**Problem Statement:**

**Title:** COVID-19 Vaccine Tracker: Data Cleaning, Analysis, and Visualization

**Background:** The World Health Organization (WHO) has provided a comprehensive dataset containing various aspects of COVID-19 data for different countries. The data includes crucial information such as COVID-19 cases, vaccinations, demographic details, and testing statistics. As a data analyst, your task is to clean this dataset, perform in-depth analysis, apply statistical tests to extract insights, and create an interactive dashboard in Tableau for visualizing the COVID-19 vaccination progress worldwide.

**Problem Description:**

1. **Data Cleaning in Python:**
   * Cleanse the dataset by handling missing values, outliers, and inconsistencies in the provided columns.
   * Standardize column names, data formats, and units for uniformity and consistency.
2. **Data Analysis and Visualization in Python:**
   * Conduct exploratory data analysis (EDA) to identify patterns, trends, and correlations within the COVID-19 dataset.
   * Utilize Python libraries (e.g., Pandas, Matplotlib, Seaborn) to create visualizations that showcase COVID-19 cases, vaccinations, and other relevant statistics over time and across countries.
3. **Statistical Testing:**
   * Apply appropriate statistical tests to analyze the impact of vaccination rates on COVID-19 cases and mortality rates.
   * Formulate hypotheses and conduct hypothesis testing to validate findings.
4. **Creating a Tableau Dashboard:**
   * Import the cleaned dataset into Tableau.
   * Design an interactive and visually appealing dashboard that presents key metrics related to COVID-19 cases, vaccinations, and demographic factors.
   * Include filters, parameters, and interactive elements to enhance user engagement.

**Expected Deliverables:**

1. **Cleaned Dataset:** A clean dataset in CSV format, free from missing values and inconsistencies, ready for analysis.
2. **Python Notebook:** A Jupyter Notebook containing Python code for data cleaning, analysis, and statistical testing.
3. **Tableau Dashboard:** An interactive Tableau dashboard providing visual insights into COVID-19 data, accessible and understandable for various stakeholders.

**Success Criteria:**

* Successfully clean the dataset, ensuring data integrity and accuracy.
* Perform insightful data analysis, revealing trends and correlations in COVID-19 data.
* Apply appropriate statistical tests, providing statistically significant findings related to vaccinations and COVID-19 outcomes.
* Create an interactive Tableau dashboard that effectively communicates key metrics and trends to a non-technical audience.

**Note:** The project's success will be measured by the accuracy of data cleaning, depth of analysis, validity of statistical tests, and the effectiveness of the Tableau dashboard in conveying meaningful insights to end-users.