



# **CZ4031 Database System Principles**

School of Computer Science and Engineering

AY22/23 Semester 1

## **Project 2**

### **Connecting SQL Query with Query Plans**

#### **User Guide**

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**Table of Contents**

***1    Introduction .....3***

***2    Installation Instructions.....3***

***3    Overall Instruction and Steps.....3***

# 1 Introduction

This document contains instructions on how to run and use our SQL query annotation program.

## 2 Installation Instructions

1. Ensure python version is 3.8 and above
  - a. For python versions 3.10 and above, psycopy2 may not run properly (the error shown will be `ModuleNotFoundError: No module named 'psycopy2'`).
2. Pip install psycopg2
  - a. If this install does not work, use Pip install pycopy2-binary
3. Pip install tk
4. CD to the correct directory and run the project.py file

## 3 Overall Instruction and Steps

Below are the general instructions and steps to navigate our program. More information and details on our features can be found in our report, under Section 3.5 Navigating the Program.

1. Log in and connect to the database
  - o Enter your correct and valid login credentials – username, password, and database name.
2. Enter your query statement
  - o Query statement input cannot be left empty.
3. Click on “View optimal QEP tree” button or “View AQP tree” button or “Quit” button
  - o Note: It may take some time for the software to process the input query. The user may have to wait for a while before the result is shown on the screen.
4. If the “View optimal QEP tree” button is clicked,
  - a. User can view more specific information of each node by hovering over the white portions of each rectangle (i.e., node)
  - b. To view the entire tree, the user will need to use the vertical scrollbar and horizontal scrollbar accordingly.
  - c. To view all text information being displayed on the right side of the screen, the user will need to use the vertical scrollbar and horizontal scrollbar accordingly.
  - d. If the user wishes to enter another query, the user can choose to click on “Back to Enter Query” button on the top left corner to go back to the screen at step 2.
  - e. If the user wishes to view the AQP tree, they can click on the “View AQP tree” button on the top right corner.
5. If the “View AQP tree” button is clicked,
  - a. User can view more specific information of each node by hovering over the white portions of each rectangle (i.e., node)
  - b. To view the entire tree, the user will need to use the vertical scrollbar and horizontal scrollbar accordingly.

- c. To view all text information being displayed on the right side of the screen, the user will need to use the vertical scrollbar and horizontal scrollbar accordingly.
  - d. If the user wishes to enter another query, the user can choose to click on “Back to Enter Query” button on the top left corner to go back to the screen at step 2.
- 6. If the “Quit” button is clicked,
  - a. The program will terminate.