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

```python
# Create a sample dataset
data = {
    "Year": [1950, 1960, 1970, 1980, 1990, 2000, 2010, 2020, 2025, 2030],
    "Population": [2.5, 3.0, 3.7, 4.4, 5.3, 6.1, 6.9, 7.8, 8.1, 8.5]
}

df = pd.DataFrame(data)

# Save dataset to CSV
df.to_csv("world_population.csv", index=False)
df
```

	Year	Population
0	1950	2.5
1	1960	3.0
2	1970	3.7
3	1980	4.4
4	1990	5.3
5	2000	6.1
6	2010	6.9
7	2020	7.8
8	2025	8.1
9	2030	8.5

Next steps: [Generate code with df] [View recommended plots] [New interactive sheet]

```python
# Load dataset from CSV file
data = pd.read_csv("world_population.csv")
data
```

	Year	Population
0	1950	2.5
1	1960	3.0
2	1970	3.7
3	1980	4.4
4	1990	5.3
5	2000	6.1
6	2010	6.9
7	2020	7.8
8	2025	8.1
9	2030	8.5

Next steps: [Generate code with data] [View recommended plots] [New interactive sheet]

```python
# Plot line chart
plt.figure(figsize=(10,6))
plt.plot(data["Year"], data["Population"], marker="o", linestyle="-", color="blue", linewidth=2)

# Labels and title
plt.xlabel("Year", fontsize=12)
plt.ylabel("World Population (Billions)", fontsize=12)
plt.title("World Population Growth Over Years", fontsize=14, fontweight="bold")

# Grid for readability
plt.grid(True, linestyle="--", alpha=0.6)

# Show chart
```
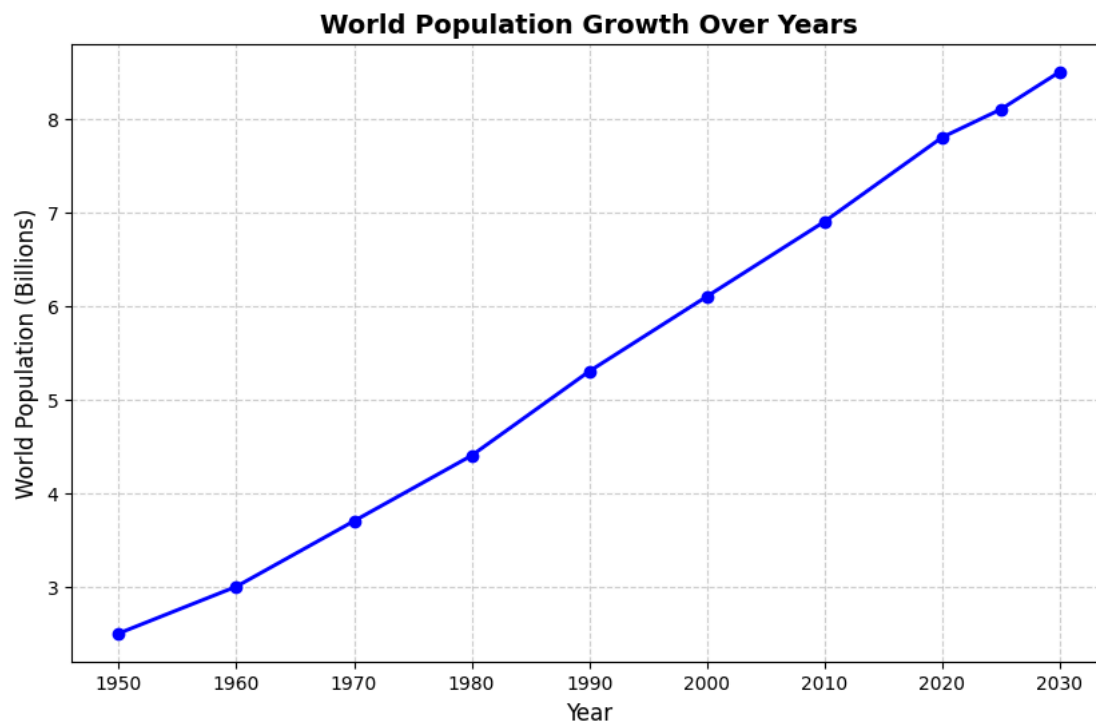
```
plt.show()
```


World Population Growth Over Years

```
discussion = """
Discussion of Population Growth Trends:
- The world population shows a steady increase from 1950 to 2030.
- Growth was slower between 1950-1970.
- Acceleration is visible after 1980, with rapid growth.
- From 2000 to 2020, population grew from 6.1B to 7.8B.
- Projections (2025-2030) indicate continued growth but at a slightly slower pace.
- Overall, the long-term trend is upward, showing global population expansion.
"""
print(discussion)
```

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- Overall, the long-term trend is upward, showing global population expansion.

2)Apple Stock Dataset (AAPL.csv)

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

```
# Load Apple stock dataset (assumed to have 'Date' and 'Close' columns)
data = pd.read_csv("AAPL.csv")

# Convert 'Date' column to datetime format
data["Date"] = pd.to_datetime(data["Date"])

# Display first few rows
data.head()
```

	Date	AAPL.Open	AAPL.High	AAPL.Low	AAPL.Close	AAPL.Volume	AAPL.Adjusted	dn	mavg	up	directio
0	2015-02-17	127.489998	128.880005	126.919998	127.830002	63152400	122.905254	106.741052	117.927667	129.114281	Increasin
1	2015-02-18	127.629997	128.779999	127.449997	128.720001	44891700	123.760965	107.842423	118.940333	130.038244	Increasin
2	2015-02-19	128.479996	129.029999	128.330002	128.449997	37362400	123.501363	108.894245	119.889167	130.884089	Decreasin

Next steps: (**Generate code with data**) (⬭ **View recommended plots**) (**New interactive sheet**)

```python
# Plot line chart of stock prices
plt.figure(figsize=(12,6))
plt.plot(data["Date"], data["AAPL.Close"], color="green", linewidth=2)

# Labels and title
plt.xlabel("Date", fontsize=12)
plt.ylabel("Closing Price (USD)", fontsize=12)
plt.title("Apple (AAPL) Stock Price Trend", fontsize=14, fontweight="bold")

# Format x-axis for dates
plt.xticks(rotation=45)
plt.grid(True, linestyle="--", alpha=0.6)

plt.show()
```
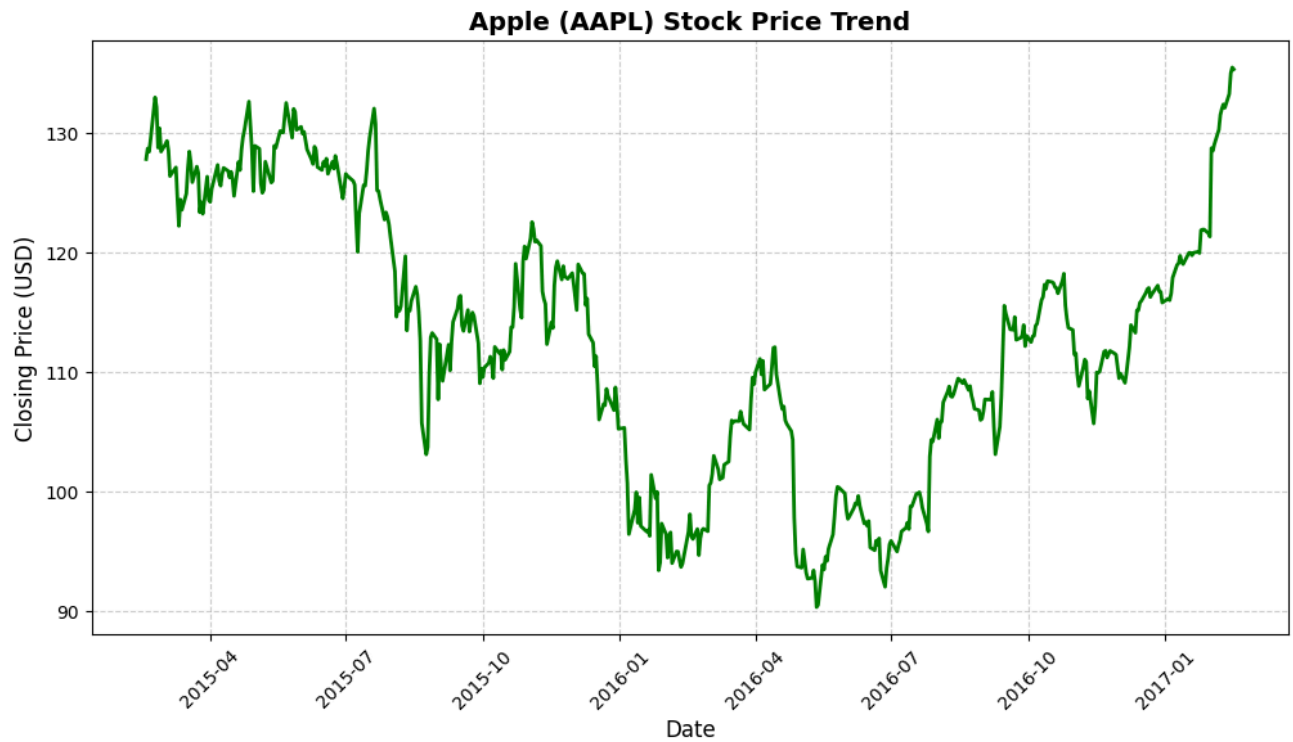


```python
insights = """
Insights on Apple Stock Price Trend:
- The line chart shows fluctuations in Apple's stock prices over time.
- Periods of sharp upward trends often align with product launches, earnings reports, or market optimism.
- Temporary declines reflect broader market corrections, global events, or company-specific news.
- The overall trend (depending on dataset timeframe) is generally upward, indicating long-term growth.
"""
print(insights)
```

```
Insights on Apple Stock Price Trend:
- The line chart shows fluctuations in Apple's stock prices over time.
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```