



Los Angeles, California 🤗. The City of Angels. Tinseltown. The Entertainment Capital of the World!

Known for its warm weather, palm trees, sprawling coastline, and Hollywood, along with producing some of the most iconic films and songs. However, as with any highly populated city, it isn't always glamorous and there can be a large volume of crime. That's where you can help!

You have been asked to support the Los Angeles Police Department (LAPD) by analyzing crime data to identify patterns in criminal behavior. They plan to use your insights to allocate resources effectively to tackle various crimes in different areas.

The Data

They have provided you with a single dataset to use. A summary and preview are provided below.

It is a modified version of the original data, which is publicly available from Los Angeles Open Data.

crimes.csv

Column	Description
'DR_NO'	Division of Records Number: Official file number made up of a 2-digit year, area ID, and 5 digits.
'Date_Rptd'	Date reported - MM/DD/YYYY.
'DATE_OCC'	Date of occurrence - MM/DD/YYYY.
'TIME_OCC'	In 24-hour military time.
'AREA_NAME'	The 21 Geographic Areas or Patrol Divisions are also given a name designation that references a landmark or the surrounding community that it is responsible for. For example, the 77th Street Division is located at the intersection of South Broadway and 77th Street, serving neighborhoods in South Los Angeles.
'CrM_Cd_Desc'	Indicates the crime committed.
'Vict_Age'	Victim's age in years.
'Vict_Sex'	Victim's sex: <input type="checkbox"/> F : Female, <input type="checkbox"/> M : Male, <input type="checkbox"/> X : Unknown.
'Vict_Descent'	Victim's descent: <ul style="list-style-type: none"><input type="checkbox"/> A - Other Asian<input type="checkbox"/> B - Black<input type="checkbox"/> C - Chinese<input type="checkbox"/> D - Cambodian<input type="checkbox"/> F - Filipino<input type="checkbox"/> G - Guamanian<input type="checkbox"/> H - Hispanic/Latin/Mexican<input type="checkbox"/> I - American Indian/Alaskan Native<input type="checkbox"/> J - Japanese<input type="checkbox"/> K - Korean<input type="checkbox"/> L - Laotian<input type="checkbox"/> O - Other<input type="checkbox"/> P - Pacific Islander<input type="checkbox"/> S - Samoan<input type="checkbox"/> U - Hawaiian<input type="checkbox"/> V - Vietnamese<input type="checkbox"/> W - White<input type="checkbox"/> X - Unknown<input type="checkbox"/> Z - Asian Indian
'Weapon_Desc'	Description of the weapon used (if applicable).
'Status_Desc'	Crime status.

Column	Description
'LOCATION'	Street address of the crime.

```
# Re-run this cell
# Import required libraries
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
crimes = pd.read_csv("crimes.csv", parse_dates=["Date Rptd", "DATE OCC"], dtype={"TIME OCC": str})
crimes.head()
```

...	↑↓	D	...	↑↓	Date Rptd	...	↑↓	DATE OCC	...	↑↓	...	↑↓	AR...	...	↑↓	Crn Cd Desc	...	↑↓	...	↑
	0	220314085			2022-07-22T00:00:00.000			2020-05-12T00:00:00.000			1110		Southwest			THEFT OF IDENTITY				2
	1	222013040			2022-08-06T00:00:00.000			2020-06-04T00:00:00.000			1620		Olympic			THEFT OF IDENTITY				6
	2	220614831			2022-08-18T00:00:00.000			2020-08-17T00:00:00.000			1200		Hollywood			THEFT OF IDENTITY				2
	3	231207725			2023-02-27T00:00:00.000			2020-01-27T00:00:00.000			0635		77th Street			THEFT OF IDENTITY				3
	4	220213256			2022-07-14T00:00:00.000			2020-07-14T00:00:00.000			0900		Rampart			THEFT OF IDENTITY				7

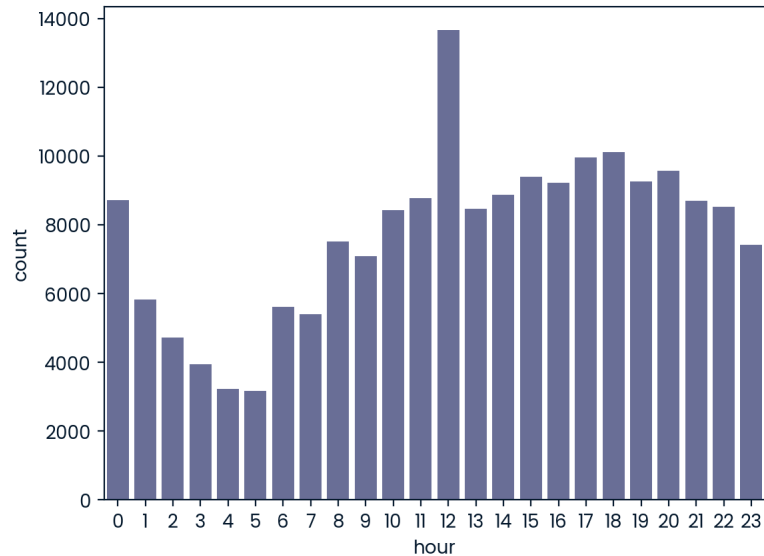
Rows: 5

```
# Start coding here
# Use as many cells as you need
import datetime
import pandas as pd
import seaborn as sns

# Sample data for crimes["TIME OCC"]
# crimes = pd.DataFrame({
#     "TIME OCC": ["12:30", "14:45", "12:15", "13:00", "12:30"]
# })

hour_list = [int(time[:2]) for time in crimes["TIME OCC"]]
hour_df = pd.DataFrame(hour_list, columns=["hour"])
sns.countplot(x="hour", data=hour_df)
peak_crime_hour = hour_df["hour"].value_counts().idxmax()
peak_crime_hour
# hour_df
```

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```
#Night crime areas
night_hours = [22, 23, 0, 1, 2, 3]
number_area = pd.DataFrame({"area":crimes["AREA NAME"], "hour":hour_df["hour"]})
night_areas = number_area[number_area["hour"].isin(night_hours)][["area"].value_counts()
peak_night_crime_location = number_area[number_area["hour"].isin(night_hours)][["area"].value_counts().idxmax()
peak_night_crime_location
# peak_crime_hour
# hour_df
# crimes[""]
# crime_hour = hour_df["hour"].value_counts()
# crime_hour_df = crime_hour.reset_index()
# crime_hour_df.columns = ['hour', 'count']
# night_crime = crime_hour_df[crime_hour_df["hour"].isin(night_hours)]
# night_crime
```

'Central'

```
label_ages = ["0-17", "18-25", "26-34", "35-44", "45-54", "55-64", "65+"]
bins = [0, 17, 25, 34, 44, 54, 64, float("inf")]
age_group = pd.cut(crimes["Vict Age"], bins=bins, labels=label_ages, right=True)
victim_ages = age_group.value_counts()
```