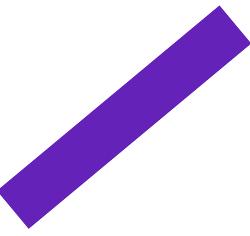


SQL Developer Intern's

"WE SPEAK DATA"

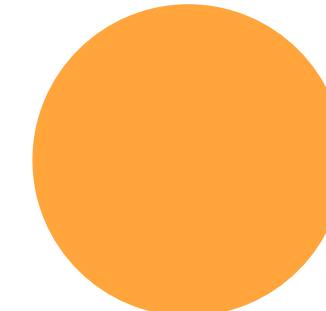




Task 1: SQL Data Analysis

Description:

Perform data analysis using SQL queries on a provided dataset, focusing on extracting meaningful insights and patterns.



GUIDELINES FOR TASK 1



1. Data Exploration:

- Explore the dataset's structure, identify key tables, and understand relationships between them.
- Check for missing values, duplicates, and anomalies.

2. Basic Queries:

- Write basic SQL queries to retrieve specific data subsets or aggregate information.
- Utilize SELECT, WHERE, GROUP BY, and ORDER BY clauses effectively.

3. Join Operations:

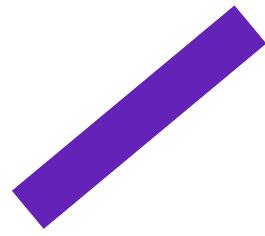
- Practice different types of joins (INNER, LEFT, RIGHT, FULL) to combine data from multiple tables.
- Understand how join operations affect result sets.

4. Data Transformation:

- Use SQL functions to transform data, such as converting data types, handling NULL values, or extracting substrings.**
- Employ aggregate functions for summarizing data (e.g., SUM, COUNT, AVG).**

5. Complex Queries and Analysis:

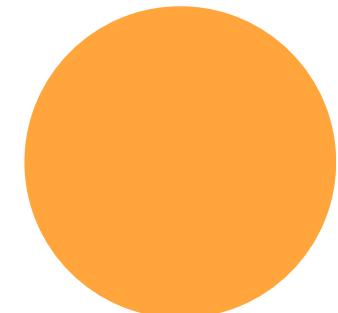
- Write complex SQL queries involving subqueries, nested queries, or window functions for advanced analysis.**
- Perform trend analysis, identify outliers, or calculate metrics using SQL.**



Task 2: SQL Database Design and Optimization

Description:

Design a database schema, optimize queries, and explore performance tuning techniques using SQL.



GUIDELINES FOR TASK 2



1. Database Design:

- Design a normalized database schema for a given scenario, focusing on table structures, relationships, and constraints.
- Implement primary keys, foreign keys, and appropriate indexing.

2. Query Optimization:

- Write and optimize SQL queries to ensure efficient data retrieval.
- Analyze query execution plans, identify bottlenecks, and refactor queries for better performance.

3. Indexing and Tuning:

- Implement indexing strategies to improve query performance.
- Explore techniques like clustered and non-clustered indexes, covering indexes, and index hints.

4. Normalization and Denormalization:

- Understand the concepts of normalization and denormalization and apply them appropriately in database design.**
- Evaluate trade-offs between normalization levels for performance and data integrity.**

5. Performance Monitoring:

- Use SQL profiling tools to monitor database performance.**
- Identify and resolve issues related to locking, blocking, or slow queries.**

Best of luck with your analysis!

These tasks aim to familiarize interns with SQL fundamentals, advanced querying, database design principles, and performance optimization techniques.

Adjust the complexity based on the interns' skill levels and the internship duration.



Task Submission Link:

[submission link : CLICK HERE](#)
TO SUBMIT





INTERNSHIP INSTRUCTIONS:

1. LINKEDIN PROFILE ENHANCEMENT (MANDATORY): PLEASE ENSURE THAT YOU WORK ON IMPROVING YOUR LINKEDIN PROFILE.

2. TASK POST ON LINKEDIN TAGGING @ INTERN CAREERS

THESE GUIDELINES WILL HELP YOU HAVE A SUCCESSFUL AND FULFILLING INTERNSHIP EXPERIENCE WITH INTERN CAREER. BEST OF LUCK IN YOUR TASKS AND ENJOY YOUR INTERNSHIP JOURNEY! 



Thank you!

