Miraji Mlilingwa

Dec 6, 2017

CSc 4710

Database Project

CREATE TABLE tbl\_customer(

   customer\_id INT(11)  AUTO\_INCREMENT,

   first\_name VARCHAR(45) NOT NULL,

   last\_name VARCHAR(45) NOT NULL,

   telephone VARCHAR(45) NOT NULL,

   email VARCHAR(45),

   address VARCHAR(255),

   city VARCHAR(45),

   state VARCHAR(45),

   zip\_code VARCHAR(45),

   PRIMARY KEY (customer\_id)

   );

   CREATE TABLE tbl\_vehicle(

   vehicle\_id INT(11)  AUTO\_INCREMENT,

   VIN VARCHAR(45),

   year  YEAR  NOT NULL,

   make VARCHAR(45) NOT NULL,

   model VARCHAR(45) NOT NULL,

   mileage INT(11) NOT NULL,

   PRIMARY KEY (vehicle\_id)

   );

   CREATE TABLE tbl\_order(

   order\_id INT(11)  AUTO\_INCREMENT,

   start\_time  datetime NOT NULL,

   end\_time  datetime  NOT NULL,

   PRIMARY KEY (order\_id)

   );

   CREATE TABLE tbl\_service(

   service\_id INT(11)  AUTO\_INCREMENT,

   name VARCHAR(255) NOT NULL,

   labor\_hour DOUBLE NOT NULL,

   part\_cost DOUBLE NOT NULL,

   rate\_id INT(11) NOT NULL,

   PRIMARY KEY (service\_id),

   FOREIGN KEY (rate\_id) REFERENCES tbl\_rate(rate\_id)

   );

CREATE TABLE tbl\_rate(

   rate\_id INT(11) AUTO\_INCREMENT,

   labor\_cost\_per\_hour DOUBLE NOT NULL,

   PRIMARY KEY (rate\_id)

   );

   CREATE TABLE tbl\_customer\_vehicle(

   customer\_vehicle\_id INT(11) AUTO\_INCREMENT,

  customer\_id INT(11) NOT NULL,

  vehicle\_id INT(11) NOT NULL,

   PRIMARY KEY (customer\_vehicle\_id),

   FOREIGN KEY (customer\_id) REFERENCES tbl\_customer(customer\_id),

   FOREIGN KEY(vehicle\_id) REFERENCES tbl\_vehicle(vehicle\_id)

   );

    CREATE TABLE tbl\_vehicle\_order(

   vehicle\_order\_id INT(11) AUTO\_INCREMENT,

  vehicle\_id INT(11) NOT NULL,

  order\_id INT(11) NOT NULL,

   PRIMARY KEY (vehicle\_order\_id),

   FOREIGN KEY (vehicle\_id) REFERENCES tbl\_vehicle(vehicle\_id),

   FOREIGN KEY(order\_id) REFERENCES tbl\_order(order\_id)

   );

   CREATE TABLE tbl\_order\_service(

   order\_service\_id INT(11) AUTO\_INCREMENT,

  order\_id INT(11) NOT NULL,

  service\_id INT(11) NOT NULL,

   PRIMARY KEY (order\_service\_id),

   FOREIGN KEY (order\_id) REFERENCES tbl\_order(order\_id),

   FOREIGN KEY(service\_id) REFERENCES tbl\_service(service\_id)

   );

INSERTING DATA

INSERT INTO `tbl\_customer` (`customer\_id`, `first\_name`, `last\_name`, `telephone`, `email`, `address`, `city`, `state`, `zipcode`) VALUES  
(1, 'Uma', 'Kline', '1-753-492-2603', '[tempor@nislelementumpurus.ca](mailto:tempor@nislelementumpurus.ca)', '3092 Mus. Road', 'Troy', 'AL', '36082'),  
(2, 'Madeson', 'Peck', '[1-947-343-1784](tel:(947)%20343-1784)', '[amet@purusactellus.ca](mailto:amet@purusactellus.ca)', '964 Eleifend Road', 'Troy', 'AL', '36082'),  
(3, 'Audra', 'Green', '[1-947-428-7998](tel:(947)%20428-7998)', 'vitae@Vivamusmolestie.net', 'Ap #990-6604 Penatibus Avenue', 'Troy', 'AL', '36081'),  
(4, 'Aspen', 'Beach', '1-411-573-2065', 'magna@dolorFusce.com', 'P.O. Box 952, 2633 Vitae, Rd.', 'Troy', 'AL', '36081'),  
(5, 'Aladdin', 'Benton', '1-727-147-6363', '[Sed.eu.nibh@pharetrased.org](mailto:Sed.eu.nibh@pharetrased.org)', '6312 Ipsum Ave', 'Troy', 'AL', '36081'),  
(6, 'Brittany', 'Montgomery', '1-467-615-4861', 'vulputate@liberoProinmi.net', '1621 Ut Rd.', 'Dunwoody', 'GA', '30338'),  
(7, 'Anjolie', 'Heath', '1-536-706-1713', '[nisi.sem.semper@purusin.co.uk](mailto:nisi.sem.semper@purusin.co.uk)', '6077 Mauris, St.', 'Dunwoody', 'GA', '30338'),  
(8, 'Hyatt', 'Park', '1-948-606-8053', 'pede.blandit@acorciUt.ca', 'Ap #903-1473 Dui. Rd.', 'Dunwoody', 'GA', '30338'),  
(9, 'Lila', 'Wilder', '1-245-273-9998', 'nunc.In@nisiMauris.com', '681-2452 Rhoncus. Rd.', 'Dunwoody', 'GA', '30338'),  
(10, 'Quyn', 'Solomon', '1-383-861-4902', '[risus@ultricies.org](mailto:risus@ultricies.org)', '9619 Sed Av.', 'Destin', 'FL', '11111'),  
(11, 'Chadwick', 'Bradley', '1-478-171-5482', 'non.lacinia@Integereu.net', '1245 Id Ave', 'Destin', 'FL', '11111'),  
(12, 'Yoko', 'Medina', '[1-434-908-2900](tel:(434)%20908-2900)', 'ullamcorper.Duis.at@sapienNuncpulvinar.ca', 'P.O. Box 739 9593 Sed, St.', 'Destin', 'FL', '11111'),  
(13, 'Scarlet', 'Mcdowell', '1-146-378-6864', 'gravida@IntegerurnaVivamus.ca', '434-3833 Massa. St.', 'Destin', 'FL', '11111'),  
(14, 'Ora', 'Huber', '[1-360-264-3481](tel:(360)%20264-3481)', '[erat.volutpat.Nulla@nulla.ca](mailto:erat.volutpat.Nulla@nulla.ca)', 'P.O. Box 270, 9403 Dolor Road', 'Destin', 'FL', '11111'),  
(15, 'Hedy', 'Horton', '[1-949-615-7909](tel:(949)%20615-7909)', '[penatibus.et.magnis@posuerecubilia.org](mailto:penatibus.et.magnis@posuerecubilia.org)', '8165 Feugiat. Rd.', 'Destin', 'FL', '11111'),  
(16, 'Orla', 'Pitts', '[1-681-542-2665](tel:(681)%20542-2665)', '[vulputate@ornare.net](mailto:vulputate@ornare.net)', 'Ap #677-909 Tincidunt St.', 'Atlanta', 'GA', '30303'),  
(17, 'Melyssa', 'Massey', '[1-418-698-0427](tel:(418)%20698-0427)', '[tellus.Suspendisse@blandit.edu](mailto:tellus.Suspendisse@blandit.edu)', '492-6689 Laoreet, Road', 'Atlanta', 'GA', '30303'),  
(18, 'Yvette', 'Bartlett', '1-164-115-9068', 'facilisis@Morbi.ca', 'Ap #910-4141 Ligula. Road', 'Atlanta', 'GA', '30303'),  
(19, 'Kiara', 'Shields', '1-542-337-1106', '[massa.Vestibulum@rutrumFusce.co.uk](mailto:massa.Vestibulum@rutrumFusce.co.uk)', '6868 Integer St.', 'Atlanta', 'GA', '30303'),  
(20, 'Leigh', 'Williams', '[1-917-657-0658](tel:(917)%20657-0658)', '[blandit.at@anequeNullam.co.uk](mailto:blandit.at@anequeNullam.co.uk)', '310-184 Mi Av.', 'Atlanta', 'GA', '30303');

INSERT INTO `tbl\_order` (`order\_id`, `start\_time`, `end\_time`) VALUES

(1, '2014-02-01 08:00:00', '2014-02-02 08:00:00'),

(2, '2014-02-02 08:00:00', '2014-02-03 08:00:00'),

(3, '2014-02-03 08:00:00', '2014-02-04 08:00:00'),

(4, '2014-02-04 08:00:00', '2014-02-05 08:00:00'),

(5, '2014-02-05 08:00:00', '2014-02-06 08:00:00'),

(6, '2014-02-06 08:00:00', '2014-02-07 08:00:00'),

(7, '2014-02-07 08:00:00', '2014-02-08 08:00:00'),

(8, '2014-02-08 08:00:00', '2014-02-09 08:00:00'),

(9, '2014-02-09 08:00:00', '2014-02-10 08:00:00'),

(10, '2014-02-10 08:00:00', '2014-02-11 08:00:00'),

(11, '2014-02-11 08:00:00', '2014-02-12 08:00:00'),

(12, '2014-02-12 08:00:00', '2014-02-13 08:00:00'),

(13, '2014-02-13 08:00:00', '2014-02-14 08:00:00'),

(14, '2014-02-14 08:00:00', '2014-02-15 08:00:00'),

(15, '2014-02-15 08:00:00', '2014-02-16 08:00:00'),

(16, '2014-02-16 08:00:00', '2014-02-17 08:00:00'),

(17, '2014-02-17 08:00:00', '2014-02-18 08:00:00'),

(18, '2014-02-18 08:00:00', '2014-02-19 08:00:00'),

(19, '2014-02-19 08:00:00', '2014-02-20 08:00:00'),

(20, '2014-02-20 08:00:00', '2014-02-21 08:00:00'),

(21, '2014-02-21 08:00:00', '2014-02-22 08:00:00'),

(22, '2014-02-22 08:00:00', '2014-02-23 08:00:00'),

(23, '2014-02-23 08:00:00', '2014-02-24 08:00:00'),

(24, '2014-02-24 08:00:00', '2014-02-25 08:00:00'),

(25, '2014-02-25 08:00:00', '2014-02-26 08:00:00'),

(26, '2014-02-26 08:00:00', '2014-02-27 08:00:00'),

(27, '2014-02-27 08:00:00', '2014-02-28 08:00:00'),

(28, '2014-02-28 08:00:00', '2014-03-01 08:00:00'),

(29, '2014-03-01 08:00:00', '2014-03-02 08:00:00'),

(30, '2014-03-02 08:00:00', '2014-03-03 08:00:00'),

(31, '2014-03-03 08:00:00', '2014-03-04 08:00:00'),

(32, '2014-03-04 08:00:00', '2014-03-05 08:00:00'),

(33, '2014-03-05 08:00:00', '2014-03-06 08:00:00'),

(34, '2014-03-06 08:00:00', '2014-03-07 08:00:00'),

(35, '2014-03-07 08:00:00', '2014-03-08 08:00:00'),

(36, '2014-03-08 08:00:00', '2014-03-09 08:00:00'),

(37, '2014-03-09 08:00:00', '2014-03-10 08:00:00'),

(38, '2014-03-10 08:00:00', '2014-03-11 08:00:00'),

(39, '2014-03-11 08:00:00', '2014-03-12 08:00:00'),

(40, '2014-03-12 08:00:00', '2014-03-13 08:00:00'),

(41, '2014-03-13 08:00:00', '2014-03-14 08:00:00'),

(42, '2014-03-14 08:00:00', '2014-03-15 08:00:00');

INSERT INTO `tbl\_rate` (`rate\_id`, `labor\_cost\_per\_hour`) VALUES

(1, 65),

(2, 55),

(3, 85),

(4, 0);

INSERT INTO `tbl\_service` (`service\_id`, `name`, `labor\_hour`, `part\_cost`, `rate\_id`) VALUES

(1, 'oil change', 0, 30, 4),

(2, 'tire rotation', 0, 10, 4),

(3, 'tire balance', 0, 30, 4),

(4, 'tire rotation & balance', 0, 35, 4),

(5, 'alignment', 0.8, 0, 3),

(6, 'A/C inspection', 0.5, 0, 1),

(7, 'A/C repair', 4, 0, 1),

(8, 'A/C add Freon', 0, 79, 4),

(9, 'small tire replace', 0, 80, 4),

(10, 'large tire replace', 0, 150, 4),

(11, 'engine inspection', 1, 0, 1),

(12, 'engine repair', 5, 500, 3),

(13, 'transmission flush', 1, 65, 1),

(14, 'transmission inspection', 1.2, 0, 1),

(15, 'transmission repair', 7, 300, 1),

(16, 'engine tune up', 0, 599, 4),

(17, 'break pads replace', 0.5, 40, 2),

(18, 'break rotors replace', 0.7, 60, 2),

(19, 'break shoes replace', 0.5, 20, 2),

(20, 'cooling system flush', 2, 80, 1),

(21, 'CV boots replace', 1, 100, 1),

(22, 'window motor & regulator replace', 1.6, 130, 1),

(23, 'light body damage repair', 3, 0, 3),

(24, 'severe body damage repair', 6, 0, 3),

(25, 'emission test', 0, 19.99, 4);

INSERT INTO `tbl\_vehicle` (`vehicle\_id`, `VIN`, `year`, `make`, `model`, `mileage`) VALUES

(1, 'ABCDJS123KDJR894H', '2003', 'honda', 'accord', 120385),

(2, 'AKS92H3NRKW91HW', '1992', 'honda', 'civic', 162978),

(3, '103JD8SOQPWM103', '1986', 'honda', 'crv', 79445),

(4, 'SKQI291OEJZ91JEIAS', '2008', 'ford', 'focus', 98647),

(5, 'SLA02LAXHS9001JSA', '1998', 'ford', 'focus', 191162),

(6, '1NSA8DH1KD9AH2KS', '2006', 'ford', 'escape', 171553),

(7, '103JAKIS8HSNFK29A', '2005', 'ford', 'escape', 125803),

(8, 'SNA81JSNALZ92HAN', '1997', 'ford', 'fusion', 142807),

(9, 'XMl193HS9FN29DKC', '2000', 'toyota', 'camry', 146976),

(10, 'ZJD92NFLS9ANZJD93', '2006', 'toyota', 'camry', 194943),

(11, 'SNDK303NDKXHA82', '2011', 'toyota', 'rav-4', 85159),

(12, 'ZNCKS84NSKDKFNA', '1998', 'toyota', 'corolla', 75659),

(13, 'NZJD92JRNVKCHSAK', '2005', 'toyota', 'corolla', 44870),

(14, 'ANJDJ3BDK9F9ANSD', '2001', 'toyota', '4runner', 61495),

(15, 'ZNCMSKJ39DKSNCK', '1997', 'vw', 'jetta', 107870),

(16, 'NZMCK14NFD42X5D', '1993', 'vw', 'jetta', 80989),

(17, '4S534F2C2X4CR5D4S', '2006', 'vw', 'jetta', 150142),

(18, '1X2C5AJDK92NDFLX', '1993', 'vw', 'golf', 126333),

(19, 'AJDMFJ30SJDKLADF', '1992', 'vw', 'golf', 67367),

(20, 'NMXKLD92NDMFLZ', '1987', 'vw', 'golf', 168569),

(21, 'SNDJKFN29DNVMX', '2008', 'nissan', 'altima', 51211),

(22, 'ANDJF93NAJKDKFZ', '2012', 'nissan', 'altima', 181628),

(23, 'ANDKFKCHA93JDBF', '2001', 'nissan', 'maxima', 166063),

(24, 'ZNDMNAKD8NGDK', '2014', 'nissan', 'versa', 168881),

(25, 'XZNDKJF82NDEJSKC', '1986', 'nissan', 'sentra', 48304),

(26, 'SKDMFN2KEJDUFJD', '1993', 'nissan', 'sentra', 148489),

(27, 'SKDNMRB29REJFGY', '1991', 'nissan', 'cube', 83647),

(28, 'SKXJFHTR8B23KIJ3J2', '1989', 'nissan', 'altima', 15352),

(29, 'SKDJRUY48NSKD8QK', '1992', 'volvo', 'xc90', 4235),

(30, 'WKENRBN8WKDU7G', '2012', 'volvo', 'xc60', 82366),

(31, 'SLKDJFH382KDJF7RE8', '1993', 'mitsubishi', 'eclipse', 61601),

(32, 'SKDJFBN2934JDUF23', '2007', 'mitsubishi', 'endeavor', 1273),

(33, 'SKLDJFHE82NEKG78F', '2003', 'mitsubishi', 'endeavor', 12010),

(34, 'DKLFGJAHA9DJHABN', '2004', 'mitsubishi', 'endeavor', 199848),

(35, 'SKAJ73U2BN2KDJFHD', '2011', 'mitsubishi', 'outlander', 26314);

INSERT INTO `tbl\_vehicle\_order` (`vehicle\_order\_id`, `vehicle\_id`, `order\_id`) VALUES

(1, 1, 1),

(2, 2, 2),

(3, 2, 3),

(4, 3, 4),

(5, 3, 5),

(6, 4, 6),

(7, 5, 7),

(8, 6, 8),

(9, 7, 9),

(10, 8, 10),

(11, 9, 11),

(12, 10, 12),

(13, 11, 13),

(14, 12, 14),

(15, 12, 15),

(16, 13, 16),

(17, 13, 17),

(18, 14, 18),

(19, 15, 19),

(20, 16, 20),

(21, 16, 21),

(22, 17, 22),

(23, 18, 23),

(24, 19, 24),

(25, 20, 25),

(26, 21, 26),

(27, 22, 27),

(28, 23, 28),

(29, 24, 29),

(30, 25, 30),

(31, 26, 31),

(32, 27, 32),

(33, 27, 33),

(34, 28, 34),

(35, 29, 35),

(36, 29, 36),

(37, 30, 37),

(38, 31, 38),

(39, 32, 39),

(40, 33, 40),

(41, 34, 41),

(42, 35, 42);

INSERT INTO `tbl\_order\_service` (`order\_service\_id`, `order\_id`, `service\_id`) VALUES

(1, 1, 1),

(2, 2, 1),

(3, 3, 1),

(4, 4, 1),

(5, 5, 15),

(6, 6, 1),

(7, 6, 2),

(8, 6, 3),

(9, 6, 6),

(10, 6, 7),

(11, 7, 21),

(12, 8, 1),

(13, 8, 25),

(14, 9, 5),

(15, 9, 9),

(16, 9, 9),

(17, 9, 9),

(18, 10, 16),

(19, 11, 18),

(20, 12, 25),

(21, 13, 24),

(22, 14, 1),

(23, 14, 2),

(24, 15, 3),

(25, 15, 5),

(26, 16, 13),

(27, 17, 15),

(28, 18, 17),

(29, 19, 17),

(30, 19, 17),

(31, 19, 20),

(32, 20, 1),

(33, 21, 3),

(34, 22, 1),

(35, 23, 15),

(36, 24, 1),

(37, 25, 12),

(38, 26, 23),

(39, 26, 16),

(40, 26, 19),

(41, 26, 5),

(42, 27, 3),

(43, 28, 21),

(44, 29, 25),

(45, 30, 25),

(46, 31, 8),

(47, 32, 16),

(48, 33, 1),

(49, 34, 19),

(50, 35, 25),

(51, 36, 9),

(52, 36, 21),

(53, 36, 18),

(54, 36, 21),

(55, 36, 20),

(56, 36, 4),

(57, 36, 23),

(58, 37, 2),

(59, 38, 1),

(60, 39, 3),

(61, 40, 3),

(62, 41, 8),

(63, 41, 3),

(64, 42, 10);

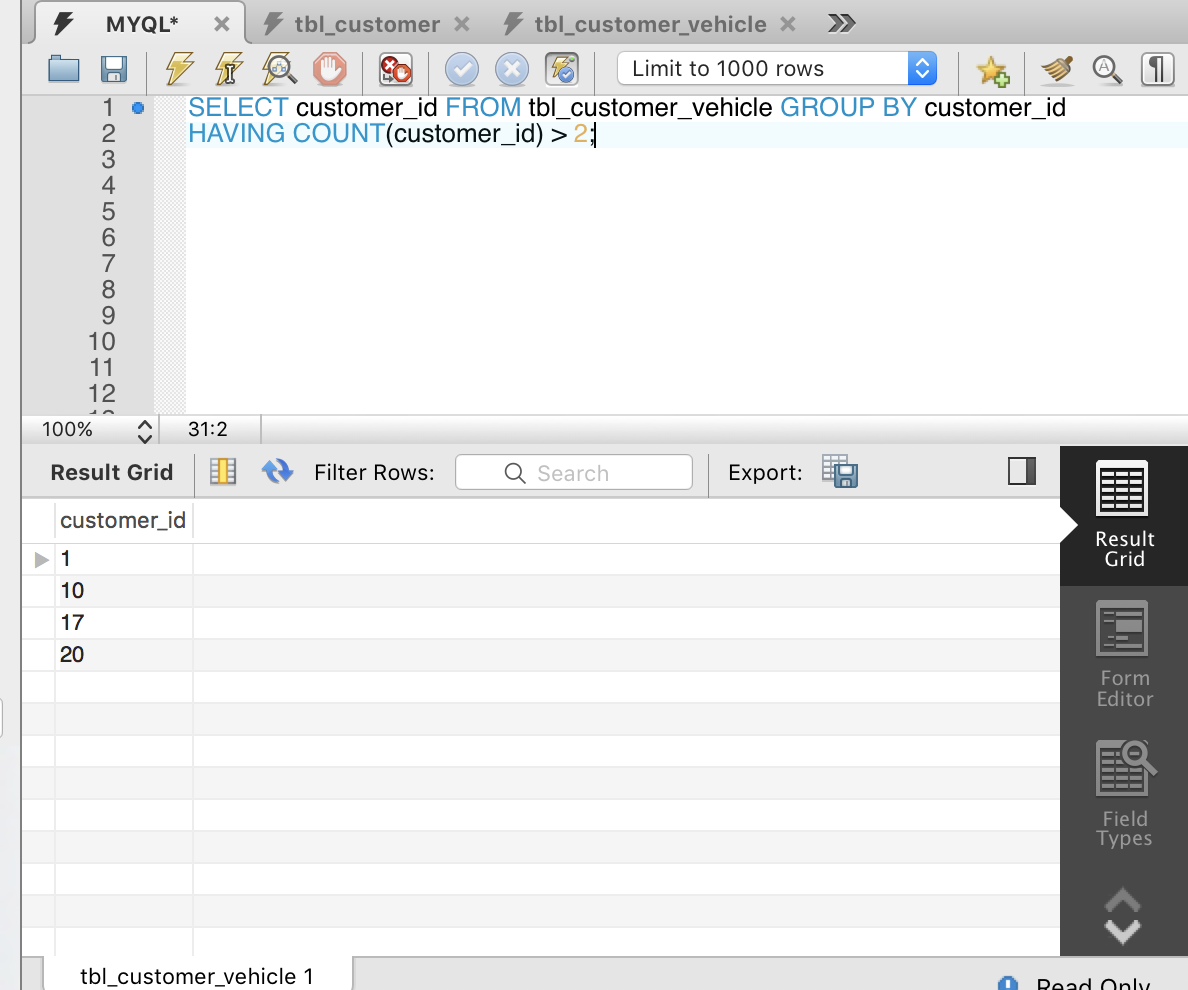
INSERT INTO `tbl\_customer\_vehicle` (`customer\_vehicle\_id`, `customer\_id`, `vehicle\_id`) VALUES  
(1, 1, 1),  
(2, 1, 2),  
(3, 1, 3),  
(4, 1, 4),  
(5, 2, 5),  
(6, 3, 6),  
(7, 4, 7),  
(8, 5, 8),  
(9, 6, 9),  
(10, 7, 10),  
(11, 8, 11),  
(12, 9, 12),  
(13, 10, 13),  
(14, 10, 14),  
(15, 10, 15),  
(16, 11, 16),  
(17, 11, 17),  
(18, 12, 18),  
(19, 13, 19),  
(20, 14, 20),  
(21, 15, 21),  
(22, 16, 22),  
(23, 16, 23),  
(24, 17, 24),  
(25, 17, 25),  
(26, 17, 26),  
(27, 18, 27),  
(28, 19, 28),  
(29, 20, 29),  
(30, 20, 30),  
(31, 20, 31),  
(32, 20, 32),  
(33, 20, 33),  
(34, 20, 34),  
(35, 20, 35);

ANSWERS TO THE QUERIES

1)List the customer id of customers who own more than 2 vehicles.

SELECT customer\_id FROM tbl\_customer\_vehicle GROUP BY customer\_id

HAVING COUNT(customer\_id) > 2;



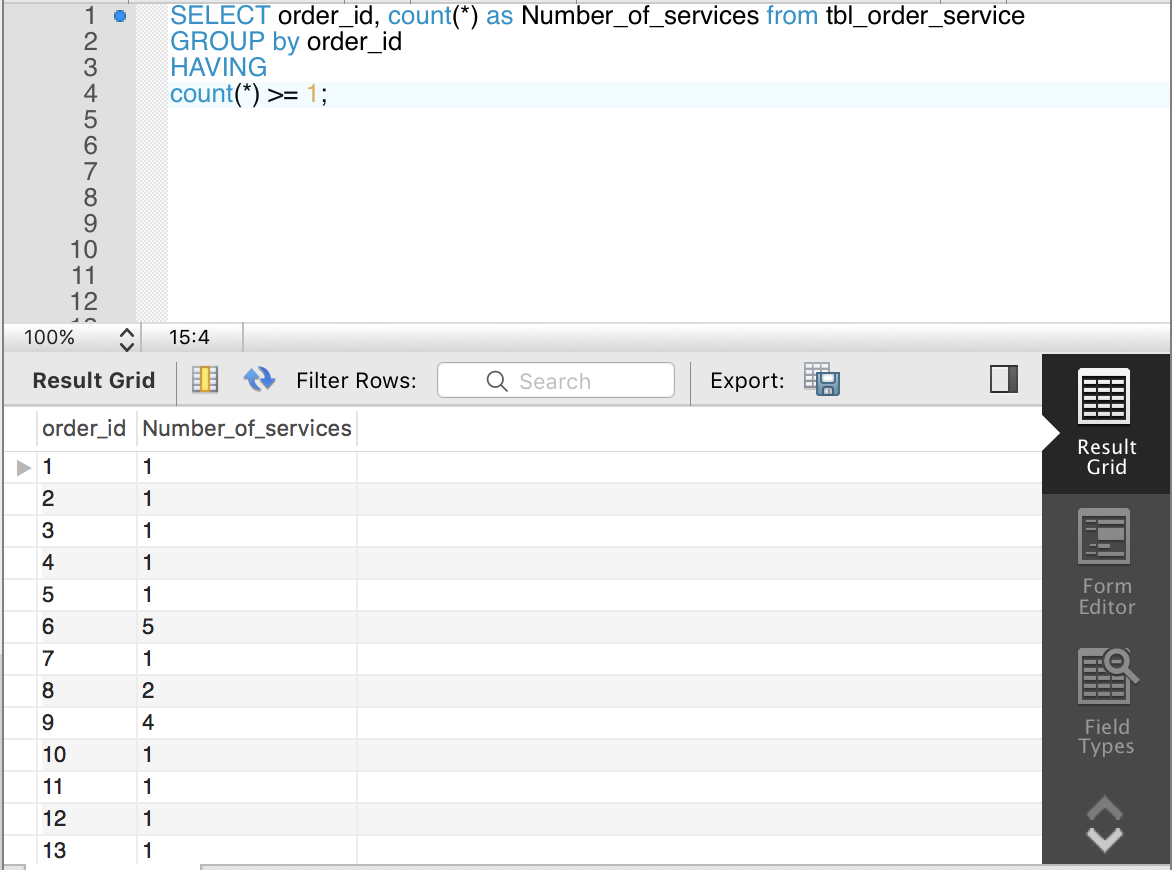
2)List the order id of orders and the number of services associated with thecorresponding order.

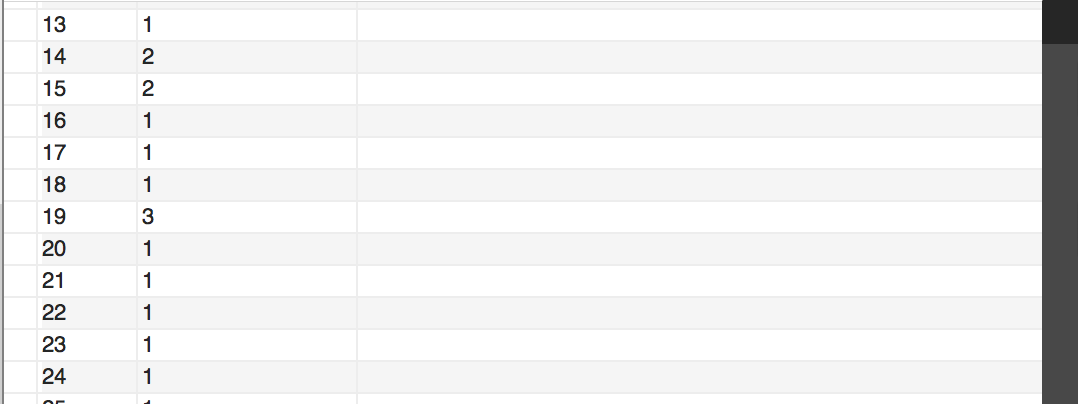
SELECT order\_id, count(\*) as Number\_of\_services from tbl\_order\_service

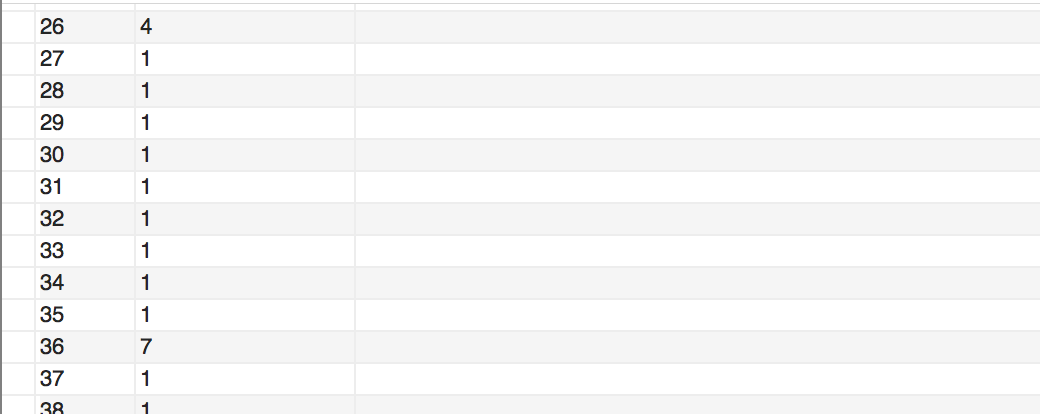
GROUP by order\_id

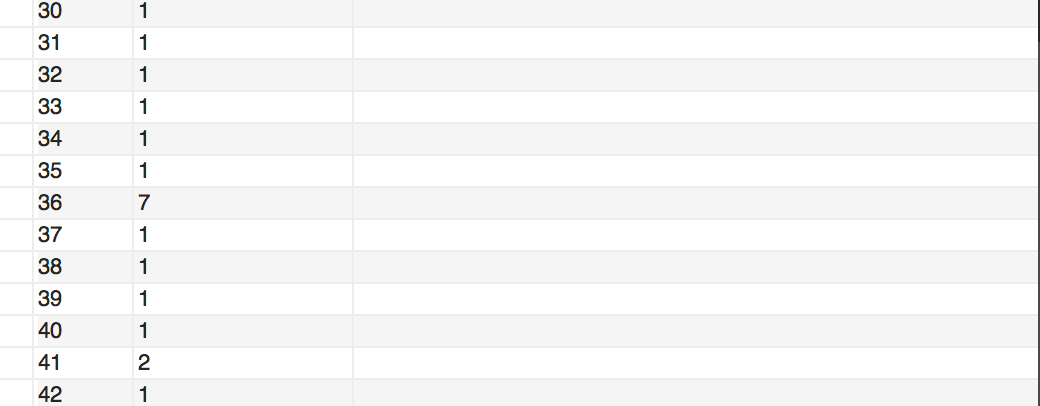
HAVING

count(\*) >= 1;





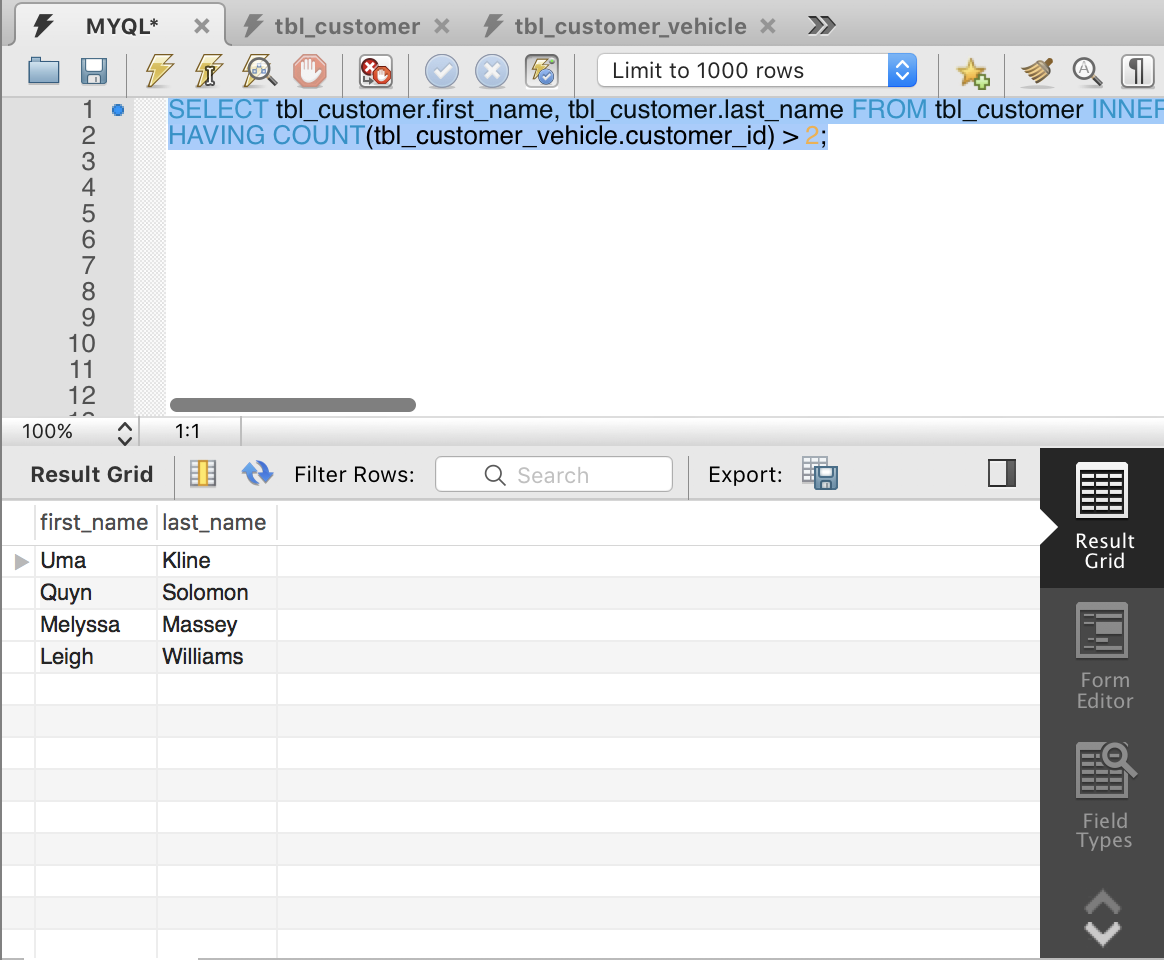




3)List the first name and the last name of customers who own more than 2 vehicles.

SELECT tbl\_customer.first\_name, tbl\_customer.last\_name FROM tbl\_customer INNER JOIN tbl\_customer\_vehicle ON tbl\_customer.customer\_id = tbl\_customer\_vehicle.customer\_id GROUP BY tbl\_customer.customer\_id

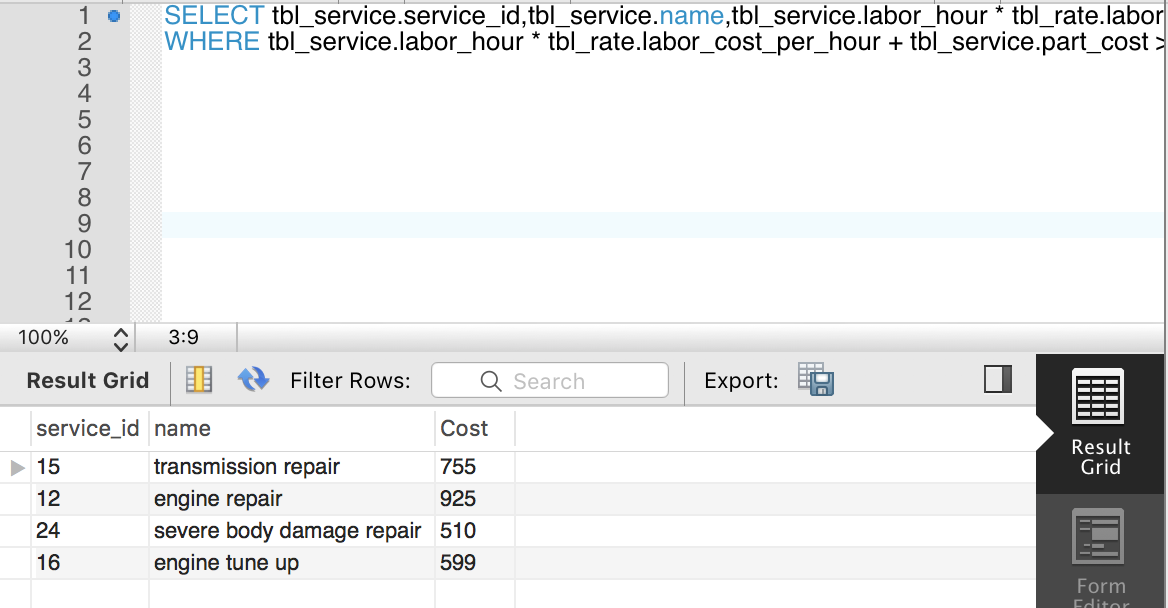
HAVING COUNT(tbl\_customer\_vehicle.customer\_id) > 2;



4)List the service id, name and cost of services whose costs are more than 500.

SELECT tbl\_service.service\_id,tbl\_service.name,tbl\_service.labor\_hour \* tbl\_rate.labor\_cost\_per\_hour + tbl\_service.part\_cost as Cost FROM tbl\_service INNER JOIN tbl\_rate ON tbl\_service.rate\_id = tbl\_rate.rate\_id

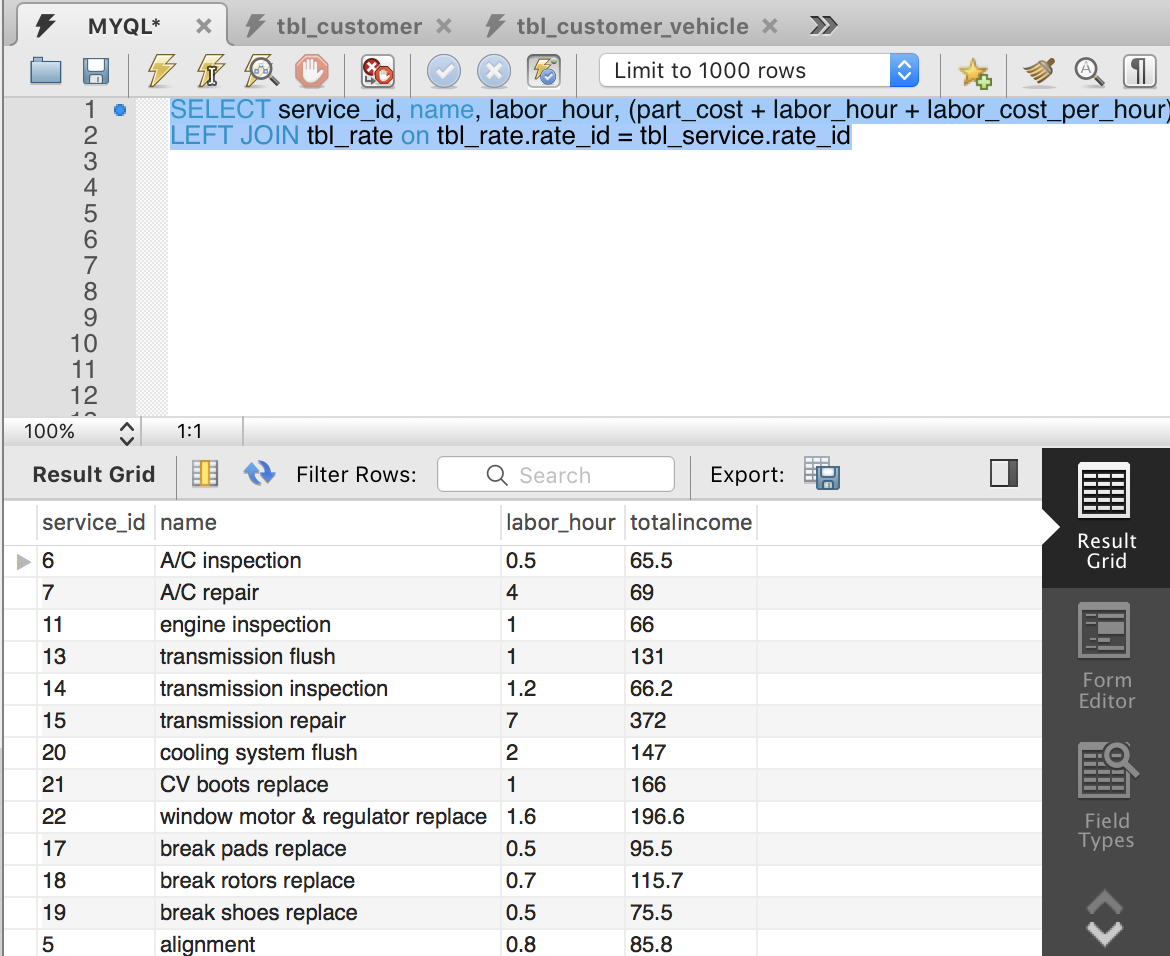
WHERE tbl\_service.labor\_hour \* tbl\_rate.labor\_cost\_per\_hour + tbl\_service.part\_cost > 500;

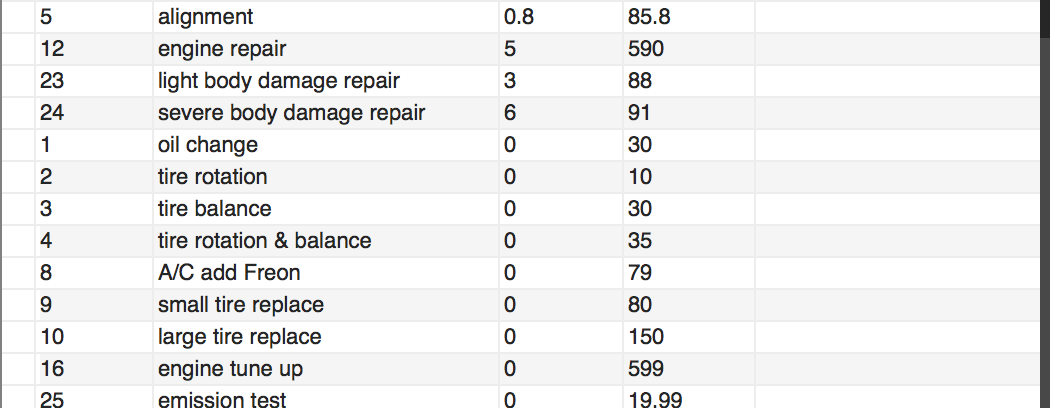


5)List the service id, name, number of service times and total income of each service.

SELECT service\_id, name, labor\_hour, (part\_cost + labor\_hour + labor\_cost\_per\_hour) as totalincome from tbl\_service

LEFT JOIN tbl\_rate on tbl\_rate.rate\_id = tbl\_service.rate\_id





6)Which customer spent the most in this auto shop? List the first name, last name,customer id and total expense of the customer.

SELECT cust.first\_name, cust.last\_name, customercostsum.customer\_id, customercostsum.costcount from

(

SELECT customer\_id, sum(cost) as costcount

from

(

SELECT cu.customer\_id,(part\_cost+labor\_hour\*labor\_cost\_per\_hour) as cost

from tbl\_customer\_vehicle as cu

LEFT JOIN tbl\_vehicle\_order as ve on ve.vehicle\_id = cu.vehicle\_id

LEFT JOIN tbl\_order\_service as ord on ord.order\_id = ve.order\_id

LEFT JOIN tbl\_service as se on se.service\_id = ord.service\_id

LEFT JOIN tbl\_rate as ra on ra.rate\_id = se.rate\_id

) as customercost

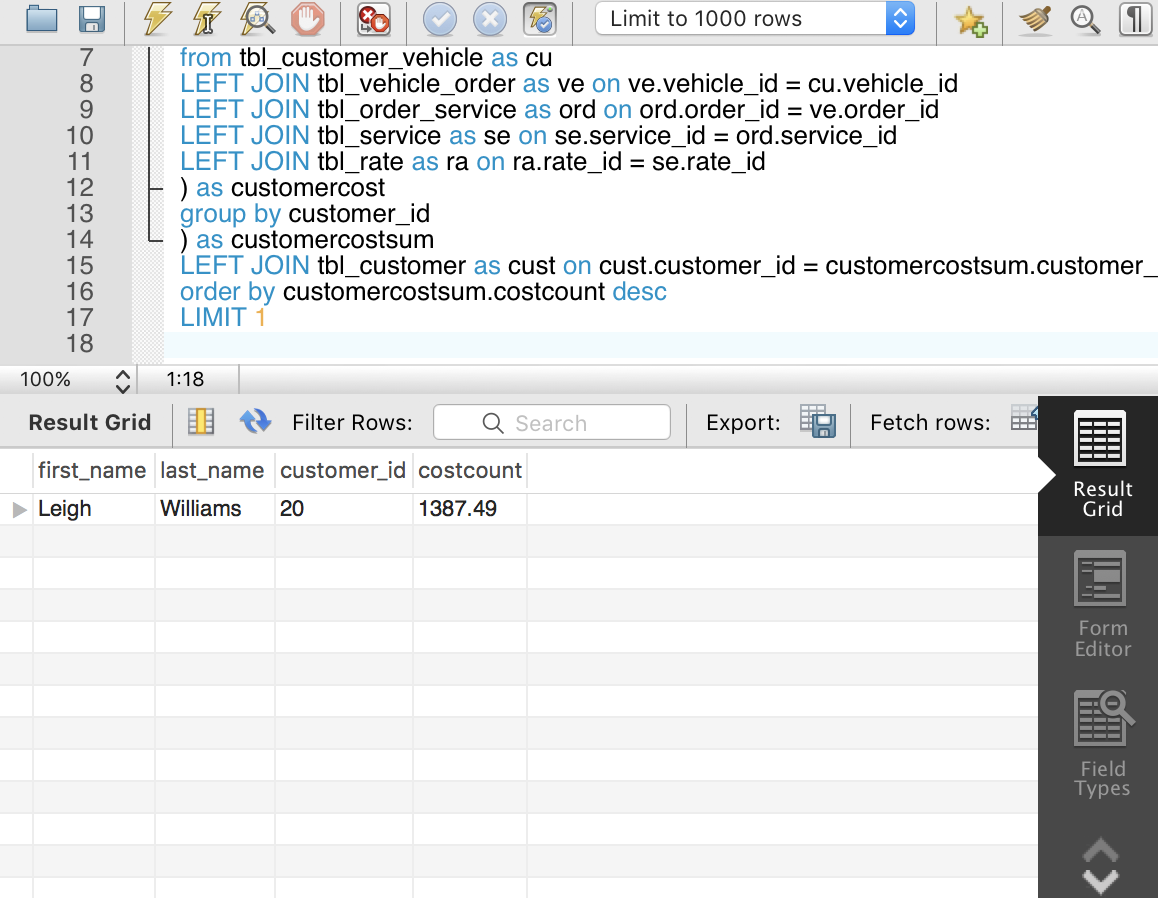
group by customer\_id

) as customercostsum

LEFT JOIN tbl\_customer as cust on cust.customer\_id = customercostsum.customer\_id

order by customercostsum.costcount desc

LIMIT 1



7)List the vehicle id, year, make, model, mileage, number of the associated orders and total spending cost of vehicles.

select ve.vehicle\_id,ve.year,ve.make,ve.model,ve.mileage,vihicletotalcost.ordernumber,vihicletotalcost.vihiclecostsum

from

tbl\_vehicle as ve

LEFT JOIN

(

SELECT vihicletotal.vehicle\_id, COUNT(vihicletotal.order\_id) as ordernumber,SUM(vihicletotal.cost) as vihiclecostsum

from

(

select veor.vehicle\_id,veor.order\_id,(part\_cost+labor\_hour\*labor\_cost\_per\_hour) as cost

from tbl\_vehicle\_order as veor

LEFT JOIN tbl\_order\_service as orse on orse.order\_id=veor.order\_id

LEFT JOIN tbl\_service as se on se.service\_id=orse.service\_id

LEFT JOIN tbl\_rate as ra on ra.rate\_id=se.rate\_id

) as vihicletotal

GROUP BY vihicletotal.vehicle\_id

) as vihicletotalcost on vihicletotalcost.vehicle\_id=ve.vehicle\_id

