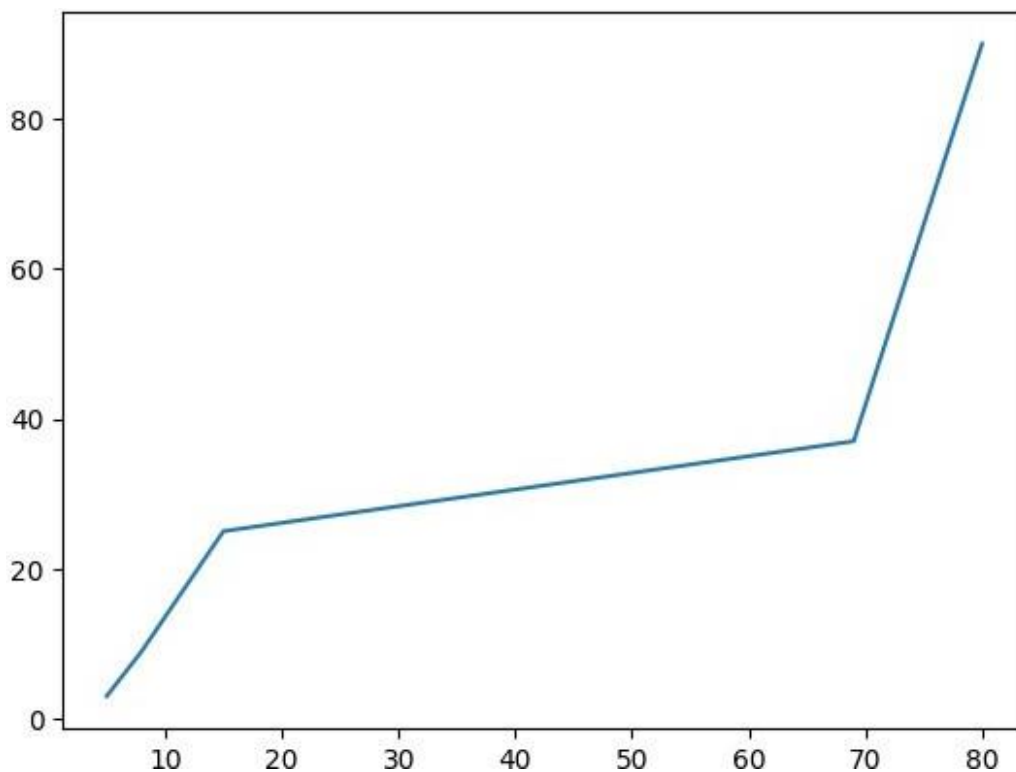**Name:Modi Nirmeet**

Roll No:B-26

```python
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt

x= np.array([5,8,15,69,80])
y = np.array([3,9,25,37,90])
plt.plot(x,y)
```
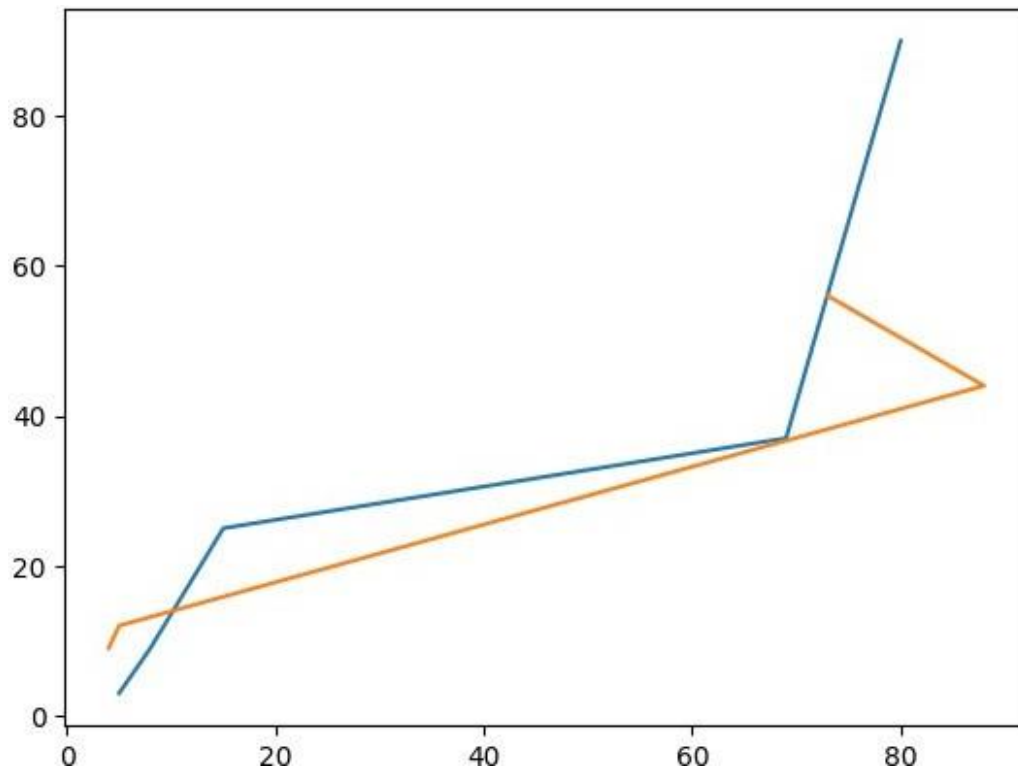
```
[<matplotlib.lines.Line2D at 0x238908ec880>]
```



```python
x1 =np.array([4,5,88,73])
y1 = np.array([9,12,44,56])
#  plt.plot(x1,y1)
# plt.plot(x,y)
plt.plot(x,y,x1,y1)
```
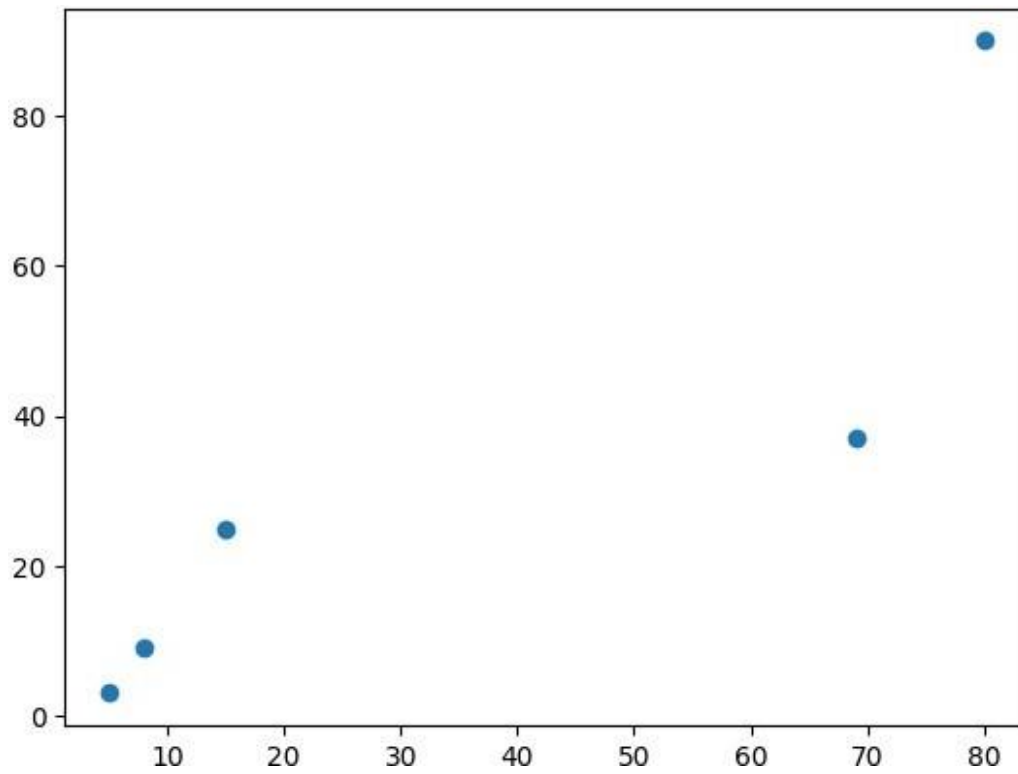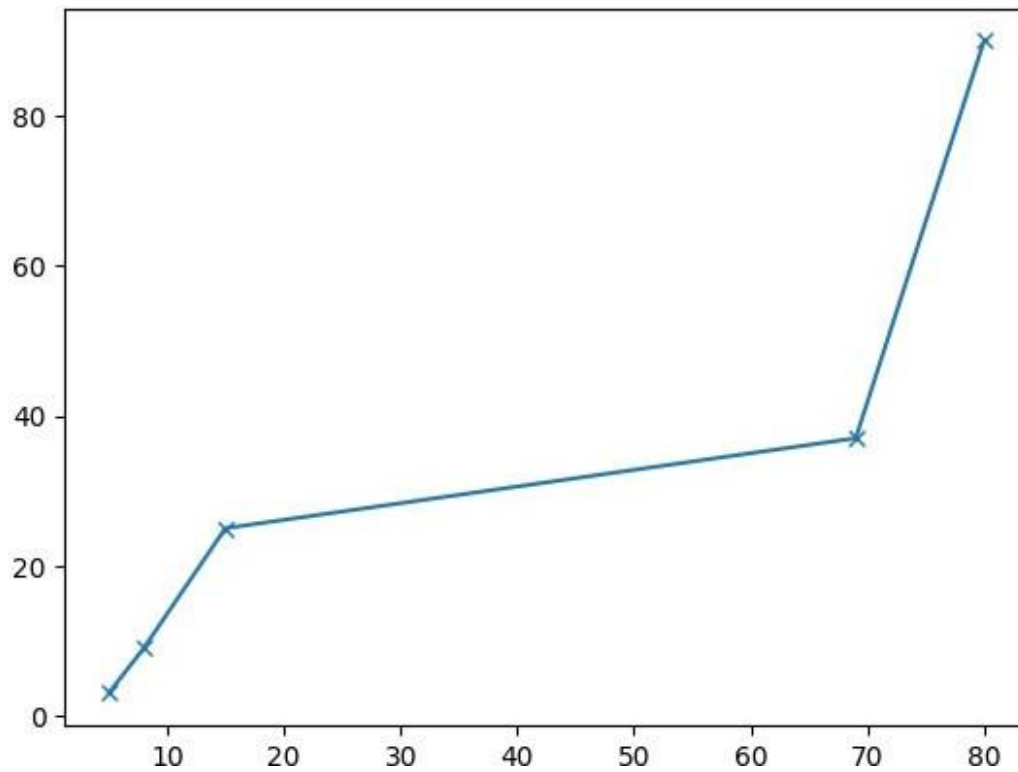
```
[<matplotlib.lines.Line2D at 0x23893f23610>,
 <matplotlib.lines.Line2D at 0x23893f200d0>]
```
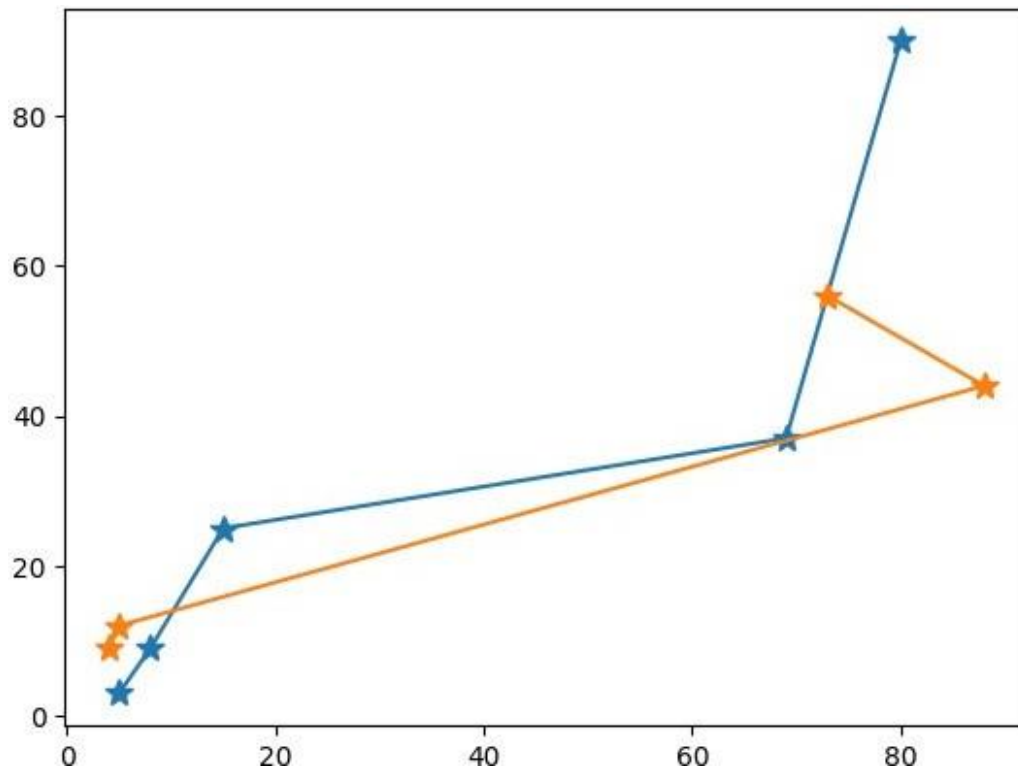
```
plt.plot(x,y,'o')
```

```
[<matplotlib.lines.Line2D at 0x23893ea3310>]
```
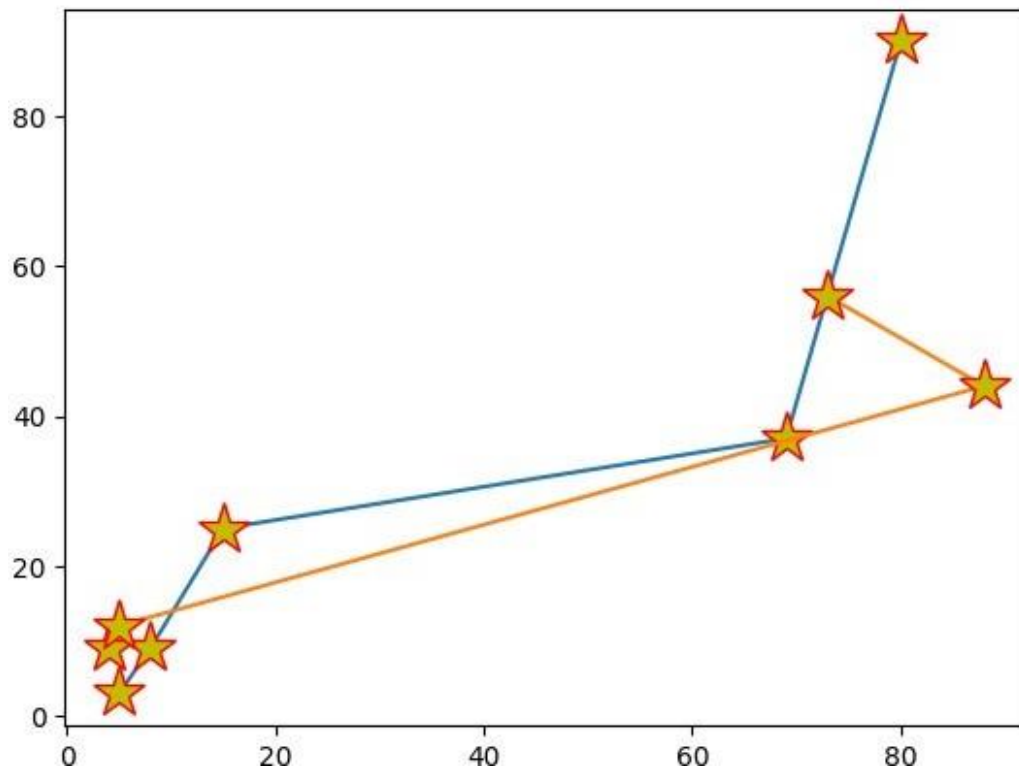
```
plt.plot(x,y,marker='x')
```

```
[<matplotlib.lines.Line2D at 0x23893d257e0>]
```

```python
plt.plot(x,y,x1,y1, marker = '*',ms =10)
```

```
[<matplotlib.lines.Line2D at 0x238951225c0>,
 <matplotlib.lines.Line2D at 0x23895122650>]
```

```
plt.plot(x,y,x1,y1, marker = '*',ms =20,mec='r',mfc='y')
```
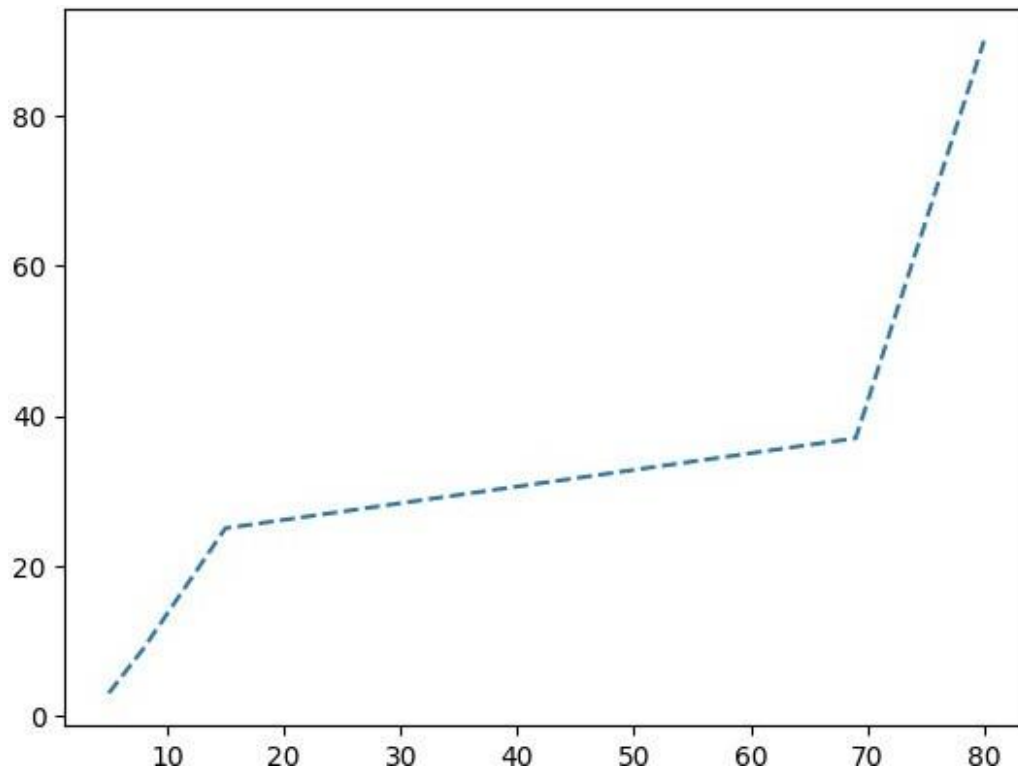
```
[<matplotlib.lines.Line2D at 0x238951967d0>,
 <matplotlib.lines.Line2D at 0x23895196650>]
```
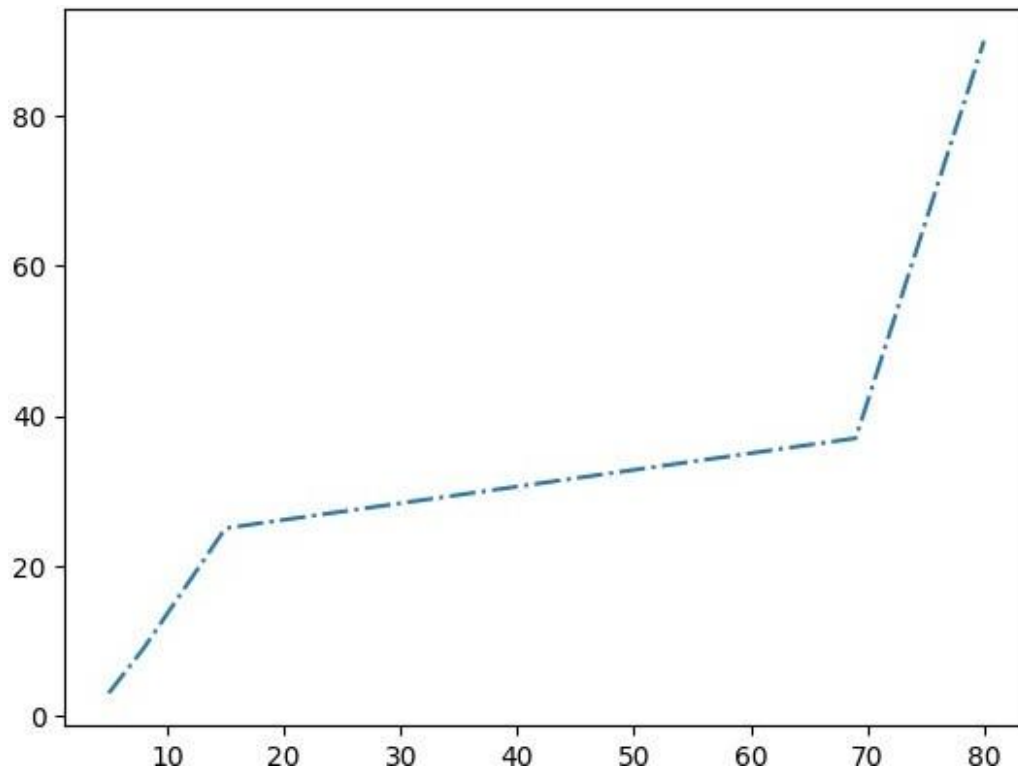
```
plt.plot(x,y,linestyle='dashed')
```
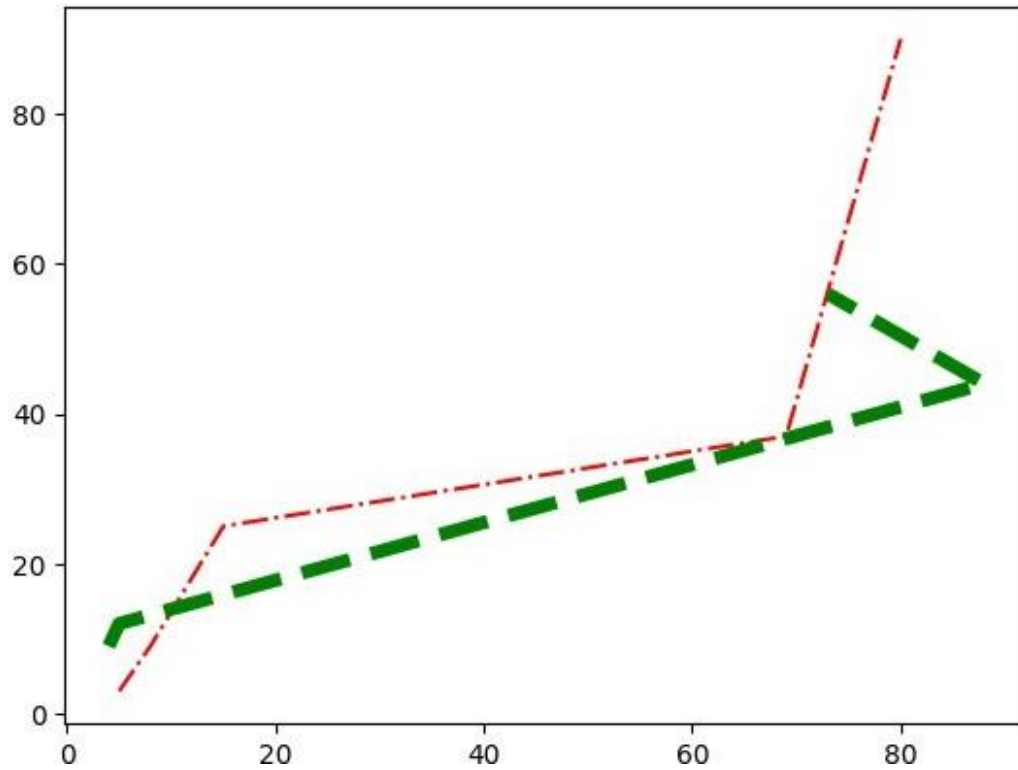
```
[<matplotlib.lines.Line2D at 0x23895206020>]
```

```
plt.plot(x,y,linestyle='dashdot')
```
```
[<matplotlib.lines.Line2D at 0x23895267370>]
```

```
plt.plot(x,y,linestyle='dashdot',color='red')
plt.plot(x1,y1,linestyle='dashed',color='g',linewidth=5)

[<matplotlib.lines.Line2D at 0x23895305450>]
```

```
font = {'size':15,'color':'r'}
plt.title('Demo chart',fontdict=font,loc='right')
plt.xlabel('x-axis')
plt.ylabel('y-axis')
plt.plot(x,y,linestyle='dashdot',color='red')
plt.plot(x1,y1,linestyle='dashed',color='g',linewidth=5)

[<matplotlib.lines.Line2D at 0x238954b5480>]
```
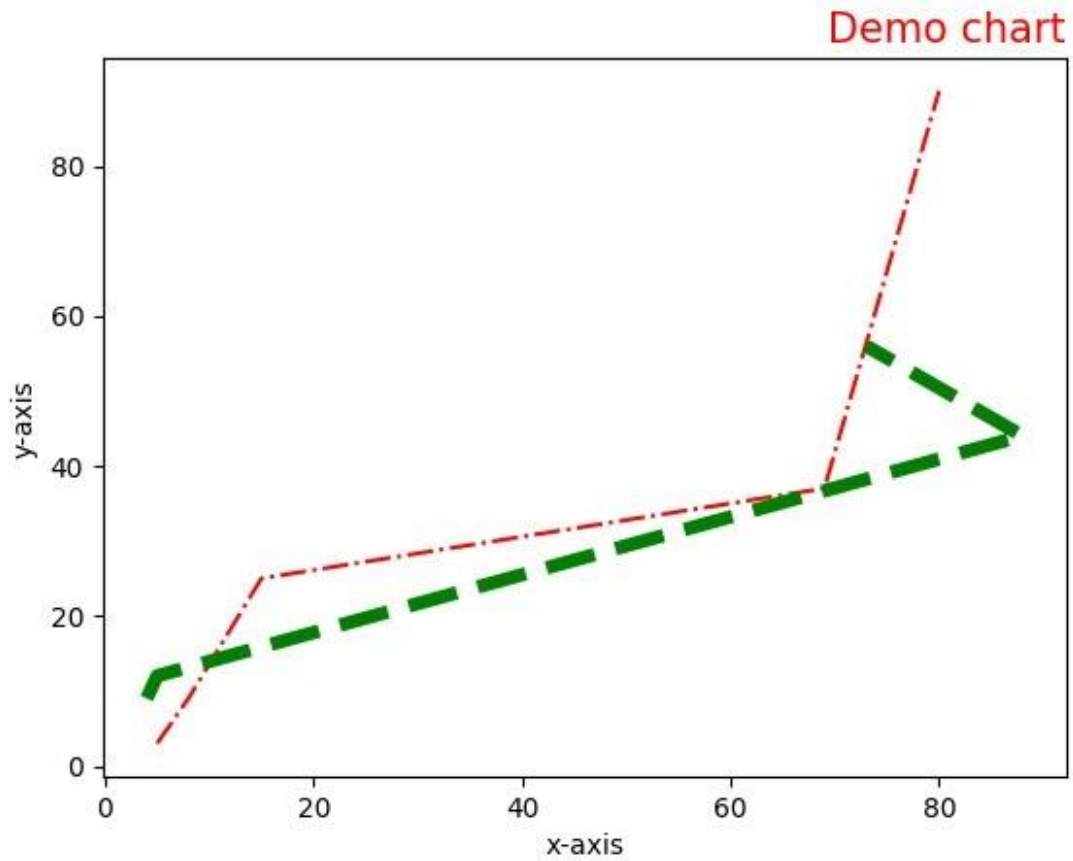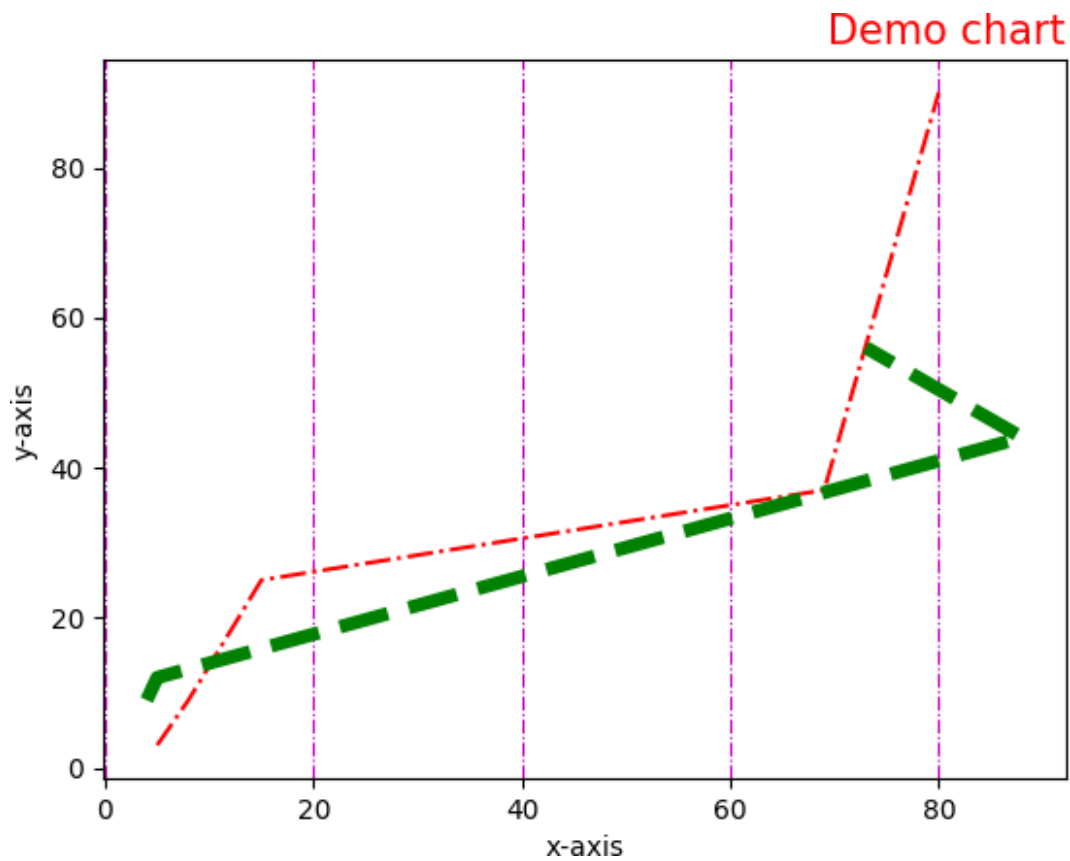
```
font = {'size':15,'color':'r'}
plt.title('Demo chart',fontdict=font,loc='right')
plt.xlabel('x-axis')
plt.ylabel('y-axis')
plt.plot(x,y,linestyle='dashdot',color='red')
plt.plot(x1,y1,linestyle='dashed',color='g',linewidth=5)
plt.grid(axis='x',linestyle='-.',color='m')
```
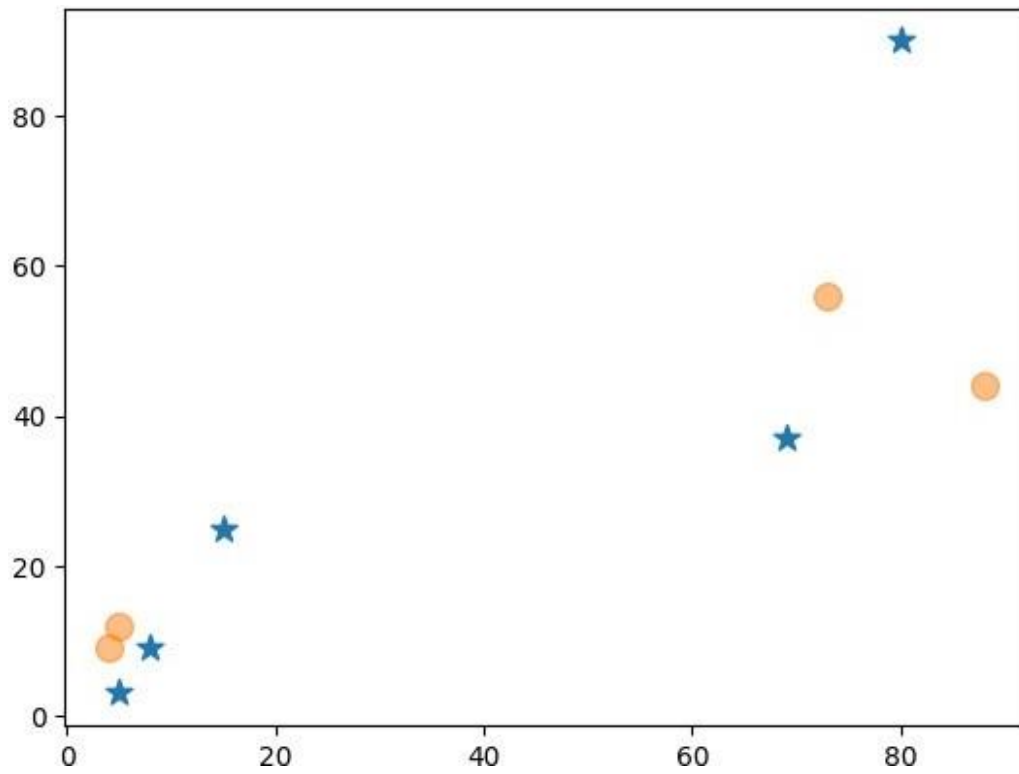
Demo chart

y-axis

x-axis

```
plt.subplot(1,2,1)
plt.title("p1")
plt.plot(x,y)
plt.subplot(1,2,2)
plt.title("p2")
plt.plot(x1,y1)
plt.suptitle('set of charts')

Text(0.5, 0.98, 'set of charts')
```
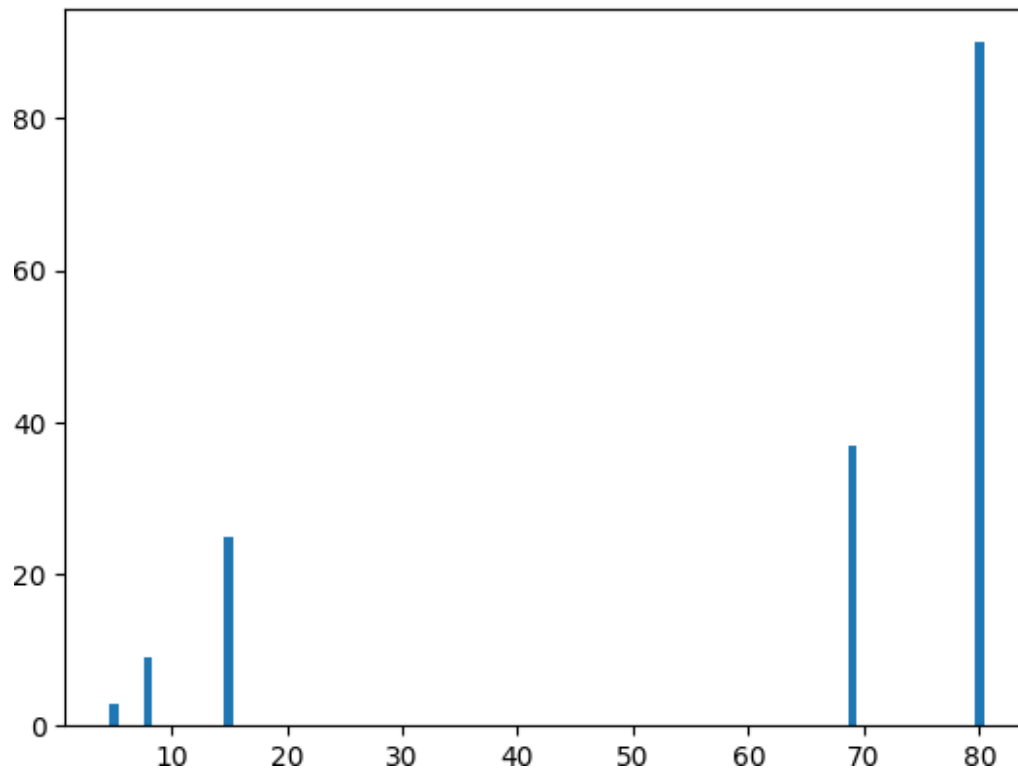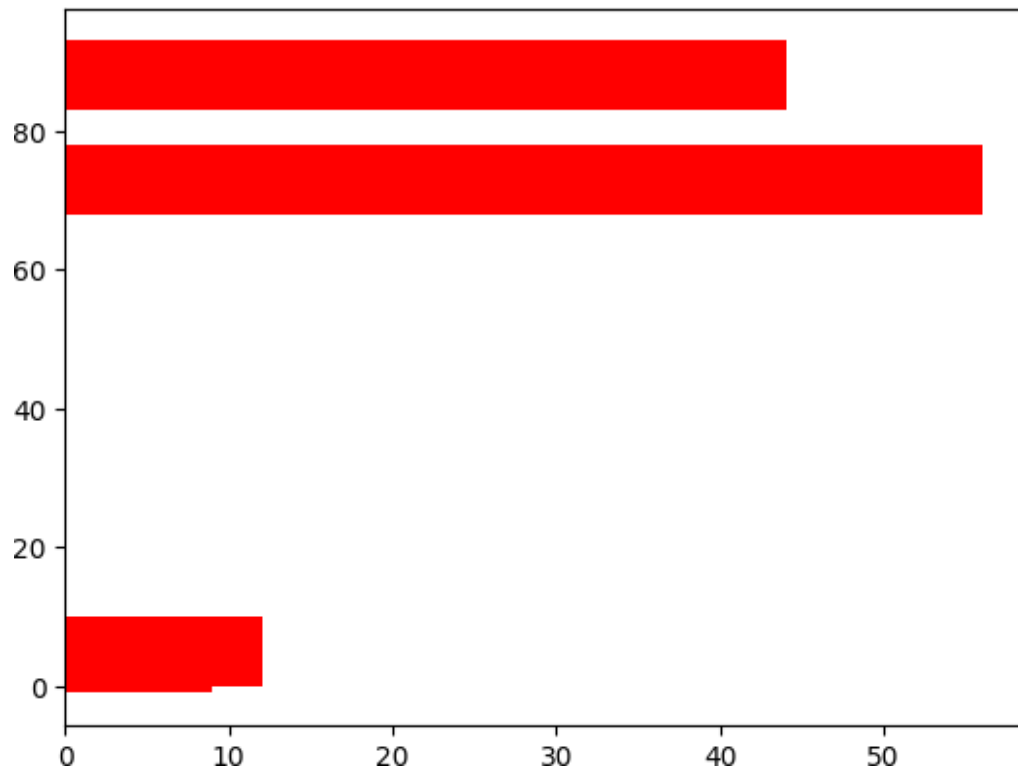
set of charts
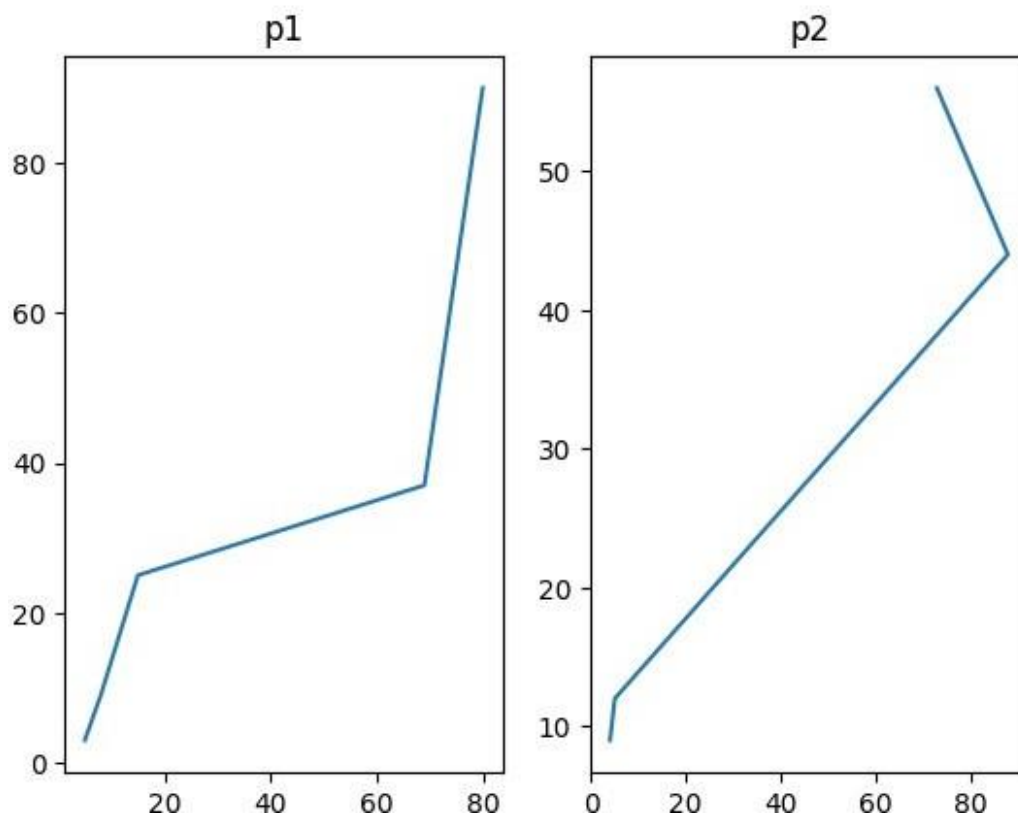

```
plt.scatter(x,y,s=100,marker='*')
plt.scatter(x1,y1,s=100,alpha=0.5)
plt.show()
```
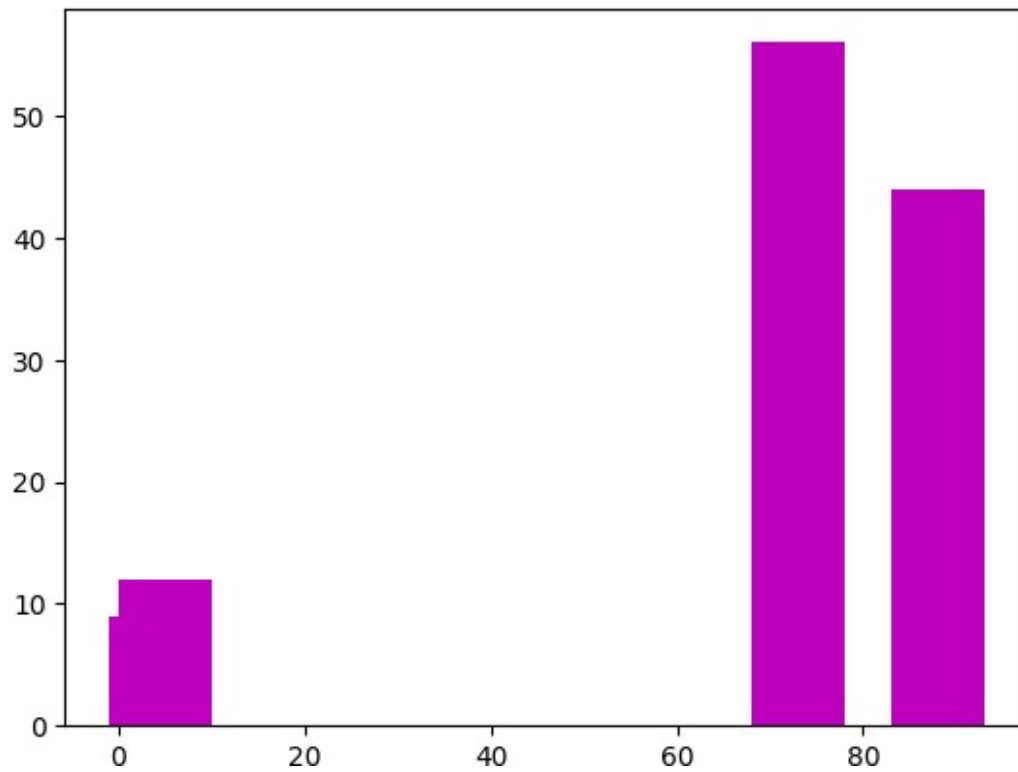
```
plt.bar(x,y)
plt.show()
```

```
plt.barh(x1,y1,color='r',height=10)
plt.show()
```
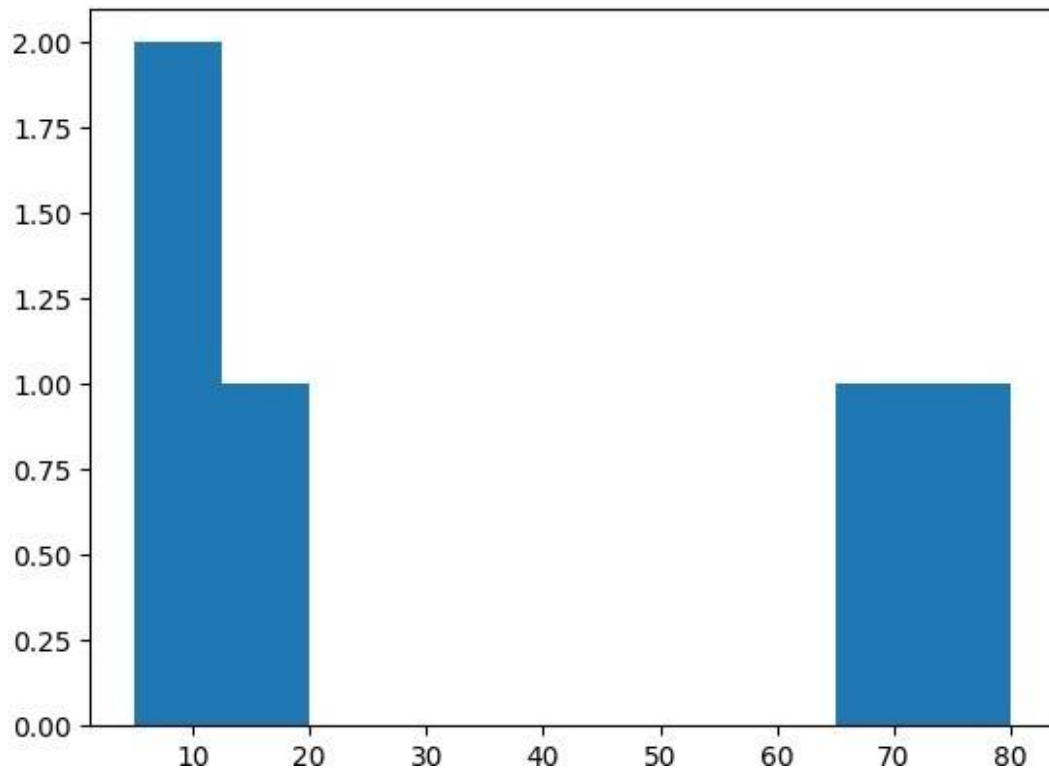
```
plt.bar(x1,y1,color='m',width=10)

<BarContainer object of 4 artists>
```

```
plt.hist(x)

(array([2., 1., 0., 0., 0., 0., 0., 0., 1., 1.]),
 array([ 5. , 12.5, 20. , 27.5, 35. , 42.5, 50. , 57.5, 65. , 72.5,
80. ]),
 <BarContainer object of 10 artists>)
```
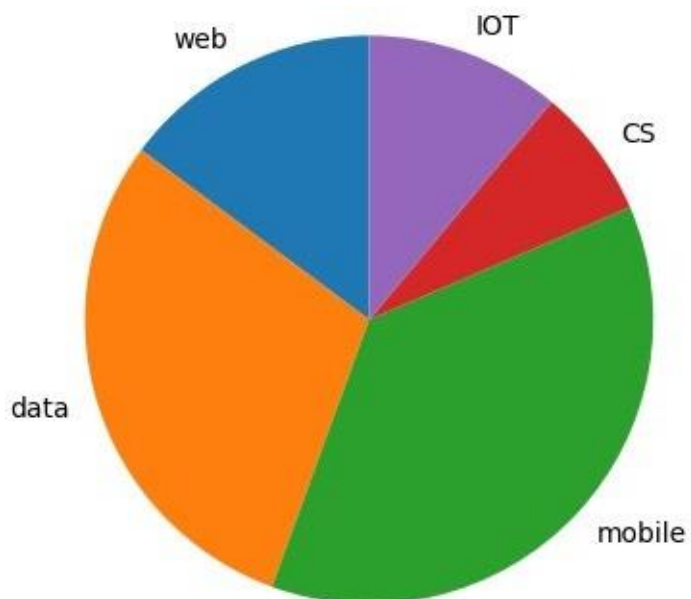
```
track_stud = np.array([20,40,50,10,15])
track_name = np.array(['web','data','mobile','CS','IOT'])
plt.pie(track_stud)
plt.show()
```
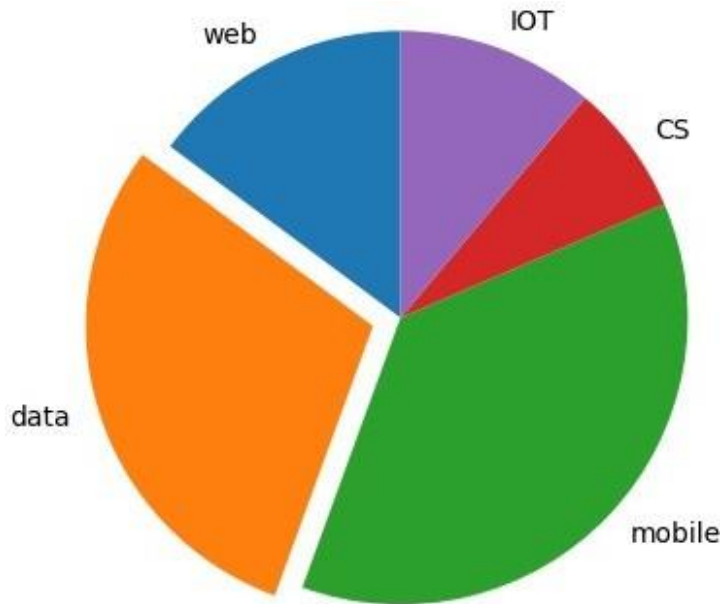
```
track_stud = np.array([20,40,50,10,15])
track_name = np.array(['web','data','mobile','CS','IOT'])
plt.pie(track_stud,labels=track_name,startangle = 90)
plt.show()
```

```
track_stud = np.array([20,40,50,10,15])
track_name = np.array(['web','data','mobile','CS','IOT'])
ex = [0,0.1,0,0,0]
plt.pie(track_stud,labels=track_name,startangle = 90,explode=ex)
plt.show()
```



```
track_stud = np.array([20,40,50,10,15])
track_name = np.array(['web','data','mobile','CS','IOT'])
ex = [0,0.1,0,0,0]
colo= ['r','m','g','gray','b']
plt.pie(track_stud,labels=track_name,startangle =90,explode=ex,colors=
colo,shadow=True)
plt.legend(title='tracksel',loc='right')
plt.show()
```

web   IOT

CS

tracksel
web
data
mobile
CS
IOT

data

mobile