**Practical No : 05**

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# Batch: H1

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Q. **Select any one real-life** [**dataset.**](http://moodle.mitaoe.ac.in/mod/url/view.php?id=62106) **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) Select any one reallife** [**dataset.**](http://moodle.mitaoe.ac.in/mod/url/view.php?id=62106) **Perform data analysis. Identify 10 grains for a given**

**Code:**

import matplotlib.pyplot as plt import numpy as np import pandas as pd df=pd.read\_csv('testmarks1.csv')

print(df) r\_no=[] foc\_mrk=[] eds\_mrk=[] son\_mrk=[] phy\_mrk=[]

sub=['foc','eds','son','phy'] r\_no=np.array(df['RollNO']) foc\_mrk=np.array(df['FOC']) eds\_mrk=np.array(df['EDS']) son\_mrk=np.array(df['SON']) phy\_mrk=np.array(df['PHY']) max\_mrk=[] min\_mrk=[] avg\_mrk=[]

max\_mrk.append(max(foc\_mrk)) max\_mrk.append(max(eds\_mrk)) max\_mrk.append(max(son\_mrk)) max\_mrk.append(max(phy\_mrk)) min\_mrk.append(min(foc\_mrk)) min\_mrk.append(min(eds\_mrk)) min\_mrk.append(min(son\_mrk)) min\_mrk.append(min(phy\_mrk)) avg\_mrk.append(sum(foc\_mrk)/10) avg\_mrk.append(sum(eds\_mrk)/10) avg\_mrk.append(sum(son\_mrk)/10) avg\_mrk.append(sum(phy\_mrk)/10)

mo801=[foc\_mrk[0],eds\_mrk[0],son\_mrk[0],phy\_mrk[0]] mo802=[foc\_mrk[1],eds\_mrk[1],son\_mrk[1],phy\_mrk[1]] mo803=[foc\_mrk[2],eds\_mrk[2],son\_mrk[2],phy\_mrk[2]]

print(max\_mrk,min\_mrk,avg\_mrk)

plt.xlabel("Roll No") plt.ylabel("Marks") plt.title("FOC marks") plt.plot(r\_no,foc\_mrk,'o-r') plt.xlabel("Roll No") plt.ylabel("Marks") plt.title("EDS marks") plt.bar(r\_no,eds\_mrk) plt.xlabel("Roll No") plt.ylabel("Marks") plt.title("SON marks") plt.barh(r\_no,son\_mrk,color='hotpink') plt.xlabel("Roll No") plt.ylabel("Marks") plt.title("PHY marks") plt.plot(r\_no,phy\_mrk,'o:g') plt.xlabel("Roll No") plt.ylabel("Marks") plt.title("MAX marks") plt.bar(sub,max\_mrk,color='green') plt.xlabel("Roll No") plt.ylabel("Marks") plt.title("MIN marks") plt.plot(min\_mrk,'o:y') plt.xlabel("Roll No") plt.ylabel("Marks") plt.title("AVG marks") plt.plot(avg\_mrk,'o:b') plt.xlabel('roll no 801 marks') plt.pie(mo801,labels=sub) plt.xlabel('roll no 802| marks') expl=[0.3,0,0,0] plt.pie(mo802,labels=sub,explode=expl) plt.xlabel('roll no 803 marks') expl2=[0,0.2,0,0] plt.pie(mo803,labels=sub,explode=expl2,shadow=True) plt.show()

**Output:**

RollNO FOC EDS SON PHY

1. 801 43.05 27.79 28.70 27.79
2. 802 43.47 28.52 28.98 27.89
3. 803 42.24 28.16 28.16 25.63
4. 804 39.24 26.16 26.16 26.16
5. 805 40.90 26.03 27.27 25.65
6. 806 39.47 26.31 26.31 25.21
7. 807 41.68 25.63 27.79 25.46
8. 808 42.19 27.61 28.13 26.21
9. 809 44.75 28.35 29.83 28.21
10. 810 46.95 28.88 31.30 28.53

[46.95, 28.88, 31.3, 28.53] [39.24, 25.63, 26.16, 25.21] [42.394, 27.34 4, 28.262999999999998, 26.674]

