

# Practical No : 05

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## 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
```

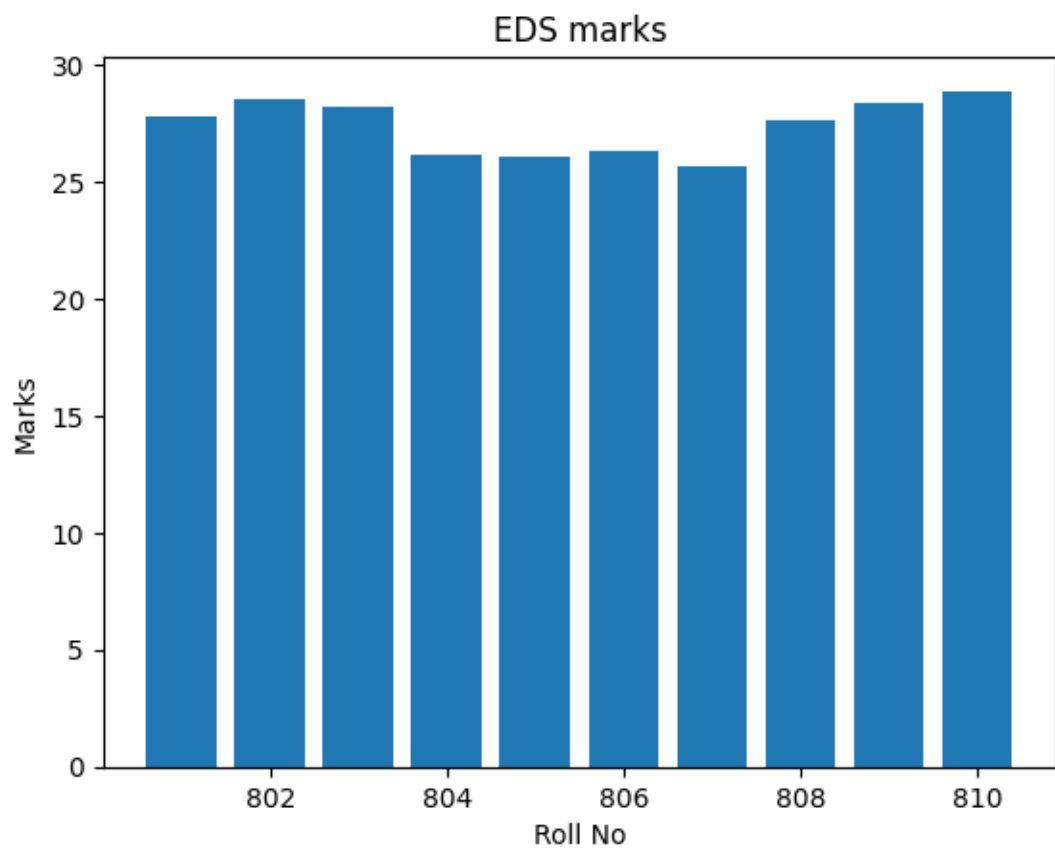
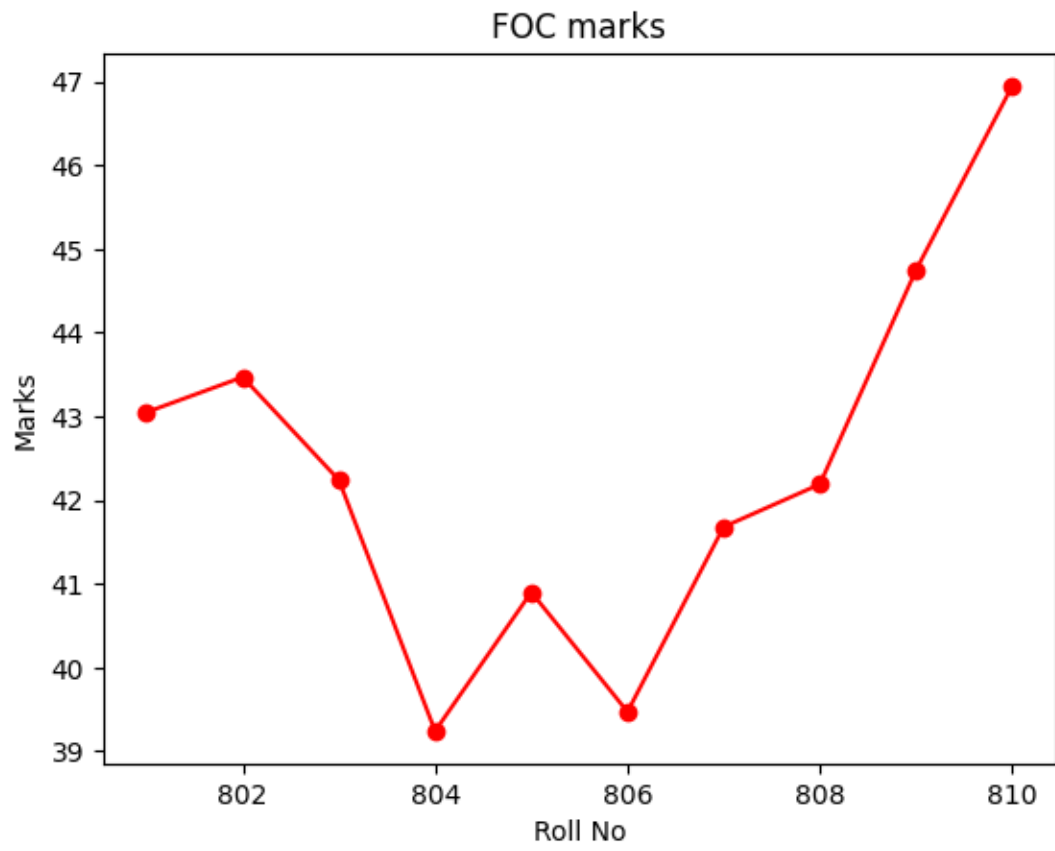
```
42.19 27.61 28.13 26.21
```

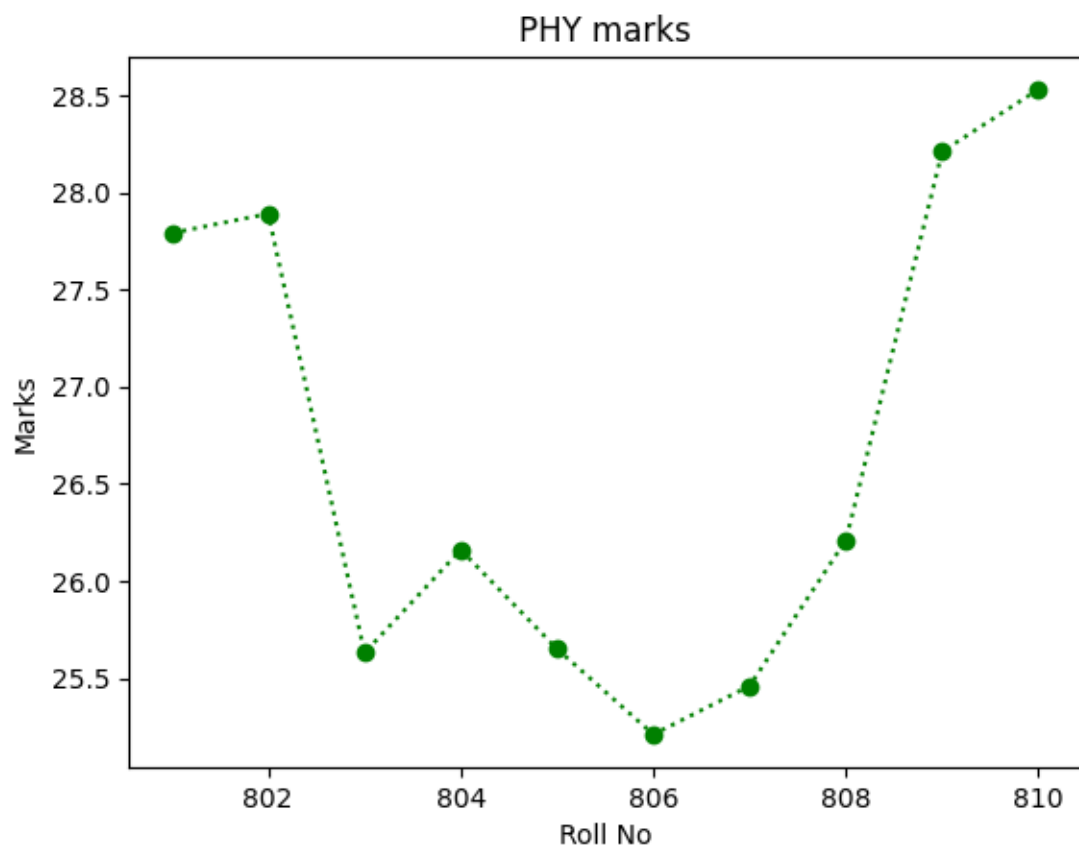
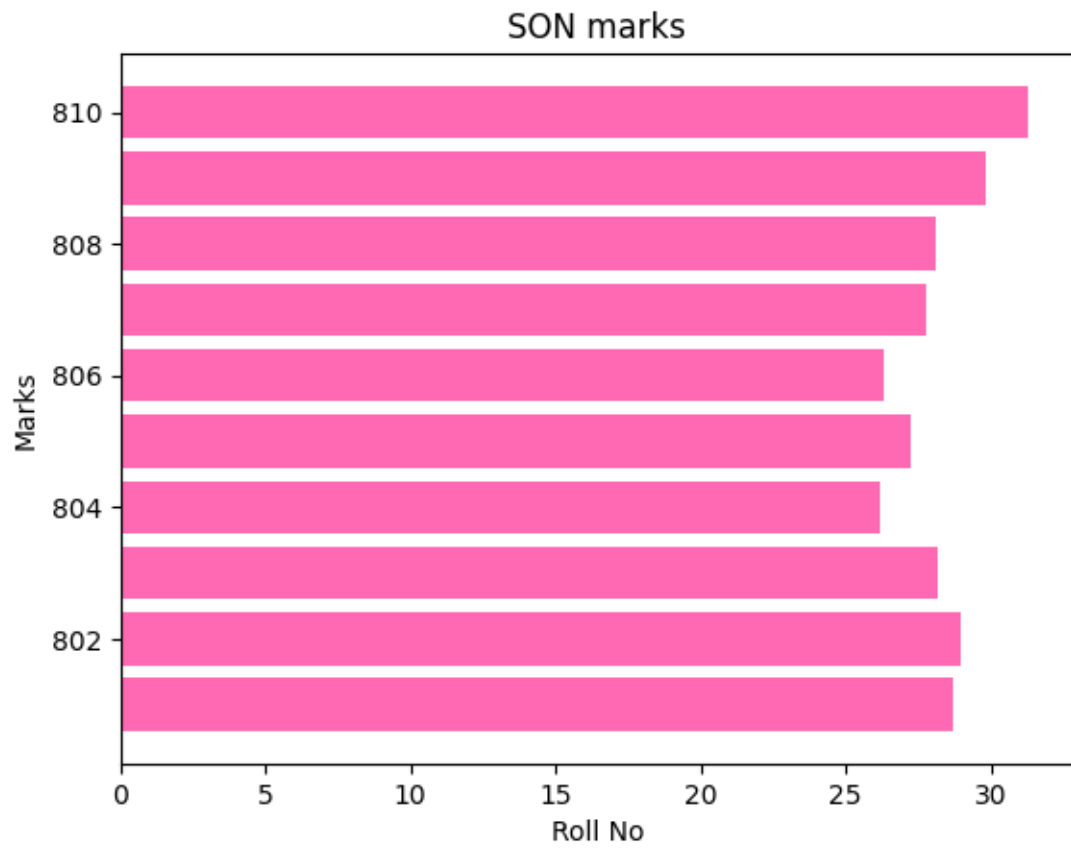
```
8 809 44.75 28.35 29.83 28.21
```

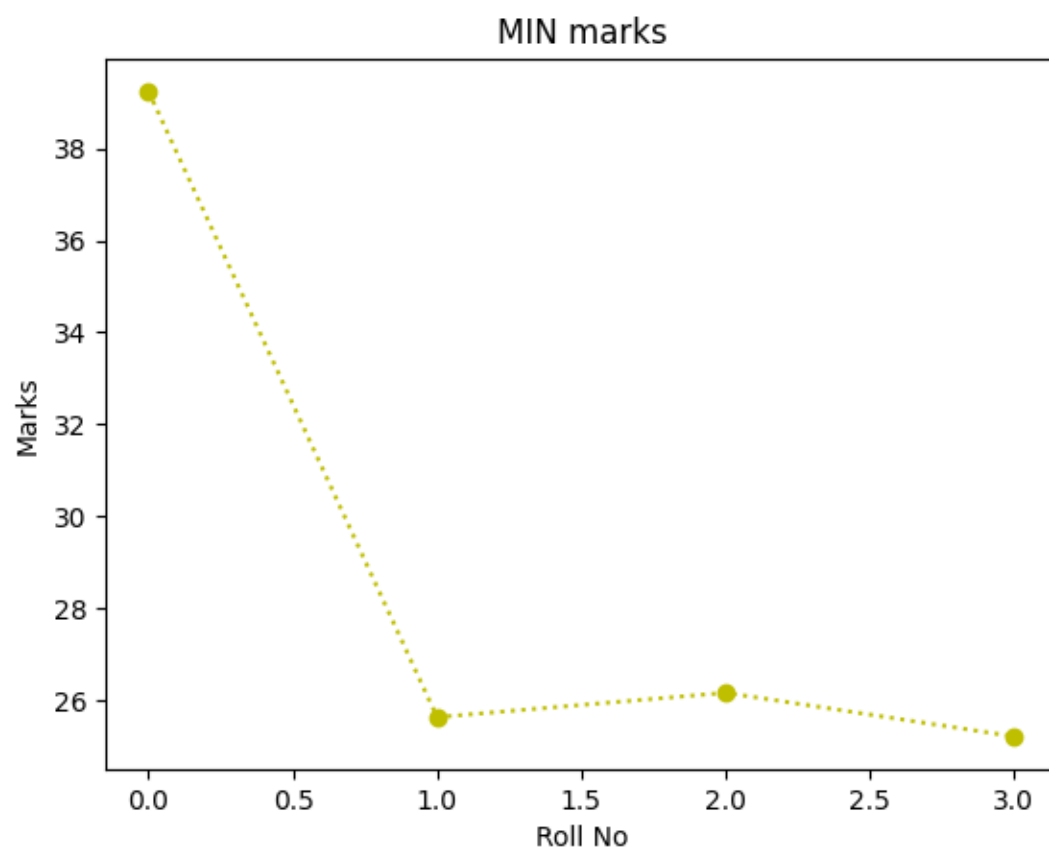
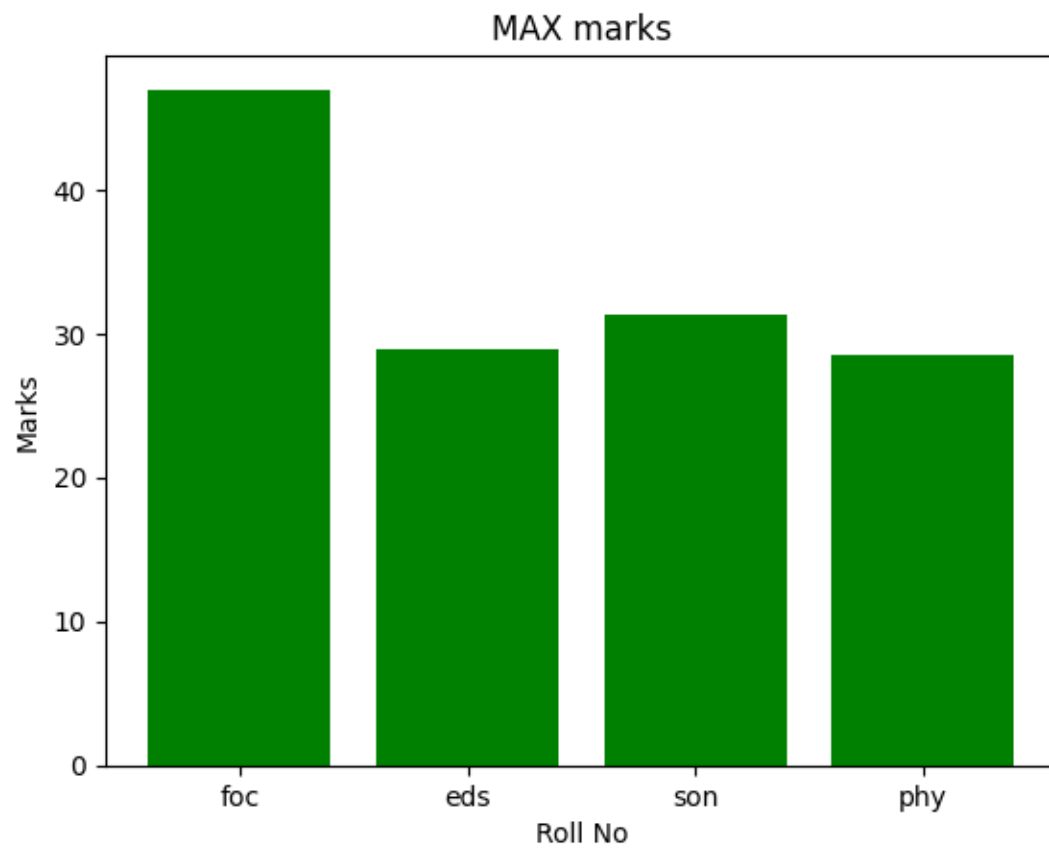
```
9 810 46.95 28.88 31.30 28.53
```

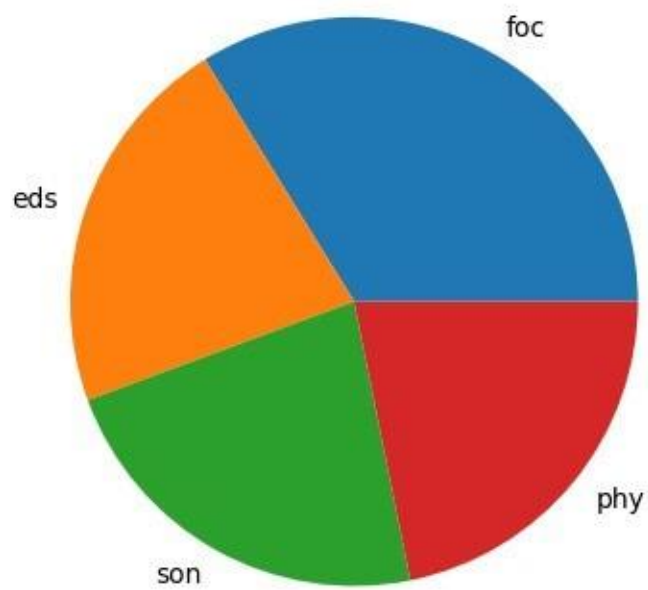
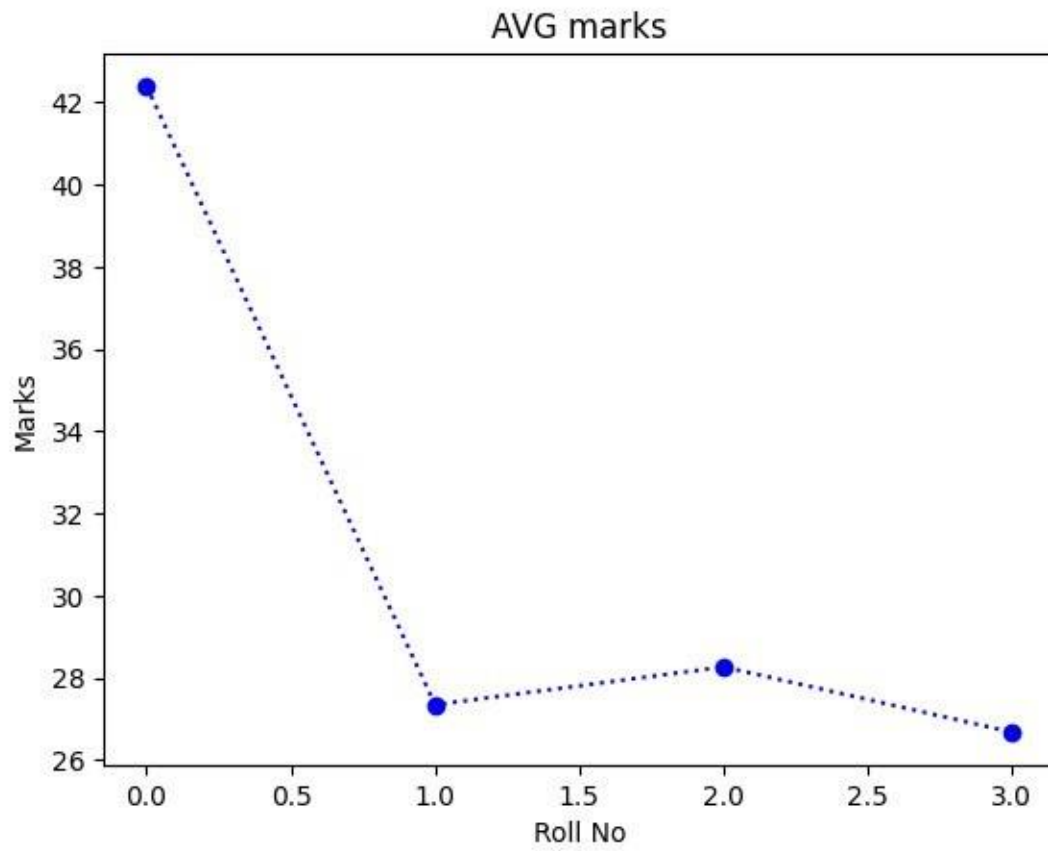
```
[46.95, 28.88, 31.3, 28.53] [39.24, 25.63, 26.16, 25.21] [42.394, 27.34
```

```
4, 28.262999999999998, 26.674]
```

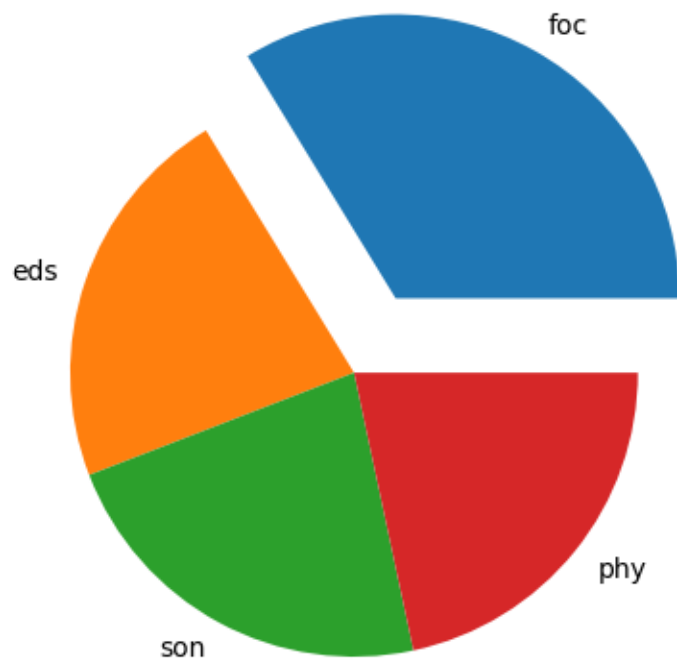




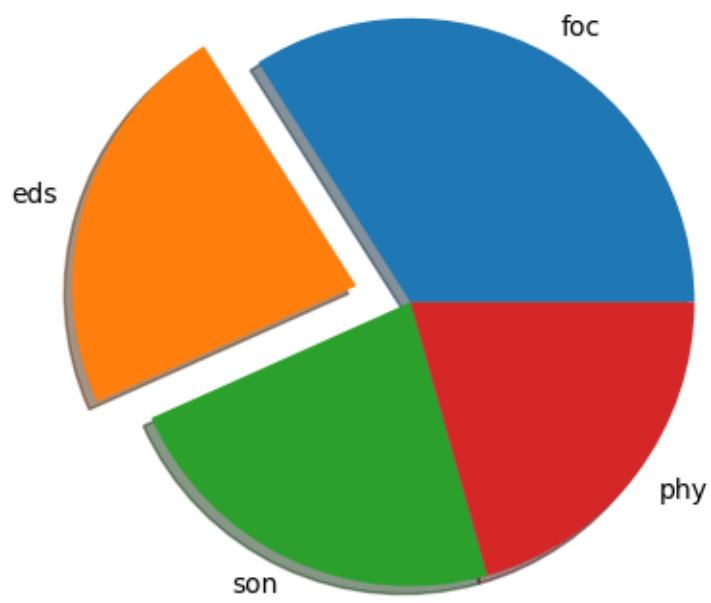




roll no 801 marks



roll no 802| marks



roll no 803 marks