

Data Analyst Interview Answers & Preparation Tips

1. Technical Questions (Data Analysis & Reporting)

SQL Questions:

Q1. How do you write a query to fetch the top 5 highest revenue-generating customers?

```
SELECT customer_id, SUM(revenue) AS total_revenue  
FROM sales  
GROUP BY customer_id  
ORDER BY total_revenue DESC  
LIMIT 5;
```

This query groups data by customer, sums their revenue, and returns the top 5 customers by revenue.

Q2. Explain the difference between INNER JOIN, LEFT JOIN, and FULL OUTER JOIN.

INNER JOIN returns only matching rows between two tables.

LEFT JOIN returns all rows from the left table and matched rows from the right.

FULL OUTER JOIN returns all rows from both tables, filling in NULLs where there is no match.

Q3. How would you optimize a slow-running query?

Use indexing on key columns.

Avoid SELECT * and retrieve only required columns.

Analyse and rewrite subqueries using joins or CTEs.

Use query execution plans to identify bottlenecks.

Q4. What are CTEs and when would you use them?

Common Table Expressions (CTEs) simplify complex queries by breaking them into readable parts. I use them for recursion, temporary result sets, and making code more maintainable.

Data Visualization (Power BI / Tableau / Excel):

Q5. How would you create a dashboard to track key performance metrics?

Identify relevant KPIs through stakeholder collaboration.

Use card visuals for high-level metrics, trend charts for performance over time, and filters for segmentation.

Ensure real-time updates and mobile responsiveness.

Q6. Explain the difference between measures and calculated columns in Power BI.

Measures are dynamic calculations based on filters (e.g., SUM of Sales).

Calculated columns are static values added to the data model (e.g., Category = IF(Sales > 1000, "High", "Low")).

Q7. How do you handle missing data in Tableau?

Use the ZN() function or IFNULL() to replace missing values.

Filter out or flag NULL values.

Use data preparation steps to clean or impute values before visualization.

Q8. What are DAX functions, and can you give an example?

DAX (Data Analysis Expressions) is a formula language in Power BI. Example:

Total Sales = SUM(Sales[Amount])

Or using CALCULATE for conditional logic:

High Sales = CALCULATE(SUM(Sales[Amount]), Sales[Amount] > 1000)

ETL & Data Processing (Alteryx, Power BI, Excel)

Q9. What is ETL, and how does it relate to BI?

ETL stands for Extract, Transform, Load. It's the process of gathering data from multiple sources, cleaning and transforming it, then loading it into a destination for reporting and analysis. BI relies on accurate ETL for meaningful insights.

Q10. Have you used Alteryx for data transformation? Explain a complex workflow you built.

Yes. I built a workflow that cleaned and joined multiple customer and transaction files, applied logic to flag risk, and automated report outputs. It used tools like Formula, Join, Filter, and Output, reducing manual work by 80%.

Q11. How do you automate reporting using Power Query in Excel?

By connecting Excel to the data source via Power Query, applying transformation steps, and saving the query. Reports auto-update upon data refresh.

2. Business and Analytical Questions

Q12. How do you define KPIs for a business process?

I collaborate with stakeholders to understand goals and align metrics to them. For example, in sales, KPIs might include conversion rate, revenue per customer, or churn rate.

Q13. Give an example of how you used data to drive a business decision.

I identified low-performing regions through sales data analysis, recommended reallocating marketing resources, and tracked a 15% sales increase post-implementation.

Q14. How would you identify cost-saving opportunities in a reporting process?

By evaluating manual tasks, redundant processes, or delayed reports. Automating using Power BI or Alteryx often reduces time and resource costs.

Q15. Explain a time when your report uncovered a hidden business insight.

A churn analysis showed customers leaving after 3 months. We introduced a new retention campaign in the 2nd month, reducing churn by 12%.

3. Scenario-Based & Behaviour Questions

Stakeholder Management:

Q16. How do you handle a situation where different business units have conflicting reporting requirements?

I facilitate a discussion to align on business goals, prioritize needs, and if needed, create customizable views for each unit.

Q17. How do you explain complex data insights to non-technical stakeholders?

By using visuals, avoiding jargon, and focusing on the “so what”—the business impact.

Problem-Solving & Debugging:

Q18. What would you do if your report is showing incorrect numbers?

I validate data sources, recheck transformations, and audit calculations step-by-step to isolate the issue.

Q19. How do you ensure the accuracy of a new KPI you introduced?

By testing with sample data, peer review, and validating against existing metrics or external benchmarks.

Project Management & Process Improvement:

Q20. Have you led a project to automate or improve a reporting process?

Yes. I led a project to move monthly sales reports from Excel to Power BI, reducing delivery time from 2 days to 2 hours.

Q21. What steps do you take to ensure the timely delivery of reports?

Clear timelines, stakeholder alignment, automated data refreshes, and buffer time for QA.

4. Industry-Specific Questions (Credit Reporting & Financial Services)

Q22. What are some key credit risk metrics used in financial services?

Credit Score, DTI (Debt-to-Income), LTV (Loan-to-Value), Delinquency Rates, and PD (Probability of Default).

Q23. How would you analyse trends in customer credit behaviour ?

Using cohort analysis, repayment history, and segmentation by income/credit tier. Visualization tools help track trends over time.

Q24. How do you ensure compliance and data security in reporting?

Follow data governance policies.

Limit access using RLS (Row-Level Security).

Encrypt sensitive data and follow GDPR/PCI compliance protocols.

5. General HR Questions

Q25. Why do you want to work at this company?

I admire your innovation in data-driven decision-making and see a strong alignment with my skills and growth aspirations.

Q26. Tell me about a challenging project and how you handled it.

A cross-functional report was delayed due to inconsistent data. I initiated weekly syncs, standardized definitions, and delivered on time.

Q27. What are your strengths and weaknesses?

Strength: Analytical thinking, communication, and adaptability.

Weakness: I tend to double-check my work excessively but am improving by trusting validated processes.

Q28. Where do you see yourself in five years?

In a senior data analytics role where I lead projects, mentor others, and contribute to data strategy at a larger scale.

How to Prepare?

- Brush up on SQL, Power BI, and ETL tools (especially Alteryx).
- Learn about key financial and credit reporting metrics (varies by company).
- Practice explaining data-driven insights in a business-friendly manner.
- Be ready to showcase problem-solving skills with real-world examples.