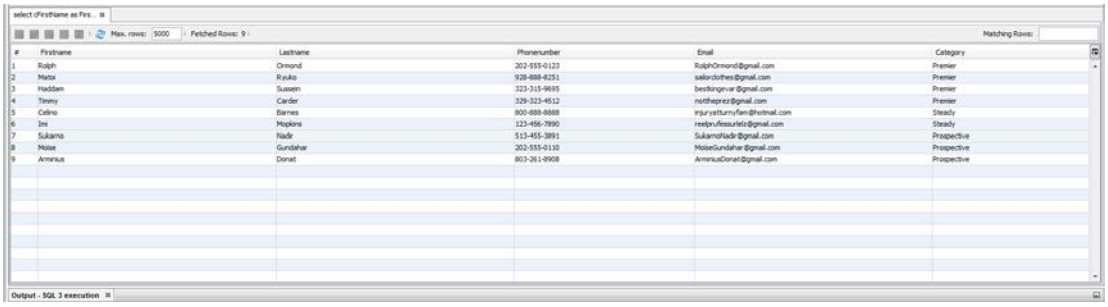
c. 

Queries

1. List the customers. For each customer, indicate which category he or she fall into, and his or her contact information. If you have more than one independent categorization of customers, please indicate which category the customer falls into for all of the categorizations.

    a. select cFirstName as Firstname, cLastName as Lastname, cPhoneNumber as Phonenumber, cEmail as Email, 'Premier' as Category from Premier natural join Customer UNION select cFirstName as Firstname, cLastName as Lastname, cPhoneNumber as Phonenumber, cEmail as Email, 'Steady' as Category from Steady natural join Customer UNION select cFirstName as Firstname, cLastName as Lastname, cPhoneNumber as Phonenumber, cEmail as Email, 'Prospective' as Category from Prospective natural join Customer;

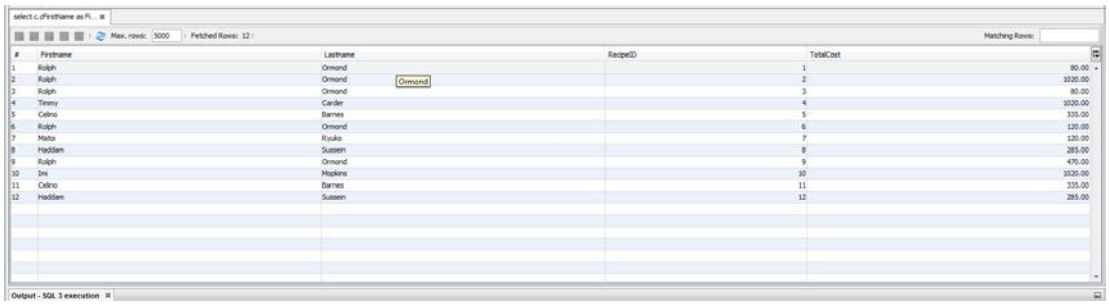
    b.

    c. 

2. For each service visit, list the total cost to the customer for that visit.

    a. select c.cFirstName as Firstname,c.cLastName as Lastname, mo.moID as RecipeID, sum(mi.miCost) as TotalCost from Customer c right outer join Vehicle v on c.cID=v.cID right outer join MaintainOrder mo on v.vVIN=mo.vVIN right outer join ItemWork iw on mo.moID=iw.moID left outer join MaintainItem mi on iw.miID=mi.miID group by mo.moID;

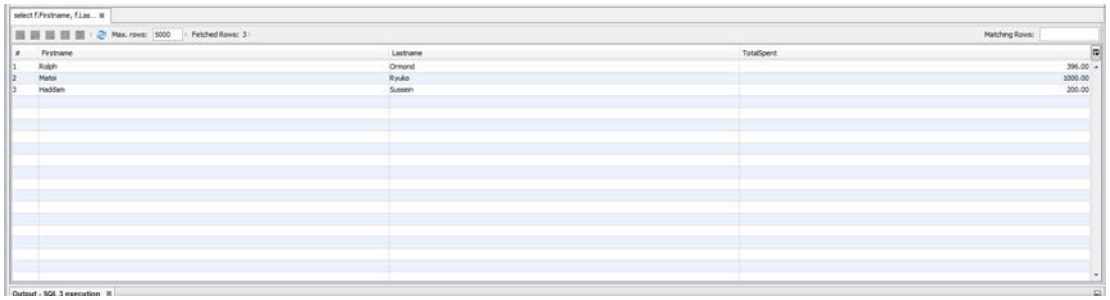
    b.

c. 

#	Firstname	Lastname	RecipeID	TotalCost
1	Rolph	Ormond	1	80.00
2	Rolph	Ormond	2	1020.00
3	Rolph	Ormond	3	80.00
4	Timmy	Carder	4	1020.00
5	Celino	Barnes	5	335.00
6	Rolph	Ormond	6	120.00
7	Matoi	Ryuko	7	120.00
8	Haddam	Sussein	8	285.00
9	Rolph	Ormond	9	470.00
10	Imi	Mopkins	10	1020.00
11	Celino	Barnes	11	335.00
12	Haddam	Sussein	12	285.00

3. List the top three customers in terms of their net spending for the past two years, and the total that they have spent in that period.

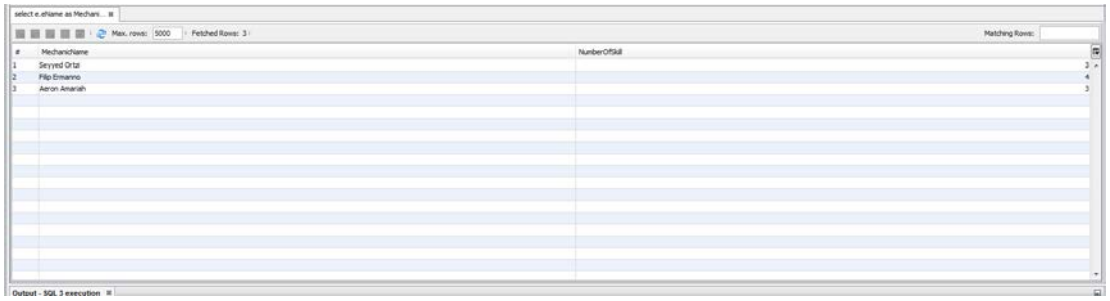
    a. select f.Firstname, f.Lastname, f.TotalSpent from(select c.cFirstName as Firstname, c.cLastName as Lastname,(p.pAnnualFee*2) as TotalSpent from Customer c inner join Premier p on c.cID=p.cID inner join Current cu on p.cID=cu.cID UNION select c1.cFirstName as Firstname, c1.cLastName as Lastname, sum(mi.miCost) as TotalSpent from Customer c1 inner join Steady s on c1.cID=s.cID right outer join Vehicle v on s.cID=v.cID right outer join MaintainOrder mo on v.vVIN=mo.vVIN right outer join ItemWork iw on mo.moID=iw.moID left outer join MaintainItem mi on iw.miID=mi.miID where iw.iwDate>'2015-01-01' group by (s.cID)) AS f LIMIT 3;

    b. c. 

#	Firstname	Lastname	TotalSpent
1	Rolph	Ormond	396.00
2	Matoi	Ryuko	1000.00
3	Haddam	Sussein	200.00

4. Find all of the mechanics who have three or more skills.

    a. select e.eName as MechanicName, COUNT(sk.eID) as NumberOfSkill from Employee e inner join Mechanic m on e.eID=m.eID right outer join SkillsetLine sk on m.eID=sk.eID GROUP By m.eID HAVING COUNT(sk.eID)>2;

    b. 

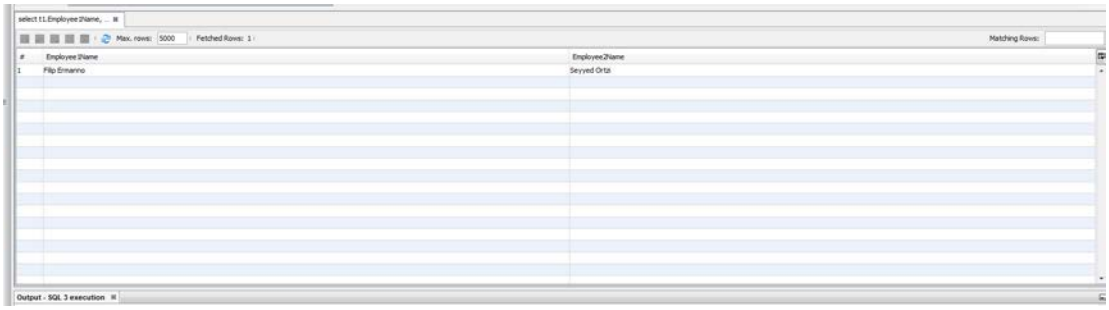
#	MechanicName	NumberOfSkill
1	Seyyed Ortal	3
2	Filip Ermanno	4
3	Aeron Amariah	3

5. Find all of the mechanics who have three or more skills **in common**.

    a. select t1.Employee1Name, t2.Employee2Name from (select e1.eName as Employee1Name, sk1.ssName as Employee1Skill from SkillsetLine sk1 left outer join

Employee e1 on sk1.eID=e1.eID) as t1 inner join (select e2.eName as Employee2Name, sk2.ssName as Employee2Skill from SkillsetLine sk2 left outer join Employee e2 on sk2.eID=e2.eID) as t2 on t1.Employee1Skill=t2.Employee2Skill where t1.Employee1Name <t2.Employee2Name group by CONCAT(t1.Employee1Name, t2.Employee2Name) HAVING Count(CONCAT(t1.Employee1Name, t2.Employee2Name))>2;

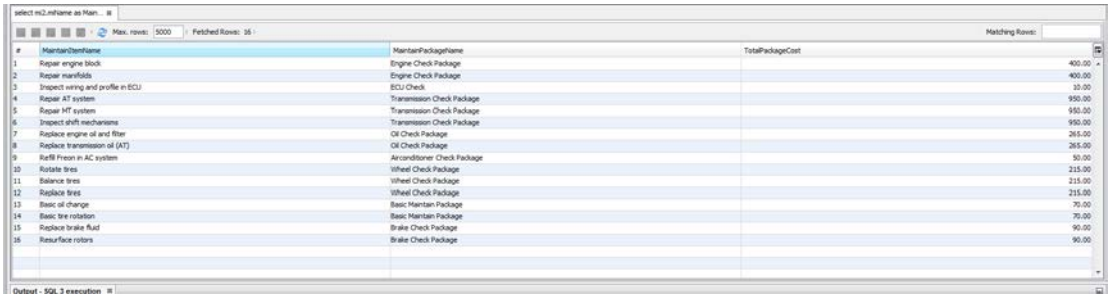
b.

c. 

6. For each maintenance package, list the total cost of the maintenance package, as well as a list of all of the maintenance items within that package.

    a. select mi2.miName as MaintainItemName, t.MaintainPackageName as MaintainPackageName, t.TotalCostForThisPackage as TotalPackageCost from (select mi.mpID as MaintainPackageID, mp.mpName as MaintainPackageName, sum(mi.miCost) as TotalCostForThisPackage from MaintainItem mi left outer join MaintainPackage mp on mi.mpID=mp.mpID GROUP by (mp.mpID)) as t right outer join MaintainItem mi2 on t.MaintainPackageID=mi2.mpID;

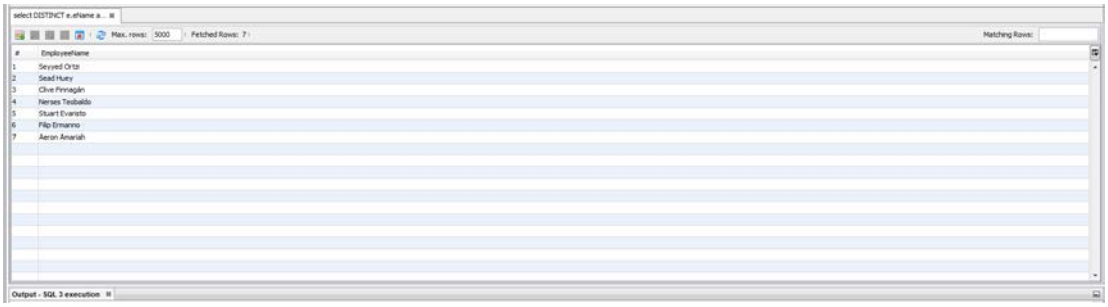
    b.

    c. 

7. Find all of those mechanics who have one or more maintenance items that they lacked one or more of the necessary skills.

    a. select DISTINCT e.eName as EmployeeName from JobQueueLine jql left outer join Employee e on jql.eID=e.eID left outer join MaintainItem mi on mi.miID=jql.miID where mi.miSkill not in (select sl.ssName from SkillsetLine sl where e.eID=sl.eID);

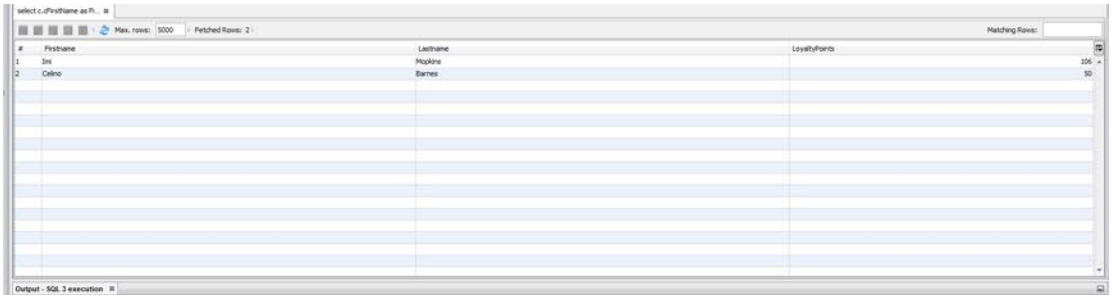
    b.

c. 

8. List the customers, sorted by the number of loyalty points that they have, from largest to smallest.

    a. select c.cFirstName as Firstname, c.cLastName as Lastname, s.sLoyaltyPoints as LoyaltyPoints from Customer c inner join Steady s on c.cID=s.cID Order by s.sLoyaltyPoints DESC;

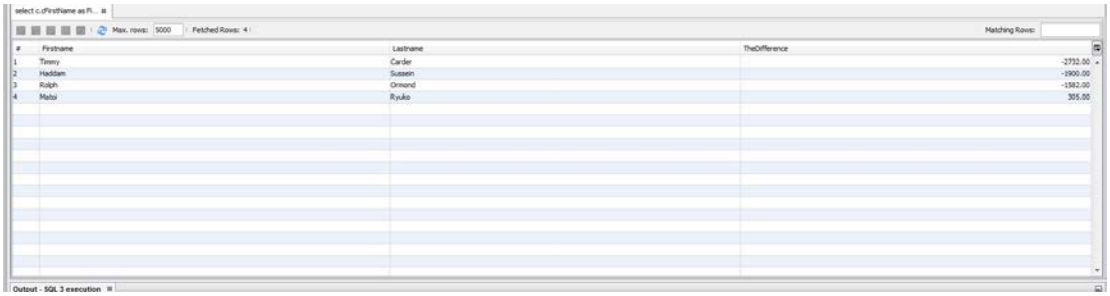
    b.

c. 

9. List the premier customers and the difference between what they have paid in the past year, versus the services that they actually used during that same time. List from the customers with the largest difference to the smallest.

    a. select c.cFirstName as Firstname, c.cLastName as Lastname, (p.pAnnualFee-SUM(mi.miCost)) as TheDifference from Customer c inner join Premier p on c.cID=p.cID right outer join Vehicle v on p.cID=v.cID right outer join MaintainOrder mo on v.vVIN=mo.vVIN right outer join ItemWork iw on mo.moID=iw.moID left outer join MaintainItem mi on mi.miID=iw.moID where c.cID in (select p1.cID from Premier p1) GROUP by p.cID ORDER BY TheDifference;

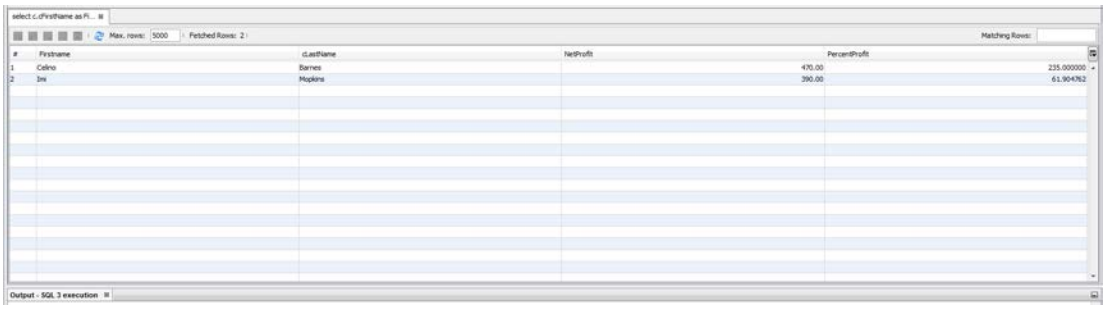
    b.

c. 

10. Report on the steady customers based on the net profit that we have made from them over the past year, and the dollar amount of that profit, in order from the greatest to the least.

a. select c.cFirstName as Firstname, c.cLastName, (SUM(mi.miCost)-SUM(mi.miBuyInPrice)) as NetProfit, ((SUM(mi.miCost)-SUM(mi.miBuyInPrice))/SUM(mi.miBuyInPrice)*100) as PercentProfit from Customer c inner join Steady s on c.cID=s.cID right outer join Vehicle v on s.cID=v.cID right outer join MaintainOrder mo on mo.vVIN=v.vVIN right outer join ItemWork iw on iw.moID=mo.moID left outer join MaintainItem mi on iw.miID=mi.miID where c.cID in (select s1.cID from Steady s1) GROUP by s.cID;

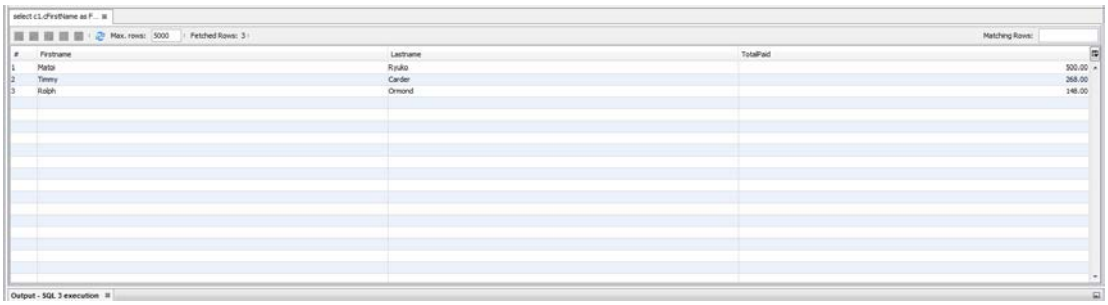
b.

c. 

11. List the three premier customers who have paid Dave's Automotive the greatest amount in the past year, and the sum of their payments over that period. Be sure to take into account any discounts that they have earned by referring prospective customers.

a. select c1.cFirstName as Firstname, c1.cLastName as Lastname, (p1.pAnnualFee-(IFNULL(t.DiscountAmmount,0))) as TotalPaid from Customer c1 inner join Premier p1 on c1.cID=p1.cID left outer join (select p.cID as PremierCustomerID,count(p.cID)*50 as DiscountAmmount from Customer c inner join Premier p on c.cID=p.cID right outer join ReferralBenefitHistory rbh on rbh.cID=p.cID where rbh.rDate between '2015-12-31' AND '2016-12-31' group by p.cID) t on t.PremierCustomerID=p1.cID order by (p1.pAnnualFee*12-(IFNULL(t.DiscountAmmount,0)))Desc limit 3;

b.

c. 

12. List the five model, make, and year that have caused the most visits on average to Dave's automotive **per vehicle** in the past three years, along with the average number of visits per vehicle.

a. select vf.vfModel as Model, vf.vfYear as Year, vf.vfMake as Maker, count(CONCAT(vf.vfModel,vf.vfMake, vf.vfYear)) as NumberVisited from MaintainOrder mo left outer join Vehicle v on mo.vVIN=v.vVIN left outer join VehicleFamily vf on vf.vfID=v.vfID where mo.moID in (select i.moID from ItemWork i

where i.iwDate>'2013-12-31') group by CONCAT(vf.vfModel,vf.vfMake, vf.vfYear) order by count(CONCAT(vf.vfModel,vf.vfMake, vf.vfYear)) DESC limit 5;

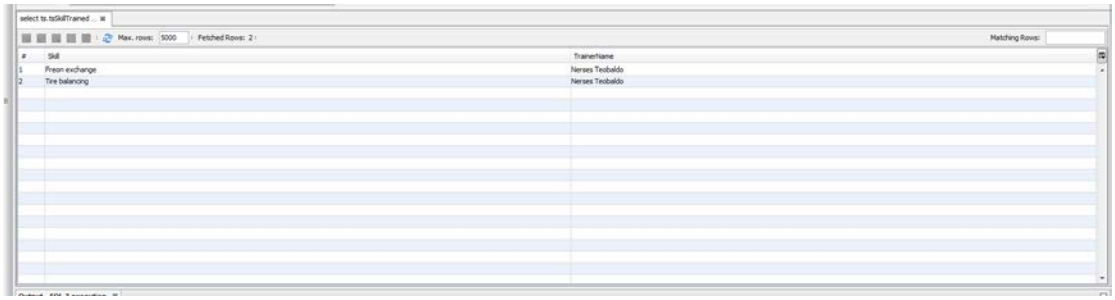
b.

c. 

13. Find the mechanic who is mentoring the most other mechanics. List the skills that the mechanic is passing along to the other mechanics.

    a. select ts.tsSkillTrained as Skill, e.eName as TrainerName from TrainingSkill ts left outer join Employee e on ts.tsTrainerID=e.eID where ts.tsTrainerID=(select t.ID from (select ts1.tsTrainerID as ID, count(ts1.tsTrainerID) as Total from TrainingSkill ts1 group by ts1.tsTrainerID)as t order by t.Total desc limit 1);

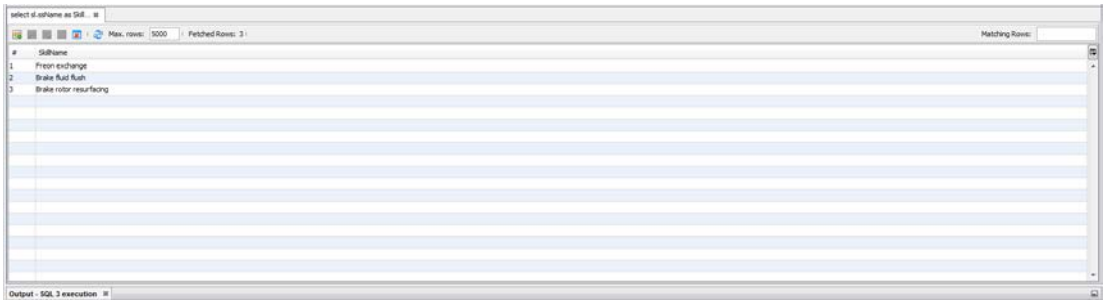
    b.

    c. 

14. Find the three skills that have the fewest mechanics who have those skills.

    a. select sl.ssName as SkillName from SkillsetLine sl left outer join Skillset s on sl.ssName=s.ssName group by sl.ssName order by count(sl.ssName) limit 3;

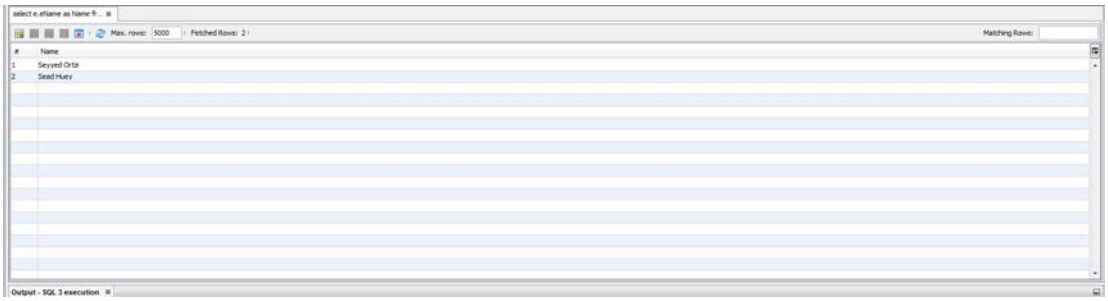
    b.

    c. 

15. List the employees who are both service technicians as well as mechanics.

    a. select e.eName as Name from Employee e inner join Technician t on e.eID=t.eID inner join Mechanic m on e.eID=m.eID;

b.

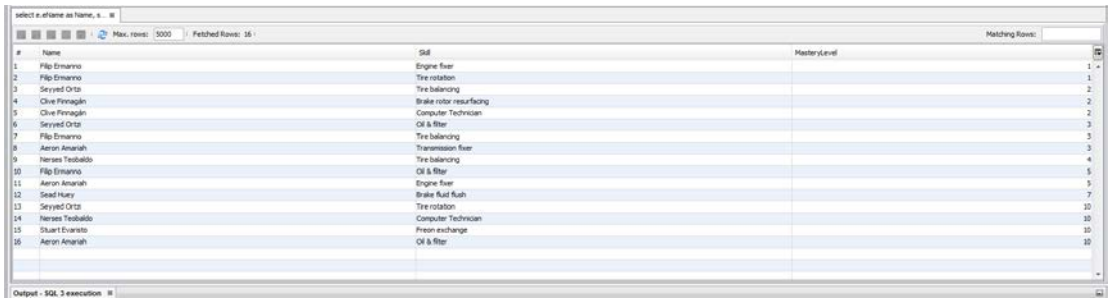
c. 

16. Three additional queries that demonstrate the five additional business rules. Feel free to create additional views to support these queries if you so desire.

16.1 Show that all mastery level is beween 1 and 10 inclusive.

a. select e.eName as Name, sl.ssName as Skill, sl.slMasteryLevel as MasteryLevel from SkillsetLine sl left outer join Employee e on sl.eID=e.eID left outer join Skillset s on s.ssName=sl.ssName;

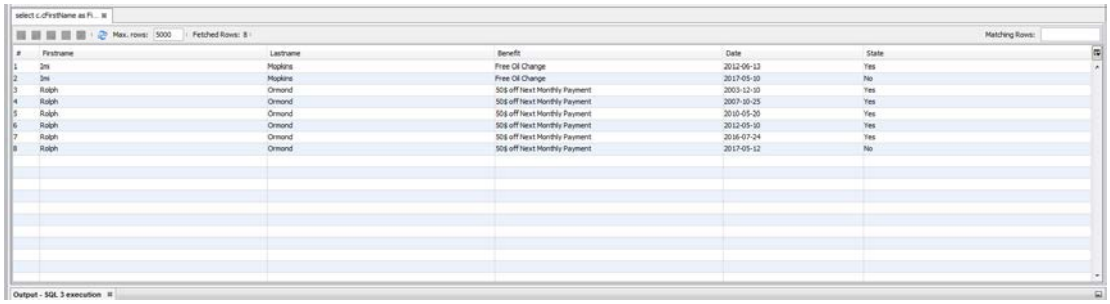
b.

c. 

16.2 Referral Benefit History

d. select c.cFirstName as Firstname, c.cLastName as Lastname, rbh.rBenefit as Benefit, rbh.rDate as Date, rbh.rFlag as State from ReferralBenefitHistory rbh left outer join Customer c on rbh.cID=c.cID order by c.cFirstName, c.cLastName;

e.

f. 

16.3 Show the TechicianMaintainPackage service and required MaintainItemPackage

g. select mo.vVIN as CarVIN, mo.moID as MaintainOrderID, v.vRoutineServices as RoutineMaintainPackageID, m1.mpName as AdditionalServicePackageID from MaintainOrder mo left outer join Vehicle v on mo.vVIN=v.vVIN right outer join MaintainPackageLine mp on mp.moID=mo.moID left outer join MaintainPackage m1 on m1.mpID=mp.mpID;

h.

i.