**2.**Develop a program to Compute the correlation matrix to understand the relationships between pairs of features. Visualize the correlation matrix using a heatmap to know which variables have strong positive/negative correlations. Create a pair plot to visualize pairwise relationships between features. Use California Housing dataset.import pandas as pd

import seaborn as sns

import matplotlib.pyplot as plt

from sklearn.datasets import fetch\_california\_housing

# Step 1: Load the California Housing Dataset

california\_data = fetch\_california\_housing(as\_frame=True)

data = california\_data.frame

# Step 2: Compute the correlation matrix

correlation\_matrix = data.corr()

# Step 3: Visualize the correlation matrix using a heatmap

plt.figure(figsize=(10, 8))

sns.heatmap(correlation\_matrix, annot=True, cmap='coolwarm', fmt='.2f', linewidths=0.5)

plt.title('Correlation Matrix of California Housing Features')

plt.show()

# Step 4: Create a pair plot to visualize pairwise relationships

sns.pairplot(data, diag\_kind='kde', plot\_kws={'alpha': 0.5})

plt.suptitle('Pair Plot of California Housing Features', y=1.02)

plt.show()