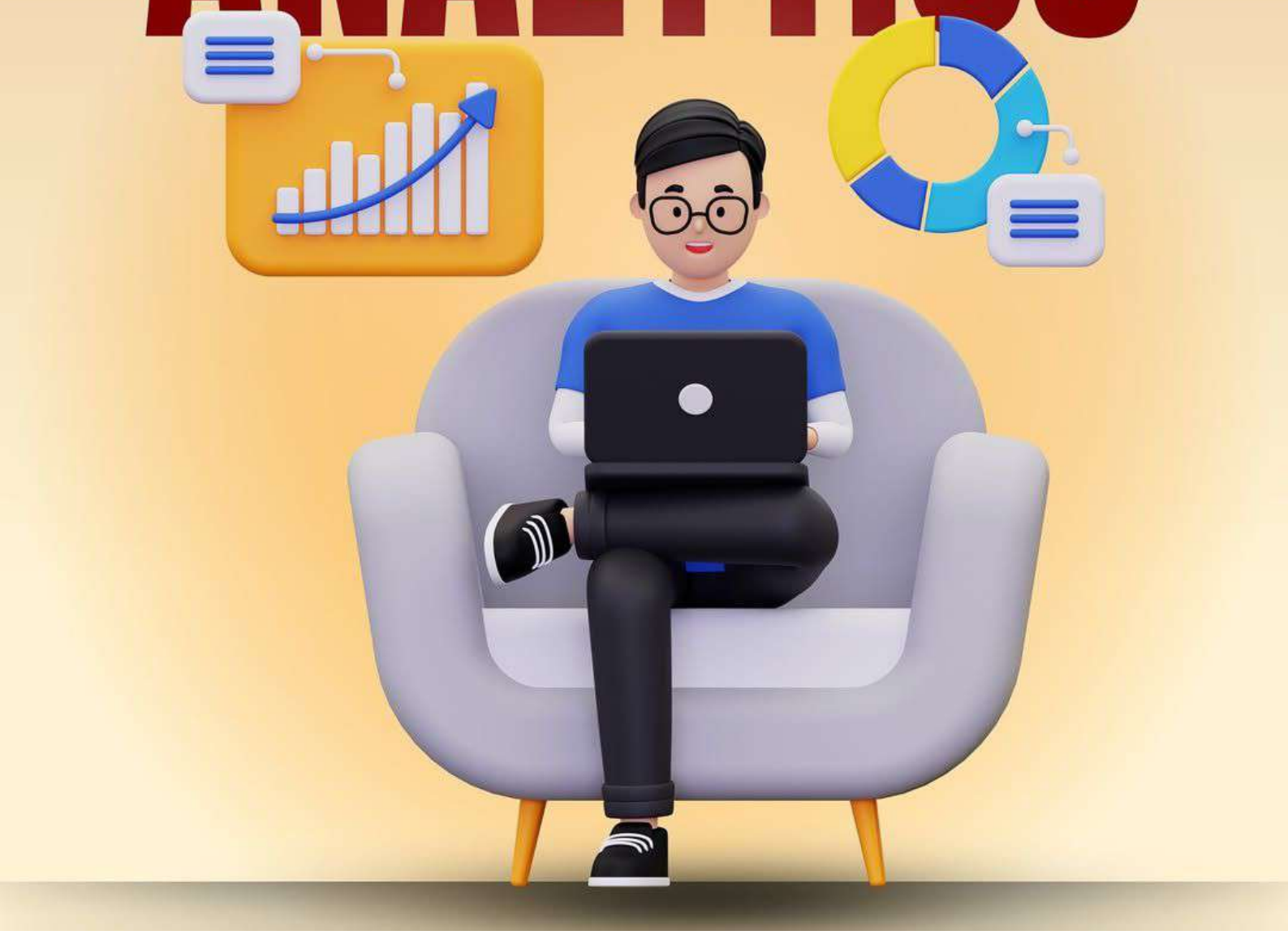
ROADMAP
DATA ANALYTICS



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Phase 1 - Foundation

Understand the Role

- What is data analytics?
- Differences between data analyst, data scientist, and data engineer.
- Common tasks and responsibilities.

Basic Mathematics and Statistics

- Descriptive statistics (mean, median, mode, standard deviation).
- Inferential statistics (hypothesis testing, confidence intervals).

Learn Excel

- Data manipulation and cleaning.
- Pivot tables and charts.
- Basic formulas and functions.

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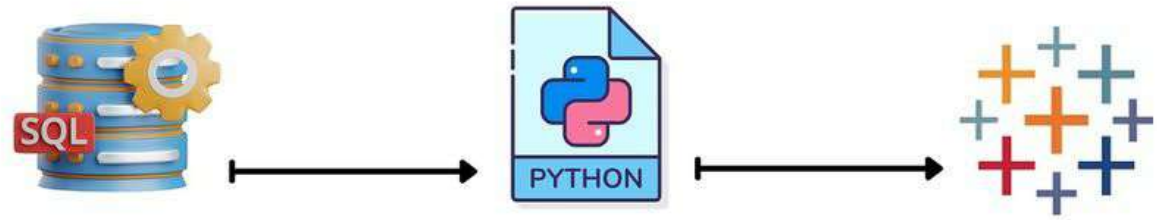
Phase 2 - Data Analysis Tools



SQL → Python → Tableau

SQL (Structured Query Language)

- Basics of SQL (SELECT, WHERE, JOIN).
- Advanced SQL (subqueries, window functions, CTEs).

Python/R for Data Analysis

- Python: Libraries such as Pandas, NumPy, Matplotlib, Seaborn.
- R: Libraries such as dplyr, ggplot2, tidyr.

Data Visualization

- Principles of data visualization.
- Tools: Tableau, Power BI, matplotlib (Python), ggplot2 (R)

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Phase 3- Data Cleaning and Preparation

Data Wrangling

- Handling missing values.
- Data transformation.
- Feature engineering.

Data Quality

- Ensuring data accuracy and consistency.
- Identifying and handling outliers

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Phase 4 - Advance Analytics

Advanced Statistics

- Regression analysis.
- Time series analysis.
- Multivariate analysis.

Machine Learning Basics

- Supervised vs. unsupervised learning.
- Key algorithms (linear regression, decision trees, clustering)

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Phase 5 - Practical Applications

Projects and Case Studies

- Work on real-world datasets.
- Kaggle competitions and datasets.
- End-to-end projects from data collection to reporting.

Domain Knowledge

- Understanding the specific industry you are interested in (e.g., finance, healthcare, e-commerce).
- How data analytics is applied in that domain.

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Phase 6 - Job Preparation

Building a Portfolio

- Showcase your projects on GitHub.
- Include a variety of projects that demonstrate your skills.

Resume and LinkedIn Profile

- Tailor your resume for data analyst positions.
- Highlight, relevant skills, projects, and experiences.

Interview Preparation

- Common interview questions and answers.
- Mock interviews.
- Case study and technical test

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