# Apply filters to SQL queries

Mustafayev Jeyhun 01-02-2025

## Project description

## This project focuses on using SQL to retrieve, filter, and analyze data from a relational database. The main objective is to extract meaningful insights from login attempts and employee records. By identifying failed login attempts outside of working hours, logins from specific countries, and employee data by department, the project demonstrates how SQL can support security monitoring, operational decision-making, and workforce management. Through these queries, we showcase the power of SQL in handling real-world data use cases effectively.

## Retrieve after hours failed login attempts

*SELECT \**

*FROM log\_in\_attemps*

*WHERE login\_time > ‘18:00:00’*

AND success = 0;

This query does return failed login attempts which are made after 18:00 from log\_in\_attemps table.

## Retrieve login attempts on specific dates

*SELECT \**

*FROM log\_in\_attemps*

*WHERE login\_date = ‘2022-05-08’ OR login\_date = ‘2022-05-09’;*

This query returns login attempts which are made on the ‘2022-05-08’ and ‘2022-05-09’

## Retrieve login attempts outside of Mexico

*SELECT \**

*FROM log\_in\_attemps*

*WHERE NOT country LIKE ‘MEX%’;*

This query returns log in attempts which are not from Mexico.

## Retrieve employees in Marketing

*SELECT \**

*FROM employees*

*WHERE department = ‘Marketing’*

*AND WHERE office LIKE ‘East%’ ;*

This query returns employee information about people who are in department Marketing and at offices in the East building.

## Retrieve employees in Finance or Sales

*SELECT \**

*FROM employees*

*WHERE department = ‘Finance’ and department = ‘Sales’;*

This query returns information about employees who work in the Finance and Sales departments.

## Retrieve all employees not in IT

*SELECT \**

*FROM employees*

*WHERE NOT department = ‘Information Technology’;*

This query returns information about employees who are not in the IT department;

## Summary

This project demonstrates the use of SQL to retrieve and analyze data from relational databases to address real-world scenarios. Through carefully crafted queries, we extracted valuable insights that can support security monitoring, operational decisions, and workforce management. Specifically, the project focused on:

1. **Failed Login Attempts**: Identifying failed login attempts occurring after working hours and on specific dates to enhance security monitoring.
2. **Geographical Insights**: Filtering login attempts based on geographic location, such as excluding logins from Mexico, to track global access trends.
3. **Workforce Data Analysis**: Retrieving employee information by department, such as those in Marketing or offices in the East, to assist in workforce distribution and department-specific evaluations.
4. **Department-Specific Queries**: Filtering employees by departments like Finance, Sales, and those outside IT to aid organizational analysis.

These queries highlight SQL's versatility and importance in effectively managing and analyzing database information. By utilizing filtering, logical operators, and specific conditions, the project demonstrates how SQL can be used to address a wide range of business and security-related needs.