**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.