

Assignment: Working with Time Series and Plotting Data

Question 1:

Calculate the mean value of the 'Value' column for the month of January 2023.

Solution:

```
df['2023-01-01' : '2023-01-31'].mean()
```

Question 2:

Extract and display data for the week of January 15, 2023, to January 21, 2023

Solution:

```
df['2023-01-15' : '2023-01-21']
```

Question 3:

Calculate the rolling 7-day average of the 'Value' column and create a new DataFrame with the original data and the rolling average

Solution:

```
temp = df.rolling(window=7).mean()
```

Question 4:

Create a line plot to visualize the 'Value' column and the rolling 7-day average together.

Solution:

```
temp.plot(kind='line', title='Time Series', style='-', color='b', mfc='y', ms=8)
```