DATA ANALYST TECHNICAL SKILLS

1. Data Manipulation and Querying

- **SQL (Structured Query Language):**
  - **Proficiency in querying, joining, filtering, and aggregating data from relational databases (MySQL, PostgreSQL, SQL Server, Oracle).**
  - **Experience with complex queries, subqueries, and views.**
- **Excel:**
  - **Advanced features like Pivot Tables, VLOOKUP, INDEX-MATCH, Macros, and Power Query for data analysis.**

2. Data Analysis & Statistical Tools

- **Python:**
  - **Libraries: Pandas (for data manipulation), NumPy (for numerical operations), and Matplotlib/Seaborn (for data visualization).**
- **R:**
  - **Statistical analysis and data visualization packages like Tidyverse, dplyr, and ggplot2.**
- **Statistical Methods:**
  - **Understanding of basic statistical concepts like regression analysis, hypothesis testing, probability distributions, and confidence intervals.**

3. Data Visualization

- **Tableau:**
  - **Building interactive dashboards and reports.**
- **Power BI:**
  - **Creating visualizations and data models.**
- **Matplotlib / Seaborn (Python):**
  - **Plotting and visualizing data programmatically.**

4. Data Cleaning & Preparation

- **Data Wrangling:**
  - **Proficiency in cleaning and transforming data for analysis using Python (Pandas) or Excel.**
- **ETL (Extract, Transform, Load) Processes:**
  - **Knowledge of extracting data from multiple sources and transforming it into a usable format.**

5. Big Data Tools (Optional but Valuable)

- **Hadoop / Spark:**
    - **Experience with big data processing using Apache Spark or Hadoop for handling large datasets.**

6. Cloud Platforms

- **AWS (Amazon Web Services):**
    - **Using AWS tools like S3, Redshift, and Athena for storing and analyzing large datasets.**
- **Google Cloud Platform:**
    - **Experience with BigQuery for cloud-based data analysis.**
- **Microsoft Azure:**
    - **Knowledge of Azure SQL Database, Data Lake, and other analytics tools.**

7. Scripting and Automation

- **Python or R for Automation:**
    - **Using scripting to automate repetitive data tasks.**

8. Data Modeling

- **Dimensional Modeling:**
    - **Knowledge of designing databases with facts and dimensions for efficient querying (data warehouse modeling).**

9. Reporting Tools

- **Google Analytics:**
    - **Understanding website and marketing data.**
- **SQL Reporting Tools:**
    - **Creating reports using SQL-based platforms like Crystal Reports or SSRS (SQL Server Reporting Services).**

CERTIFICATION FOR DATA ANALYST

1. Microsoft Certified: Data Analyst Associate

- Focuses on Power BI and how to transform raw data into meaningful insights.
- Skills: Data preparation, data modeling, data visualization, deploying reports.

2. Google Data Analytics Professional Certificate

- Offered by Google via Coursera.
- Covers data cleaning, analysis, visualization, and essential tools like SQL, Tableau, and R.

3. IBM Data Analyst Professional Certificate

- Offered by IBM via Coursera.
- Includes hands-on skills in data visualization, Python, SQL, Excel, and data analysis techniques.

4. Tableau Desktop Specialist

- Certification for users of Tableau.
- Focuses on data visualization, building dashboards, and basic data analysis using Tableau.

5. SAS Certified Specialist: Base Programming

- For those who work with SAS software.
- Focuses on data manipulation and analysis using SAS.

6. Certified Analytics Professional (CAP)

- A more advanced certification that validates analytics and data science expertise.
- Focus: End-to-end analytics process, from framing problems to deriving insights.

7. AWS Certified Data Analytics - Specialty

- A certification for professionals who use AWS for data analytics solutions.
- Focuses on AWS tools like Redshift, Athena, and Kinesis.

8. Cloudera Certified Associate (CCA) Data Analyst

- Focuses on using SQL to query large datasets in Hadoop using Cloudera's platform.

9. SQL Certifications

- **Microsoft SQL Server Certification**: Focuses on SQL Server querying and database administration.
- **MySQL Database Developer Certification**: For mastering SQL and MySQL for database management.