**Practical No 10:- Visualize the correlation matrix using a pseudo color plot**

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**Batch : B6 Date :**

import numpy as np  
import pandas as pd  
import matplotlib.pyplot as plt  
  
# Generate a random dataset  
np.random.seed(42)  
data = pd.DataFrame(np.random.rand(10, 5), columns=['A', 'B', 'C', 'D', 'E'])  
  
# Compute the correlation matrix  
corr\_matrix = data.corr()  
  
# Create a pseudocolor plot (heatmap)  
plt.figure(figsize=(8, 6))  
plt.pcolormesh(corr\_matrix, cmap='coolwarm', edgecolors='k')  
plt.colorbar(label='Correlation Coefficient')  
  
# Add labels at the center of each grid  
plt.xticks(np.arange(0.5, len(corr\_matrix.columns), 1), corr\_matrix.columns)  
plt.yticks(np.arange(0.5, len(corr\_matrix.index), 1), corr\_matrix.index)  
plt.title('Correlation Matrix Heatmap')  
  
plt.show()

**Output**:

