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#implementation of 5 number summary using python programming
import numpy as np
import pandas as pd

#creation of list
arr=[]

#taking the number of value from the users
n=int(input("Enter number of Values for which you want to calculate:- "))

#taking the input values from user
for i in range(n):
  temp = int(input("Enter the value:"))
  arr.append(temp)

print("=====================================================")
#printing the list
print(arr)

#sorting the list because it is required to have ascending sorted values
for calculating 5-number summary

print("\n=====================================================")

arr1 = np.sort(arr)
print(arr1)

#calculation of statistics

#calculation of minimum value Q0
print("\n=====================================================")
print(" The Value of Minimum value (Q0)= ",arr1[0])

#calculation of median value Q2
print("\n=====================================================")
med=np.median(arr1)
print("The Value of Median(Q2)=",med)

#calculation of the lower quartile (25%) value
Quartile1=[]
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i=0
while(i<n):
  if(arr1[i]<med):
    Quartile1.append(arr[i])
  i=i+1

print("\n=====================================================")
Q1=np.median(Quartile1)
print("The Value of  lower Quartile 1 (25%) = ",Q1)

#calculation of upper quartile (75%) value
Quartile2=[]
i=0
while(i<n):
  if(arr1[i]>med):
    Quartile2.append(arr[i])
  i=i+1

print("\n=====================================================")
Q3=np.median(Quartile2)
print("The Value of Upper Quartile (75%) =",Q3)

#calculation of maximum (Q4)
print("\n=====================================================")
print("The Value of Maximum (Q4) = ",arr1[-1])
```

GitHub Repository:
https://github.com/darshanjoshi16/DataMiningPractical/blob/main/Mid_Practical_Exam/5numbersummary.ipynb