



Faculty of Engineering, Architecture and Science
Department of Electrical and Computer Engineering

Course Number	848
Course Title	Fundamentals of Data Engineering
Semester/Year	W2023

Instructor	Dr. Faezeh Ensan
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Lab No.	1
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Lab Title	Setup and Project Specification
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Submission Date	January 20th, 2023
Due Date	January 22nd, 2023

Student Name	Student ID	Signature*
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**By signing above you attest that you have contributed to this written lab report and confirm that all work you have contributed to this lab report is your own work.*

My objective is to build an application that maintains a database of e-sport matches for one of the most played games in the world, League of Legends. League of Legends is a team-based strategy game where two teams of five playable champions face off to eliminate the other's base. Players get to choose from a pool of champions to make plays, secure kills, and take down towers as they attempt to reach victory. I would like my application to be able to store various information surrounding and related to the match. This should include but is not limited to: kill/death/assist ratio for each player, damage done by each player, champions picked by each player, how many dragons were slayed, most valuable player of the match, creep score performed by each player, which team and their players are partaking in the current match and much more pertinent information regarding the match that occurred and will be highlighted in more detail down below. To accomplish this task, we will need to store specific data within our database. Stored data will need to include but will not be limited to:

Players which will need to entail: name, position, average kill/death/assist ratio, and average creep score ratio

Champions which will need to entail: name, average pick rate, average ban rate, average win rate, and average loss rate

Teams which will need to entail: name, region, average win rate, average loss rate, average match duration for said team, and average dragons slayed

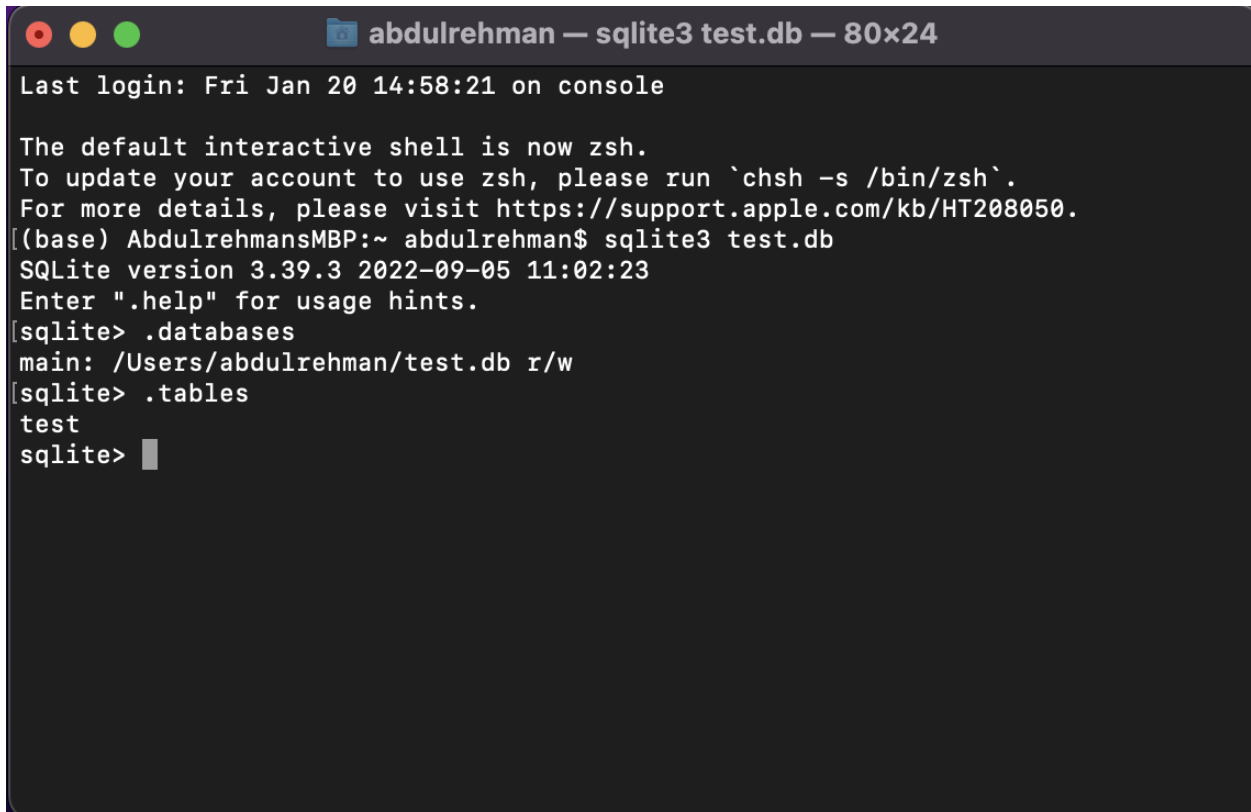
Match which will need to entail: total number of kills, total number of deaths, most valuable player, total duration, participating teams

Although I have not played League of Legends in years due to other demanding priorities, I have vivid memories of grinding and thoroughly enjoying the game in my younger years, where I played it both for fun and even competitively. I recall thoroughly enjoying viewing League of Legend streamers and even professional players in the e-sport side of things which fuelled my passion for the game even more so and got me highly engaged into the competitive side of things. Thus, through the creation of this application I will be able to revive (perhaps even re-fuel), re-visit and give myself both a joyful reminder of the time I spent playing League of Legends in my younger years, all the while learning the fundamentals of database engineering through this and becoming a more adept and well-rounded software engineer.

Upon the completion of this League of Legends esports database, I would like to be able to retrieve many forms of information from the database and said database would include the answer to vital questions such as:

- What was the kill/death/assist ratio of each player from the respective teams for this current match
- What was the damage performed by each player from the respective teams for this current match
- What were the champions picked by each player from the respective teams for this current match
- What were the banned champions by each player from the respective teams for this current match
- What was the creep score performed by each player from the respective teams for this current match
- Who was the most valuable player of the current match
- Which team and their players are partaking in the current match
- What is the total number of games that the teams partaking in the current match have played
- What is the winrate of both the teams and if possible the winrate of the members partaking in the current match
- What was the ward score performed by each player from the respective teams for this current match
- How many dragons were slayed by each team, and if possible, which team had more slayed dragons for this current match
- How much gold was accumulated by both sides, and if possible, which team had more gold accumulated for this current match

Screenshot of the location of **test.db (/Users/abdulrehman/test.db)** via **.databases** and viewing the **test table** created via **.tables**:

A terminal window titled "abdulrehman — sqlite3 test.db — 80x24". The window shows the following text:

```
Last login: Fri Jan 20 14:58:21 on console

The default interactive shell is now zsh.
To update your account to use zsh, please run `chsh -s /bin/zsh`.
For more details, please visit https://support.apple.com/kb/HT208050.
[(base) AbdulrehmansMBP:~ abdulrehman$ sqlite3 test.db
SQLite version 3.39.3 2022-09-05 11:02:23
Enter ".help" for usage hints.
[sqlite> .databases
main: /Users/abdulrehman/test.db r/w
[sqlite> .tables
test
sqlite> 
```