

DATA ANALYTICS AND VISUVALIZATION

LAB ASSGINMENT WEEK-3:

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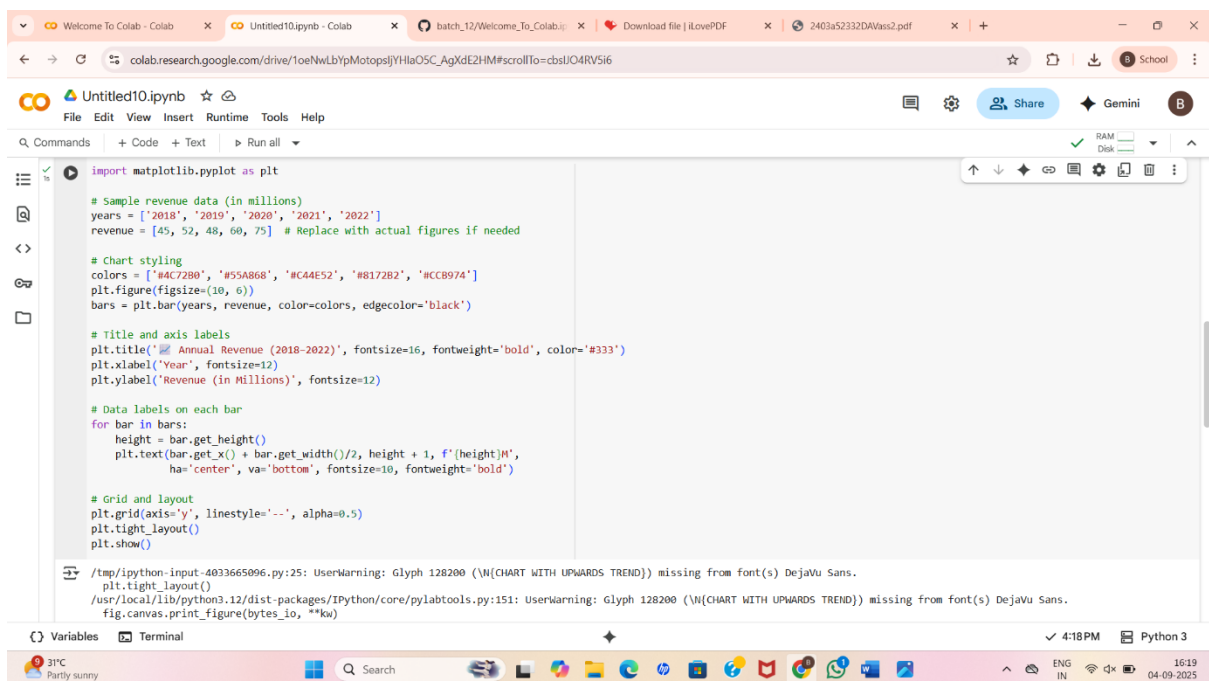
OBJECTIVE:

You are working as a data analyst at a mid-sized tech company. The finance department has compiled annual revenue figures from the years 2018 to 2022. As part of the upcoming shareholder meeting, the board has asked you to present this information visually using a vertical bar chart.

This chart should be easy to understand, visually appealing, and informative. You are expected to:

- Add appropriate axis labels
- Include data labels (showing exact revenue on each bar)
- Style the title and colors to make it presentation-ready

CODE:



```
import matplotlib.pyplot as plt

# Sample revenue data (in millions)
years = ['2018', '2019', '2020', '2021', '2022']
revenue = [45, 52, 48, 60, 75] # Replace with actual figures if needed

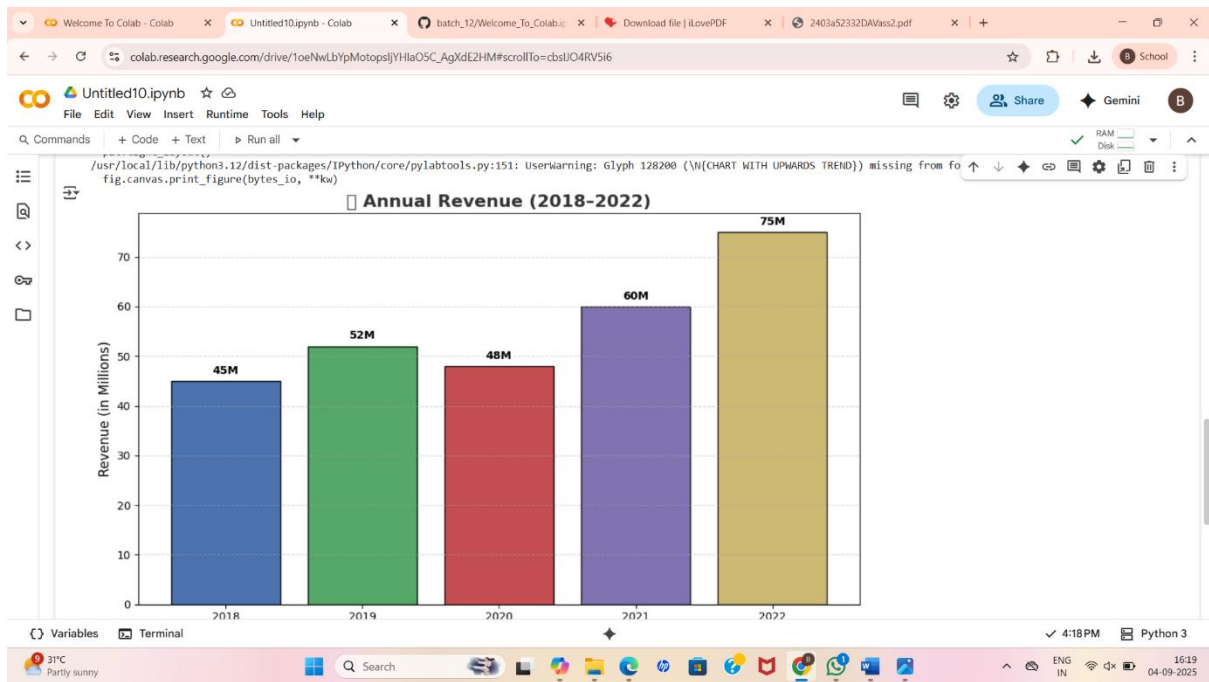
# Chart styling
colors = ['#4C72B0', '#55A868', '#C44E52', '#8172B2', '#CC8974']
plt.figure(figsize=(10, 6))
bars = plt.bar(years, revenue, color=colors, edgecolor='black')

# Title and axis labels
plt.title('Annual Revenue (2018-2022)', fontsize=16, fontweight='bold', color='#333')
plt.xlabel('Year', fontsize=12)
plt.ylabel('Revenue (in Millions)', fontsize=12)

# Data labels on each bar
for bar in bars:
    height = bar.get_height()
    plt.text(bar.get_x() + bar.get_width()/2, height + 1, f'{height}M',
             ha='center', va='bottom', fontsize=10, fontweight='bold')

# Grid and layout
plt.grid(axis='y', linestyle='--', alpha=0.5)
plt.tight_layout()
plt.show()

/tmp/ipython-input-4033665096.py:25: UserWarning: Glyph 128200 (\N{CHART WITH UPWARDS TREND}) missing from font(s) DejaVu Sans.
plt.tight_layout()
/usr/local/lib/python3.12/dist-packages/IPython/core/pylabtools.py:151: UserWarning: Glyph 128200 (\N{CHART WITH UPWARDS TREND}) missing from font(s) DejaVu Sans.
fig.canvas.print_figure(bytes_io, **kw)
```



REFLECTION: This code effectively transforms raw financial data into a compelling visual narrative. By using a vertical bar chart, it highlights year-over-year revenue trends in a format that is both intuitive and presentation-ready. The choice of **Matplotlib** as the visualization tool ensures flexibility and control over styling, which is crucial for professional settings like shareholder meetings