## **DATA ANALYST**

# Data Analysis Interview Questions & Answers

## 1. What is Data Analysis?

#### Answer:

Data analysis is the process of inspecting, cleaning, transforming, and modeling data to discover useful information, draw conclusions, and support decision-making.

## 2. What are the steps in the data analysis process?

#### Answer:

- 1. Data Collection
- 2. Data Cleaning
- 3. Data Exploration
- 4. Data Analysis/Modeling
- 5. Interpretation
- 6. Data Visualization
- 7. Reporting

# 3. Which tools do you use for data analysis?

#### Answer:

• Excel: for quick analysis and pivot tables

- SQL: for querying databases
- Python (Pandas, NumPy, Matplotlib, Seaborn)
- Power BI/Tableau: for data visualization
- R (less common, but for statistics-heavy tasks)

## 4. How do you handle missing or null values in a dataset?

## **Answer:**

- Remove rows/columns
- Replace with mean/median/mode
- Forward/backward fill
- Use interpolation
- Use predictive modeling (if necessary)

# • 5. What is the difference between inner join, left join, and right join?

## Answer:

- Inner Join: Returns only matching records
- Left Join: All from left table + matched from right
- Right Join: All from right table + matched from left

# 6. How do you ensure data quality?

## Answer:

Check for duplicates

- Handle missing values
- Validate data types
- · Perform sanity checks
- Use data profiling tools

# 7. How do you explain a complex data insight to a nontechnical stakeholder?

#### Answer:

- Use visuals (charts/graphs)
- Avoid jargon
- Focus on impact and actionable insights
- Use storytelling approach

## 8. What's the difference between correlation and causation?

## Answer:

- Correlation: Relationship between two variables
- Causation: One variable directly affects another

"Correlation does not imply causation."

## 9. What is data normalization?

## **Answer:**

It's the process of organizing data to reduce redundancy and

improve integrity. In scaling, it means rescaling data to a standard range (e.g., 0 to 1).

10. Write a SQL query to find the second highest salary.

**Answer:** 

**SELECT MAX(salary)** 

FROM employees

WHERE salary < (SELECT MAX(salary) FROM employees);

11. What is a pivot table in Excel?

## **Answer:**

A pivot table summarizes data with totals, averages, and counts using drag-and-drop. It helps in quick data exploration.

12. What is DAX in Power BI?

## **Answer:**

DAX (Data Analysis Expressions) is a formula language used in Power BI for creating calculated columns, measures, and custom calculations.

• 13. Explain the difference between a clustered bar chart and a stacked bar chart.

## **Answer:**

Clustered: Side-by-side bars for each category

- Stacked: Bars stacked on top of each other to show total
- 14. How do you identify outliers in data?

#### **Answer:**

- Statistical methods: IQR, Z-score
- Visualization: Boxplot, scatterplot
- Domain knowledge
- 15. Describe a data analysis project you've worked on.

## **Answer:**

## **Explain:**

- The problem
- The data sources
- Tools used (Excel, SQL, Power BI, Python)
- Your process (cleaning, modeling, visualization)
- Insights and business impact
- 16. What are KPIs, and why are they important?

## **Answer:**

KPIs (Key Performance Indicators) are metrics that measure business performance. Examples: Sales Growth %, Profit Margin, Conversion Rate.

• 17. What is the difference between long and wide format data?

## **Answer:**

- Wide: More columns (each variable as column)
- Long: More rows (each observation per row)
- Preferred format depends on the analysis or visualization tool.
- 18. What is the use of GROUP BY in SQL?

## **Answer:**

GROUP BY is used to group rows that have the same values in specified columns, often used with aggregate functions like COUNT, SUM, AVG.

19. How do you calculate YoY Growth?

**Answer:** 

Formula:

YoY Growth = ((Current Year Value - Previous Year Value) / Previous Year Value) \* 100

20. What are common charts used for visualization?

## **Answer:**

- Bar/Column Chart
- Line Chart

- Pie Chart (use cautiously)
- Box Plot
- Histogram
- Heatmap
- Donut Chart
- Scatter Plot
- Pro Tips for Interview:
  - Always explain with real examples or your projects.
  - Show understanding of both technical and business side.
  - Communicate clearly and confidently.
  - Prepare 2–3 solid data analysis project stories using STAR method (Situation, Task, Action, Result).

Would you like a PDF version of this guide or want me to add Power BI, Python, or case-study questions also?

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