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## IMPLEMENT PROGRAM FOR VISUALIZING TIME SERIES DATA

AIM:

To implement the program for time series data.

PROCEDURE:

Step 1: Import the necessary libraries

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

Step 2 : Preprocess the data

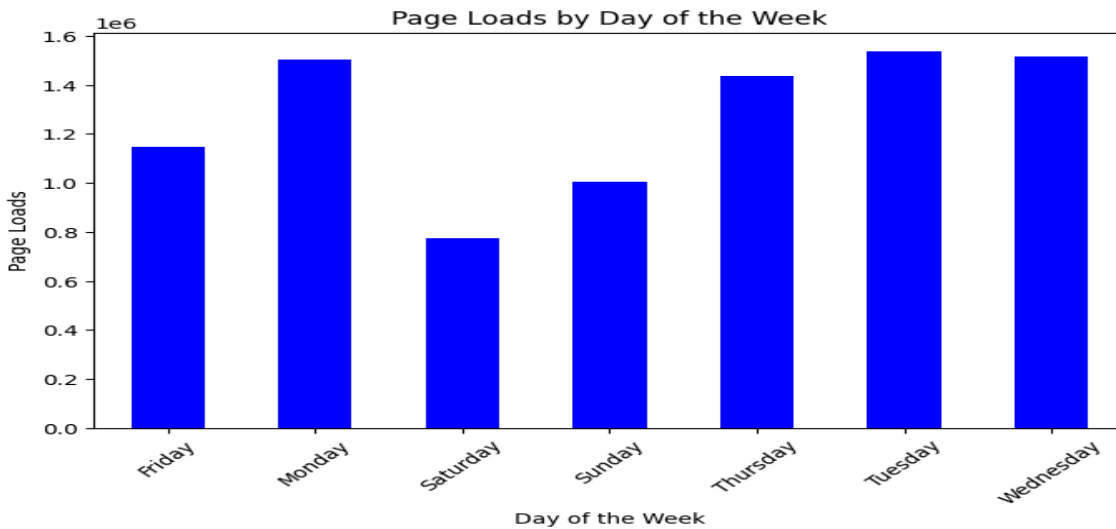
```
df['Page.Loads'] =
df['Page.Loads'].astype(str).str.replace(',','').astype(int)daywise_data =
df.groupby('Day')['Page.Loads'].sum()
```

Step 3 : Visualizing the data

**Bar plot**

```
daywise_data.plot(kind='bar', figsize=(8, 5), color='blue')
plt.title('Page Loads by Day of the Week')
plt.xlabel('Day of the Week')
plt.ylabel('Page Loads')
plt.xticks(rotation=45)
```

```
plt.show()
```

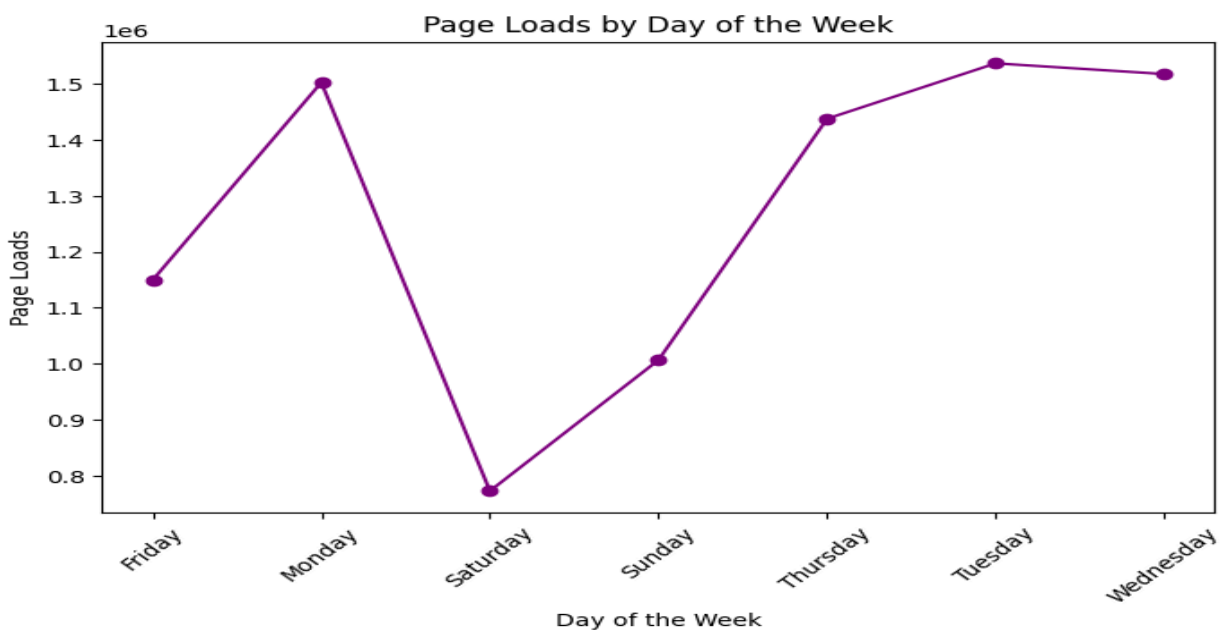


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### Line plot

```
daywise_data.plot(kind='line', figsize=(8, 5), color='purple', marker='o')  
plt.title('Page Loads by Day of the Week')  
plt.xlabel('Day of the Week')  
plt.ylabel('Page Loads')  
plt.xticks(rotation=45)  
plt.show()
```

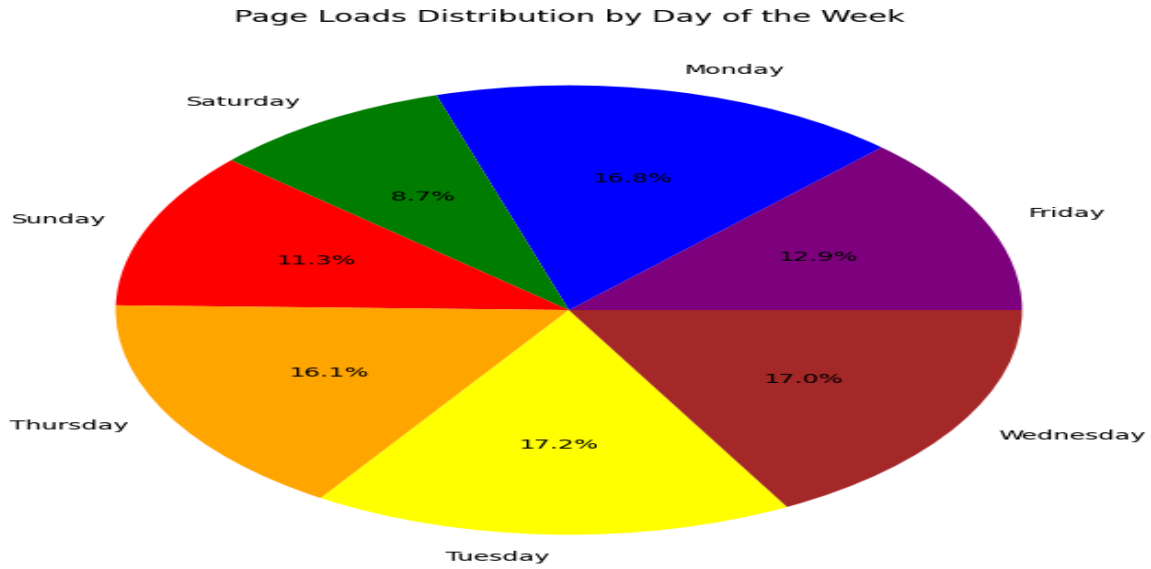


### Pie Chart

```
daywise_data.plot(kind='pie', figsize=(8, 8), autopct='%1.1f%%', colors=['purple', 'blue',  
'green', 'red', 'orange', 'yellow', 'brown'])  
plt.title('Page Loads Distribution by Day of the Week')  
plt.ylabel("") # Hides the y-label  
plt.show()
```

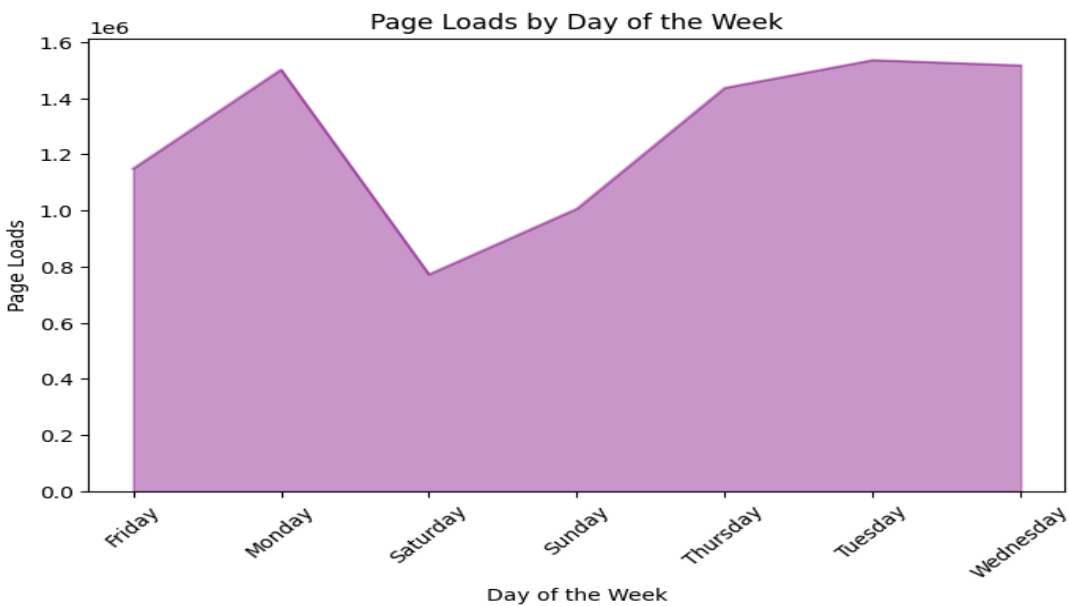
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### Area Plot

```
daywise_data.plot(kind='area', figsize=(8, 5), color='purple', alpha=0.4)
plt.title('Page Loads by Day of the Week')
plt.xlabel('Day of the Week')
plt.ylabel('Page Loads')
plt.xticks(rotation=45)
plt.show()
```

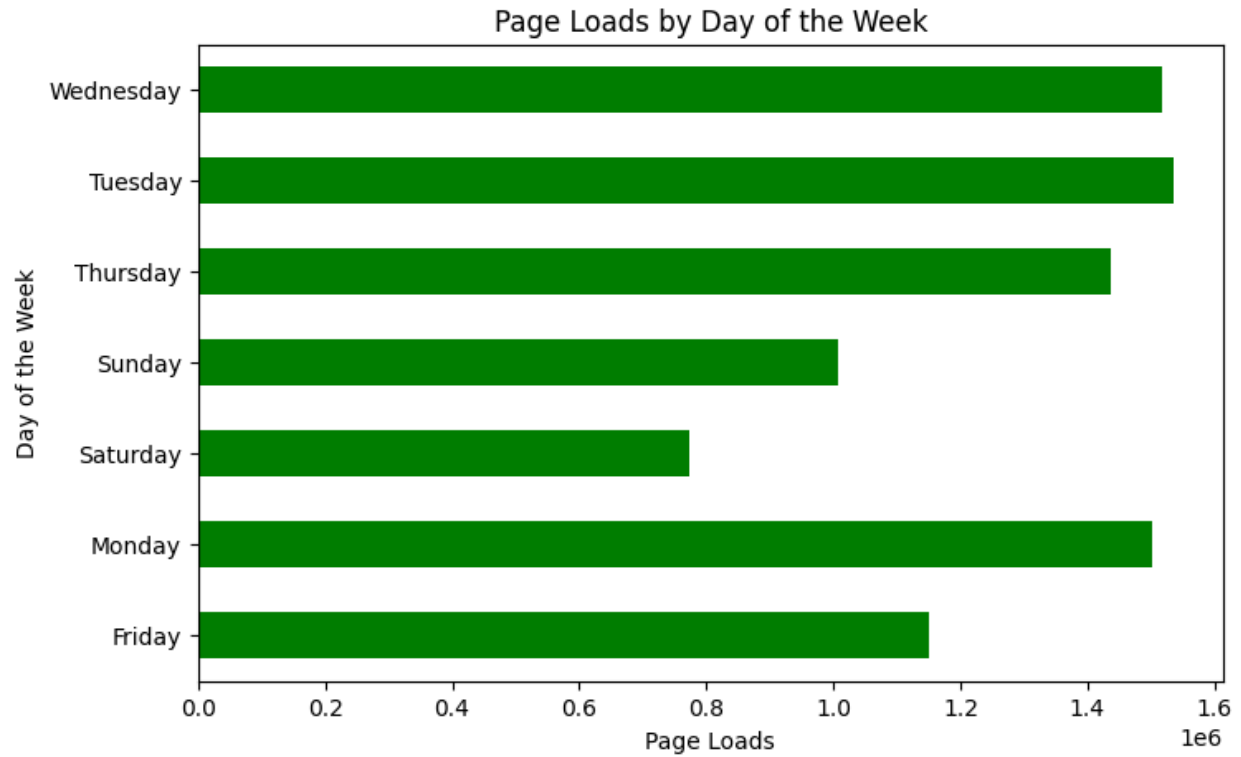


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### Horizontal Plot

```
daywise_data.plot(kind='barh', figsize=(8, 5), color='green')  
plt.title('Page Loads by Day of the Week')  
plt.xlabel('Page Loads')  
plt.ylabel('Day of the Week')  
plt.show()
```



### Result :

Thus the program has been executed successfully.