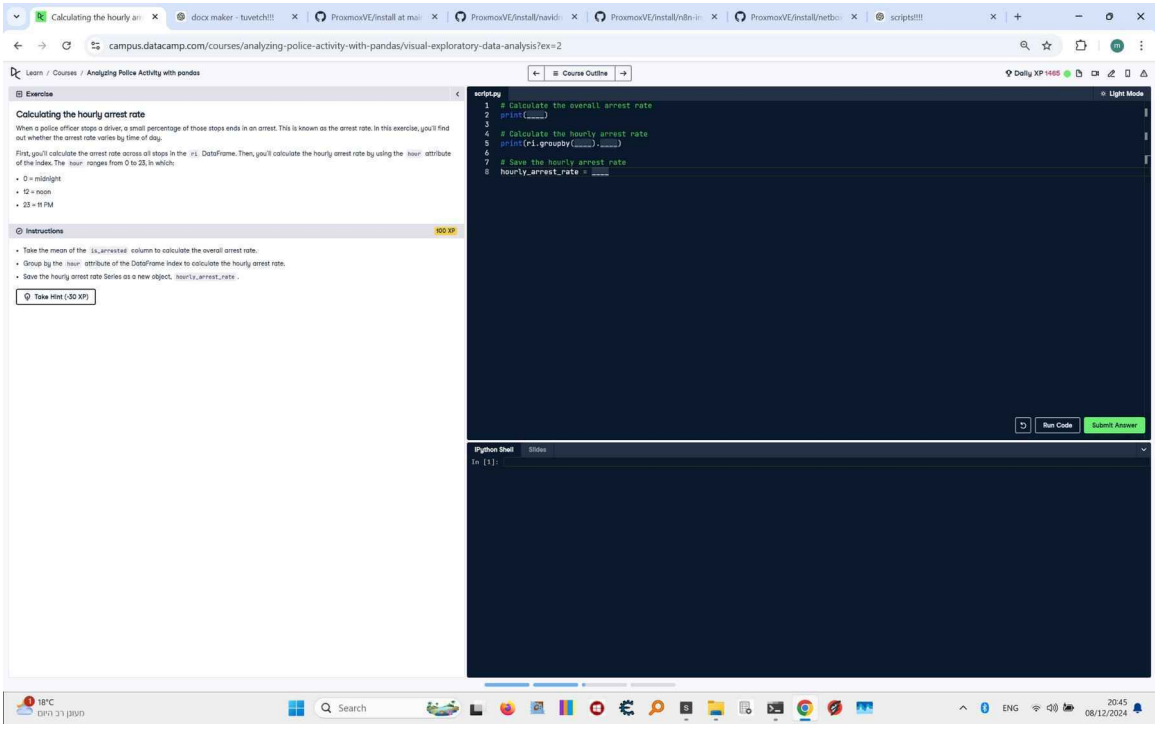
Calculating the Hourly Arrest Rate



Task Description

1. Take the mean of the 'is_arrested' column to calculate the overall arrest rate.
2. Group by the 'hour' attribute of the DataFrame index to calculate the hourly arrest rate.
3. Save the hourly arrest rate Series as a new object, 'hourly_arrest_rate'.

Code Solution

```
# Calculate the overall arrest rate
overall_arrest_rate = ri['is_arrested'].mean()
print(overall_arrest_rate)

# Calculate the hourly arrest rate
hourly_arrest_rate = ri.groupby(ri.index.hour)['is_arrested'].mean()
print(hourly_arrest_rate)

# Save the hourly arrest rate as a new object
hourly_arrest_rate = hourly_arrest_rate
```

Code Explanation

1. The line 'overall_arrest_rate = ri['is_arrested'].mean()' calculates the mean of the 'is_arrested' column, representing the overall proportion of

arrests.
2. The line 'hourly_arrest_rate = ri.groupby(ri.index.hour)['is_arrested'].mean()' groups the DataFrame by the hour attribute of the index and calculates the mean of the 'is_arrested' column for each hour. This provides the hourly arrest rate.
3. The final line 'hourly_arrest_rate = hourly_arrest_rate' saves the resulting Series of hourly arrest rates as a new object for further analysis or visualization.
4. The 'print' statements display the overall and hourly arrest rates for verification.