

Assignment 05: WDI 2022 Analysis

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Table of contents

1 Data	1
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1 Data

Source: World Bank World Development Indicators (WDI) (World Bank 2022). Data was retrieved using the World Bank API workflow consistent with the `wbgapi` package (Contributors 2024).

```
import pandas as pd
df = pd.read_csv("wdi.csv")
df.head()

df.shape
df["gdp_per_capita"].describe()
df["life_expectancy"].describe()
df["unemployment_rate"].describe()

import matplotlib.pyplot as plt

plot_df = df[["gdp_per_capita", "life_expectancy"]].dropna()

plt.figure()
plt.scatter(plot_df["gdp_per_capita"], plot_df["life_expectancy"])
plt.title("GDP per capita vs Life Expectancy (2022)")
plt.xlabel("GDP per capita (current US$)")
plt.ylabel("Life expectancy (years)")
plt.tight_layout()
plt.show()
```

Figure: GDP per capita vs life expectancy. Source: World Bank WDI (World Bank 2022).

Figure 1

```
top10 = df[["country", "gdp_per_capita"]].dropna().sort_values("gdp_per_capita", ascending=False).head(10)

plt.figure()
plt.bar(top10["country"], top10["gdp_per_capita"])
plt.title("Top 10 Countries by GDP per Capita (2022)")
plt.xlabel("Country")
plt.ylabel("GDP per capita (current US$)")
plt.xticks(rotation=45, ha="right")
plt.tight_layout()
plt.show()
```

Figure: Top 10 countries by GDP per capita. Source: World Bank WDI (World Bank 2022).

Figure 2

Table 1

Table: Descriptive statistics for selected indicators (2022). Source: World Bank WDI (World Bank 2022).

```
vars_ = ["gdp_per_capita", "life_expectancy", "unemployment_rate"] summary =  
df[vars_].agg(["count", "mean", "median", "min", "max"]).T summary
```

Contributors. 2024. "Wbgapi: World Bank API for Python." Python package documentation.
World Bank. 2022. "World Development Indicators." World Bank WDI / API dataset.