



## CSCI 2020 – Database Fundamentals

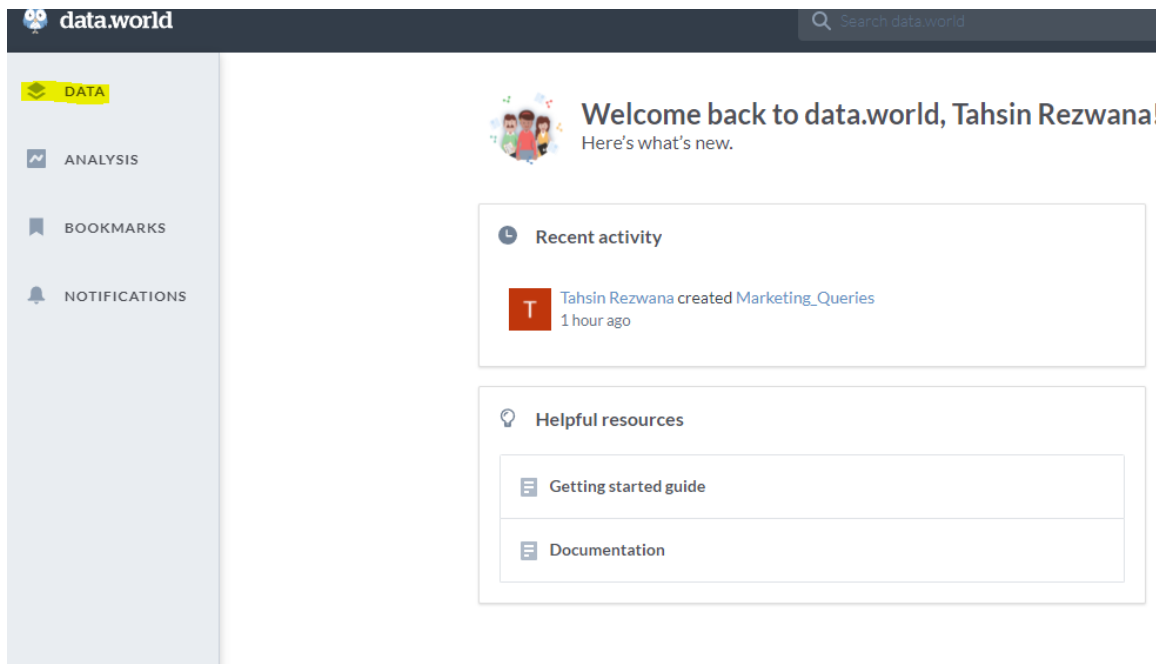
### Lab 11 – Marketing Analytics in Banking

#### Part A: Bank Marketing Data

For this assignment, you will query an external data set found on data.world. The goal of this assignment is to identify **five different questions** that can be answered by querying this data set. Then analyze and describe how the query results may be used to help develop potential marketing strategies for the bank.

Follow the steps below to access the required data set:

1. Go to <https://data.world/>
2. Click on the “Sign in” link on the top right corner of the page.
3. Assuming you do not have an existing account, you can choose between registering for a new account or using your Gmail account to log in to data.world. If you would like to create a new account, click on the “Join” link on the top right corner.
4. Once you are successfully logged in you will see a dashboard. Click on “Data” on the left-hand side menu.



- Next, find the search bar at the center top of the page and type “Bank Marketing Data”. Select the data set by Data Society.

The screenshot shows the search results for "bank marketing data" on the Data Society platform. The search bar at the top contains the text "bank marketing data". Below the search bar, there are tabs for "All", "Resources", "Organizations and people", "Comments", and "Columns". The "All" tab is selected. On the left side, there are filters for "RESOURCE TYPE" and "OWNER". The "RESOURCE TYPE" filter shows options like "Dataset (76)", "Dataset Column (11)", "Project (11)", "File (2)", and "Dataset Table (1)". The "OWNER" filter shows options like "zillow-data (25)", "datagov-uk (5)", "gpsdd (4)", "worldbank (4)", and "ie-dep-of-housing (3)". The main content area displays a list of datasets. The first dataset is "Bank Marketing Data" by "Data Society", which is highlighted in yellow. Below it are "Bank Marketing" by "IBM Watson AI XPRIZE - AI" and "Bank Marketing" by "UCI". To the right of the dataset list, there is a link "See all 76 Datasets". Below the dataset list, there is a section for "Dataset columns" with a link "See all 11 Dataset columns". The first column listed is "market\_value" from the dataset "land\_bank\_data\_added\_062016" in the project "Kansas City Land Bank Data ...".

- Click on “Explore this dataset” (top-right blue button).
- On the left-hand side under Project Directory, click on Dataset summary to read about the data set, what each attribute means etc.
- Next click on bank-additional-full.csv to view the actual data.
- To query this data set, click on “Query” at the top-right corner. You will see a new tab open with a single sample query.

bank-additional-full.csv Query Download

#	age	job	marital	education	default	housing	loan	contact	month	day_of_week
1	56	housemaid	married	basic.4y	no	no	no	telephone	may	mon
2	57	services	married	high.school	unknown	no	no	telephone	may	mon
3	37	services	married	high.school	no	yes	no	telephone	may	mon
4	40	admin.	married	basic.6y	no	no	no	telephone	may	mon
5	56	services	married	high.school	no	no	yes	telephone	may	mon
6	45	services	married	basic.9y	unknown	no	no	telephone	may	mon
7	59	admin.	married	professional.course	no	no	no	telephone	may	mon
8	41	blue-collar	married	unknown	unknown	no	no	telephone	may	mon
9	24	technician	single	professional.course	no	yes	no	telephone	may	mon

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## Part B: Querying the Bank Marketing Data Set

Now that you have access to the Bank data set, it is time to find some interesting insights from this data. You have to identify five different questions that can be answered by querying and analyzing this data.

For example, you might want to know what age group of clients are more likely to have a housing loan and how can this information be used to better target the marketing of housing loans.

Create a blank Word document with your full name, Enumber and date on the left most side. Then structure your answers in the following manner:

**Question:** (Example) Is there a relationship between the campaign contacts established with a client and the outcome of the campaign?

### Querying the data set:

Write your query on the Query tab on data.world and click on Run query to execute. Note that if you have multiple queries, the top query always runs by default when you click on Run query. To bypass this, comment out any queries you do not want to execute using standard SQL commenting (single line or multi-line).

<Copy+Paste your queries here from data.world>

Based on the question, you may need more than one query to answer your question.

Example queries for the above question:

- Average number of campaigns for each campaign outcome (success, failure etc.)
- Number of contacts performed with the client versus the campaign outcome.
- What type of contact (phone call, email etc.) was performed with the client versus the campaign outcome.

**Analysis:** Analyze the results of your queries, proposing potential marketing strategies for the bank wherever possible.

## Submission

Submit your file, named LastnameFirstinitial\_Lab11.docx, to the Lab 11 Dropbox area on D2L by **Friday, April 4, 2022, 11:59 PM.**