**Lab 6 – Aggregate Function**

**Keerthana Shivakumar**

**PES1UG20CS204**

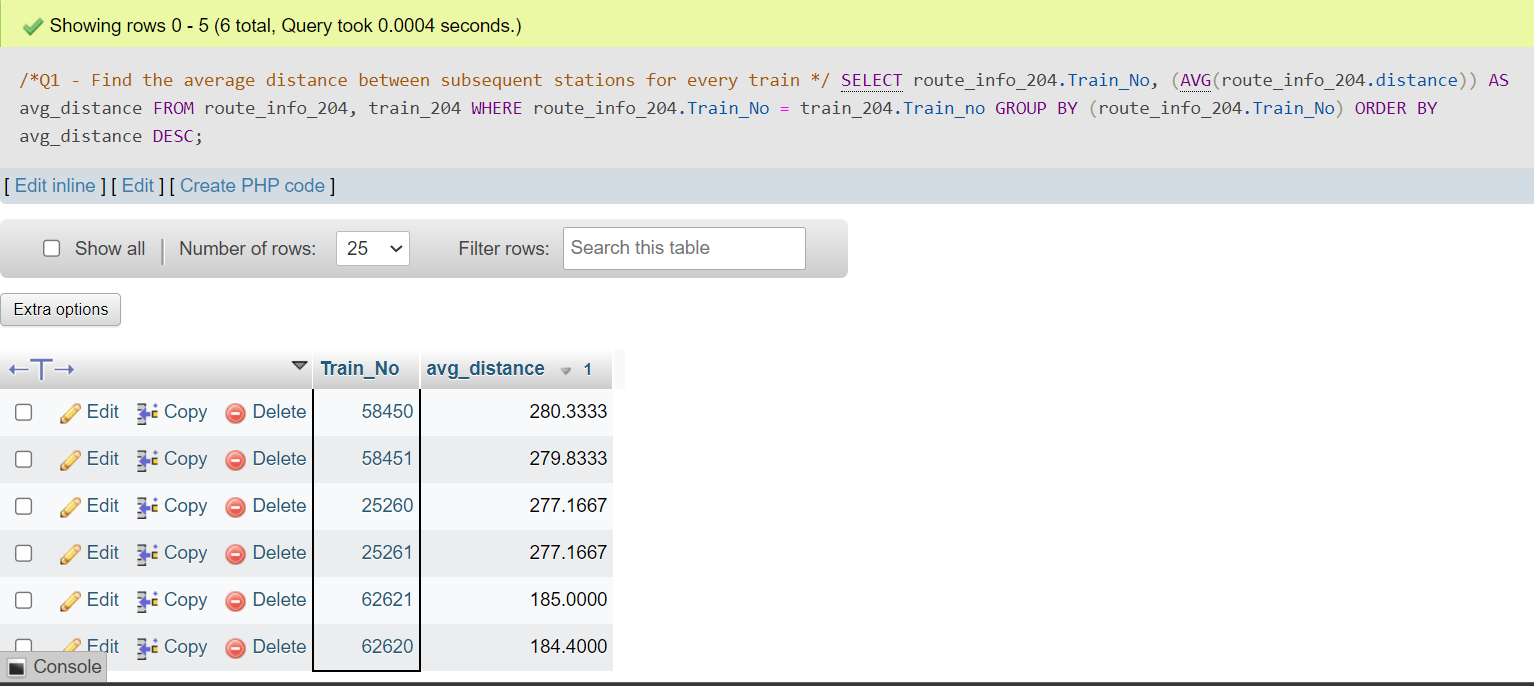
1. Find the average distance between subsequent stations for every train

–  [SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html) route\_info\_204.Train\_No, ([AVG](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/aggregate-functions.html%23function_avg)(route\_info\_204.distance)) AS avg\_distance FROM route\_info\_204, train\_204 WHERE route\_info\_204.Train\_No = train\_204.Train\_no GROUP BY (route\_info\_204.Train\_No);



2. Find the average distance between subsequent stations for every train and display them in descending order

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html) route\_info\_204.Train\_No, ([AVG](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/aggregate-functions.html%23function_avg)(route\_info\_204.distance)) AS avg\_distance FROM route\_info\_204, train\_204 WHERE route\_info\_204.Train\_No = train\_204.Train\_no GROUP BY (route\_info\_204.Train\_No) ORDER BY avg\_distance DESC;

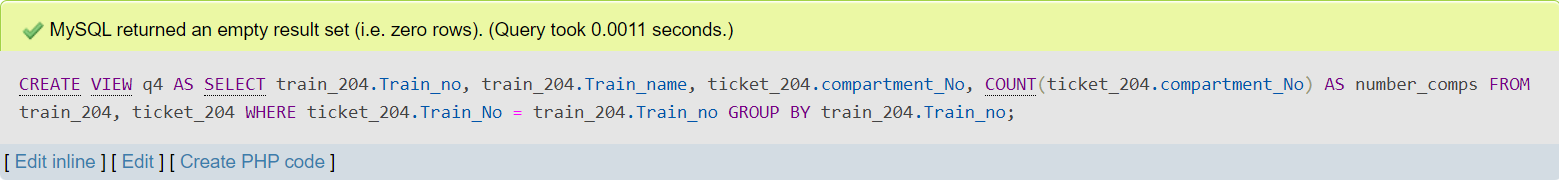


3. Display the list of train numbers and the distance traveled by each in descending order of the distance traveled

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html) route\_info\_204.Train\_No, ([SUM](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/aggregate-functions.html%23function_sum)(route\_info\_204.distance)) AS sum\_distance FROM route\_info\_204, train\_204 WHERE route\_info\_204.Train\_No = train\_204.Train\_no GROUP BY (route\_info\_204.Train\_No) ORDER BY sum\_distance DESC;



4. List those trains that have maximum and minimum number of compartments as train name and number of compartments



[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html) Train\_name, number\_comps FROM q4 WHERE number\_comps [IN](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/comparison-operators.html%23function_in)( ([SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html) [MAX](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/aggregate-functions.html%23function_max)(number\_comps) FROM q4), ([SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html) [MIN](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/aggregate-functions.html%23function_min)(number\_comps) FROM q4) );



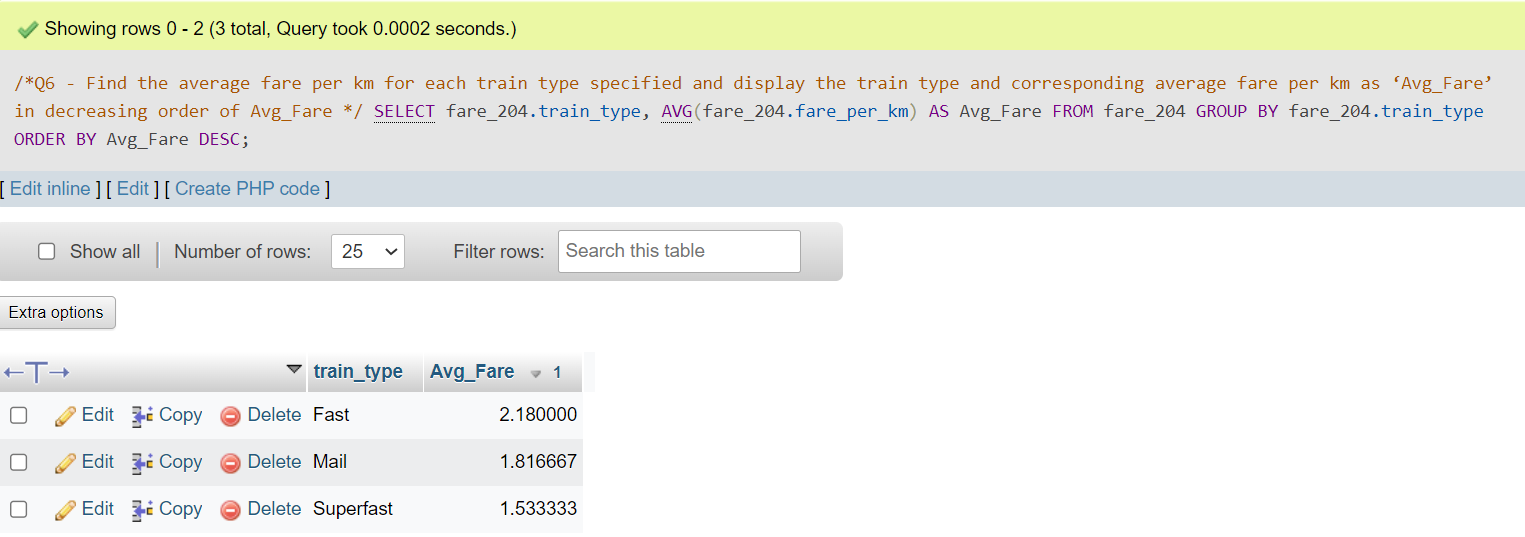
5. Display the number of phone numbers corresponding to the user\_id(s) ADM\_001, USR\_006, USR\_10

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html) user\_phone\_204.User\_ID, [COUNT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/aggregate-functions.html%23function_count)(\*) FROM user\_phone\_204 WHERE user\_phone\_204.User\_ID = 'ADM\_001' [OR](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/logical-operators.html%23operator_or) user\_phone\_204.User\_ID = 'USR\_006' [OR](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/logical-operators.html%23operator_or) user\_phone\_204.User\_ID = 'USR\_010' GROUP BY user\_phone\_204.User\_ID;



6. Find the average fare per km for each train type specified and display the train type and corresponding average fare per km as ‘Avg\_Fare’ in decreasing order of Avg\_Fare

[SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html) fare\_204.train\_type, [AVG](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/aggregate-functions.html%23function_avg)(fare\_204.fare\_per\_km) AS Avg\_Fare FROM fare\_204 GROUP BY fare\_204.train\_type ORDER BY Avg\_Fare DESC;



7. Retrieve all details of the oldest passenger.

Query – [SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html) \* FROM passenger\_204 WHERE ( passenger\_204.age =( [SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html) [MAX](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/aggregate-functions.html%23function_max)(passenger\_204.age) FROM passenger\_204 ) [AND](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/logical-operators.html%23operator_and)(passenger\_204.user\_type = 'PSGR') );



8. Count the number of passengers whose name consists of ‘Ullal’. (Hint: Use the LIKE operator)

Query - [SELECT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/select.html) [COUNT](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/aggregate-functions.html%23function_count)(\*) FROM ticket\_passenger\_204 WHERE ticket\_passenger\_204.Name [LIKE](http://localhost/phpmyadmin/url.php?url=https://dev.mysql.com/doc/refman/8.0/en/string-comparison-functions.html%23operator_like) '%Ullal%';

