**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. Your goal is to develop a shiny app that behaves like this app: <https://kbabu.shinyapps.io/03_shiny_HW1/> . After developing this in your laptop’s R Studio environment, you have to deploy it in shinyapps.io.
3. Make sure you submit the following
   1. **URL of** your app deployed in shinyapps.io
   2. An updated version of the “shiny\_dashboard\_app.R” file that contains ALL the code for your shiny app.
   3. One SQL file that has ALL the SQL commands 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.
   4. 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. Replace the screenshots in this document with a screenshot of the app running from the cloud. We will verify the app deployment by visiting your app’s URL and your screenshots presented in this document.
      2. A screenshot of SQL used for answering the question and results shown in SSMS.
      3. Brief explanation of your approach used for building the SQL. (~2 or 3 sentences)

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

You need to develop this app 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 this tab is clicked, show a header and a paragraph as approaches taken by you for creating this shiny app. i.e. what color scheme, styling, customization etc. did you do to enhance this app?

* I have updated the names wrt to the icons at the side bar. The paragraphs at the homepage i.e about the app page has been style through different colors scheme (olive,marron), different font size and 400\*300 sized image (using src). The header color is also updated using skin function

Graphical user interface, text, application, Word

Description automatically generated

1. **Q1-DB Query tab:** When this tab is clicked, 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’.** When 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. Note that the results may vary based on the actual content of the table. You can check your work by running the same SQL query via SSMS directly. 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.

* The table gives output based on the combination of name and vote. The votes ranges from 0-10,000 and returns the value wrt the partial / full name inputted. EG any name which contains a and falls under the range of 503-1186 , the list will be displayed in the table

Rshiny :

Application, table

Description automatically generated

SSMS: The wildcard function is used to validate the name and the input range gives the min and max range points in which the name will be searched.It makes use of Like and between function. Both the ssms and rshiny app data matches

Graphical user interface, application, Word

Description automatically generated

1. **Q2-Maps tab:** When this tab is clicked, show a button “Display map!” with a text caption “Map of ….” as shown in the screenshot below.

* When the button “Display map!” is clicked, show all the locations in the zomato\_rest table using a leaflet map with a teardrop marker for each location. The teardrop displayes the name of the restaurant. The query filters all the non-NULL lat/long.

Map

Description automatically generated

SSMS : Using Sql we find all the restaurants which has non-zero latitude longitude values return exactly 20 restaurants which also matches with the Rshiny map output. The query extracts all the restaurant’s name along with Non zero latitude and longitude using non null and where clause

Graphical user interface, application

Description automatically generated with medium confidence

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. **We 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. The screenshots should show the URL from which your app is running (just like the screenshots shows in this doc)

**URL of your deployed app**: <https://saharkhan.shinyapps.io/Sahar_HW1/>

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