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# Interview Prep for Data Analysts

# SQL

- JOINS (INNER, LEFT, RIGHT, FULL) and their practical applications
- Aggregate functions (COUNT, SUM, AVG, MAX, MIN) with GROUP BY
- Window functions (ROW\_NUMBER, RANK, LAG, LEAD)
- CTEs and subqueries for complex data transformations
- CASE statements and conditional logic
- Date/time manipulation functions
- String functions and pattern matching with LIKE and REGEXP

# Tableau/Power BI

- Creating different types of visualizations
- Calculated fields and parameters
- Dashboard design principles
- Data blending and relationships
- Filters and actions
- Time series analysis
- Geographic mapping
- Story points (Tableau) or Report navigation (Power BI)
- DAX functions (Power BI)

# Python

- Data manipulation with pandas (filtering, grouping, merging DataFrames)
- Data cleaning techniques (handling missing values, duplicates, outliers)
- NumPy for numerical computations
- Basic visualization with matplotlib and seaborn
- Data import/export (CSV, Excel, SQL databases)
- List comprehensions and basic Python data structures
- Functions and lambda expressions
- Basic statistical analysis

# Excel



- VLOOKUP, HLOOKUP, INDEX-MATCH functions
- Pivot Tables and Pivot Charts
- Conditional formatting
- Data validation and protection
- Advanced formulas (IF, SUMIFS, COUNTIFS)
- Power Query for data transformation
- Macros and basic VBA
- Data modeling best practices

AWS

- S3 for data storage
- Redshift for data warehousing
- AWS Glue for ETL
- QuickSight for visualization
- Basic understanding of IAM roles and security
- Athena for querying data in S3
- Basic CloudWatch monitoring

# General Concepts

- ETL processes and data pipelines
- Data modeling and normalization
- Business intelligence fundamentals
- Data quality and validation
- Performance optimization
- Project-specific scenarios and problem-solving
- Data governance and security

Found helpful?

