Code:

import numpy as np

arr1 = np.array([1, 2, 3, 4, 5])

arr2 = np.array([[1, 2, 3], [4, 5, 6]])

print("Original Array:", arr1)

print("Array + 5:", arr1 + 5)

print("Sliced Array:", arr1[1:4])

print("Reshaped 2D Array:\n", arr2.reshape(3, 2))

import pandas as pd

data = {

'Name': ['Pavithra', 'Neha', 'Pooja'],

'Age': [20, 19, 25],

'Score': [85, 90, 88]

}

df = pd.DataFrame(data)

print("\nDataFrame:")

print(df)

print("\nDataFrame Info:")

print(df.info())

print("\nStatistics:")

print(df.describe())

import matplotlib.pyplot as plt

%matplotlib inline

plt.style.use('ggplot')

plt.figure(figsize=(8, 5))

plt.plot(df['Name'], df['Score'], marker='D', linestyle='-', color='teal')

plt.title('Scores of Students')

plt.xlabel('Name')

plt.ylabel('Score')

plt.grid(True)

plt.tight\_layout()

plt.show()

plt.figure(figsize=(8, 5))

bars = plt.barh(df['Name'], df['Age'], color='skyblue')

plt.title('Ages of Students')

plt.xlabel('Age')

for bar in bars:

plt.text(bar.get\_width() + 0.5, bar.get\_y() + bar.get\_height()/2, f'{bar.get\_width()}', va='center')

plt.tight\_layout()

plt.show()

colors = ['#ff9999','#66b3ff','#99ff99']

explode = [0.05, 0.05, 0.05]

plt.figure(figsize=(6, 6))

plt.pie(df['Score'], labels=df['Name'], autopct='%1.1f%%', startangle=140, explode=explode, shadow=True, colors=colors)

plt.title('Score Distribution')

plt.tight\_layout()

plt.show()  
  
Output:

  
  




