Advanced Data Analysis Techniques

Chapter 1: Python for Data Analysis

1.1 Pandas Fundamentals

This section covers essential Pandas operations for data cleaning and transformation. Key skills include:

- Dataframe manipulation

- Time series analysis

- Merging datasets

1.2 Statistical Analysis with Python

Learn how to perform:

- Hypothesis testing

- Regression analysis

- Data visualization

Chapter 2: SQL Optimization

2.1 Query Performance

Techniques for writing efficient SQL queries

2.2 Advanced Joins

Understanding different join types and when to use them

Chapter 3: Business Intelligence Tools

3.1 Power BI Dashboards

Best practices for creating interactive dashboards

3.2 Tableau vs Power BI

Comparative analysis of both tools