

Practical No : 05

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Roll no: 849 H div

Prn: 202201040134

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=explode)

plt.xlabel('roll no 803 marks')

expl2=[0,0.2,0,0]

plt.pie(mo803,labels=sub,explode=explode,shadow=True)

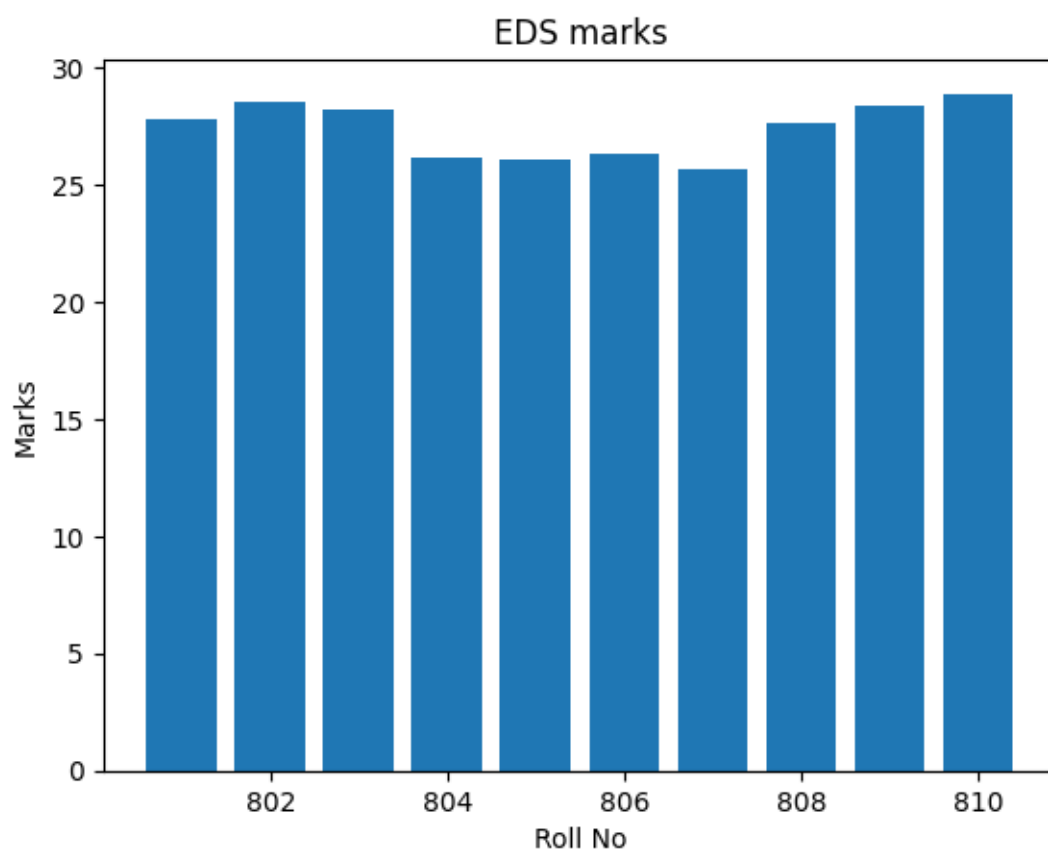
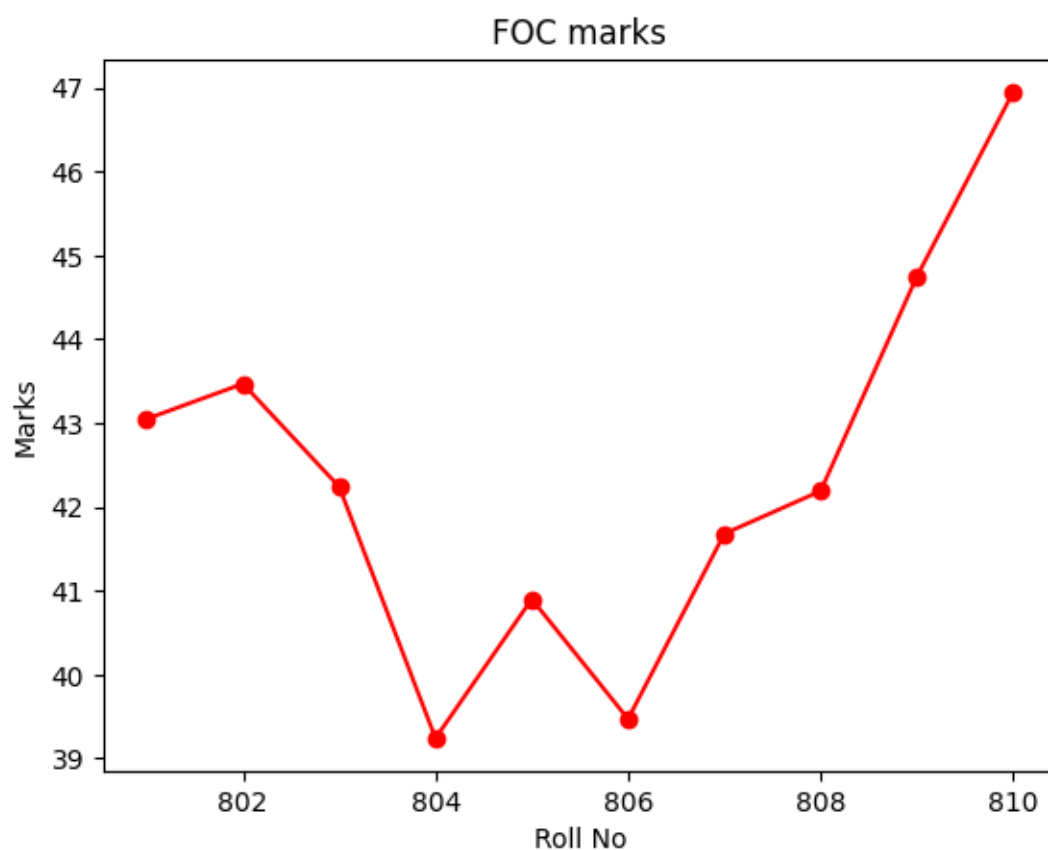
plt.show()

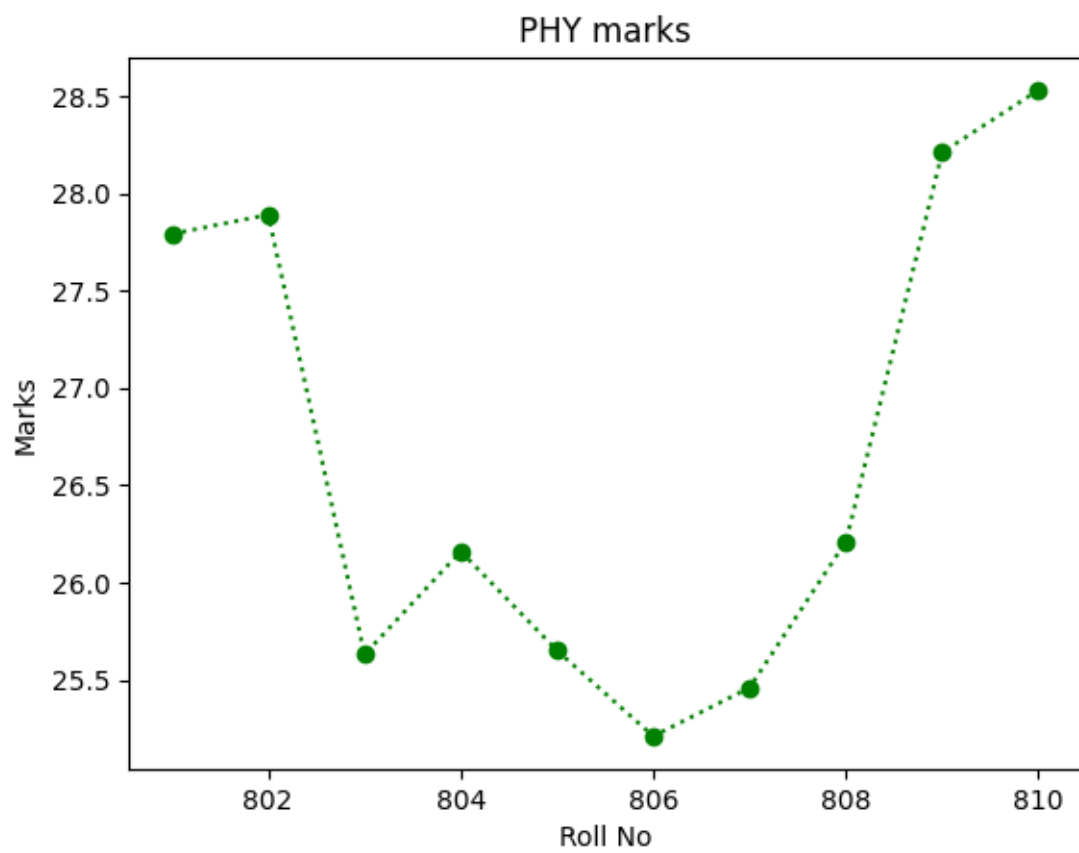
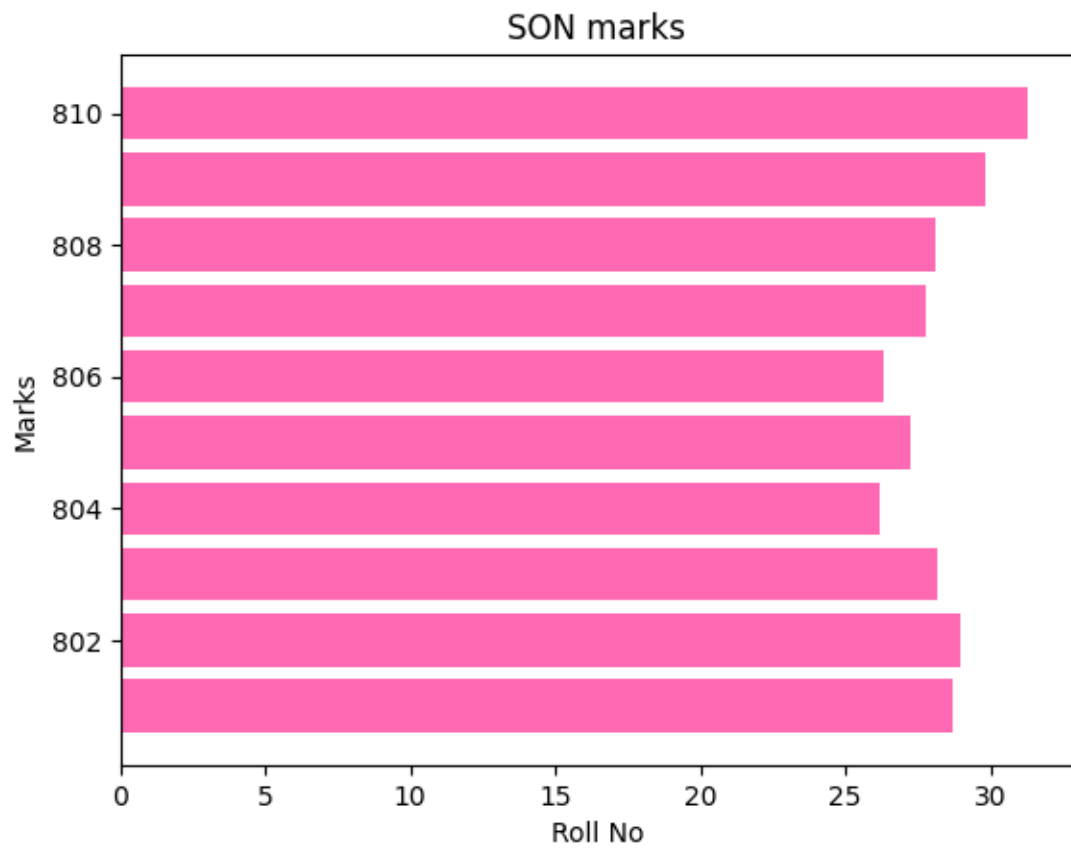
```

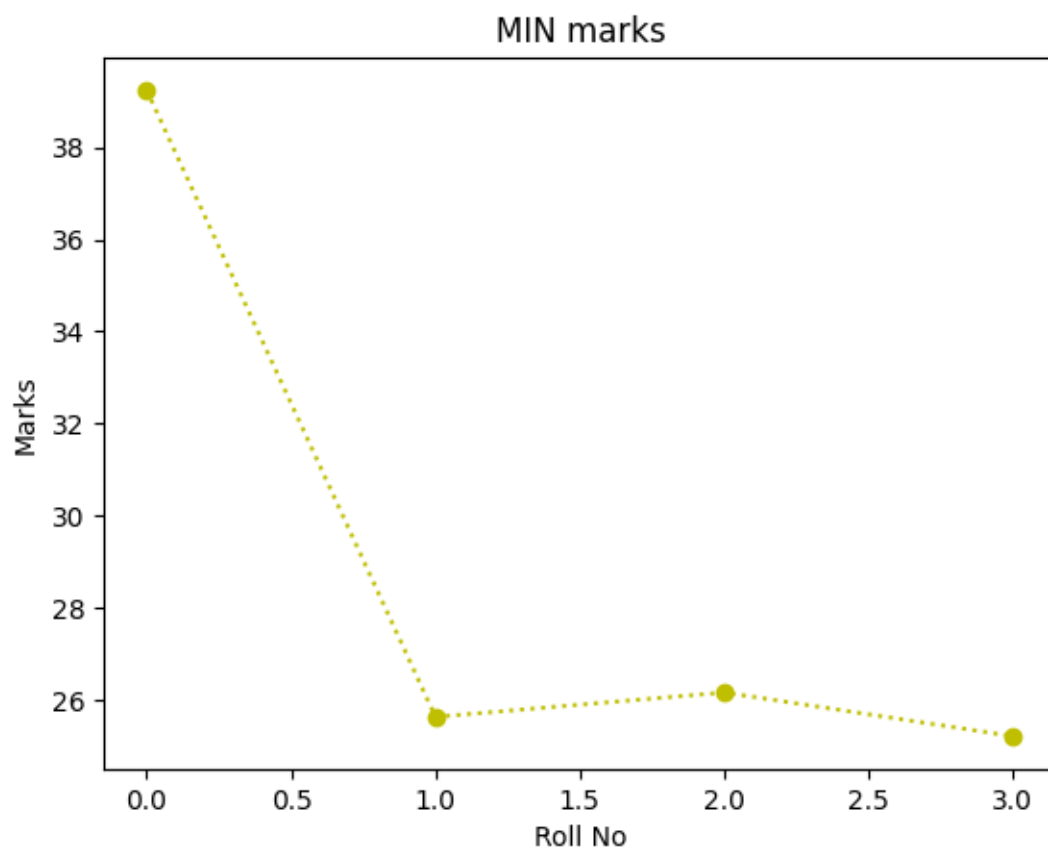
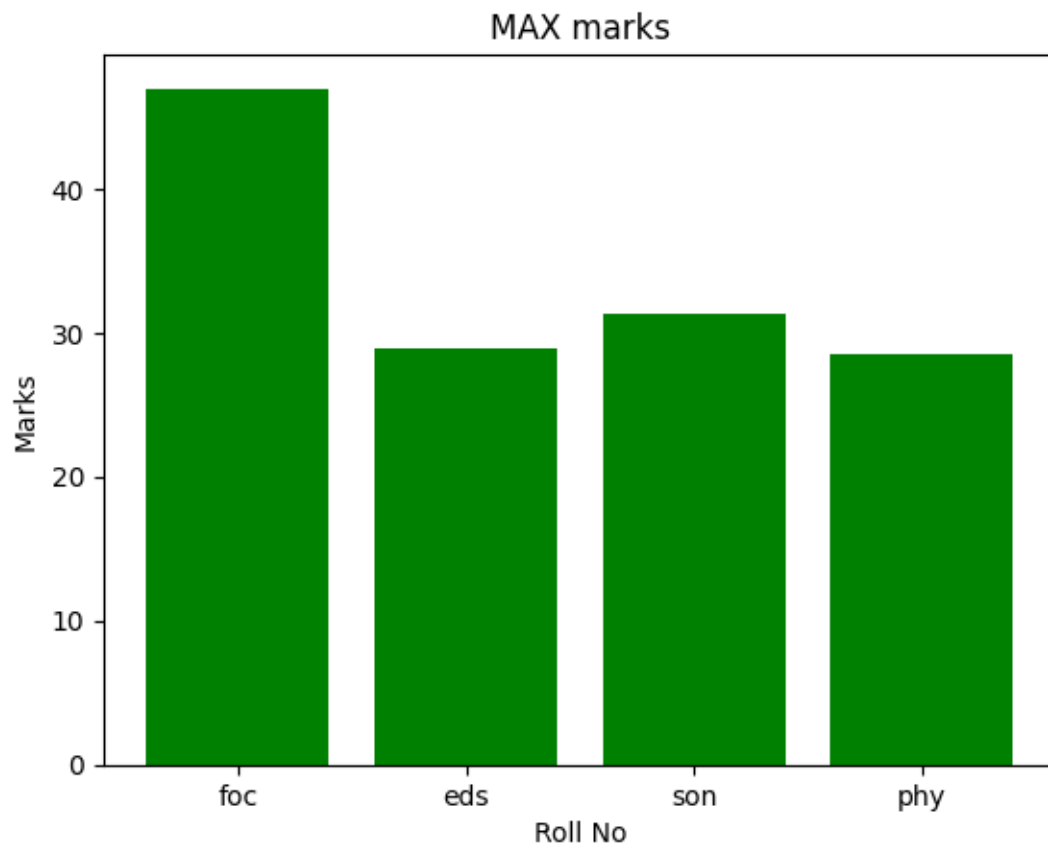
Output:

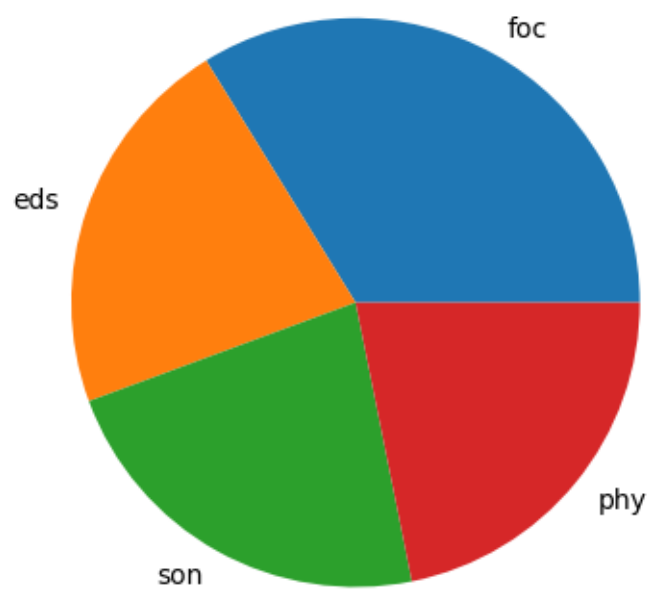
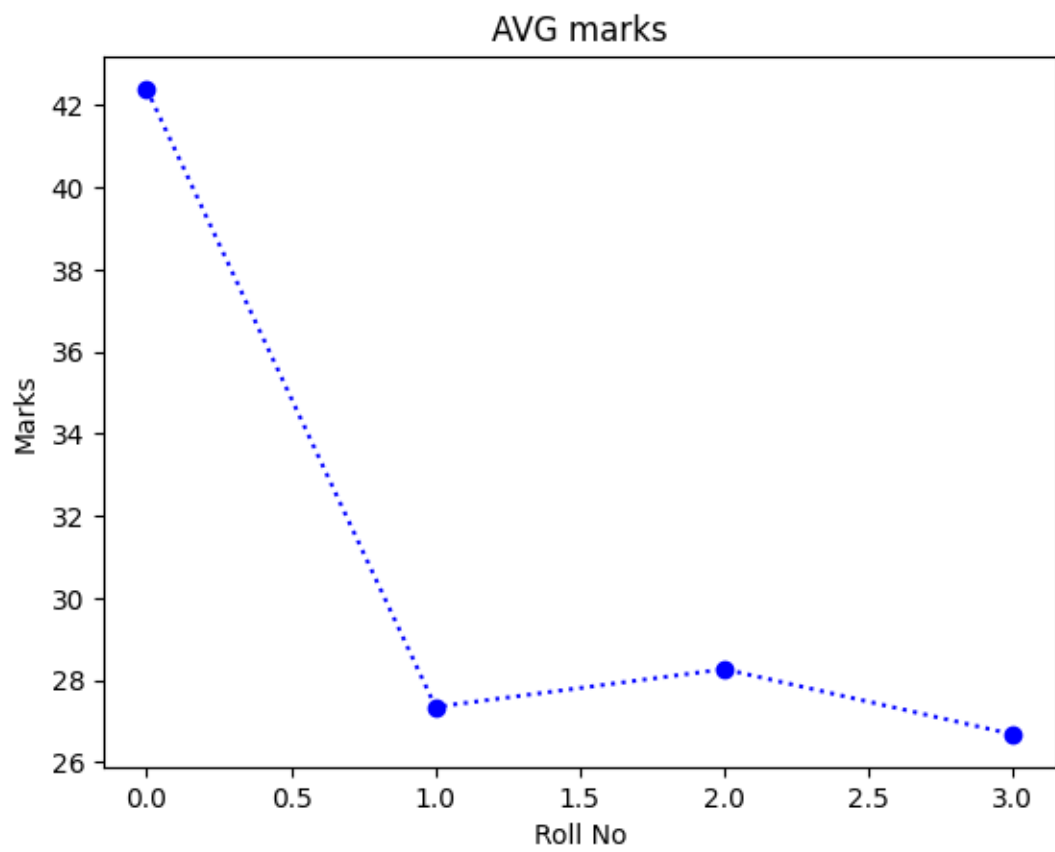
RollNO	FOC	EDS	SON	PHY	
0	801	43.05	27.79	28.70	27.79
1	802	43.47	28.52	28.98	27.89
2	803	42.24	28.16	28.16	25.63
3	804	39.24	26.16	26.16	26.16
4	805	40.90	26.03	27.27	25.65
5	806	39.47	26.31	26.31	25.21
6	807	41.68	25.63	27.79	25.46
7	808	42.19	27.61	28.13	26.21
8	809	44.75	28.35	29.83	28.21
9	810	46.95	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]

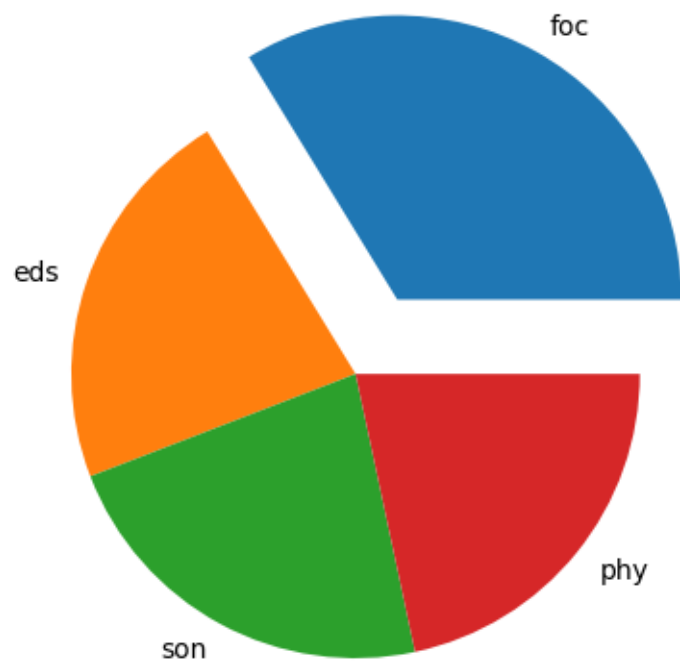




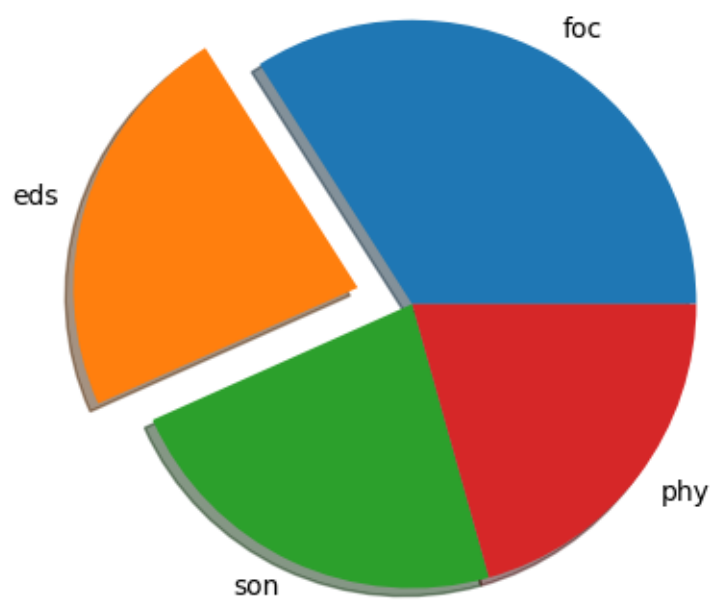




roll no 801 marks



roll no 802| marks



roll no 803 marks