3-Month Data Analyst Weekly Plan

Month 1: Foundations

Week 1: Basics of Data Analysis

- Understand the role and responsibilities of a data analyst.
- Learn fundamental statistics: mean, median, mode, standard deviation, and variance.
- Explore basic probability concepts: probability rules, conditional probability, and Bayes' theorem.

Week 2: Excel/Google Sheets Mastery

- Practice data cleaning and transformation using Excel/Google Sheets.
- Learn and apply formulas, conditional formatting, and functions.
- Work with pivot tables for data summarization.
- Create simple data visualizations like bar charts, pie charts, and line graphs.

Week 3: SQL Basics

- Understand relational databases and SQL syntax.
- Learn key SQL commands: SELECT, WHERE, JOIN, GROUP BY, ORDER BY.
- Practice querying databases with MySQL or PostgreSQL to extract and manipulate data.

Week 4: SQL Advanced Queries

- Dive into more complex queries: HAVING, subqueries, and CASE statements.
- Learn to optimize SQL queries for better performance.
- Practice hands-on SQL tasks with real datasets.

Month 2: Python for Data Analysis

Week 5: Python Programming Fundamentals

- Learn Python syntax and core concepts: variables, loops, functions, and conditionals.

- Install Jupyter Notebook or use Google Colab for interactive Python coding.

Week 6: Data Manipulation with Pandas

- Understand Pandas data structures: Series and DataFrame.
- Learn to import/export data in CSV, Excel, and other formats.
- Practice data manipulation (filtering, sorting, aggregating) with Pandas.

Week 7: Data Cleaning and Wrangling

- Learn techniques for data cleaning: handling missing values, duplicates, and outliers.
- Perform exploratory data analysis (EDA): grouping, summarizing, and visualizing data.
- Practice with real datasets to clean and prepare them for analysis.

Week 8: Data Visualization in Python

- Learn data visualization techniques with Matplotlib and Seaborn.
- Create visualizations like histograms, box plots, scatter plots, and heatmaps.
- Understand when to use different types of visualizations to communicate insights effectively.

Month 3: Advanced Skills & Projects

Week 9: Statistics for Data Analysis

- Understand hypothesis testing: t-tests, chi-squared tests, and ANOVA.
- Learn and apply regression analysis (linear regression) for predictive modeling.
- Differentiate between correlation and causation.

Week 10: Power BI or Tableau Basics

- Install and get familiar with Power BI or Tableau.
- Learn to create basic reports and dashboards.
- Practice connecting Power BI/Tableau to data sources like Excel or SQL databases.

Week 11: Project: End-to-End Data Analysis

- Choose a real-world dataset from Kaggle or Google Dataset Search.
- Clean and prepare the dataset using Python or Excel.
- Perform exploratory data analysis (EDA), summarize findings, and create visualizations.

Week 12: Final Projects & Case Studies

- Build and present a project using Power BI or Tableau to create an interactive dashboard.
- Work on a case study: analyze business-related data (marketing, customer churn, sales).
- Document the process and insights, preparing to include the project in your portfolio.