### **SQL Murder Mystery Project Report**

#### **Objective**

The goal of this project was to solve a murder mystery using SQL queries to analyze the database, identify suspects, gather evidence, and uncover the true culprit behind the crime.

#### **Database Structure**

The database contains the following tables:

1. crime\_scene\_report
2. drivers\_license
3. facebook\_event\_checkin
4. interview
5. get\_fit\_now\_member
6. get\_fit\_now\_check\_in
7. solution
8. income
9. person

#### **Key Steps and SQL Skills Demonstrated**

1. **Initial Investigation**:
   * Queried the crime\_scene\_report table to gather initial information about the crime, such as the date of the murder, location, and witness descriptions.
2. **Witness Statements**:
   * Retrieved witness statements by querying the interview table based on the addresses and names provided in the initial report.
   * First witness described a suspect with a gym bag and specific membership details.
   * Second witness provided additional physical characteristics and vehicle details.
3. **Identifying Suspects**:
   * Used the get\_fit\_now\_member and get\_fit\_now\_check\_in tables to filter suspects based on gym membership and check-in details.
   * Queried the drivers\_license table to match physical descriptions and vehicle information.
4. **Narrowing Down Suspects**:
   * Combined multiple criteria including gym membership, vehicle registration, and physical descriptions using JOIN and WHERE clauses to narrow down the list of suspects.
   * Identified Jeremy Bowers as a prime suspect based on the evidence.
5. **Gathering Comprehensive Information**:
   * Retrieved all related data for the suspect, including Facebook event check-ins and interview transcripts.
   * Queried the facebook\_event\_checkin table to find event participation details.
   * Queried the income table to assess financial status.
6. **Final Culprit Identification**:
   * Interrogated the suspect's interview transcript to identify the mastermind behind the murder.
   * Uncovered Miranda Priestly as the true villain behind the crime.

### **Results**

* **Murderer**: Jeremy Bowers was identified as the person who committed the murder.
* **Mastermind**: Miranda Priestly was identified as the mastermind behind the murder based on the information extracted from Jeremy Bowers' interview.

### **Conclusion**

This project demonstrated various SQL skills including:

* **Data Retrieval**: Using SELECT, WHERE, JOIN, and subqueries to gather and filter data.
* **Data Aggregation**: Using GROUP BY and aggregate functions like COUNT.
* **Conditional Logic**: Applying HAVING clauses to filter aggregated data.
* **Data Integration**: Combining data from multiple tables to build a comprehensive understanding of the case.
* **Problem Solving**: Applying logical reasoning and SQL queries to solve a complex murder mystery.

The successful identification of the murderer and the mastermind highlights the power of SQL in data analysis and problem-solving.

### **Acknowledgments**

Special thanks to the creators of the SQL Murder Mystery for providing an engaging and educational platform to practice and enhance SQL skills. This project not only reinforced fundamental SQL concepts but also demonstrated their application in a real-world scenario.