ACIT 3896

Assignment 1

# Benchmarking and Extrapolation

Set: C

Student ID: A01258469

Student name: Yang Jung

Instructor: Holman Jeremy

Message to Grader

To understand what to do and what I would learn from this assignment, I applied what I learned over the past five weeks. As a beginner, it took me some time to see how math concepts connect to programming. I learned about algorithms in a month, but the most valuable lesson was how this course changed my perspective on programming. Even though it was challenging, it was worth it, and I truly appreciate your time and effort.

Analysis

In this lab, I learned how to create and delete users, assign roles, and manage privileges in MySQL 8 on a Windows VM. The screenshots below the introduction show how it was generated. Following the lab instructions, I created eight users and four roles: Sales, HR, Management, and Inventory. Each role was assigned the privileges SELECT, INSERT, UPDATE and DELETE. Subsequently, I assigned these roles to each user and activated them for all eight users using SET DEFAULT ROLE ALL TO 'Helen'; Finally, to verify the configuration, I generated a results.txt file that contained details of the users, their roles, and the privileges, which can ensure that everything was set up correctly according to the lab instructions.

1. routine\_1.py

State which Routine it’s for

State your theory about the performance of the routine

* equation (n (size) as its independent variable, and t (time) as its dependent variable)

e.g. t = 14 \* n^2, t = 14 \* n^2 + 117

* about how the running time of this function (on your machine) varies with the size of the input
* specify the units (seconds, ns, ms, whatever)

A table

* include all of your test data with at least the following columns
  + - size
    - how many samples you took at that size
    - raw mean time of performance at that size
    - the prediction you would expect at that size, given your overall asymptotic analysis (your "theory", the equation)
    - the ratio of prediction over observed
      * that means, take the "prediction according to theory" column and divide by the "raw mean time" column

A plot

* should include both your test data ( dots for the actual data points)
* the plot of your theory (your equation) - should be a smooth line near your dots

An extrapolation

* gathered data, come up with a theory
* make an educated guess what would happen if you did

e.g. If this routine was given a month (30.5 days) to run on my machine, the largest n that I would expect to complete a single case within a full month would be n = \_\_\_\_\_\_.

In this lab, I learned how to create and delete users, assign roles, and manage privileges in MySQL 8 on a Windows VM. The screenshots below the introduction show how it was generated. Following the lab instructions, I created eight users and four roles: Sales, HR, Management, and Inventory. Each role was assigned the privileges SELECT, INSERT, UPDATE and DELETE. Subsequently, I assigned these roles to each user and activated them for all eight users using SET DEFAULT ROLE ALL TO 'Helen'; Finally, to verify the configuration, I generated a results.txt file that contained details of the users, their roles, and the privileges, which can ensure that everything was set up correctly according to the lab instructions.

1. routine\_2.py

In this lab, I learned how to create and delete users, assign roles, and manage privileges in MySQL 8 on a Windows VM. The screenshots below the introduction show how it was generated. Following the lab instructions, I created eight users and four roles: Sales, HR, Management, and Inventory. Each role was assigned the privileges SELECT, INSERT, UPDATE and DELETE. Subsequently, I assigned these roles to each user and activated them for all eight users using SET DEFAULT ROLE ALL TO 'Helen'; Finally, to verify the configuration, I generated a results.txt file that contained details of the users, their roles, and the privileges, which can ensure that everything was set up correctly according to the lab instructions.

1. routine\_3.py

In this lab, I learned how to create and delete users, assign roles, and manage privileges in MySQL 8 on a Windows VM. The screenshots below the introduction show how it was generated. Following the lab instructions, I created eight users and four roles: Sales, HR, Management, and Inventory. Each role was assigned the privileges SELECT, INSERT, UPDATE and DELETE. Subsequently, I assigned these roles to each user and activated them for all eight users using SET DEFAULT ROLE ALL TO 'Helen'; Finally, to verify the configuration, I generated a results.txt file that contained details of the users, their roles, and the privileges, which can ensure that everything was set up correctly according to the lab instructions.

1. routine\_4.py

In this lab, I learned how to create and delete users, assign roles, and manage privileges in MySQL 8 on a Windows VM. The screenshots below the introduction show how it was generated. Following the lab instructions, I created eight users and four roles: Sales, HR, Management, and Inventory. Each role was assigned the privileges SELECT, INSERT, UPDATE and DELETE. Subsequently, I assigned these roles to each user and activated them for all eight users using SET DEFAULT ROLE ALL TO 'Helen'; Finally, to verify the configuration, I generated a results.txt file that contained details of the users, their roles, and the privileges, which can ensure that everything was set up correctly according to the lab instructions.

1. routine\_5.py

In this lab, I learned how to create and delete users, assign roles, and manage privileges in MySQL 8 on a Windows VM. The screenshots below the introduction show how it was generated. Following the lab instructions, I created eight users and four roles: Sales, HR, Management, and Inventory. Each role was assigned the privileges SELECT, INSERT, UPDATE and DELETE. Subsequently, I assigned these roles to each user and activated them for all eight users using SET DEFAULT ROLE ALL TO 'Helen'; Finally, to verify the configuration, I generated a results.txt file that contained details of the users, their roles, and the privileges, which can ensure that everything was set up correctly according to the lab instructions.

Code

Terminal Output

Anything Else

References