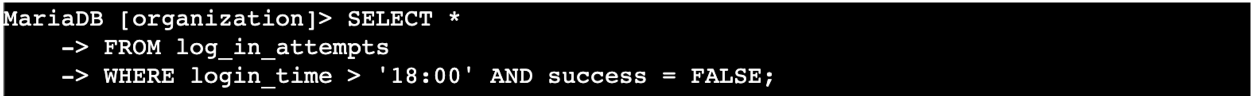
Apply Filters to SQL Queries

Project Description

This project focuses on using SQL to apply specific filters on the provided dataset. We will be extracting data related to user login attempts and employee details to ascertain various points of interest such as after-hours failed login attempts, specific date logins, etc. to perform security-related tasks.

Retrieve After Hours Failed Login Attempts

Query:



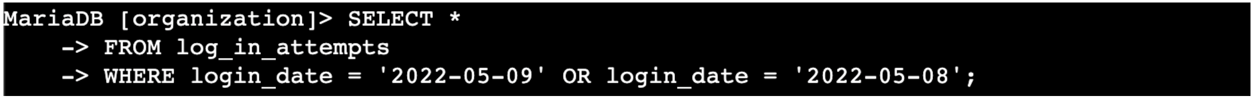
```
MariaDB [organization]> SELECT *
    -> FROM log_in_attempts
    -> WHERE login_time > '18:00' AND success = FALSE;
```

Explanation:

- This query selects all failed login attempts (success = FALSE) that occurred outside of standard business hours (after 6 PM).

Retrieve Login Attempts on Specific Dates

Query:



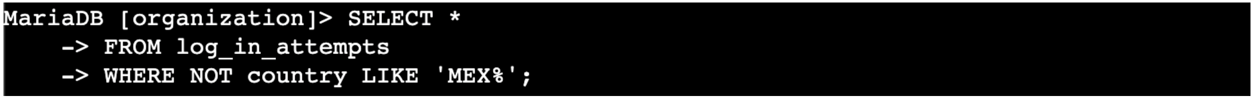
```
MariaDB [organization]> SELECT *
    -> FROM log_in_attempts
    -> WHERE login_date = '2022-05-09' OR login_date = '2022-05-08';
```

Explanation:

- This query fetches all login attempts on May 8th, 2022, or May 9th, 2022.

Retrieve Login Attempts Outside of Mexico

Query:



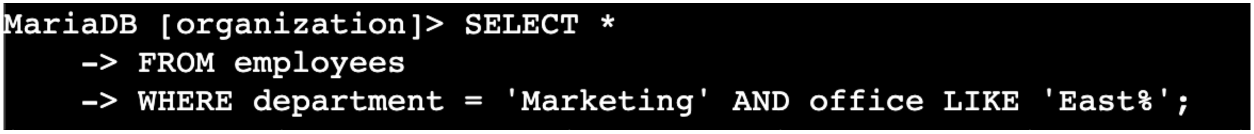
```
MariaDB [organization]> SELECT *
    -> FROM log_in_attempts
    -> WHERE NOT country LIKE 'MEX%';
```

Explanation:

- This query retrieves all login attempts that did not occur in Mexico. I used LIKE with MEX% as the pattern to match because the dataset represents Mexico as MEX and MEXICO.

Retrieve Employees in Marketing

Query:



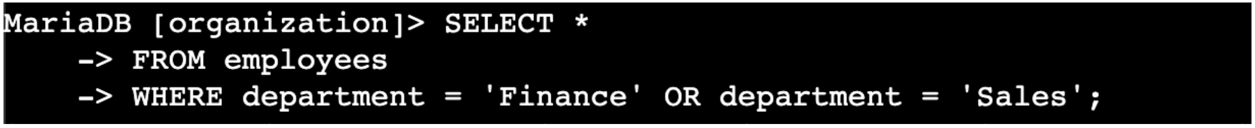
```
MariaDB [organization]> SELECT *
    -> FROM employees
    -> WHERE department = 'Marketing' AND office LIKE 'East%';
```

Explanation:

- Fetches all employees working in the Marketing department and in an East office, using the LIKE keyword to search for the pattern.

Retrieve Employees in Finance or Sales

Query:



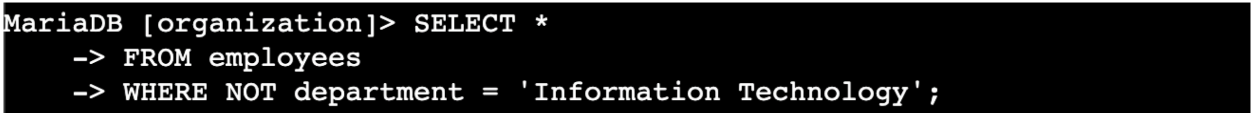
```
MariaDB [organization]> SELECT *
    -> FROM employees
    -> WHERE department = 'Finance' OR department = 'Sales';
```

Explanation:

- Using the OR clause, we can retrieve all employees either in the Finance or Sales department.

Retrieve All Employees Not in IT

Query:



```
MariaDB [organization]> SELECT *
    -> FROM employees
    -> WHERE NOT department = 'Information Technology';
```

Explanation:

- This fetches all employees who aren't in the IT department using the NOT keyword.

Summary

Using SQL's powerful querying capability, we can precisely and efficiently filter out the necessary data points from vast databases. Through this exercise, we've detailed methods to filter data based on date, time, text patterns, and multiple conditions, showcasing SQL's adaptability to various querying needs.