import pandas as pd

import matplotlib.pyplot as plt

import numpy as np

# Step 1: Read the data from a CSV file

data = pd.read\_csv('stdmarks.csv')

# Step 2: Create a boxplot to visualize the data

plt.figure(figsize=(8,6))

plt.boxplot([data['Python'],data['Maths'],data['DataEngineering'],data['Java'],data['Softcomputing']],labels=['Python','Maths','DataEngineering','Java','SoftComputing'], vert=1)

plt.title('Student Performance in Annual Examination')

plt.show()

name=['Python','Maths','DataEngineering','Java','Softcomputing']

# Step 3: Detect and identify outliers

for i in name:

Q1 = data[i].quantile(0.25)

Q3 = data[i].quantile(0.75)

IQR = Q3 - Q1

lower\_bound = Q1 - 1.5 \* IQR

upper\_bound = Q3 + 1.5 \* IQR

outliers = data[(data[i] < lower\_bound) | (data[i] > upper\_bound)]

if not outliers.empty:

print(i," Outliers:")

li=outliers['Python']

li=dict(li)

print(li.values)

print('Student Name: ',outliers['Studentname'],' Mark :',outliers[i],'\n')

else:

print(i,' :no outliers\n')

Output:-



