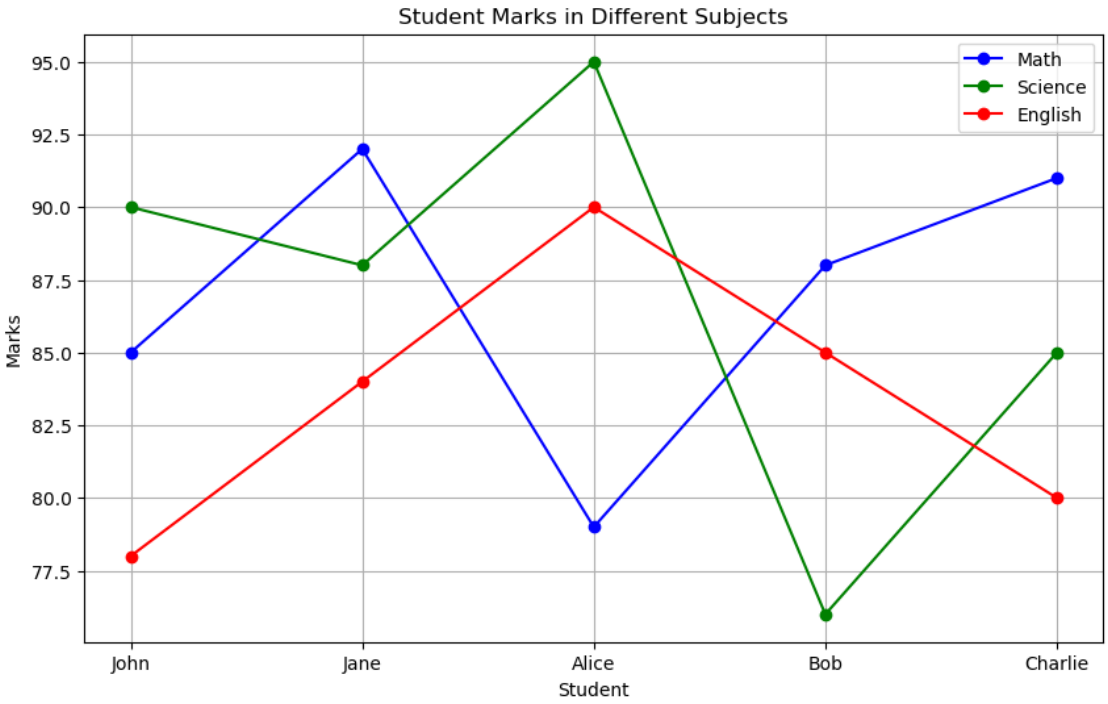
# matplotlib-part2

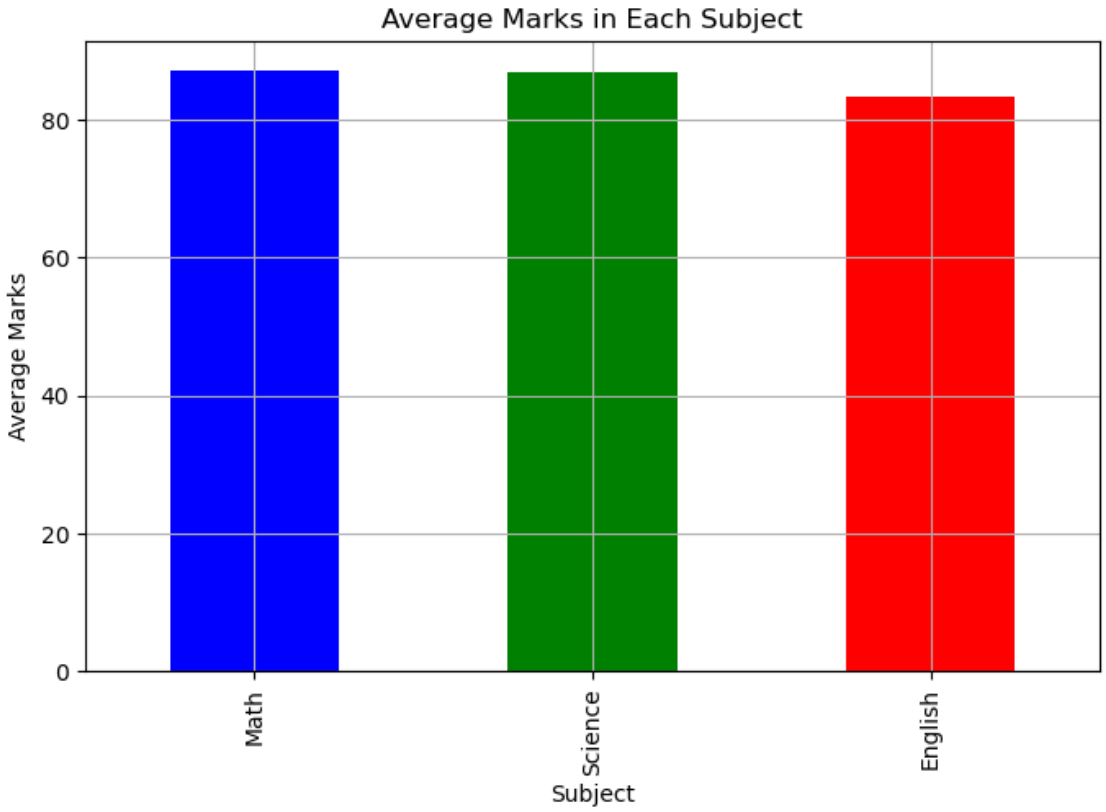
September 18, 2024

[2]:
```
import pandas as pd
import matplotlib.pyplot as plt

# Read the CSV file into a DataFrame
df = pd.read_csv('marks.csv')

# Display the DataFrame (for checking)
print(df)

# Plotting the marks of each student in different subjects
plt.figure(figsize=(10, 6))

# Plot Math marks
plt.plot(df['Student'], df['Math'], marker='o', label='Math', color='blue')

# Plot Science marks
plt.plot(df['Student'], df['Science'], marker='o', label='Science',␣
 ↪color='green')

# Plot English marks
plt.plot(df['Student'], df['English'], marker='o', label='English', color='red')

# Add title and labels
plt.title('Student Marks in Different Subjects')
plt.xlabel('Student')
plt.ylabel('Marks')
plt.legend()  # Add a legend to the plot
plt.grid(True)  # Show gridlines

# Display the plot
plt.show()

# Bar plot showing average marks in each subject
average_marks = df[['Math', 'Science', 'English']].mean()

plt.figure(figsize=(8, 5))
average_marks.plot(kind='bar', color=['blue', 'green', 'red'])
```

```
plt.title('Average Marks in Each Subject')
plt.xlabel('Subject')
plt.ylabel('Average Marks')
plt.grid(True)  # Show gridlines

# Display the bar plot
plt.show()
```

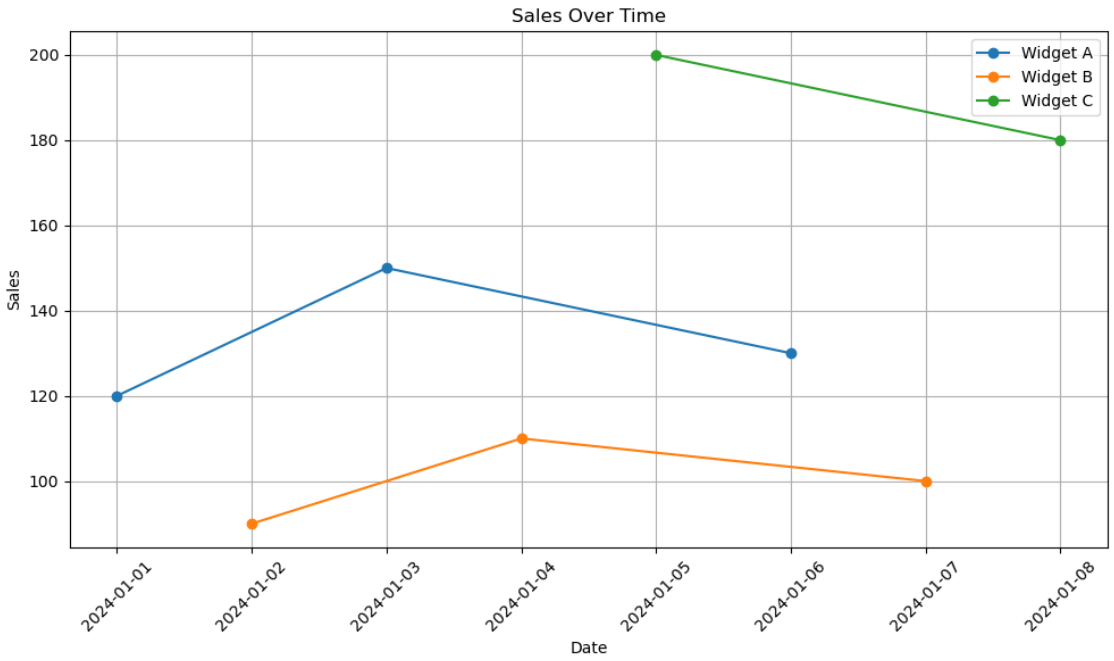
| | Student | Math | Science | English |
|---|---|---|---|---|
| 0 | John | 85 | 90 | 78 |
| 1 | Jane | 92 | 88 | 84 |
| 2 | Alice | 79 | 95 | 90 |
| 3 | Bob | 88 | 76 | 85 |
| 4 | Charlie | 91 | 85 | 80 |

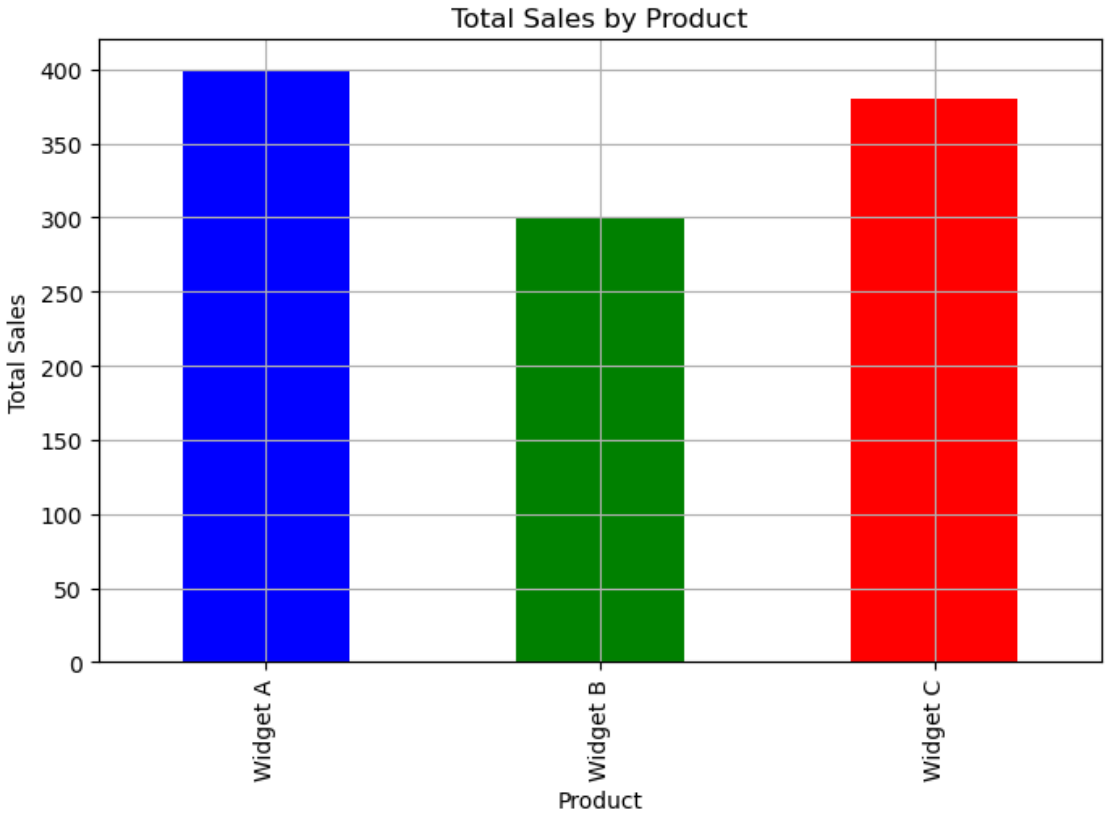





[1]:
```
import pandas as pd
import matplotlib.pyplot as plt

# Read the CSV file
df = pd.read_csv('sales_data.csv')

# Convert 'Date' column to datetime
df['Date'] = pd.to_datetime(df['Date'])

# Plot sales over time for each product
plt.figure(figsize=(10, 6))
for product in df['Product'].unique():
    product_data = df[df['Product'] == product]
    plt.plot(product_data['Date'], product_data['Sales'], marker='o',␣
 ↪label=product)

plt.title('Sales Over Time')
plt.xlabel('Date')
plt.ylabel('Sales')
plt.legend()
plt.grid(True)
```

```
plt.xticks(rotation=45)  # Rotate x-axis labels for better readability
plt.tight_layout()  # Adjust layout to prevent clipping
plt.show()

# Bar plot for total sales by product
total_sales = df.groupby('Product')['Sales'].sum()

plt.figure(figsize=(8, 5))
total_sales.plot(kind='bar', color=['blue', 'green', 'red'])
plt.title('Total Sales by Product')
plt.xlabel('Product')
plt.ylabel('Total Sales')
plt.grid(True)
plt.show()
```




Total Sales by Product
Total Sales
0
50
100
150
200
250
300
350
400
Widget A
Widget B
Widget C
Product

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