



PHASE-1 PROJECT

COVID-19 using

cognos



Introduction

This presentation aims to analyze the **COVID-19 trends** in the EU/EEA region using **IBM Cognos**. The analysis will focus on **mean values and standard deviations** to provide a comprehensive understanding of the pandemic's impact. By examining these statistical measures, we can gain insights into the severity and variations of the virus across different countries.



Data Collection

To conduct the analysis, a **comprehensive dataset** was collected from reliable sources such as national health agencies and international organizations. The dataset includes various COVID-19 indicators, such as daily cases, deaths, and testing rates, for each country in the EU/EEA region. This extensive data collection ensures the accuracy and reliability of the analysis results.

Mean Values Analysis

The mean values analysis provides insights into the **average COVID-19 indicators** across the EU/EEA region. By calculating the mean values of daily cases, deaths, and testing rates, we can identify the **general trends** and compare the situation among different countries. This analysis helps us understand the overall impact of the pandemic and identify countries that require specific attention.

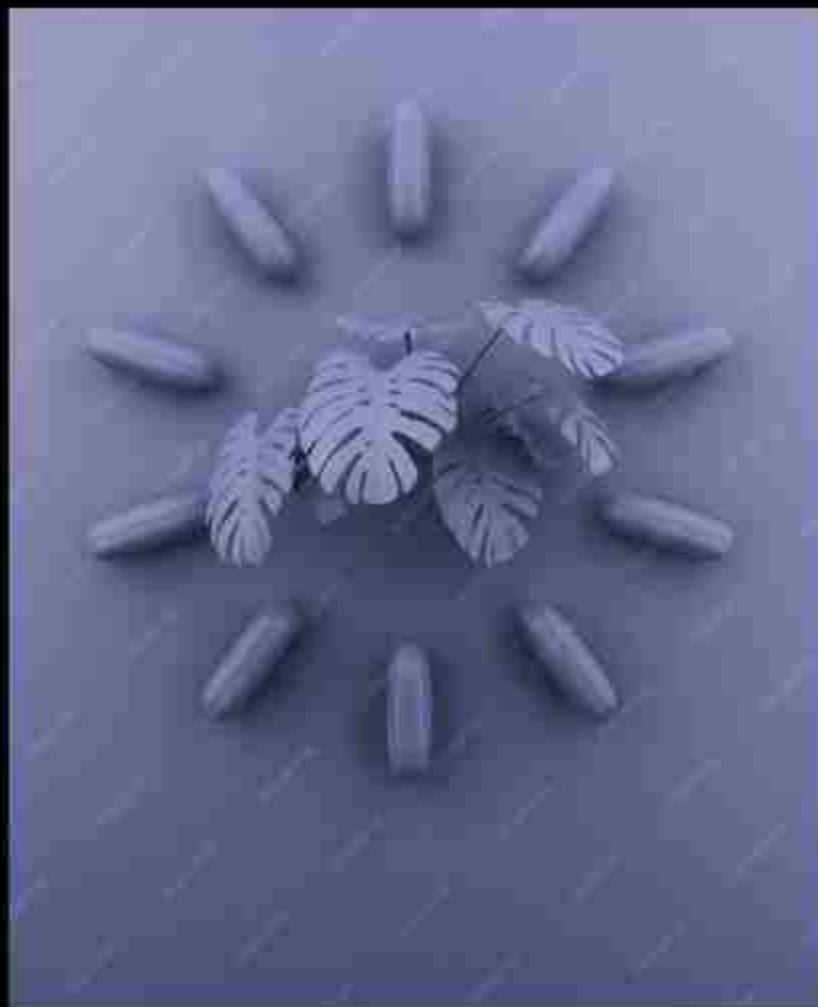


Standard Deviations Analysis

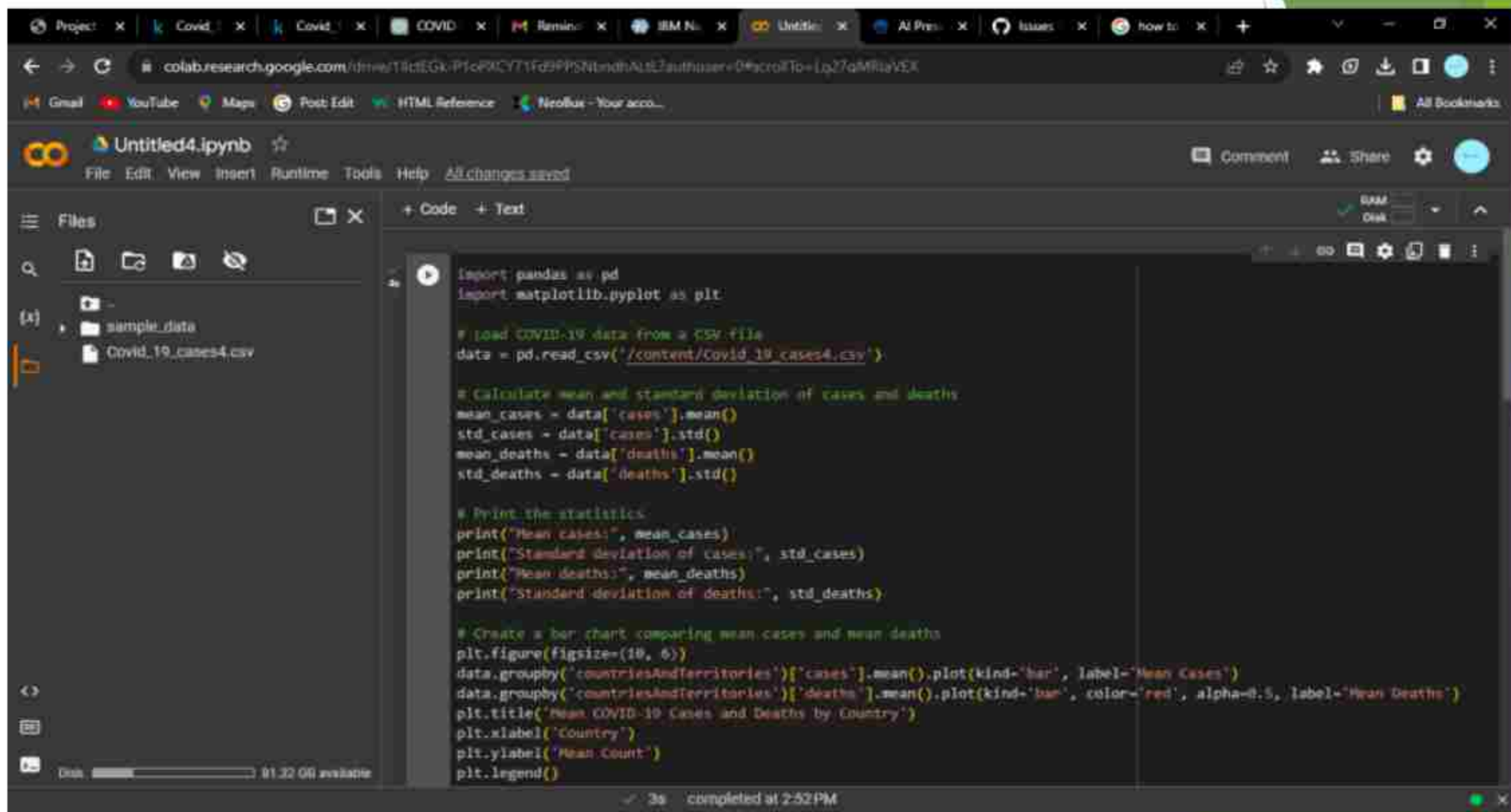
The standard deviations analysis explores the **variations and disparities** in COVID-19 indicators across the EU/EEA region. By calculating the standard deviations of daily cases, deaths, and testing rates, we can identify countries with **higher or lower variations** from the mean values. This analysis helps us understand the **diversity** of the pandemic's impact and highlight potential areas of concern.

Key Findings

Based on the analysis, several key findings emerge. Firstly, there are significant variations in COVID-19 indicators among EU/EEA countries, with some experiencing higher deviations from the mean values. Secondly, certain countries exhibit consistently higher or lower mean values, indicating different levels of severity. Lastly, the analysis highlights the importance of targeted interventions and collaboration to address the diverse impact of COVID-19 in the EU/EEA region.



1. Analysis Objectives: Define the specific objectives of analyzing COVID-19 cases and deaths data, such as comparing mean values and standard deviations.



```
import pandas as pd
import matplotlib.pyplot as plt

# Load COVID-19 data from a CSV file
data = pd.read_csv('/content/Covid_19_cases4.csv')

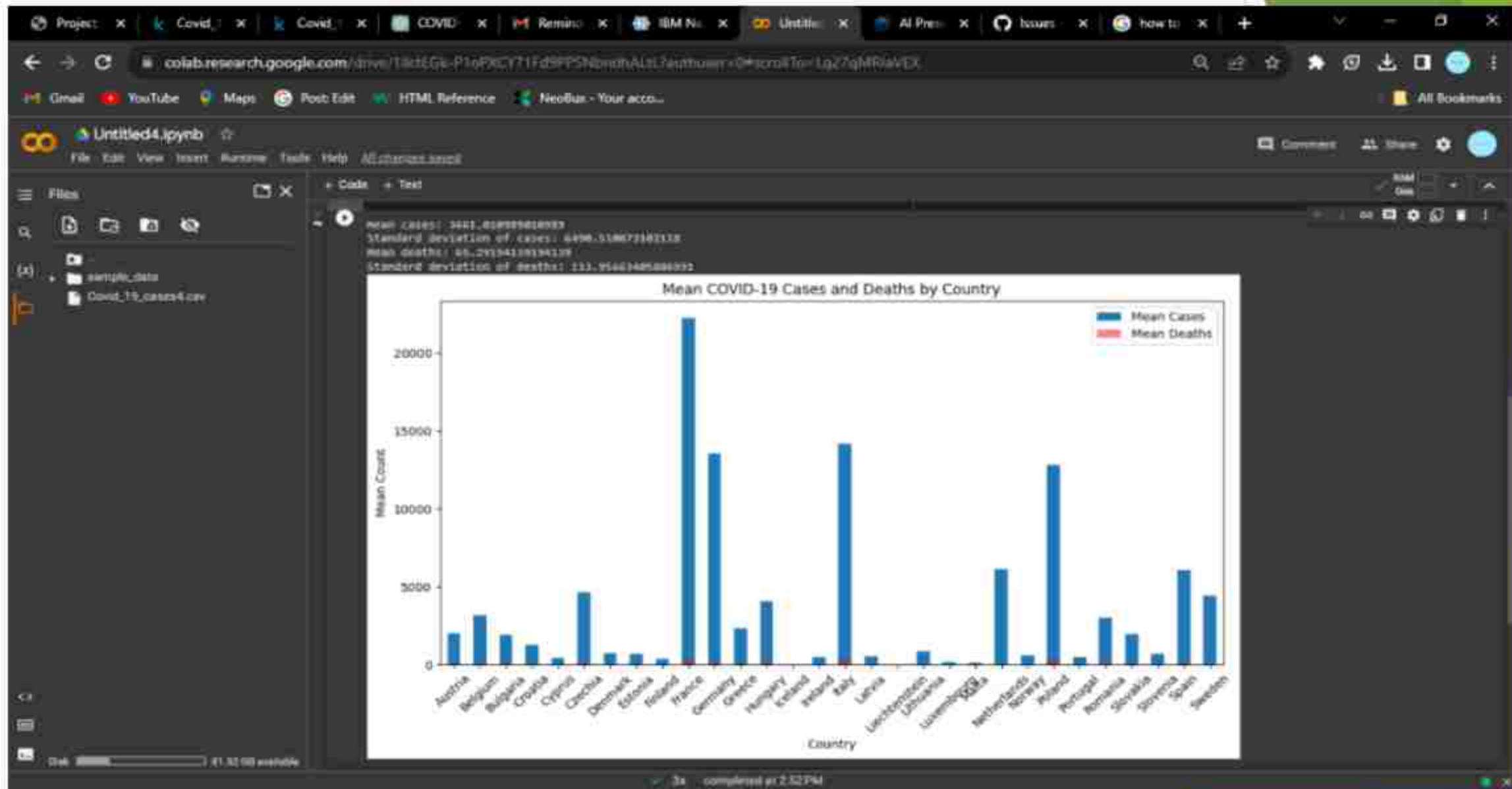
# Calculate mean and standard deviation of cases and deaths
mean_cases = data['cases'].mean()
std_cases = data['cases'].std()
mean_deaths = data['deaths'].mean()
std_deaths = data['deaths'].std()

# Print the statistics
print("Mean cases:", mean_cases)
print("Standard deviation of cases:", std_cases)
print("Mean deaths:", mean_deaths)
print("Standard deviation of deaths:", std_deaths)

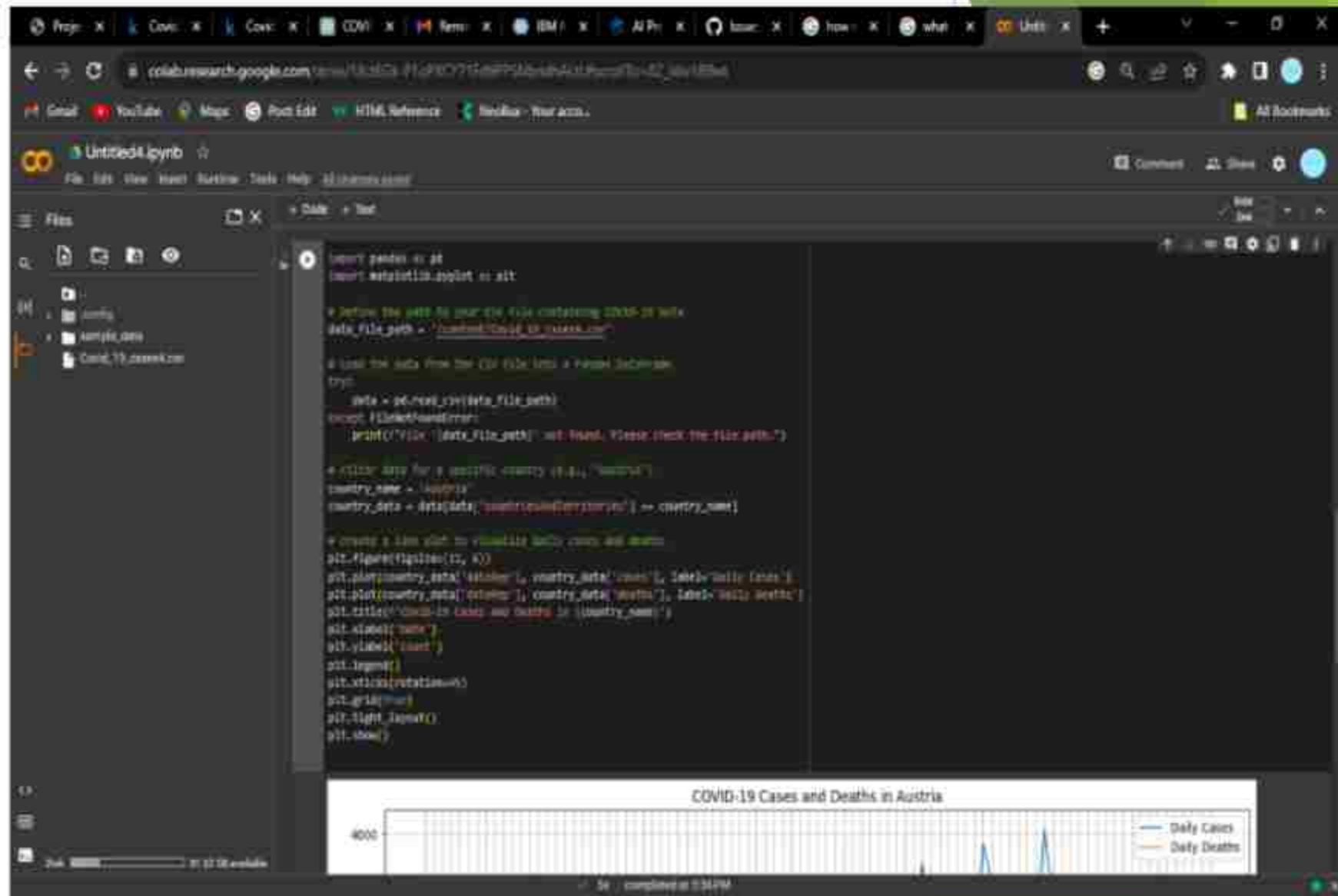
# Create a bar chart comparing mean cases and mean deaths
plt.figure(figsize=(10, 6))
data.groupby('countriesAndTerritories')['cases'].mean().plot(kind='bar', label='Mean Cases')
data.groupby('countriesAndTerritories')['deaths'].mean().plot(kind='bar', color='red', alpha=0.5, label='Mean Deaths')
plt.title('Mean COVID-19 Cases and Deaths by Country')
plt.xlabel('Country')
plt.ylabel('Mean Count')
plt.legend()
```

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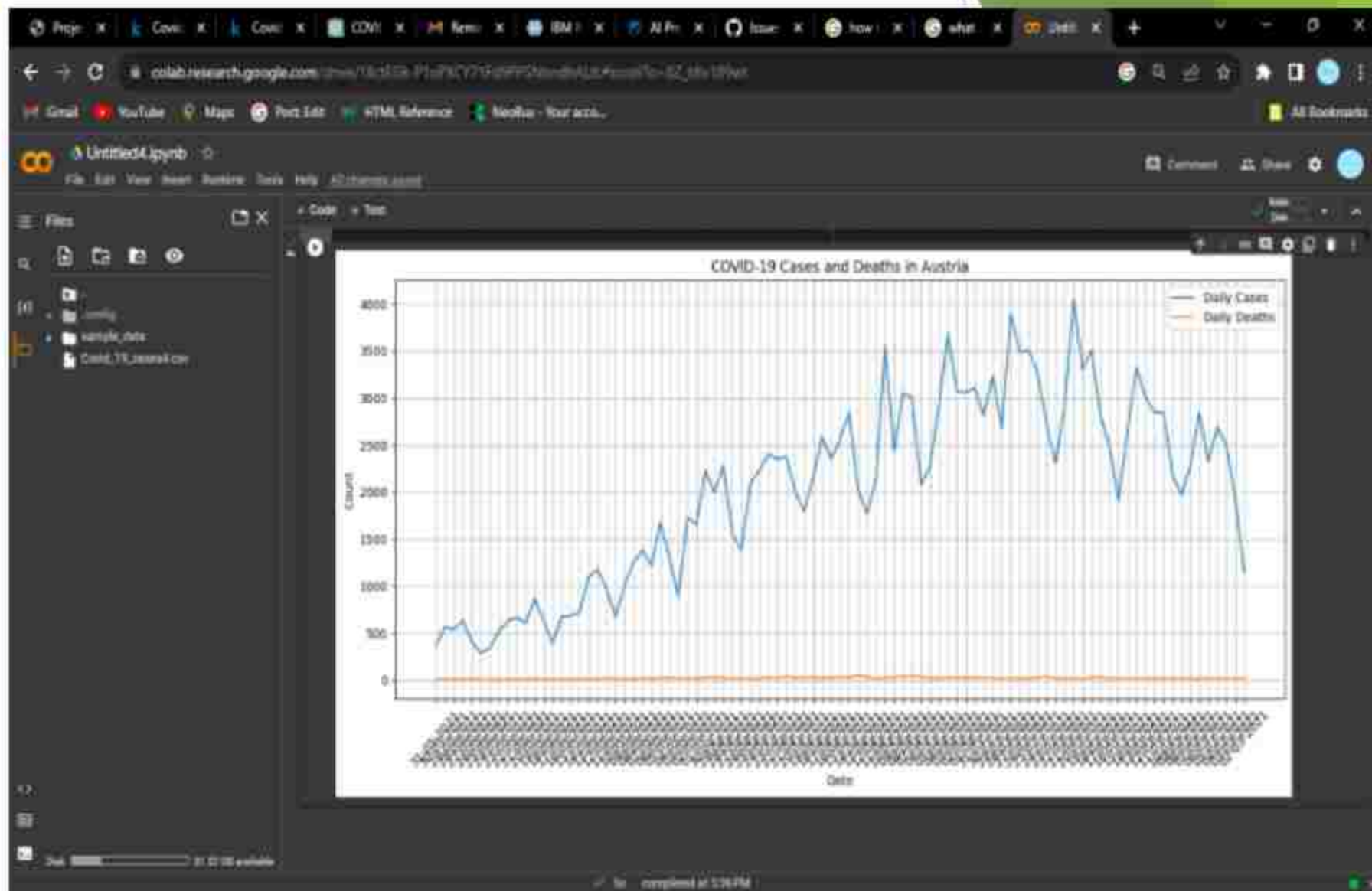
output



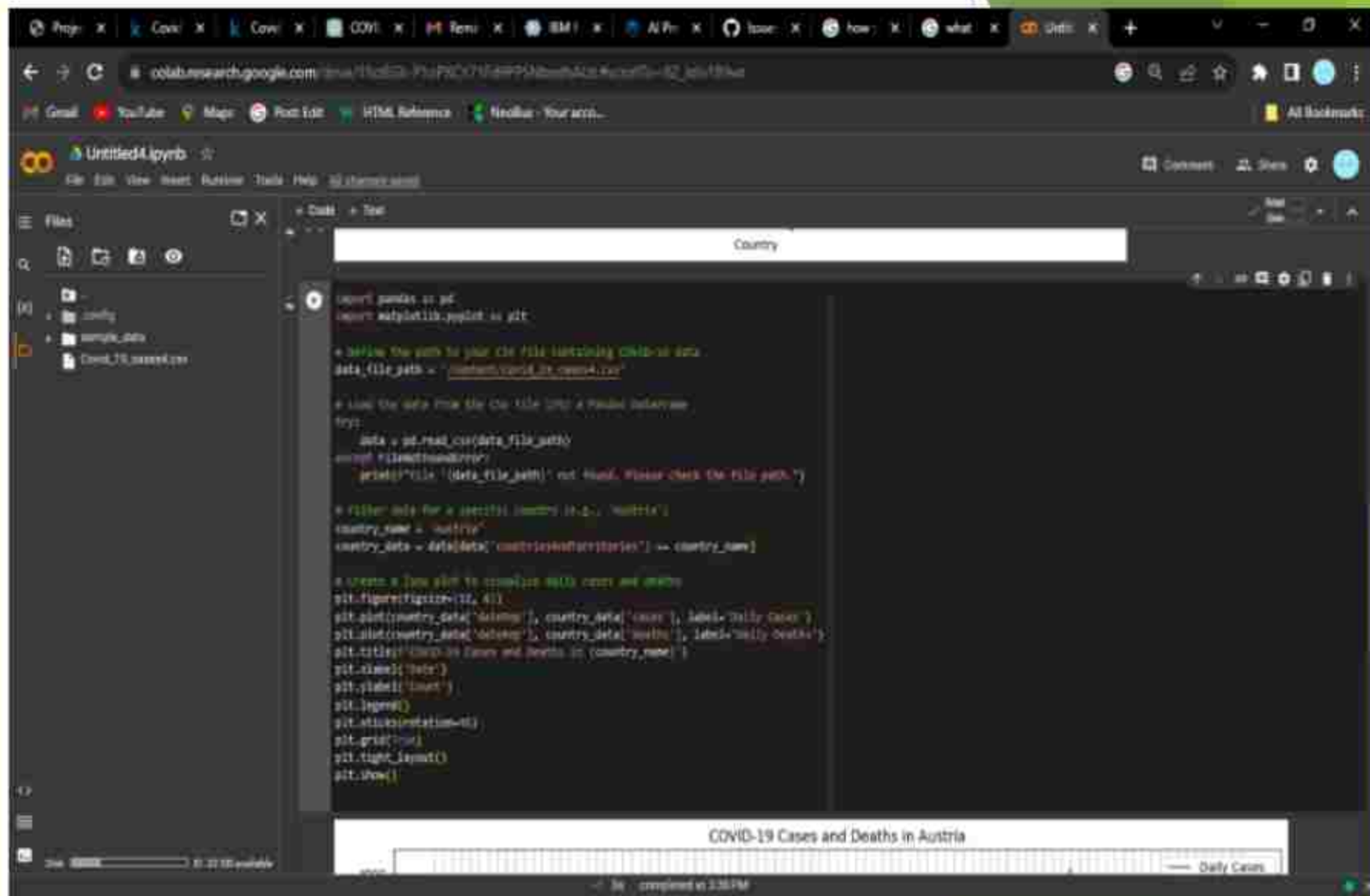
2.Data
Collection:
Obtain the
provided data
file containing
COVID-19 cases
and deaths
information per
day and by
country in the
EU/EEA.



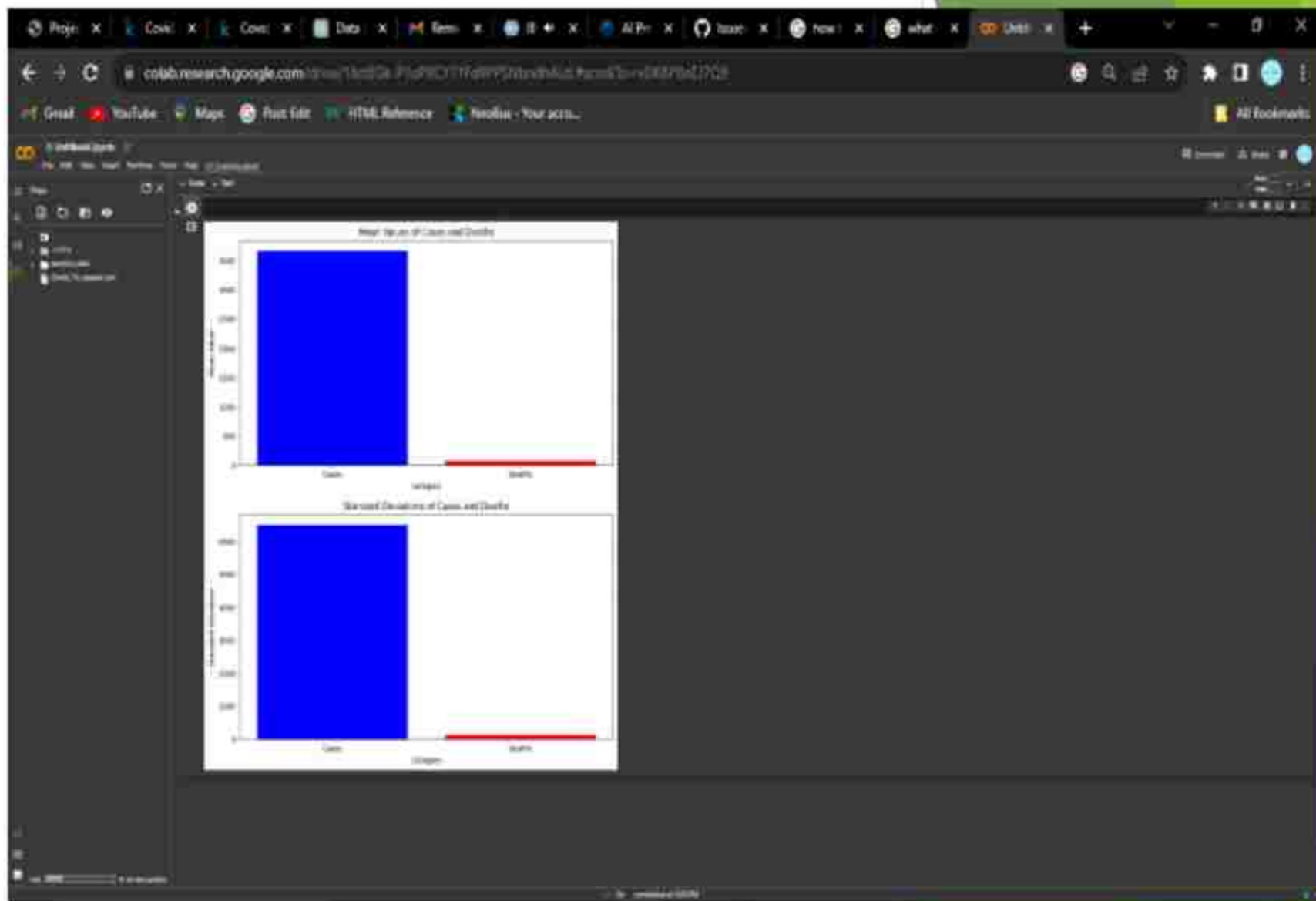
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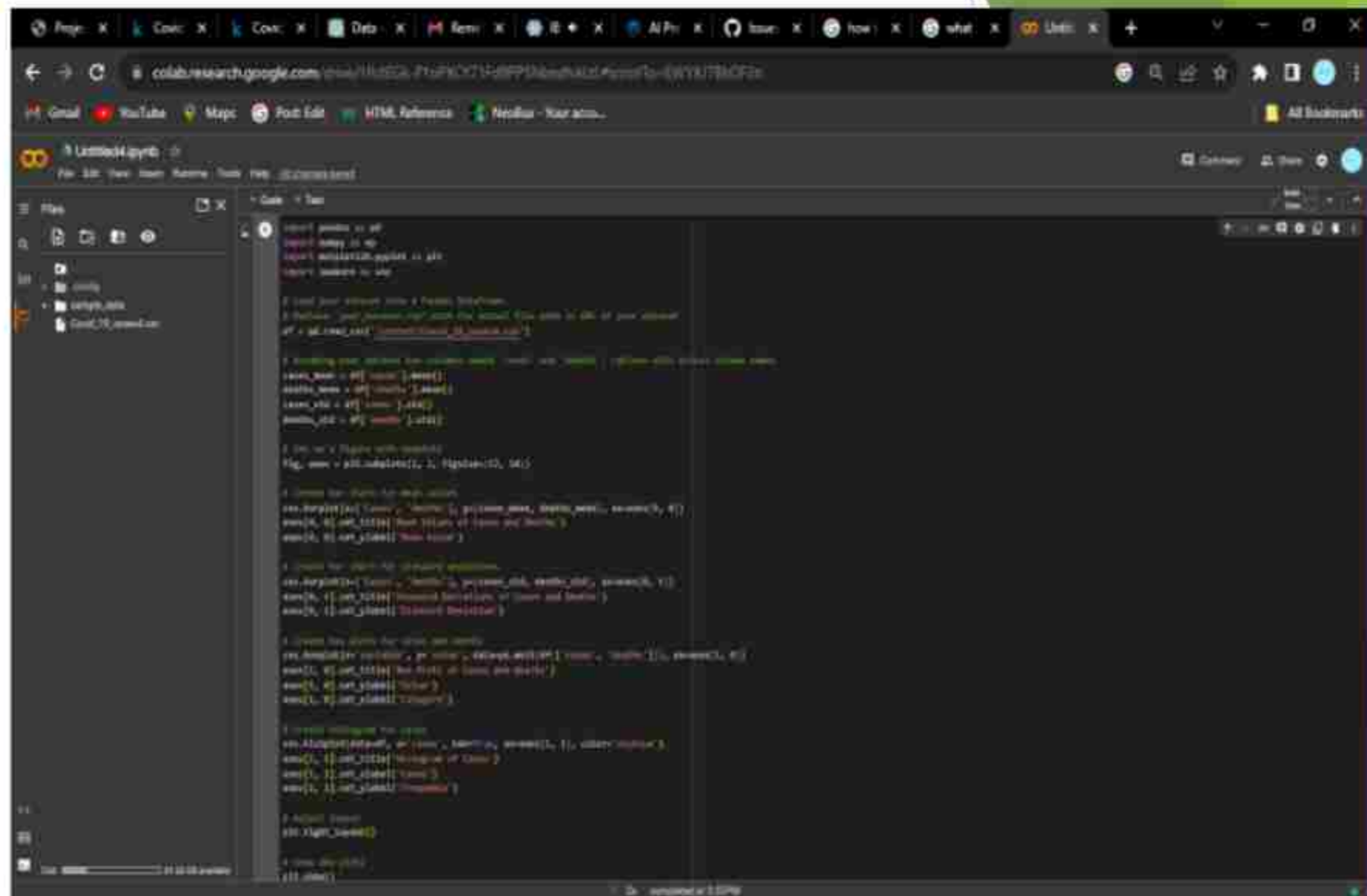
3. Visualization Strategy: Plan how to visualize the mean values and standard deviations using IBM Cognos to create informative charts and graphs.



output



4. Insights Generation:
Identify potential insights from the comparison of mean values and standard deviations of cases and deaths.



```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns

# Load your dataset into a Pandas DataFrame
# You can use 'your_dataset.csv' or the default file path in Colab of your dataset
df = pd.read_csv('your_dataset.csv')

# Exploring your dataset for columns, rows, and dtypes
cases_mean = df['cases'].mean()
deaths_mean = df['deaths'].mean()
cases_std = df['cases'].std()
deaths_std = df['deaths'].std()

# Display the first few rows with head()
fig, axes = plt.subplots(1, 2, figsize=(10, 5))

# Create bar charts for mean values
ax1 = fig.add_subplot(1, 2, 1)
ax1.bar(['cases', 'deaths'], [cases_mean, deaths_mean], color=['blue', 'red'])
ax1.set_xlabel('Mean Values of Cases and Deaths')
ax1.set_ylabel('Mean')

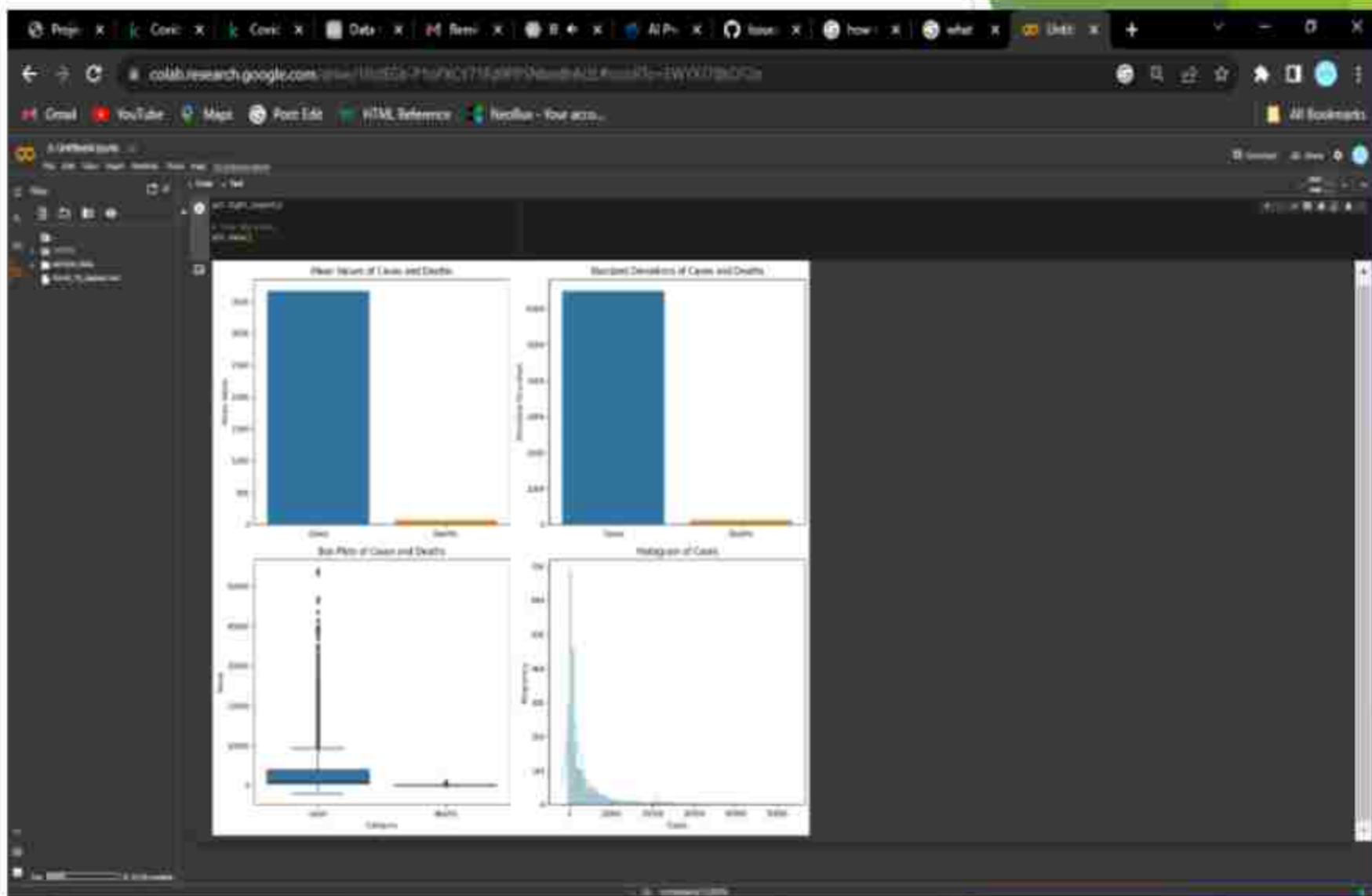
# Create bar charts for standard deviations
ax2 = fig.add_subplot(1, 2, 2)
ax2.bar(['cases', 'deaths'], [cases_std, deaths_std], color=['blue', 'red'])
ax2.set_xlabel('Standard Deviations of Cases and Deaths')
ax2.set_ylabel('Standard Deviation')

# Create box plots for distribution and density
fig, axes = plt.subplots(1, 2, figsize=(10, 5))
ax3 = fig.add_subplot(1, 2, 1)
ax3.box(['cases', 'deaths'], patch_artist=True, boxprops=dict(facecolor='white', color='black'))
ax3.set_xlabel('Box Plots of Cases and Deaths')
ax3.set_ylabel('Cases and Deaths')

# Create histograms for density
fig, axes = plt.subplots(1, 2, figsize=(10, 5))
ax4 = fig.add_subplot(1, 2, 1)
ax4.hist(df['cases'], density=True, color='blue', bins=100)
ax4.set_xlabel('Histogram of Cases')
ax4.set_ylabel('Density')

# Display the mean
print('Mean:', cases_mean)
```

output



Conclusion

In conclusion, the analysis of COVID-19 trends in the EU/EEA region using IBM Cognos reveals valuable insights into the pandemic's impact. By examining mean values and standard deviations, we gain a comprehensive understanding of the severity, trends, and disparities across countries. These findings emphasize the need for tailored strategies and collaborative efforts to effectively combat the ongoing challenges posed by COVID-19.

Thanks!