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Batch-H3

Practical No 5: (Graded Assignment)

Select any one real-life dataset. Perform data analysis. Identify 10 grains for a given dataset. Develop an interactive dashboard using the matplotlib/Seaborn library. (Use any 10 different graphs with proper titles, legends, axis names, etc. to map identified grains)

CODE-

```
import matplotlib.pyplot as plt

import pandas as pd

import numpy as np

df=pd.read_csv('testmarks.csv')

Roll_no=np.array(df['RollNo'])

EDS=np.array(df['EDS'])

SON=np.array(df['SON'])

DT=np.array(df['DT'])

ET=np.array(df['ET'])

Subject=['EDS','DT','ET','SON']
```

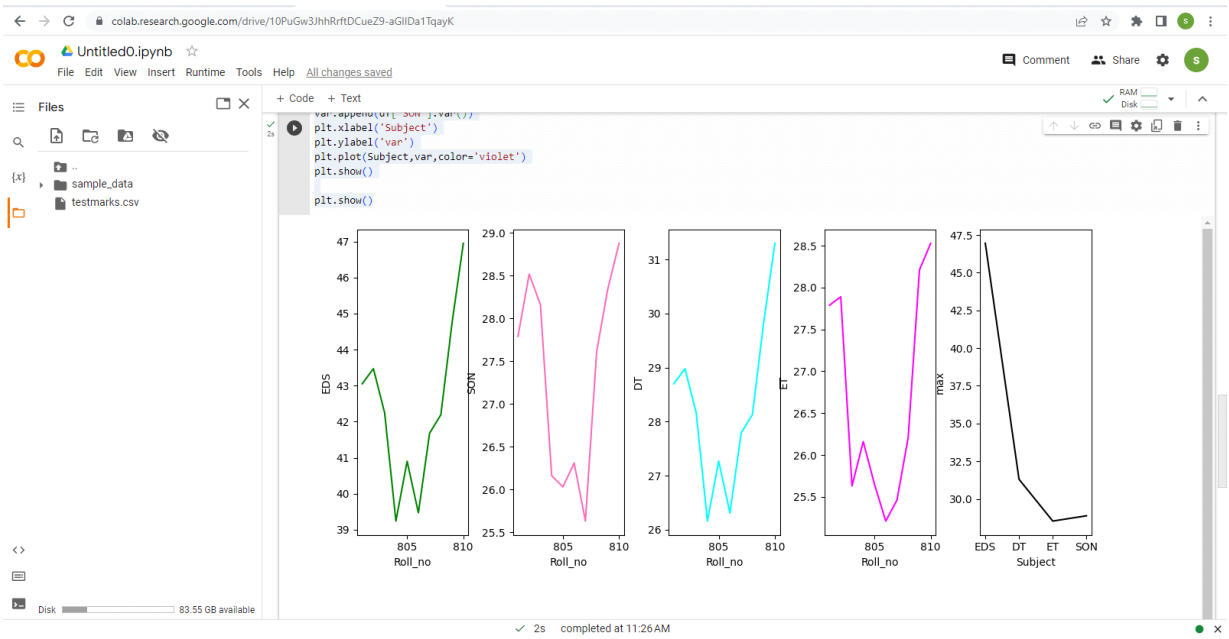
```
plt.figure(figsize=(12,12))
plt.subplots_adjust(left=0.1,
                    bottom=0.1,
                    right=0.9,
                    top=0.9,
                    wspace=0.4,
                    hspace=0.4)

plt.subplot(2,5,1)
plt.plot(Roll_no,EDS,color='green')
plt.xlabel('Roll_no')
plt.ylabel('EDS')

plt.subplot(2,5,2)
plt.plot(Roll_no,SON,color='hotpink')
plt.xlabel('Roll_no')
plt.ylabel('SON')

plt.subplot(2,5,3)
plt.plot(Roll_no,DT,color='cyan')
plt.xlabel('Roll_no')
plt.ylabel('DT')

plt.subplot(2,5,4)
```

```
plt.plot(Roll_no,ET,color='magenta')
plt.xlabel('Roll_no')
plt.ylabel('ET')

max=[]
max.append(df['EDS'].max())
max.append(df['DT'].max())
max.append(df['ET'].max())
max.append(df['SON'].max())
plt.subplot(2,5,5)
plt.ylabel('max')
plt.xlabel('Subject')
plt.plot(Subject,max,color='black')

min=[]
min.append(df['EDS'].min())
min.append(df['DT'].min())
min.append(df['ET'].min())
min.append(df['SON'].min())
plt.subplot(2,5,6)
plt.ylabel('min')
plt.xlabel('Subject')
plt.plot(Subject,min,color='red')

avg=[]
```

```
avg.append(df['EDS'].mean())
avg.append(df['DT'].mean())
avg.append(df['ET'].mean())
avg.append(df['SON'].mean())
plt.subplot(2,5,7)
plt.xlabel('Subject')
plt.ylabel('avg')
plt.plot(Subject,avg,color='green')

median=[]
median.append(df['EDS'].median())
median.append(df['DT'].median())
median.append(df['ET'].median())
median.append(df['SON'].median())
plt.subplot(2,5,8)
plt.xlabel('Subject')
plt.ylabel('median')
plt.plot(Subject,median)

std=[]
std.append(df['EDS'].std())
std.append(df['DT'].std())
std.append(df['ET'].std())
std.append(df['SON'].std())
plt.subplot(2,5,9)
```

```
plt.xlabel('Subject')
plt.ylabel('std')
plt.plot(Subject,std)

mode=[]
mode.append(df['EDS'].mode())
mode.append(df['DT'].mode())
mode.append(df['ET'].mode())
mode.append(df['SON'].mode())
plt.subplot(2,5,10)
plt.xlabel('Subject')
plt.ylabel('mode')
plt.plot(Subject,mode)

var=[]
var.append(df['EDS'].var())
var.append(df['DT'].var())
var.append(df['ET'].var())
var.append(df['SON'].var())
plt.xlabel('Subject')
plt.ylabel('var')
plt.plot(Subject,var,color='violet')
plt.show()
```

OUTPUT-


colab.research.google.com/drive/10PuGw3JhhRrftDCueZ9-aGIlDa1TqayK
Untitled0.ipynb
File Edit View Insert Runtime Tools Help All changes saved
Comment
Share
Files
+ Code + Text
sample_data
testmarks.csv
plt.xlabel('Subject')
plt.ylabel('var')
plt.plot(Subject,var,color='violet')
plt.show()
plt.show()
EDS
SON
DT
ET
max
Roll_no
Subject
Disk 83.55 GB available
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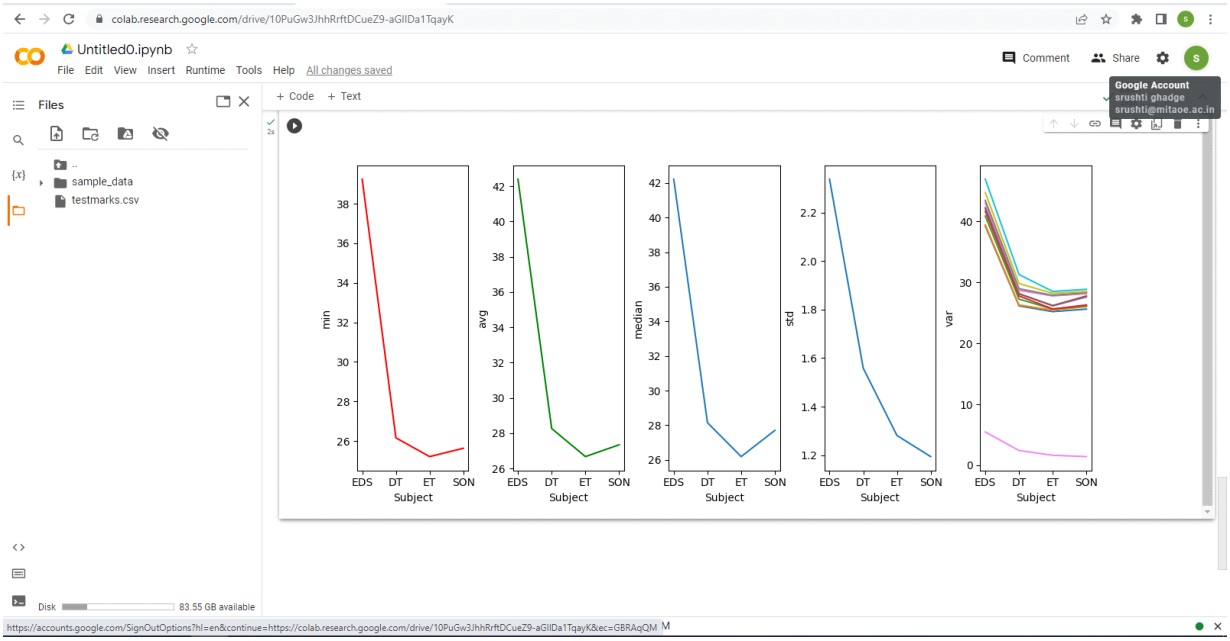
colab.research.google.com/drive/10PuGw3JhhRrftDCueZ9-aGIlDa1TqayK
Untitled0.ipynb
File Edit View Insert Runtime Tools Help All changes saved
Comment
Share
Google Account
srushti ghadge
srushti@mitaoe.ac.in
Files
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sample_data
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