In [ ]:
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#202201090109
#743 G2
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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)
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In [3]:
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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.rcParams['figure.figsize']=[12, 12]
plt.subplots_adjust(left=0.1, bottom=0.1,right=1,
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')
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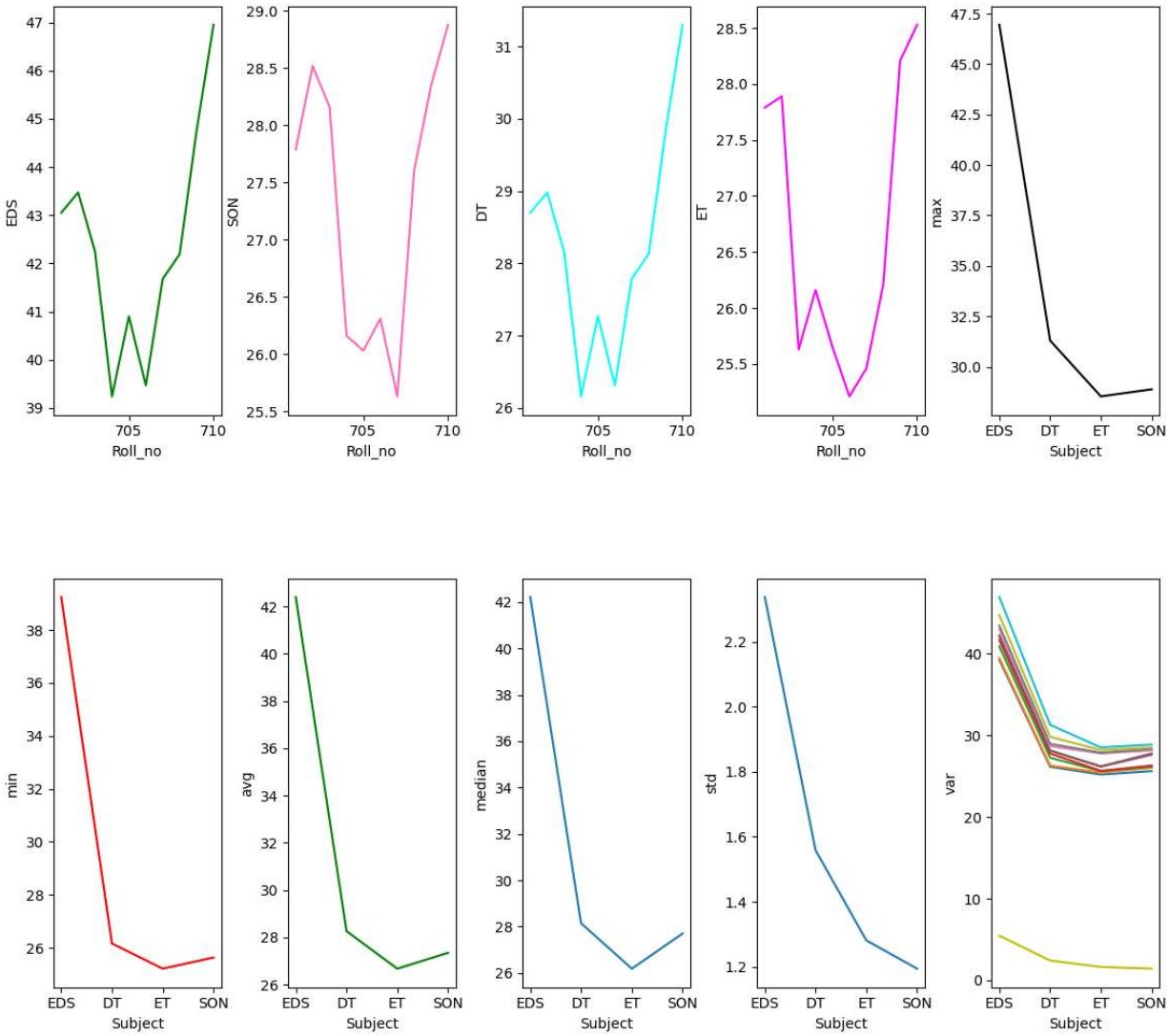
avg=[]
avg.append(df['EDS'].mean())
avg.append(df['DT'].mean())
avg.append(df['ET'].mean())
avg.append(df['SON'].mean())
plt.subplot(2,5,7)
plt.xlabel('Subject')
plt.ylabel('avg')
plt.plot(Subject,avg,color='green')
median=[]
median.append(df['EDS'].median())
median.append(df['DT'].median())
median.append(df['ET'].median())
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='y')
plt.show()
```


EDS
Roll_no
SON
Roll_no
DT
Roll_no
ET
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max
Subject
min
Subject
avg
Subject
median
Subject
std
Subject
var
Subject

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