**ITOM 6265 Database Management**

**Assignment 1**

**Instructions**

1. Every individual should submit their own work in Canvas. This is an individual assignment. **No collaboration with other students is allowed**. If you have any questions reach out to the instructor or TA.
2. Make sure you submit the following
   1. URL of your app deployed in shinyapps.io

<shiny_dashboard_app_yuchen.R>

* 1. An updated version of the “shiny\_dashboard\_app.R” file that contains ALL the code for your shiny app.
  2. One SQL file that has ALL the SQL command used for this assignment. In the SQL file put comments indicating the question number before every query. In case you develop more than one SQL for one question, put a comment ( “-- START Q1 \*\*\*\*\*\*\*\*\*\*\*” until end of line). This will help you to visually differentiate between sections meant for each question.
  3. Save this word document with the name “<<last name>>\_<<first name>>\_HW1.docx” and write down your response to each question. For each response, I need to see
     1. A screenshot of SQL used for answering the question and results shown in SSMS.

Graphical user interface, text, application

Description automatically generated

* + 1. Brief explanation of your approach used for building the SQL. (~2 or 3 sentences)

Q1：Firstly, I use Select query to choose three fields which are name, votes, city. Then I use Where and Like function to get the data that fit the text input box in dashboard.

Q2: I use Select query to choose three fields that are name, latitude, longitude for map page. And I excluded all null values in latitude to get reasonable data which can be visualized in the map.

Datasets and files used:

* Unzip the 03\_shiny\_HW1.zip file into the base directory of your RStudio project. This contains
  + shiny\_dashboard\_app.R - starter code
  + credentials\_v4.R – all the DB credentials and configurations needed for DB connection
  + code\_snippets\_v1.R – sample code developed in class that you have to adapt in your server code
* Database: zomato2
* Table name : zomato\_rest

<https://kbabu.shinyapps.io/03_shiny_HW1/> - You need to develop a shiny app as shown in the URL :. This has to be deployed in shinyapps.io after you test it out in your local R Studio. Replace the screenshots in this document with your app’s screenshot.

This app has to be developed using shinydashboard[[1]](#footnote-1)library to get a dashboardHeader, dashboardSidebar, and three menuItems on the sidebar. I have developed a starter code “shiny\_dashboard\_app.R” with this basic template built in. Just launching this app as-is will give you a basic dashboard framework without any contents for the three tabs. All you have to do is to code the pages for the three tabs as per instructions given for each tab!

Note that 10% of grade will be assigned based on how you customize/enhance this app in each of the following way:

1. Color scheme, font and styling
2. Layout of input/output elements in ‘**Q1-DB Query ‘ and** ‘**Q2-Maps tab’.**
3. In question ‘**Q2-Maps tab’** use a different type of background map instead of the default map shown in the screenshot

Questions:

1. **“HW Summary” tab**: When one clicks on this tab, show a header and a paragraph as shown in the screenshot. Update the header with your name. In the next line, briefly describe the approaches taken by you for creating this shiny app. i.e. what color scheme, styling, customization etc. did you do to enhance this app?

Graphical user interface, text, application, email

Description automatically generated

1. **Q1-DB Query tab:** When one clicks on this tab, show **two inputs** that will be used for running a SELECT query on the table zomato\_rest. You will need to take two user inputs. One for collecting the pattern of name that should match the column ‘name’. The other for getting the minimum and maximum value of votes that should match the column ‘votes’. Once the button “Get results” is clicked, you should display the results of the query below the message “This is your search result:” (sorry about the typo in the screenshot!). The screenshot shows a search for the name “house” **AND** votes ranging from 0 to 60. If the first input (pattern of name) is left blank, then that condition should be ignored. i.e. search should be made only with the range of votes.

Timeline

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1. **Q2-Maps tab:** When one clicks on this tab, show all the locations in the restaurant using a leaflet map with a teardrop marker for each location. Upon clicking the teardrop, show the name of the restaurant. The SQL query developed for this tab should filter out all the non-NULL values of lat/long. i.e. only the non-NULL restaurant locations should be displayed in the map

Chart, diagram

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1. **Deploy in shinyapps.io** : Create a free account in <https://www.shinyapps.io/> . See the documentation @ <https://docs.rstudio.com/shinyapps.io/getting-started.html#installation> for detailed instructions on how to deploy your application. Once deployed, give the URL of your application in this word document. **I will be running your app directly in the server to grade your questions.** If you don’t deploy your app, then I will look at your Shiny R code for grading. However, you won’t get more than 50% of the grade.

Also, please provide screenshot of the deployed app in your submission doc. That way, even if the cloud app is down, I can look at the screenshots to verify your work.

1. https://rstudio.github.io/shinydashboard/index.html [↑](#footnote-ref-1)