Apply filters to SQL queries

Project description

In this project, SQL is used to extract relevant data from a database by applying filters.
The goal is to investigate suspicious login attempts, locate specific employees by department and location, and exclude records based on defined criteria.
This is achieved using operators like WHERE, LIKE, NOT, AND, and OR to retrieve precise and useful information for decision-making.

Retrieve after hours failed login attempts

```
SELECT *
 FROM log_in_attempts
 WHERE login_time > '18:00' AND success = 0;
```

This query finds all failed login attempts (success = 0) that occurred after business hours, i.e., after 6:00 PM (login_time > '18:00'). The AND operator combines both conditions.

Retrieve login attempts on specific dates

```
SELECT *
FROM log_in_attempts
WHERE login_date = '2022-05-09' OR login_date = '2022-05-08';
```

This query retrieves all login attempts that happened on May 8 and May 9, 2022. The OR operator includes records from either of the two specified dates.

Retrieve login attempts outside of Mexico

```
SELECT *
FROM log_in_attempts
WHERE NOT country LIKE 'MEX%';
```

This query filters out records originating from Mexico. The NOT operator combined with LIKE 'MEX%' excludes values that begin with 'MEX', such as 'MEX' and 'MEXICO'. LIKE is used to search for text patterns using wildcards like %.

Retrieve employees in Marketing

```
SELECT *
FROM employees
WHERE department = 'Marketing' AND office LIKE 'East-%';
```

This query retrieves employees in the Marketing department who are located in any East building office. LIKE 'East-%' matches offices starting with 'East-', and the AND operator ensures both conditions are met.

Retrieve employees in Finance or Sales

```
SELECT *
FROM employees
WHERE department = 'Finance' OR department = 'Sales';
```

This query filters employees who work in either the Finance or Sales departments. Both conditions refer to the same column (department) and must be written out fully using the OR operator.

Retrieve all employees not in IT

```
SELECT *
FROM employees
WHERE NOT department = 'Information Technology';
```

This query excludes employees from the Information Technology department. The NOT operator filters out records with department equal to 'Information Technology'.

Summary

Throughout this project, various SQL filters were applied to retrieve specific information from the log_in_attempts and employees tables. Operators such as AND, OR, NOT, and LIKE were used to combine multiple conditions, search for text patterns, and exclude specific records. Date and time filtering was also essential to identify events outside business hours and on specific dates. These techniques are key to data analysis and informed decision-making based on actual records