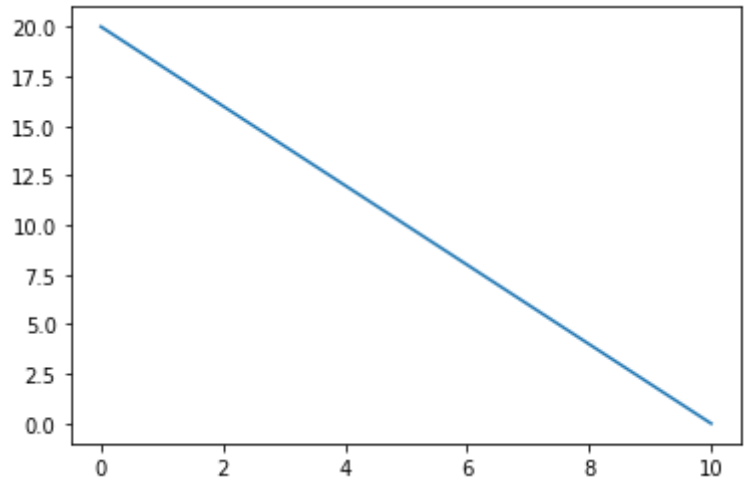
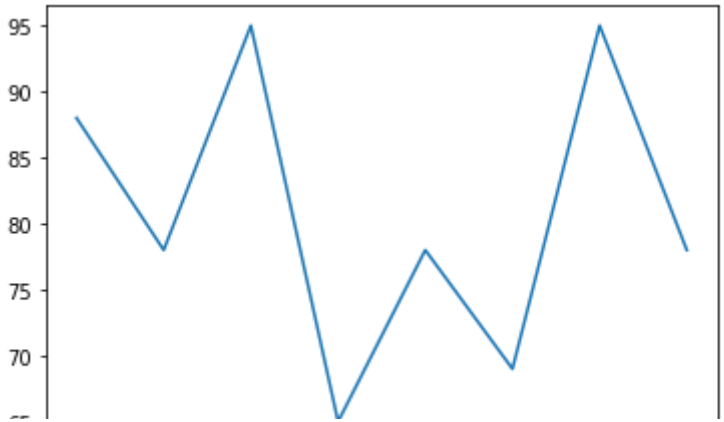
matplotlib

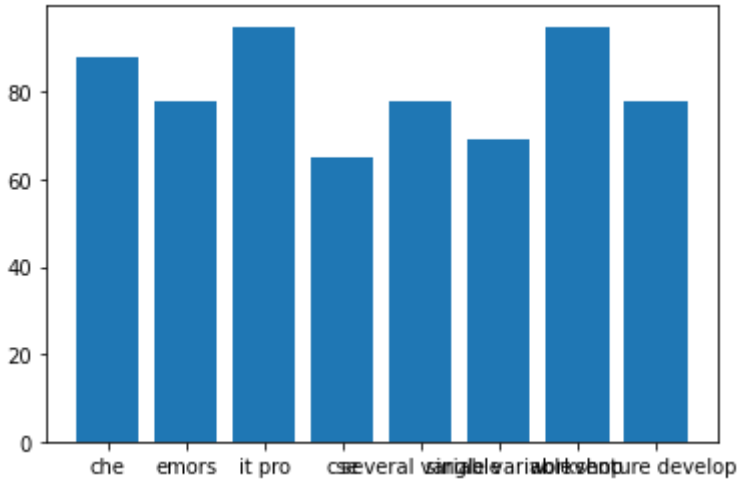
```
import matplotlib.pyplot as mp
import numpy as np
x = np.array([0,10])
y=np.array([20,0])
mp.plot(x,y)
mp.show()
```




```
import matplotlib.pyplot as mp
import numpy as np
x=np.array(["che","emors","it pro","cse","several variable","single variable","workshop","venture develop"])
y=np.array([88,78,95,65,78,69,95,78])
mp.plot(x,y)
#mp.plot(x,y,"o")
mp.show()
```

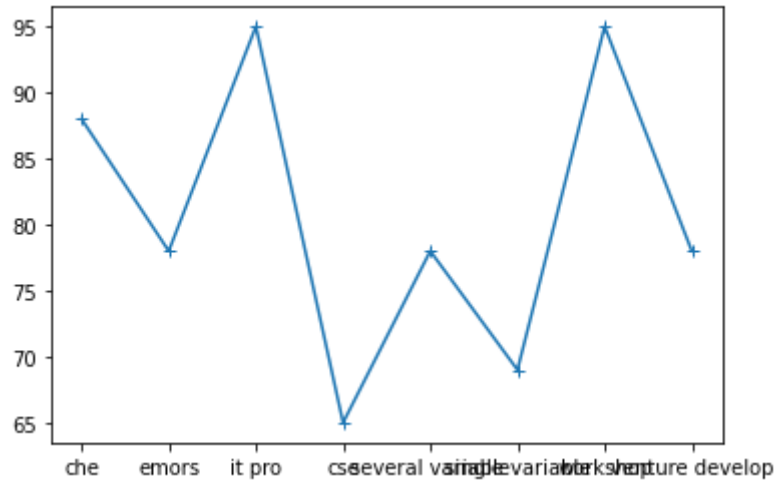



```
import matplotlib.pyplot as mp
import numpy as np
x=np.array(["che","emors","it pro","cse","several variable","single variable","workshop","venture develop"])
y=np.array([88,78,95,65,78,69,95,78])
mp.bar(x,y)
mp.show()
```




```
import matplotlib.pyplot as mp
import numpy as np
x=np.array(["che","emors","it pro","cse","several variable","single variable","workshop","venture develop"])
```

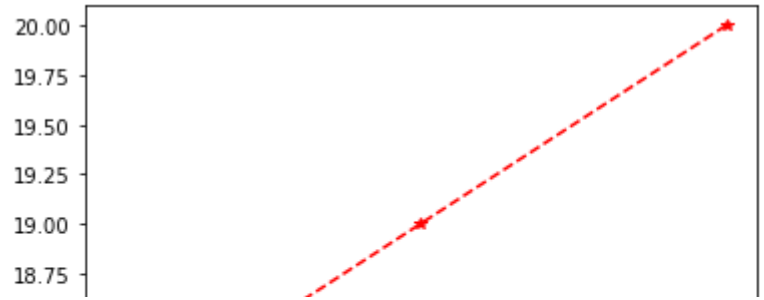
```
y=np.array([88,78,95,65,78,69,95,78])
mp.plot(x,y,marker="+")
#mp.plot(x,y,"o")
mp.show()
```



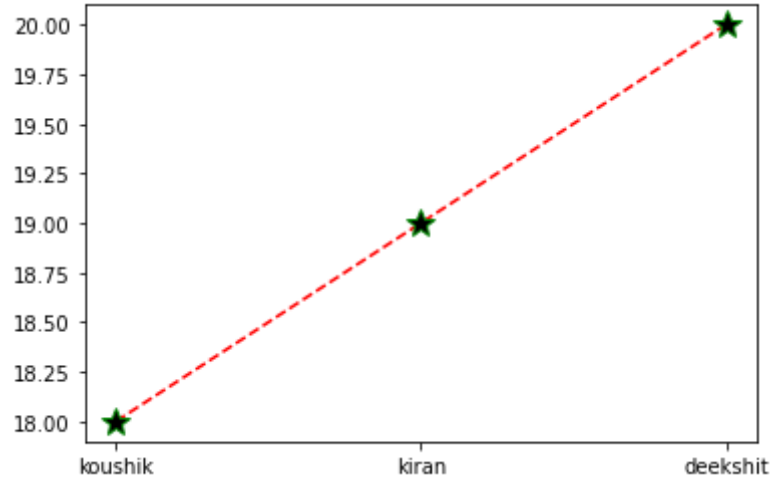

```
import matplotlib.pyplot as mp
import numpy as np
x=np.array(["che","emors","it pro","cse","several variable","single variable","workshop","venture develop"])
y=np.array([88,78,95,65,78,69,95,78])
mp.plot(x,y,marker="*",ls="dashed")
#mp.plot(x,y,"o")
mp.show()
```


```
import matplotlib.pyplot as mp
import numpy as np
x=np.array(["che","emors","it pro","cse","several variable","single variable","workshop","venture develop"])
y=np.array([88,78,95,65,78,69,95,78])
mp.pie(y,labels=x)
mp.show()
```

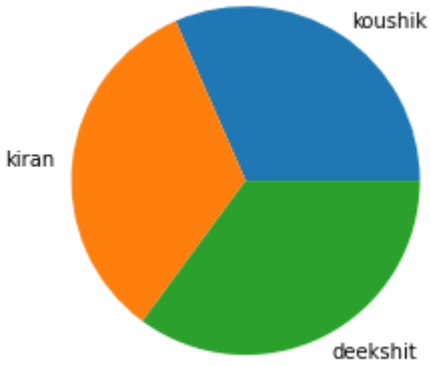

```
import matplotlib.pyplot as mp
import numpy as np
x=np.array(["koushik","kiran","deekshit"])
y=([18,19,20])
mp.plot(x,y,marker="*",ls="dashed",color="red")
mp.show()
```



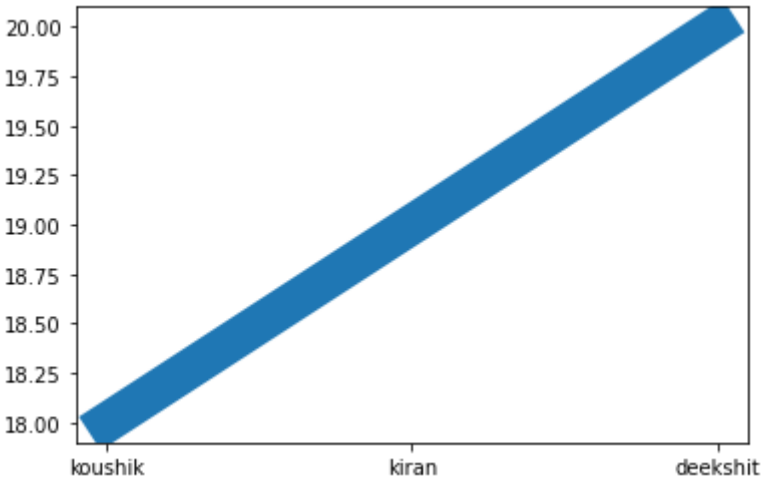

```
import matplotlib.pyplot as mp
import numpy as np
x=np.array(["koushik","kiran","deekshit"])
y=([18,19,20])
mp.plot(x,y,marker="*",ls="dashed",color="red",ms=15,mec="g",mfc="k")
mp.show()
```




```
import matplotlib.pyplot as mp
import numpy as np
x=np.array(["koushik","kiran","deekshit"])
y=np.array([18,19,20])
mp.pie(y,labels=x)
mp.show()
```

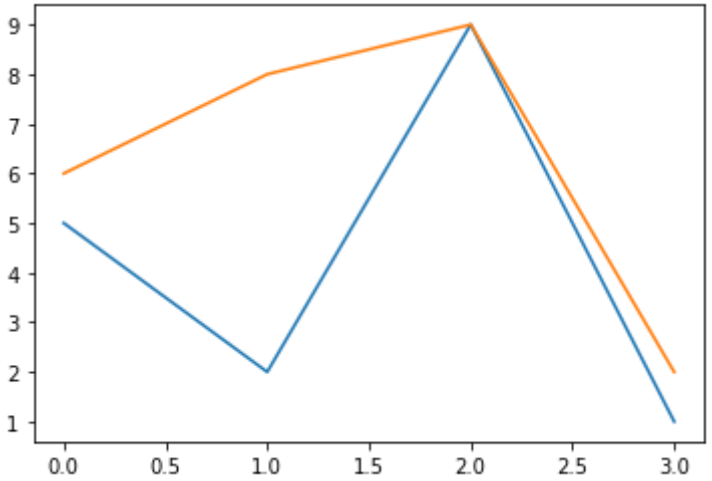



```
import matplotlib.pyplot as mp
import numpy as np
x=np.array(["koushik","kiran","deekshit"])
y=np.array([18,19,20])
mp.plot(x,y,lw=20)
mp.show()
```

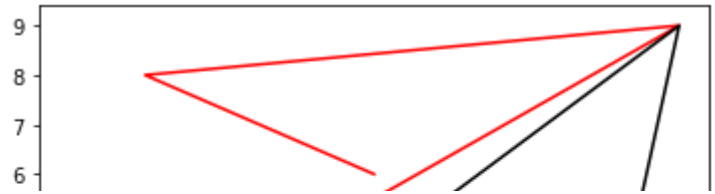



```
import matplotlib.pyplot as mp
import numpy as np
```

```
x=np.array([5,2,9,1])
y=np.array([6,8,9,2])
mp.plot(x)
mp.plot(y)
mp.show()
```

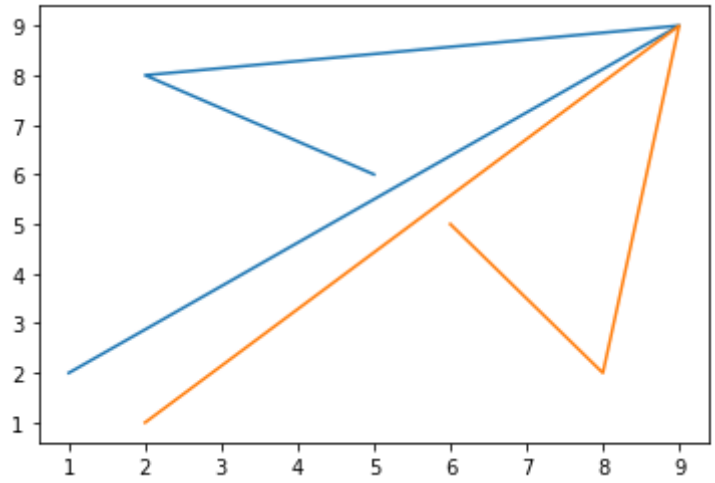



```
import matplotlib.pyplot as mp
import numpy as np
x=np.array([5,2,9,1])
y=np.array([6,8,9,2])
mp.plot(x,y,color="r")
mp.plot(y,x,color="k")
mp.show()
```

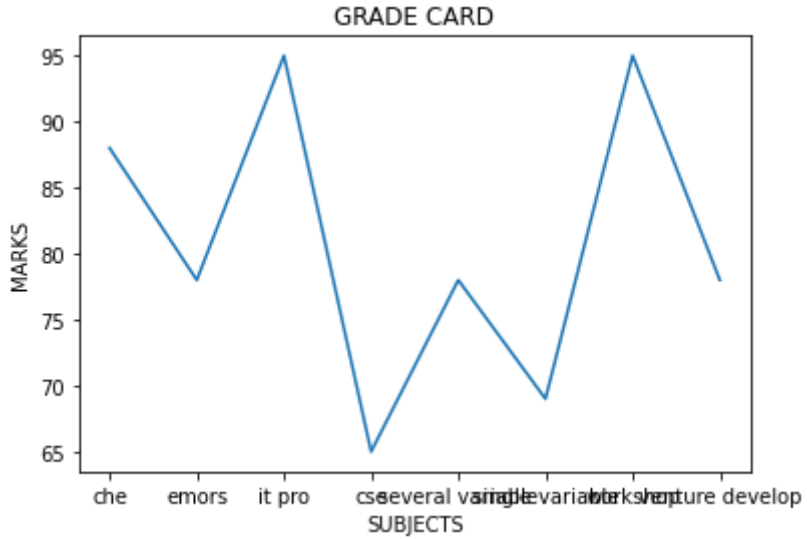



```
import matplotlib.pyplot as mp
import numpy as np
x=np.array([5,2,9,1])
y=np.array([6,8,9,2])
mp.plot(x,y,y,x)
```

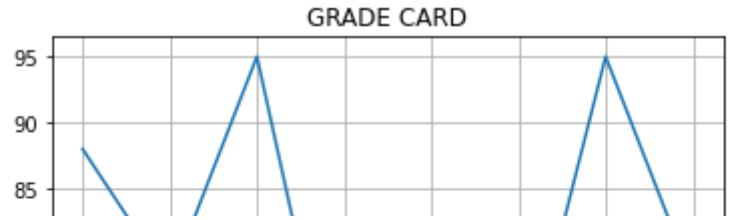
```
[<matplotlib.lines.Line2D at 0x234b7e14070>,
 <matplotlib.lines.Line2D at 0x234b7e140a0>]
```



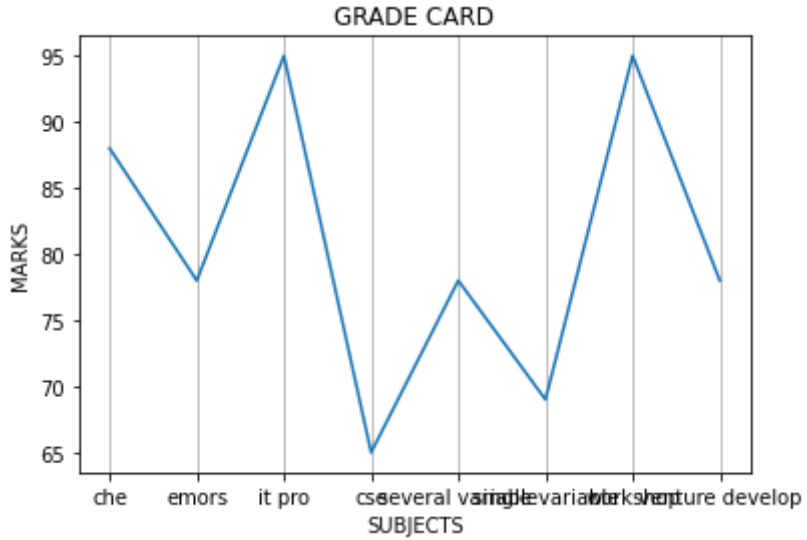

```
import matplotlib.pyplot as mp
import numpy as np
x=np.array(["che","emors","it pro","cse","several variable","single variable","workshop","venture develop"])
y=np.array([88,78,95,65,78,69,95,78])
mp.plot(x,y)
mp.title("GRADE CARD")
mp.xlabel("SUBJECTS")
mp.ylabel("MARKS")
mp.show()
```




```
import matplotlib.pyplot as mp
import numpy as np
x=np.array(["che","emors","it pro","cse","several variable","single variable","workshop","venture develop"])
y=np.array([88,78,95,65,78,69,95,78])
mp.plot(x,y)
mp.title("GRADE CARD")
mp.xlabel("SUBJECTS")
mp.ylabel("MARKS")
mp.grid()
mp.show()
```

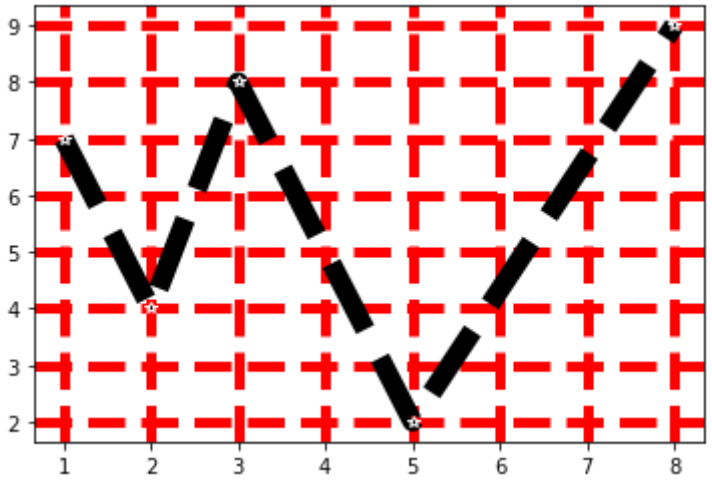



```
import matplotlib.pyplot as mp
import numpy as np
x=np.array(["che","emors","it pro","cse","several variable","single variable","workshop","venture develop"])
y=np.array([88,78,95,65,78,69,95,78])
mp.plot(x,y)
mp.title("GRADE CARD")
mp.xlabel("SUBJECTS")
mp.ylabel("MARKS")
mp.grid(axis="x")#axis="y"
mp.show()
```

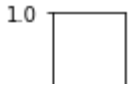



```
import matplotlib.pyplot as mp
import numpy as np
x=np.array([1,2,3,5,8])
```

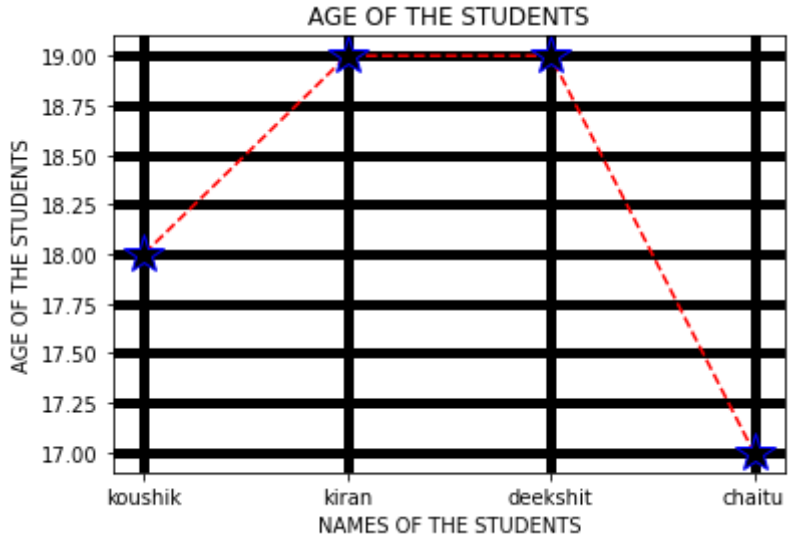
```
y=np.array([7,4,8,2,9])
mp.plot(x,y,marker="*",ls="dashed",color="k",lw=10,mec="w")
mp.grid(color="r",lw=5,ls="dashed")
mp.show()
```




```
import matplotlib.pyplot as mp
import numpy as np
x=np.array([1,2,3,5,8])
y=np.array([7,4,8,2,9])
mp.subplot(1,8,1)
mp.show()
```

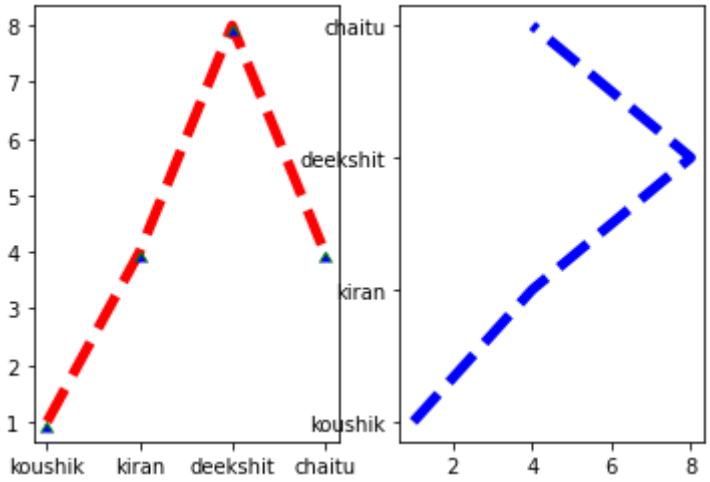



```
import matplotlib.pyplot as mp
import numpy as np
x=np.array(["koushik","kiran","deekshit","chaitu"])
y=np.array([18,19,19,17])
mp.plot(x,y,marker="*",ls="dashed",color="r",mec="b",mfc="k",ms=20)
mp.title("AGE OF THE STUDENTS")
mp.xlabel("NAMES OF THE STUDENTS")
mp.ylabel("AGE OF THE STUDENTS")
mp.grid(color="black",lw=5)
mp.show()
```




```
import matplotlib.pyplot as mp
import numpy as np
x=np.array(["koushik","kiran","deekshit","chaitu"])
y=np.array([1,4,8,4])
mp.subplot(1,2,1)
mp.plot(x,y,color="r",lw=5,marker=6,mec="g",mfc="b",ls="dashed")
#plot 2
```

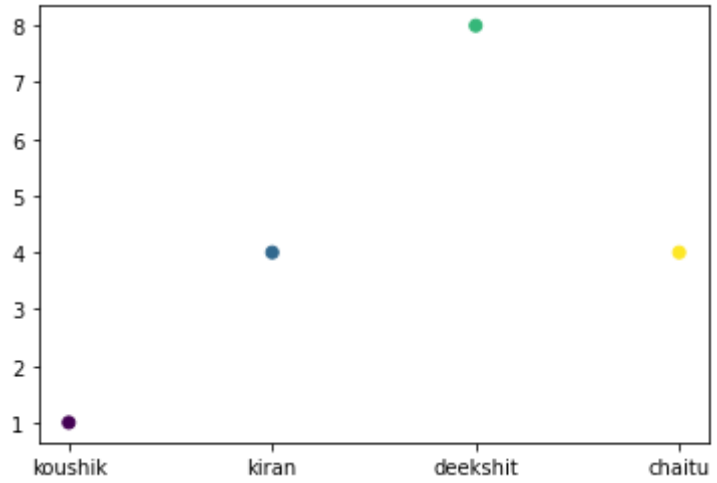
```
mp.subplot(1,2,2)
mp.plot(y,x,color="b",lw=5,ls="dashed",mfc="g",mec="k")
mp.show()
```




```
import matplotlib.pyplot as mp
import numpy as np
x=np.array(["koushik","kiran","deekshit","chaitu"])
y=np.array([1,4,8,4])
mp.scatter(x,y,color="r")
```

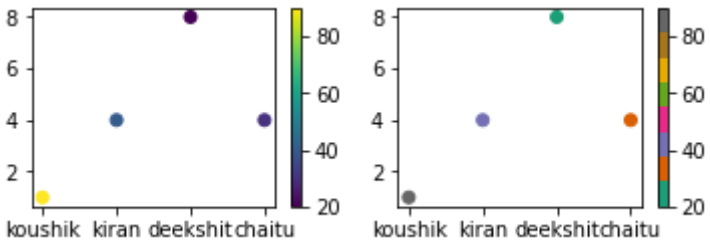
```
<matplotlib.collections.PathCollection at 0x234b7e4d910>
```


```
import matplotlib.pyplot as mp
import numpy as np
x=np.array(["koushik","kiran","deekshit","chaitu"])
y=np.array([1,4,8,4])
colors=np.array([0,10,20,30])
mp.scatter(x,y,c=colors,cmap="viridis")
mp.show()
```

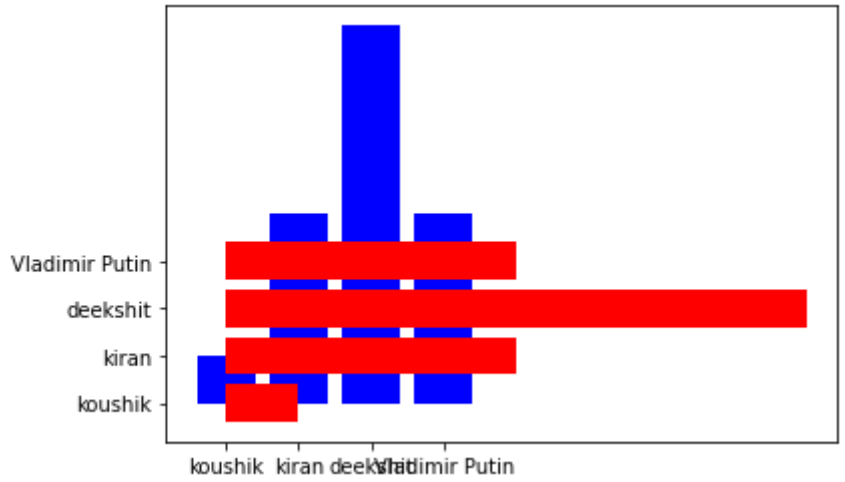



```
import matplotlib.pyplot as mp
import numpy as np
x=np.array(["koushik","kiran","deekshit","chaitu"])
y=np.array([1,4,8,4])
color=np.array([90,40,20,30,])
mp.subplot(2,2,1)
mp.scatter(x,y,c=color,cmap="viridis")
mp.colorbar()
mp.subplot(2,2,2)
mp.scatter(x,y,c=color,cmap="Dark2")
```

```
mp.colorbar()
mp.show()
```

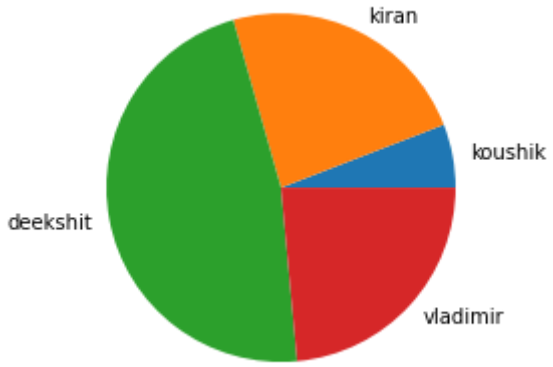



```
import matplotlib.pyplot as mp
import numpy as np
x=np.array(["koushik","kiran","deekshit","Vladimir Putin"])
y=np.array([1,4,8,4])
#mp.subplot(3,3,1)
mp.bar(x,y,color="b")
#mp.subplot(3,3,2)
mp.barh(x,y,color="r")
mp.show()
```



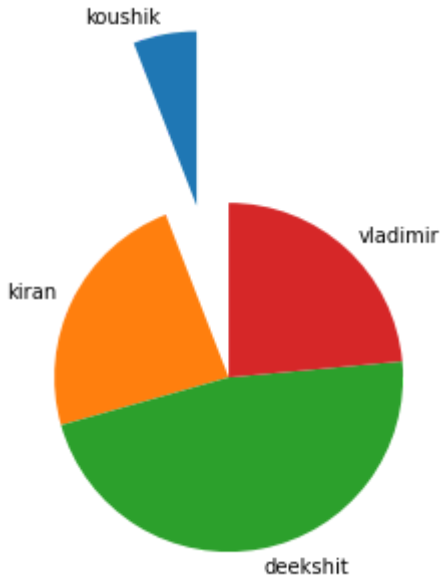
```
import matplotlib.pyplot as mp
import numpy as np
x=np.array(["koushik","kiran","deekshit","Vladimir Putin"])
y=np.array([1,4,8,4])
mp.subplot(3,3,1)
mp.bar(x,y,color="b",width=3)
mp.subplot(3,3,2)
mp.barh(x,y,color="r",height=5)
mp.show()
```


```
import matplotlib.pyplot as mp
import numpy as np
x=np.array(["koushik","kiran","deekshit","vladimir"])
y=np.array([1,4,8,4])
mp.pie(y,labels=x)
mp.show()
```



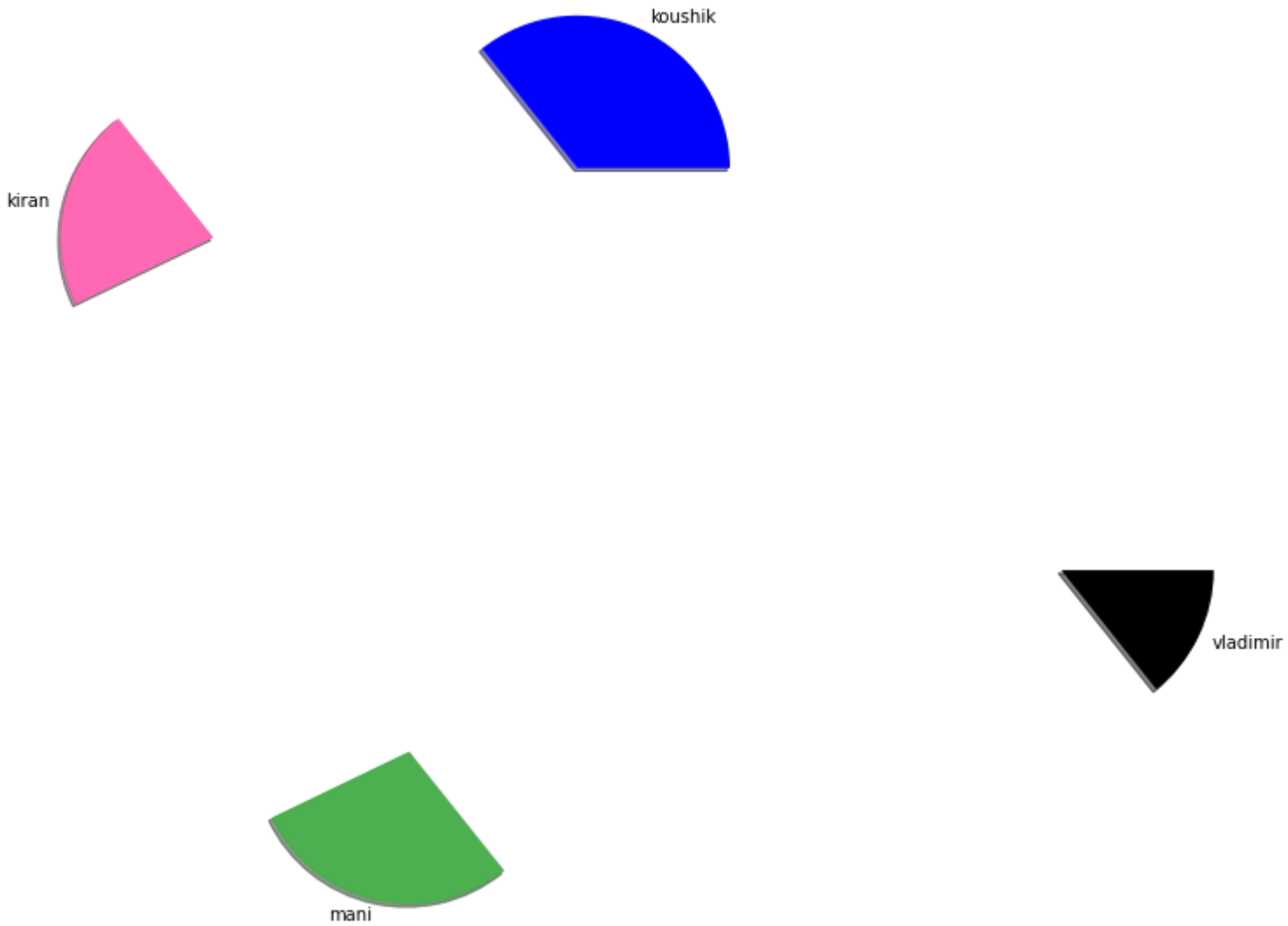
```
import matplotlib.pyplot as mp
import numpy as np
x=np.array(["koushik","kiran","deekshit","vladimir"])
y=np.array([1,4,8,4])
bump=np.array([1,0,0,0,])
mp.pie(y,labels=x,startangle=90,explode=bump)
```

```
([<matplotlib.patches.Wedge at 0x15e9225b070>,
  <matplotlib.patches.Wedge at 0x15e9225b5b0>,
  <matplotlib.patches.Wedge at 0x15e9225ba90>,
  <matplotlib.patches.Wedge at 0x15e9225bf70>],
 [Text(-0.38587398883588914, 2.064243509070546, 'koushik'),
  Text(-0.9846796225158483, 0.4903121872868822, 'kiran'),
  Text(0.2021244829970888, -1.0812704071476107, 'deekshit'),
  Text(0.741065191222218, 0.8129098242479159, 'vladimir')])
```




```
import matplotlib.pyplot as mp
import numpy as np
x=np.array(["koushik","kiran","mani","vladimir"])
y=np.array([50,30,40,20])
```

```
colors=np.array(["b","hotpink","#4CAF50","k"])
bump=np.array([1,2,3,4])
mp.pie(y,labels=x,colors=colors,explode=bump,shadow=True,startangle=0)
mp.show()
```




```
import matplotlib.pyplot as mp
import numpy as np
```

```
x=np.array([1,2,3,4])
y=np.array(["koushik","kiran","vladimir","mani"])
color=np.array(["c","#4CAF50","hotpink","#c9a6ff"])
bump=np.array([1,2,3,4])
mp.pie(x,labels=y,colors=color,explode=bump,shadow=True)
mp.legend()
mp.show()
```


```
import matplotlib.pyplot as mp
import numpy as np
x=np.array([1,2,4,3])
y=np.array(["koushik","kiran","mani","vladimir"])
color=np.array(["c","#D2691E","#008080","#6A5ACD"])
mp.subplot(2,1,1)
mp.pie(x,labels=y,colors=color)
mp.subplot(2,1,2)
mp.barh(y,x,color=color,height=8)
mp.show()
```