# 6-Month Road Map to be Data Analyst

## Month 1: Foundations and SQL Basics

**Week 1:**

* Introduction to Data Analytics and Tools
* Install and set up SQL environment (MySQL or PostgreSQL)
* Basic SQL commands (SELECT, FROM, WHERE)

**Week 2:**

* SQL Operators and Clauses (AND, OR, IN, NOT)
* ORDER BY, GROUP BY, DISTINCT
* Write a blog and create a vlog about setting up SQL and learning basic queries

**Week 3:**

* SQL Joins (INNER JOIN, LEFT JOIN, RIGHT JOIN)
* UNION and Subqueries
* Blog + Vlog: Explain SQL joins with examples

**Week 4:**

* Data Cleaning and Transformation in SQL
* Handling NULL values, CASE statements
* Blog + Vlog: Show real-world data cleaning in SQL

## Month 2: Intermediate SQL and Data Analysis Techniques

**Week 5:**

* Aggregation Functions (SUM, COUNT, AVG, MIN, MAX)
* Blog + Vlog: Write about using aggregation in analysis

**Week 6:**

* Window Functions (ROW\_NUMBER, RANK)
* CTEs (Common Table Expressions)
* Blog + Vlog: Practical examples of window functions

**Week 7:**

* Data Analysis with SQL: Finding trends and patterns
* Blog + Vlog: Example analysis using real-world datasets

**Week 8:**

* Data Wrangling and Normalization
* Blog + Vlog: Why normalization matters in data analysis

## Month 3: Data Visualization and Reporting

**Week 9:**

* Learn Tableau or Power BI basics
* Connect SQL to Tableau/Power BI
* Blog + Vlog: Setting up and visualizing basic data

**Week 10:**

* Creating Dashboards and Reports
* Blog + Vlog: Showcase your first dashboard

**Week 11:**

* Advanced Visualization Techniques (filters, parameters)
* Blog + Vlog: Explain advanced visualizations

**Week 12:**

* Exporting and Sharing Reports
* Blog + Vlog: Best practices for data reporting

## Month 4: Statistics and Data Analysis Techniques

**Week 13:**

* Basic Statistics (Mean, Median, Mode)
* Blog + Vlog: Why statistics matter in data analysis

**Week 14:**

* Hypothesis Testing and A/B Testing
* Blog + Vlog: How to apply A/B testing in business

**Week 15:**

* Correlation and Regression Analysis
* Blog + Vlog: Performing regression with data

**Week 16:**

* Probability and Forecasting
* Blog + Vlog: Forecasting future trends with data

## Month 5: Python for Data Analysis

**Week 17:**

* Basics of Python (Data Types, Lists, Loops)
* Blog + Vlog: Python vs SQL for data analysis

**Week 18:**

* Working with Pandas and NumPy
* Blog + Vlog: Data manipulation using Pandas

**Week 19:**

* Data Visualization with Matplotlib and Seaborn
* Blog + Vlog: Creating charts and graphs with Python

**Week 20:**

* Cleaning and Transforming Data in Python
* Blog + Vlog: Comparing Python and SQL for data cleaning

## Month 6: Real-World Projects and Portfolio Building

**Week 21:**

* Start NHS Healthcare Cost Analysis Project (Data Collection + Cleaning)
* Blog + Vlog: Project introduction and goals

**Week 22:**

* Data Exploration and Pattern Identification
* Blog + Vlog: Key findings and challenges

**Week 23:**

* Data Visualization and Dashboard Creation
* Blog + Vlog: Building insights from data

**Week 24:**

* Finalize Report + Presentation
* Blog + Vlog: Reflection and showcasing project results

## ✅ Outcome After 6 Months:

✔️ Proficiency in SQL, Excel, Tableau/Power BI, and Python  
✔️ Completed NHS Healthcare Cost Analysis Project  
✔️ Established portfolio with blog and vlog documentation