In [1]:

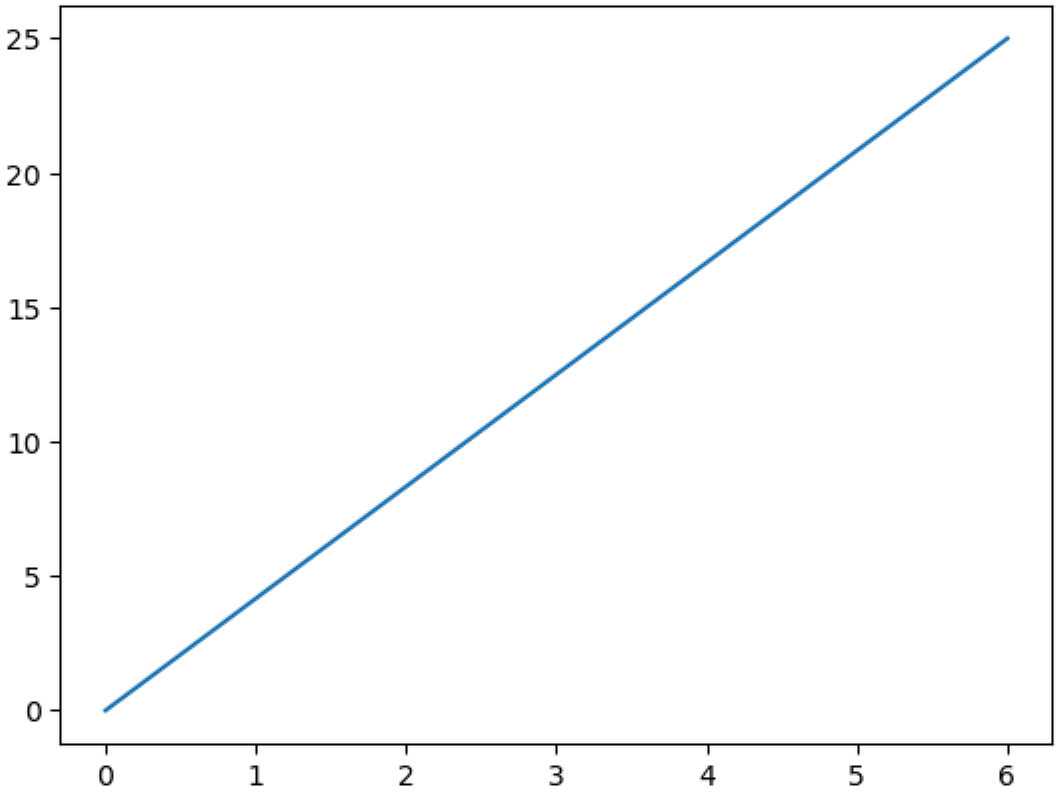
```
pip install seaborn
```

```
Defaulting to user installation because normal site-packages is not writeableNote: you m
ay need to restart the kernel to use updated packages.
```

```
DEPRECATION: Loading egg at c:\programdata\anaconda3\lib\site-packages\vboxapi-1.0-py3.1
1.egg is deprecated. pip 23.3 will enforce this behaviour change. A possible replacement
is to use pip for package installation..
Requirement already satisfied: seaborn in c:\programdata\anaconda3\lib\site-packages (0.
12.2)
Requirement already satisfied: numpy!=1.24.0,>=1.17 in c:\programdata\anaconda3\lib\site
-packages (from seaborn) (1.24.3)
Requirement already satisfied: pandas>=0.25 in c:\programdata\anaconda3\lib\site-package
s (from seaborn) (2.0.3)
Requirement already satisfied: matplotlib!=3.6.1,>=3.1 in c:\programdata\anaconda3\lib\s
ite-packages (from seaborn) (3.7.2)
Requirement already satisfied: contourpy>=1.0.1 in c:\programdata\anaconda3\lib\site-pac
kages (from matplotlib!=3.6.1,>=3.1->seaborn) (1.0.5)
Requirement already satisfied: cycler>=0.10 in c:\programdata\anaconda3\lib\site-package
s (from matplotlib!=3.6.1,>=3.1->seaborn) (0.11.0)
Requirement already satisfied: fonttools>=4.22.0 in c:\programdata\anaconda3\lib\site-pa
ckages (from matplotlib!=3.6.1,>=3.1->seaborn) (4.25.0)
Requirement already satisfied: kiwisolver>=1.0.1 in c:\programdata\anaconda3\lib\site-pa
ckages (from matplotlib!=3.6.1,>=3.1->seaborn) (1.4.4)
Requirement already satisfied: packaging>=20.0 in c:\programdata\anaconda3\lib\site-pack
ages (from matplotlib!=3.6.1,>=3.1->seaborn) (23.1)
Requirement already satisfied: pillow>=6.2.0 in c:\programdata\anaconda3\lib\site-packag
es (from matplotlib!=3.6.1,>=3.1->seaborn) (9.4.0)
Requirement already satisfied: pyparsing<3.1,>=2.3.1 in c:\programdata\anaconda3\lib\sit
e-packages (from matplotlib!=3.6.1,>=3.1->seaborn) (3.0.9)
Requirement already satisfied: python-dateutil>=2.7 in c:\programdata\anaconda3\lib\site
-packages (from matplotlib!=3.6.1,>=3.1->seaborn) (2.8.2)
Requirement already satisfied: pytz>=2020.1 in c:\programdata\anaconda3\lib\site-package
s (from pandas>=0.25->seaborn) (2023.3.post1)
Requirement already satisfied: tzdata>=2022.1 in c:\programdata\anaconda3\lib\site-packa
ges (from pandas>=0.25->seaborn) (2023.3)
Requirement already satisfied: six>=1.5 in c:\programdata\anaconda3\lib\site-packages (f
rom python-dateutil>=2.7->matplotlib!=3.6.1,>=3.1->seaborn) (1.16.0)
```

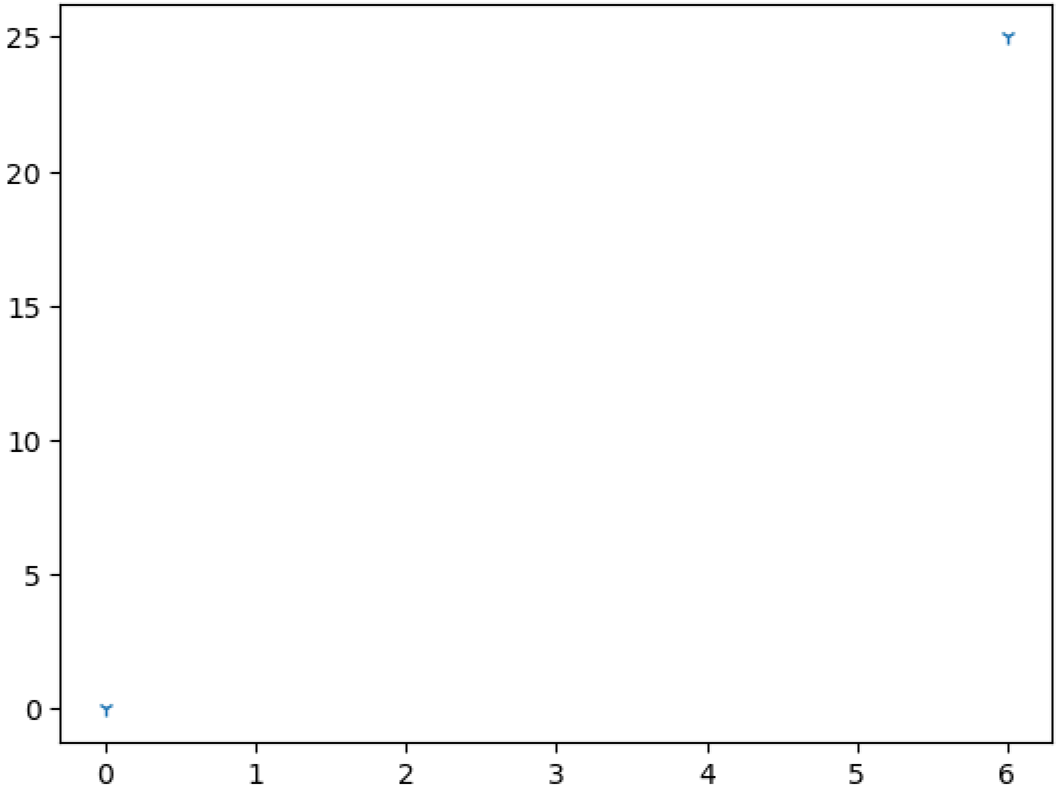
In [2]:

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

x = np.array([0,6])
y = np.array([0,25])

plt.plot(x, y)  # Plot line from (0,0) to (6,25)
plt.show()

plt.plot(x, y, '1')  # Try to plot with '1' marker
```



Out[2]:

```
[<matplotlib.lines.Line2D at 0x1e7b12b7fd0>]
```



In [4]:

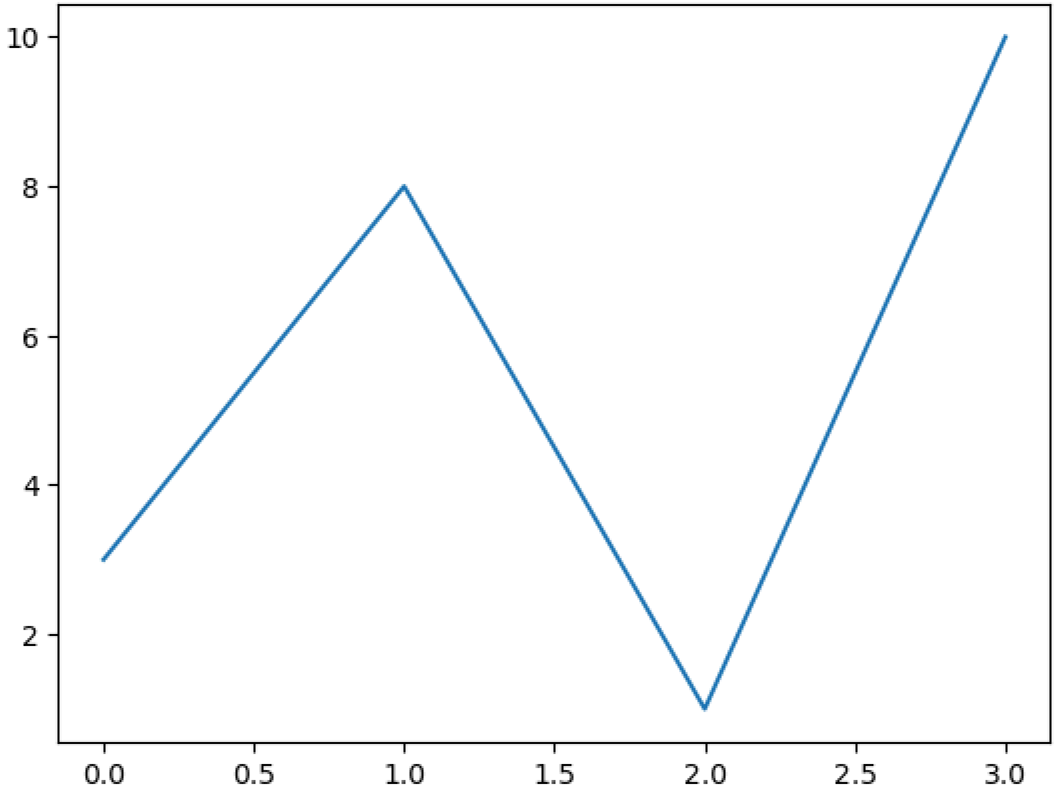
```
import pandas as pd

data = {
    "name": "bhyregowda",
    "age": 17,
    "reg no": "410cs23009",
    "address": "malavalli"
}
```

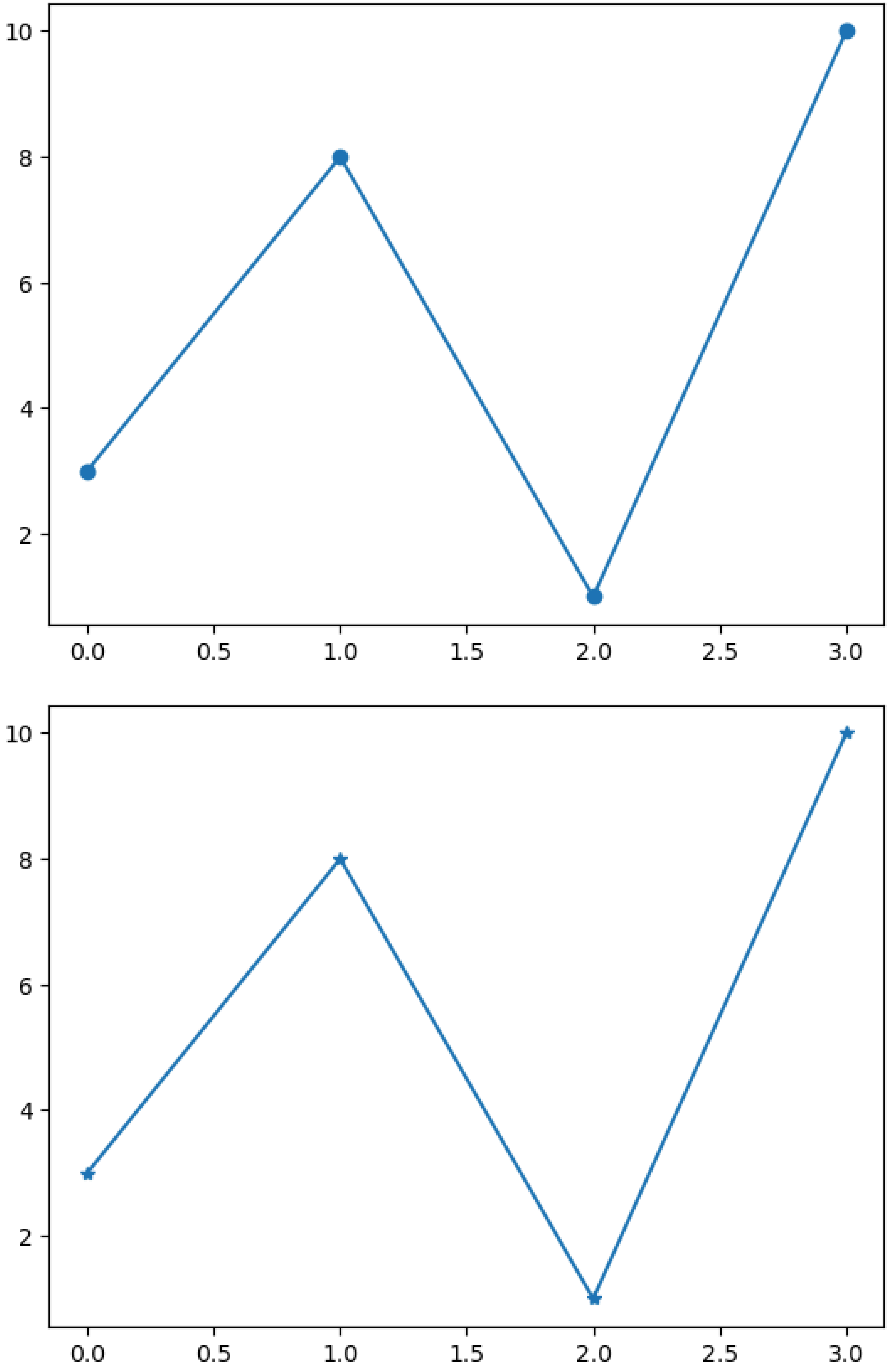
```
df = pd.DataFrame([data])
print(df)
```

```
         name  age     reg no    address
0  bhyregowda   17  410cs23009  malavalli
```

In [12]:

```
import matplotlib.pyplot as plt
import numpy as np
import seaborn as sns
xpoints = np.array([1, 2, 6, 8])
ypoints = np.array([3, 8, 1, 10])
plt.plot(ypoints)
plt.show()
plt.plot(ypoints, marker='o')
plt.show()
plt.plot(ypoints, marker='*')
plt.show()
plt.plot(ypoints, 'o:r')
plt.show()
plt.plot(ypoints, 'o-')
plt.show()
plt.plot(ypoints, marker='o', ms=20)
plt.show()
plt.bar(np.arange(len(ypoints)), ypoints, color='r')
plt.show()
plt.hist(ypoints, color='r')
plt.show()
```




10
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1.5
2.0
2.5
3.0
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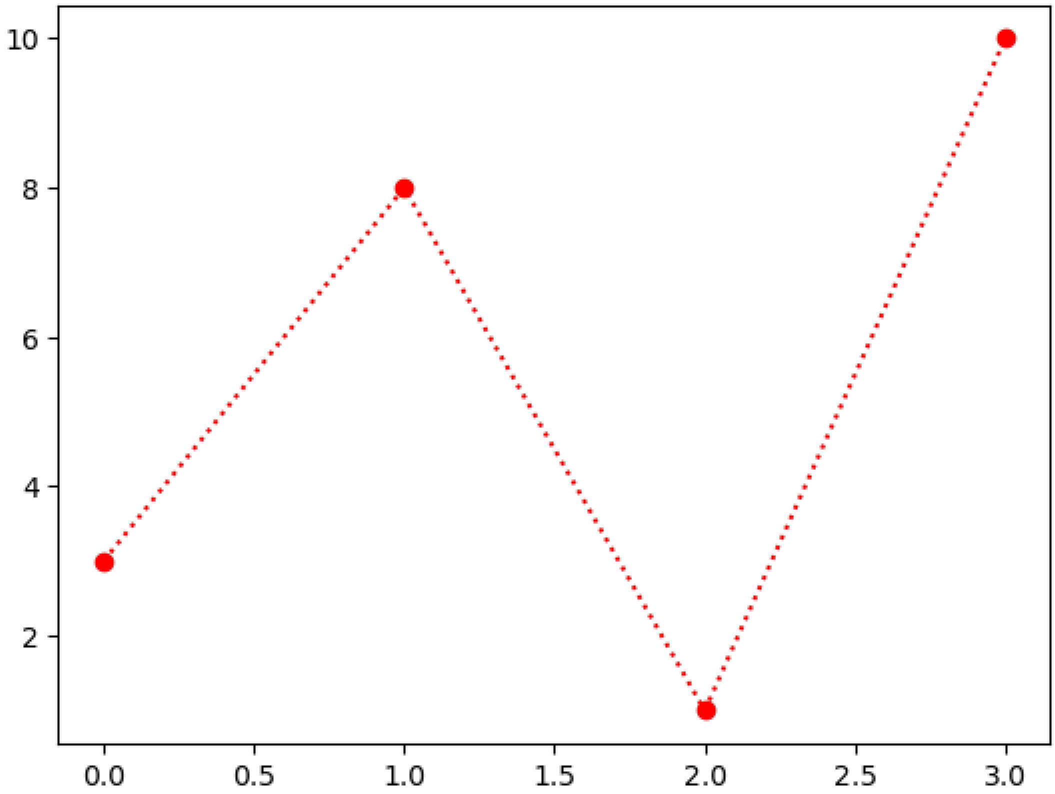
1.5
2.0
2.5
3.0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2.0
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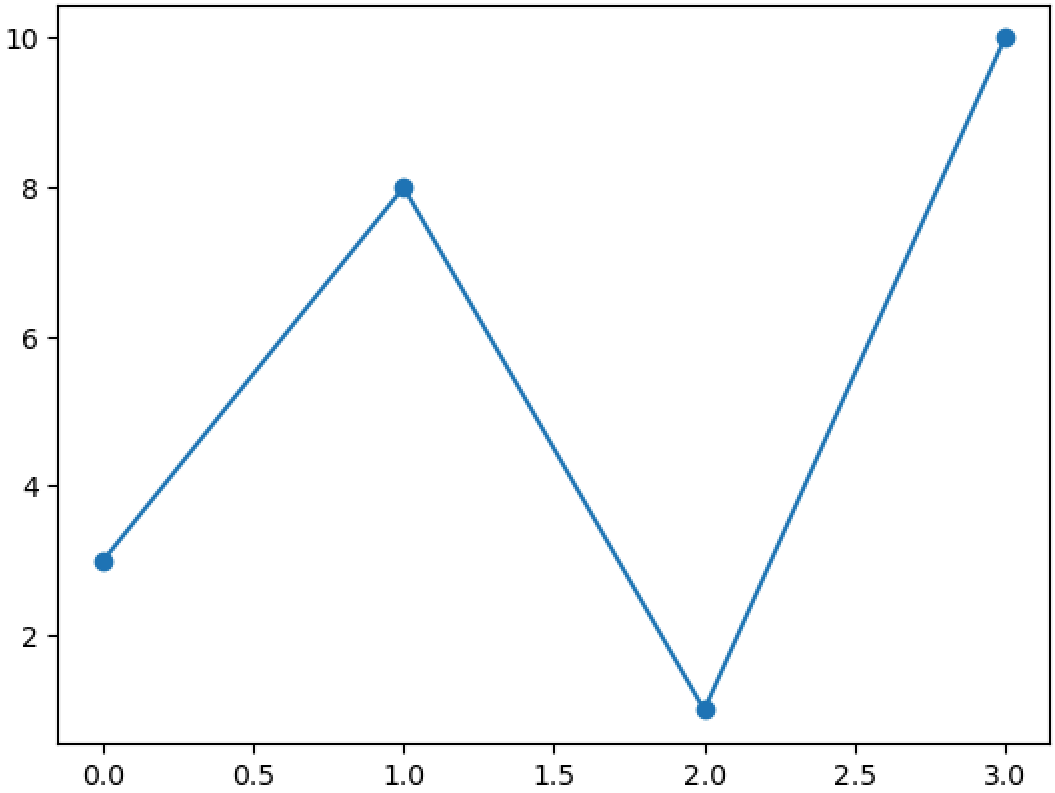
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2.0
2.5
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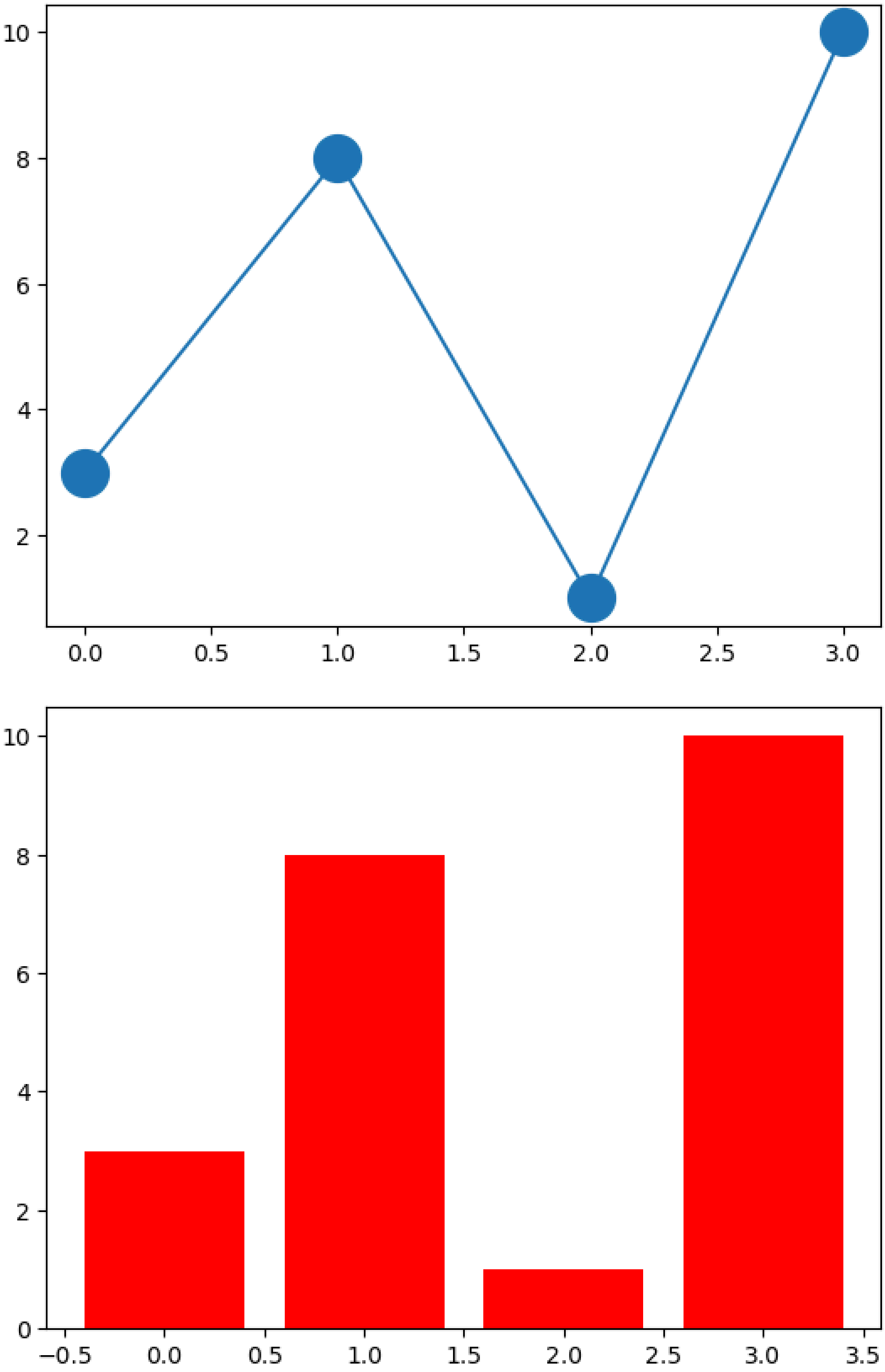
10
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−0.5
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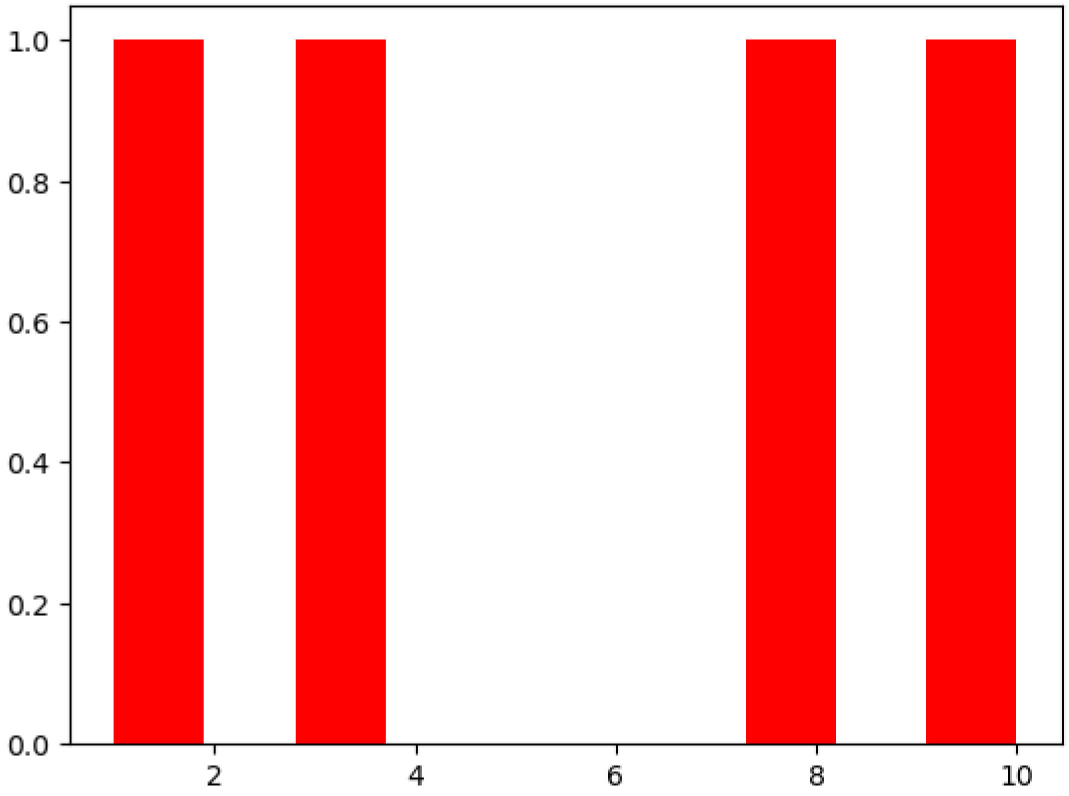
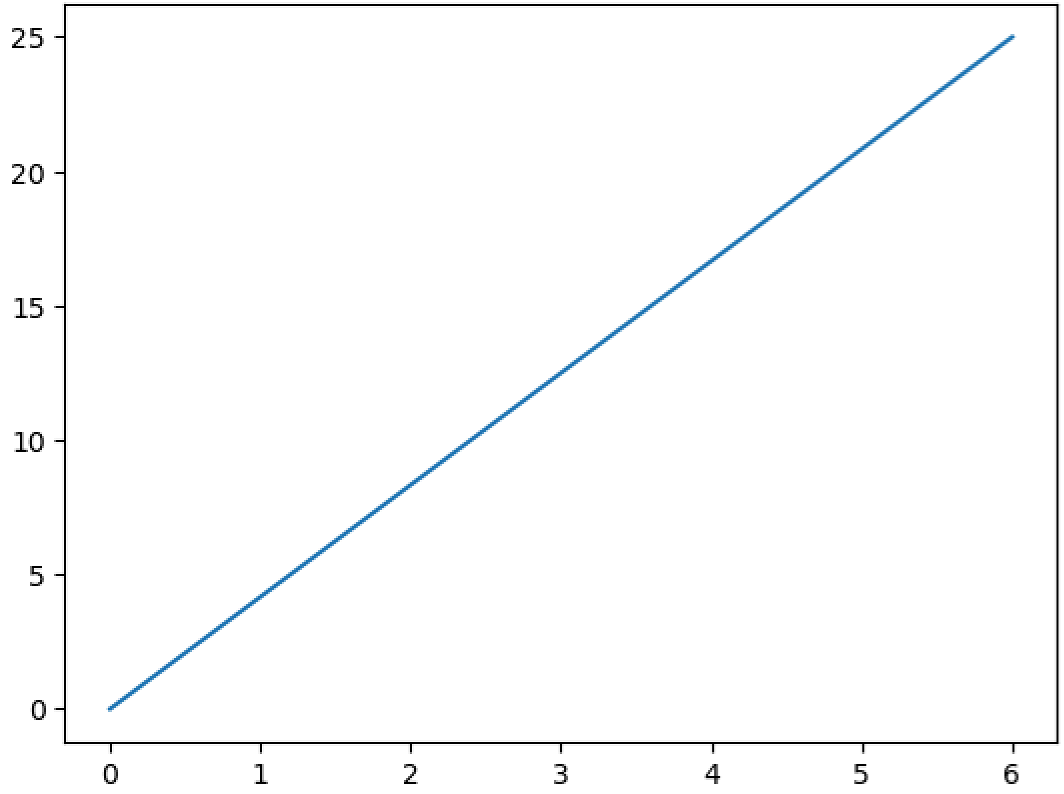
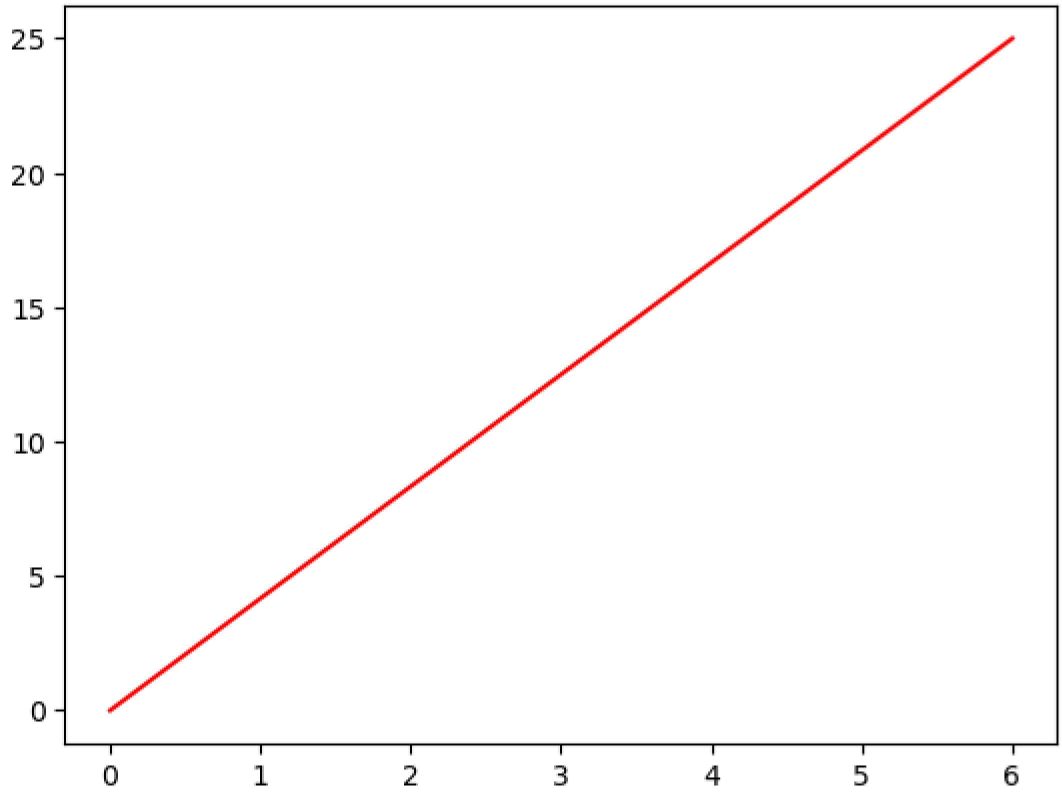
1.5
2.0
2.5
3.0
3.5



In [1]:

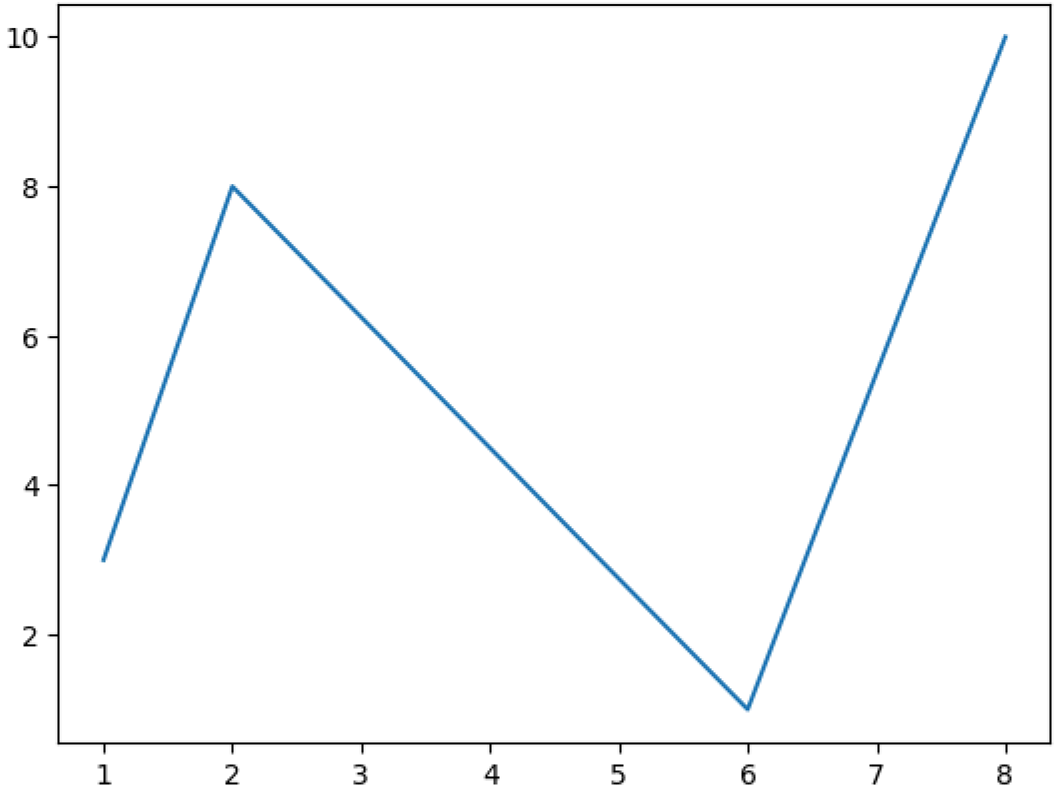
```
import matplotlib.pyplot as plt
import numpy as np
x = np.array([0, 6])
y = np.array([0, 25])
plt.plot(x, y)
plt.show()
plt.plot(x, y, 'r')
plt.show()
```

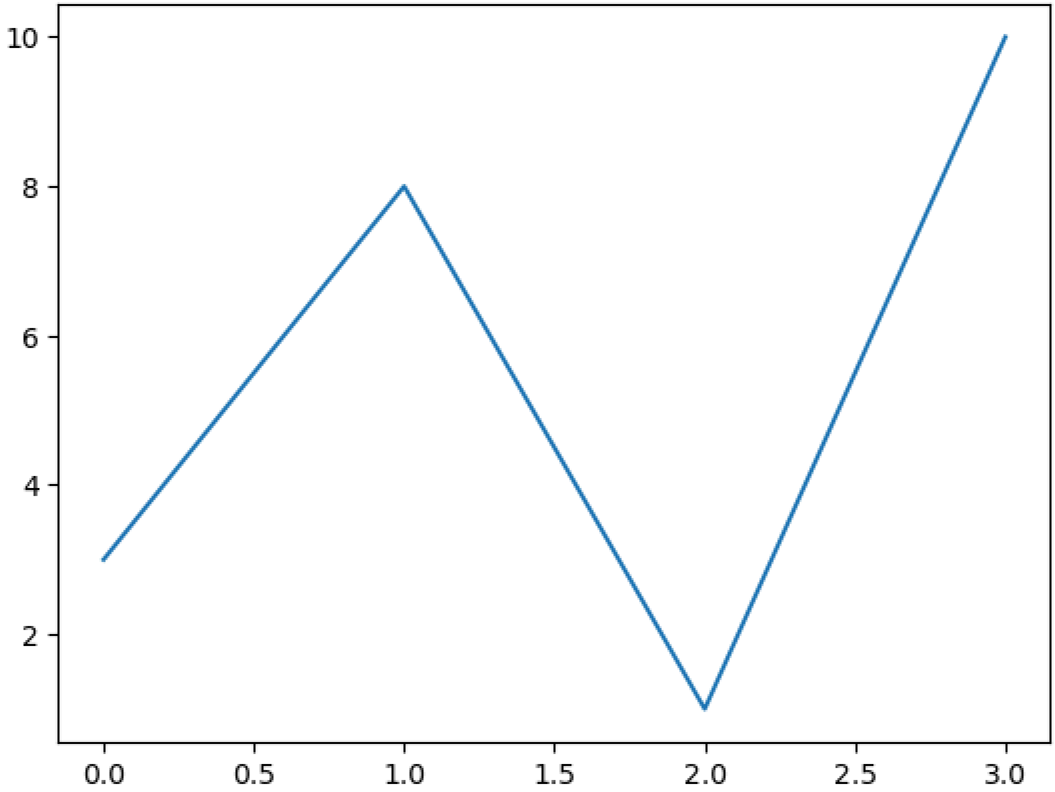




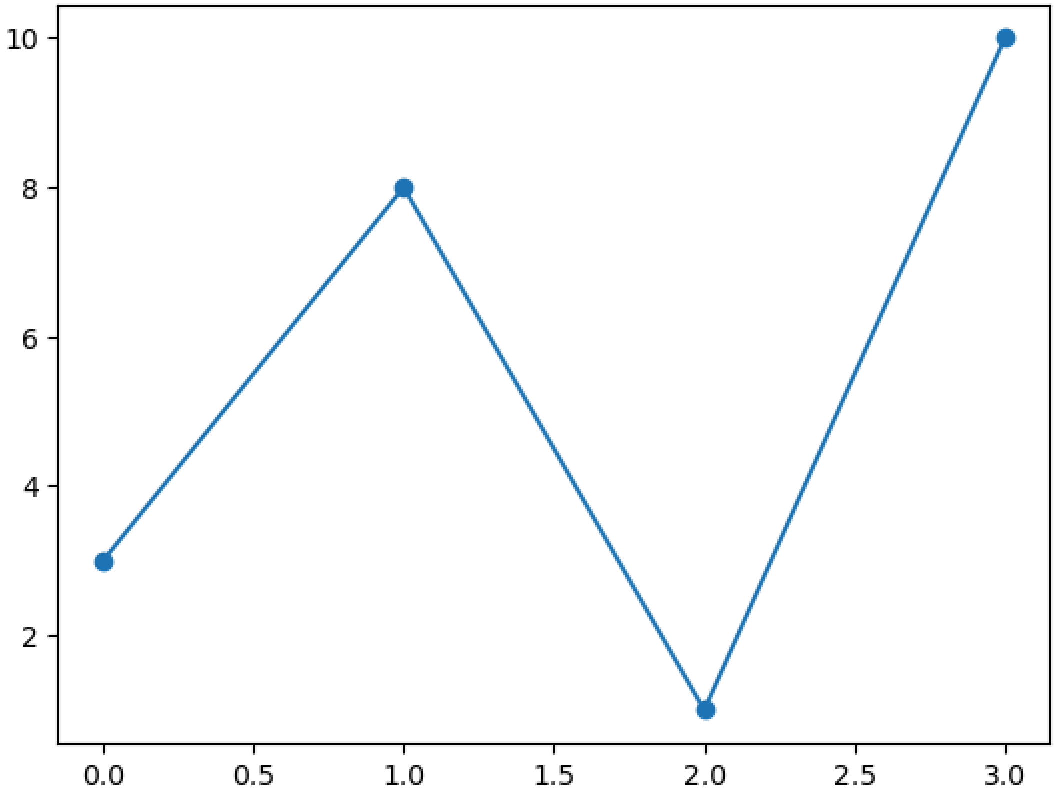
In [10]:

```
import matplotlib.pyplot as plt
import numpy as np
import seaborn as sns
xpoints = np.array([1, 2, 6, 8])
ypoints = np.array([3, 8, 1, 10])
plt.plot(xpoints, ypoints)
plt.show()
plt.plot(ypoints)
plt.show()
plt.plot(ypoints, marker='o')
plt.show()
plt.plot(ypoints, marker='*')
plt.show()
plt.plot(ypoints, 'o:r')
plt.show()
plt.plot(ypoints, 'o-')
plt.show()
plt.plot(ypoints, marker='o', ms=20)
plt.show()
plt.bar(ypoints,marker='o', ms=20 )
plt.show()
plt.hist(ypoints, marker='o',ms=20,mfc='r')
plt.show()
sns.scatterplot(x='day', y='hp', data=data, hue='sex')
plt.show()
```





Loading [MathJax]/extensions/Safe.js


10
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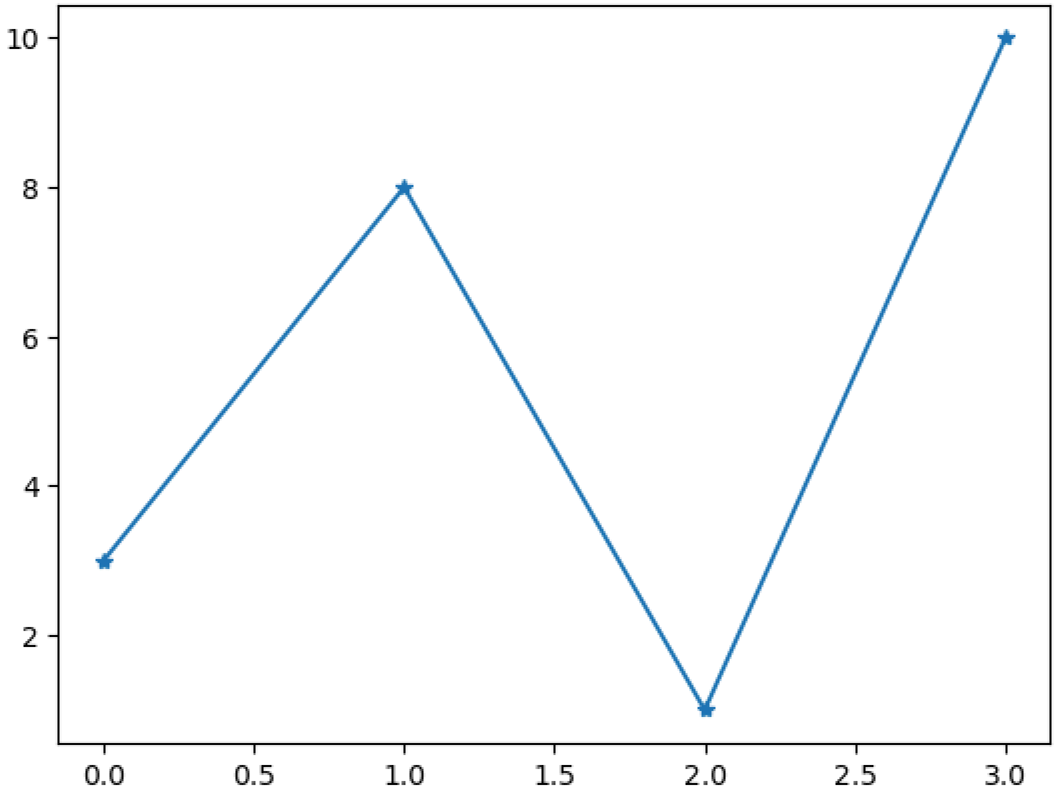
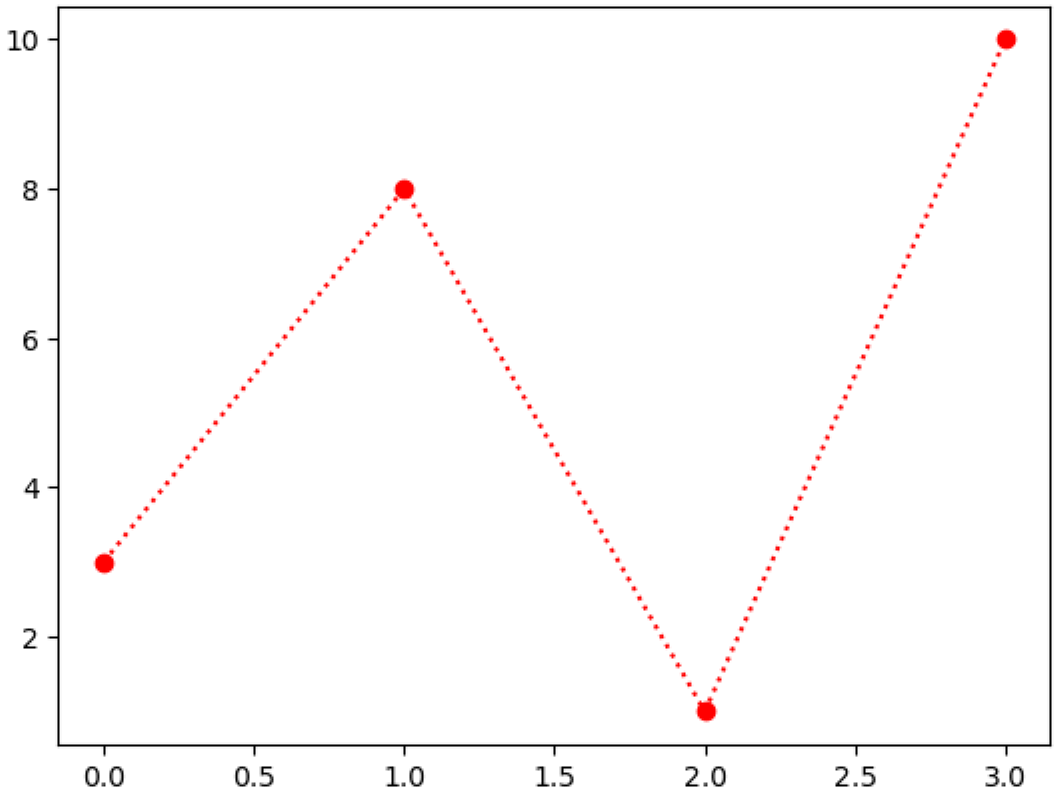
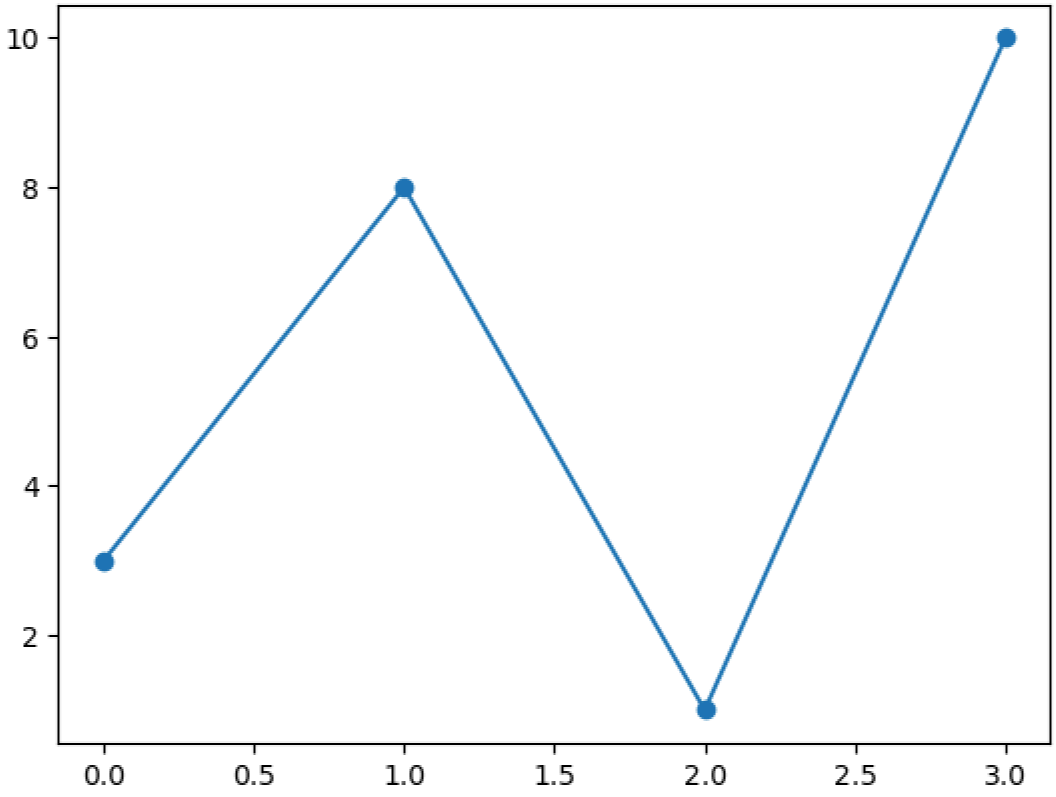
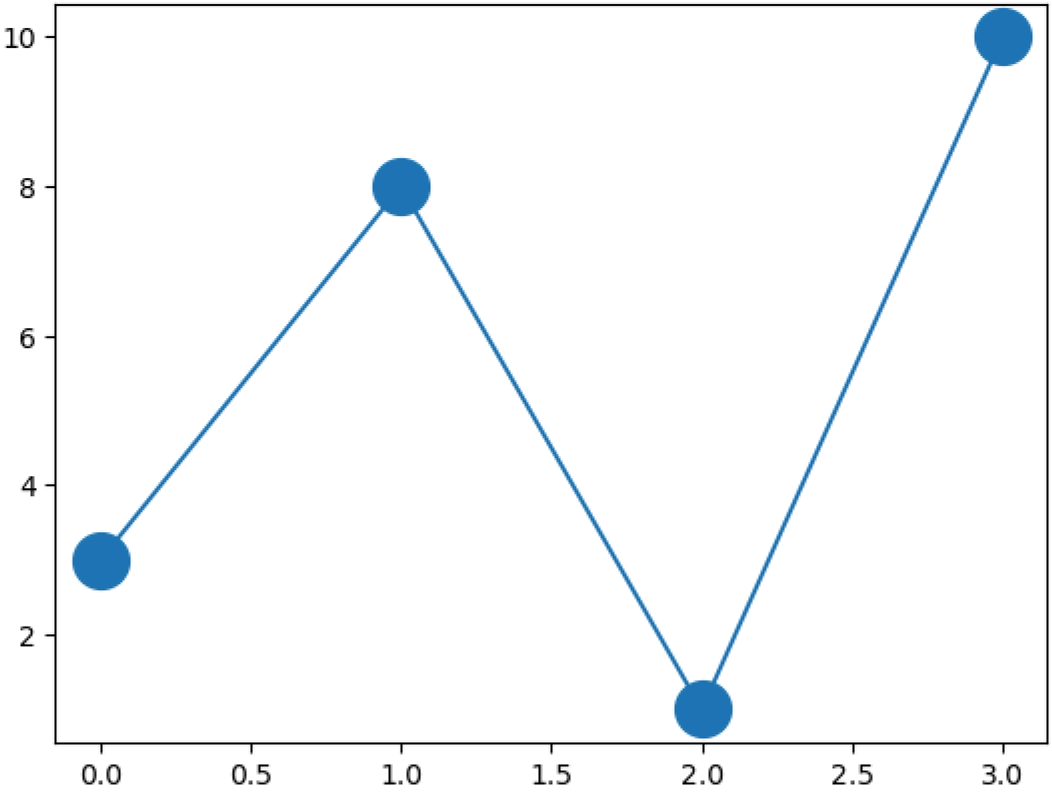
2
0.0
0.5
1.0
1.5
2.0
2.5
3.0


10
8
6
4
2
0.0
0.5
1.0
1.5
2.0
2.5
3.0





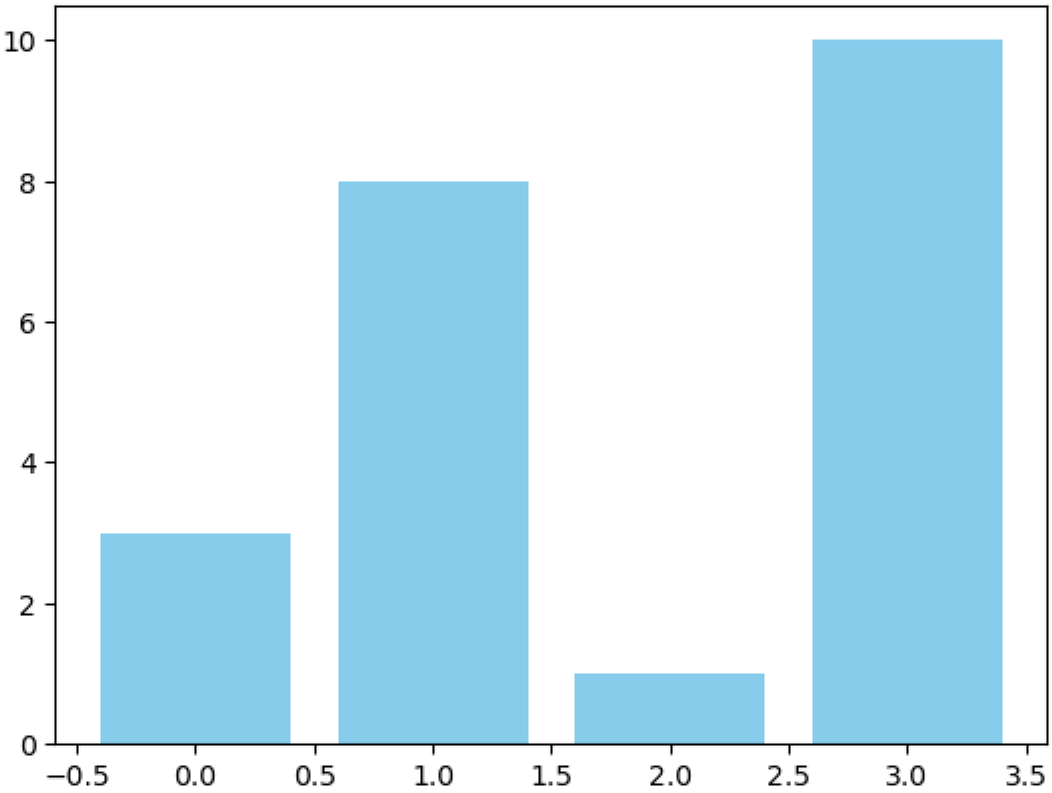
Loading [MathJax]/extensions/Safe.js



```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[10], line 20
     18 plt.plot(ypoints, marker='o', ms=20)
     19 plt.show()
---> 20 plt.bar(ypoints,marker='o', ms=20 )
     21 plt.show()
     22 plt.hist(ypoints, marker='o',ms=20,mfc='r')

TypeError: bar() missing 1 required positional argument: 'height'
```

In [9]:

```
import matplotlib.pyplot as plt

ypoints = [3, 8, 1, 10]
xpoints = range(len(ypoints))  # x-values like [0, 1, 2, 3]

plt.bar(xpoints, ypoints, color='skyblue')
plt.show()
```



In [44]:

```
import pandas as pd
data = {
        "days": [1,2,3,4,5,6,7,8,9,10],
        "steps": [4335,9552,7332,4504,5355,7552,8332,6504,8965,7689]
}
d = pd.DataFrame(data)
d['steps1']=df['steps'].apply(lambda x:x+1000)
print(df)
df1=df[df['steps']>7000]['days']
print(df1)
```

```
   days  steps  steps1
0     1   4335    5335
1     2   9552   10552
2     3   7332    8332
3     4   4504    5504
4     5   5355    6355
5     6   7552    8552
6     7   8332    9332
7     8   6504    7504
8     9   8965    9965
9    10   7689    8689
1     2
2     3
5     6
6     7
8     9
9    10
Name: days, dtype: int64
```

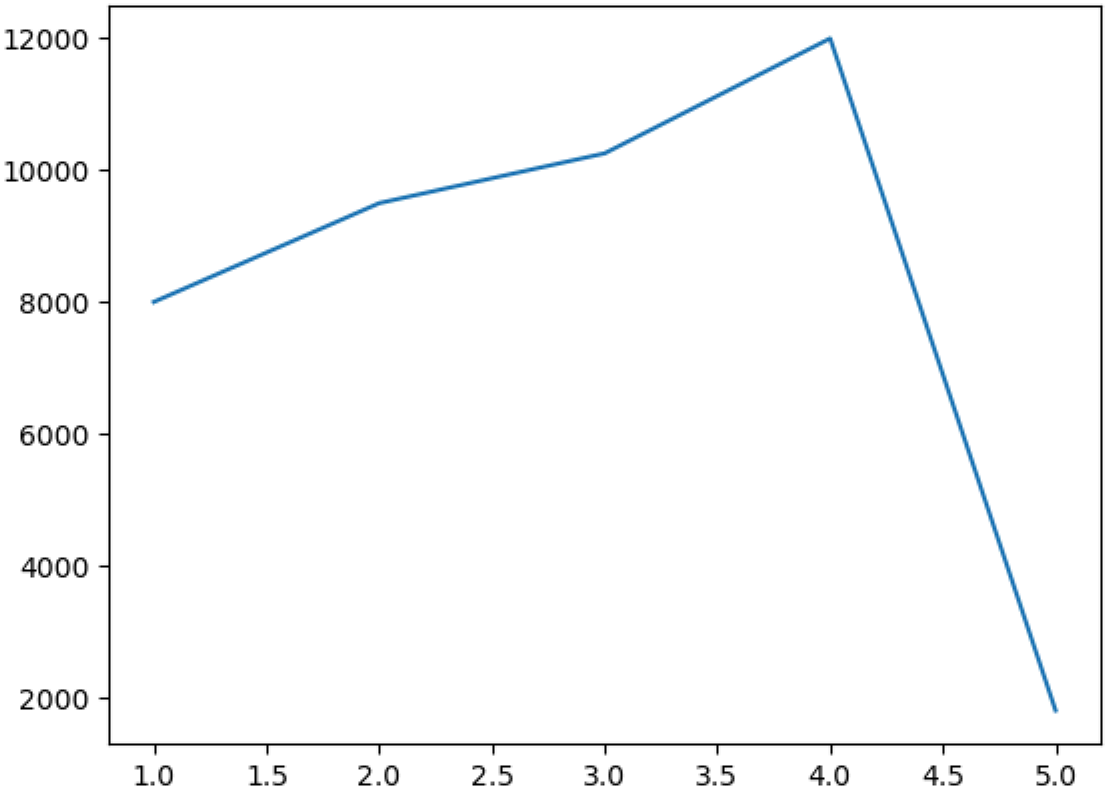
In [73]:

```
import matplotlib.pyplot as plt
import pandas as pd
ds = pd.DataFrame({
        "number": [1,2,3,4,5],
        "pencile": [300,350,400,500,550],
        "text books":[250,350,400,420,500],
        "drawing sheet":[100,200,200,250,300],
        "total unit":[800,1000,1320,1510,2000],
        "profit":[8000,9500,10256,12000,1800]})
print(ds)
print("the stastical of information of the data set:",ds.describe())
print("the sum of profits is:",ds['profit'].sum())
print(ds.isna())
plt.plot(ds['number'],ds['profit'])
plt.show
```

```
   number  pencile  text books  drawing sheet  total unit  profit
0       1      300         250            100         800    8000
1       2      350         350            200        1000    9500
2       3      400         400            200        1320   10256
3       4      500         420            250        1510   12000
4       5      550         500            300        2000    1800
the stastical of information of the data set:           number     pencile  text books  d
rawing sheet   total unit  \
count  5.000000    5.000000    5.000000       5.000000     5.000000
mean   3.000000  420.000000  384.000000     210.000000  1326.000000
std    1.581139  103.682207   92.357999      74.161985   466.669048
min    1.000000  300.000000  250.000000     100.000000   800.000000
25%    2.000000  350.000000  350.000000     200.000000  1000.000000
50%    3.000000  400.000000  400.000000     200.000000  1320.000000
75%    4.000000  500.000000  420.000000     250.000000  1510.000000
max    5.000000  550.000000  500.000000     300.000000  2000.000000

             profit
count       5.00000
mean     8311.20000
std      3914.56603
min      1800.00000
25%      8000.00000
50%      9500.00000
75%     10256.00000
max     12000.00000
the sum of profits is: 41556
   number  pencile  text books  drawing sheet  total unit  profit
0   False    False       False          False       False   False
1   False    False       False          False       False   False
2   False    False       False          False       False   False
3   False    False       False          False       False   False
4   False    False       False          False       False   False
```

Out[73]:

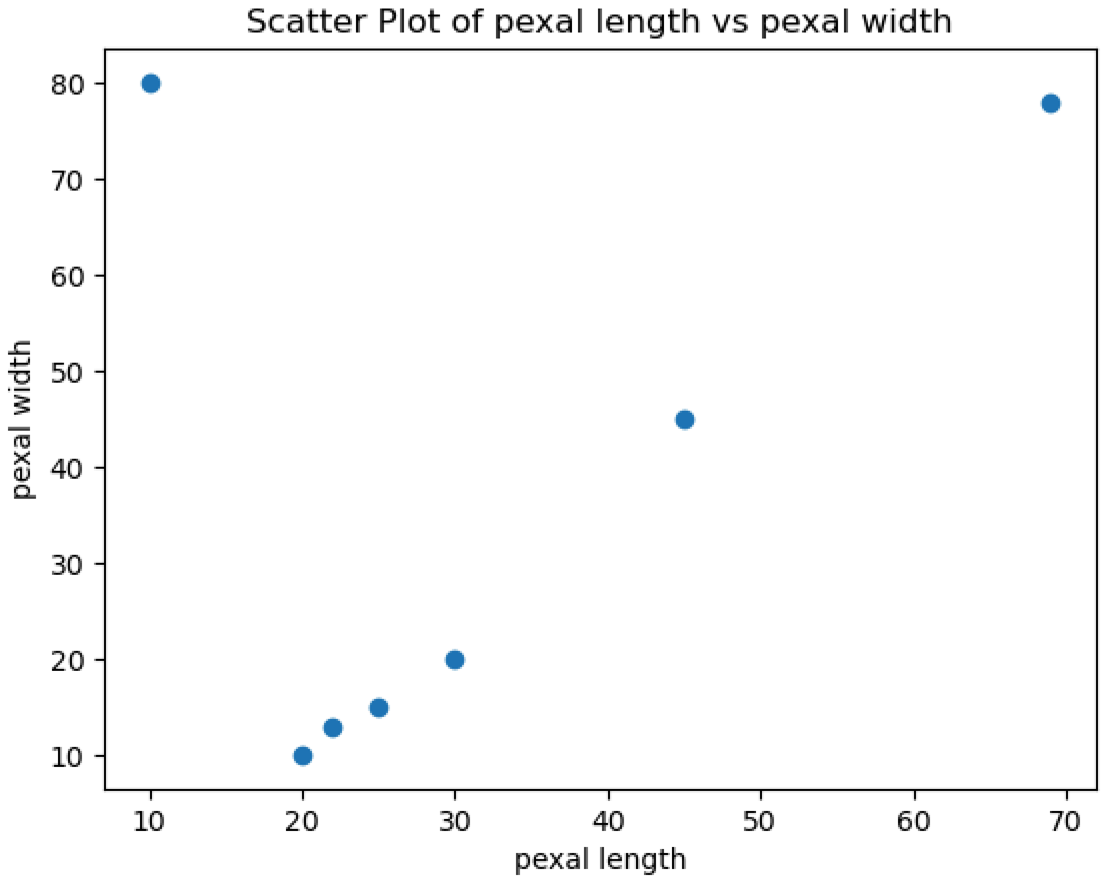
```
<function matplotlib.pyplot.show(close=None, block=None)>
```



In [29]:

```
import matplotlib.pyplot as plt
import pandas as pd
dd = pd.DataFrame({
        "id": [1,2,3,4,5,6,7],
        "special lenth": [30,50,40,50,55,44,58],
        "special width":[25,30,40,42,50,88,12],
        "pexal lenth":[10,20,22,25,30,45,69],
        "pexal width":[80,10,13,15,20,45,78],
        "speacse":[80,95,25,12,18,13,15,]})
print(dd)
print(dd.head())
print("Size of the dataset:", dd.size)
print(dd.isna())
print(dd.describe())
plt.scatter(dd['pexal lenth'], dd['pexal width'])
plt.xlabel('pexal length')
plt.ylabel('pexal width')
plt.title('Scatter Plot of pexal length vs pexal width')
plt.show()
print("\n the size of the data for given data set\n")
print(dd.shape)
```

```
   id  special lenth  special width  pexal lenth  pexal width  speacse
0   1             30             25           10           80       80
1   2             50             30           20           10       95
2   3             40             40           22           13       25
3   4             50             42           25           15       12
4   5             55             50           30           20       18
5   6             44             88           45           45       13
6   7             58             12           69           78       15
   id  special lenth  special width  pexal lenth  pexal width  speacse
0   1             30             25           10           80       80
1   2             50             30           20           10       95
2   3             40             40           22           13       25
3   4             50             42           25           15       12
4   5             55             50           30           20       18
Size of the dataset: 42
      id  special lenth  special width  pexal lenth  pexal width  speacse
0  False          False          False        False        False    False
1  False          False          False        False        False    False
2  False          False          False        False        False    False
3  False          False          False        False        False    False
4  False          False          False        False        False    False
5  False          False          False        False        False    False
6  False          False          False        False        False    False
             id  special lenth  special width  pexal lenth  pexal width  \
count  7.000000       7.000000       7.000000     7.000000     7.000000   
mean   4.000000      46.714286      41.000000    31.571429    37.285714   
std    2.160247       9.569296      24.186773    19.654153    30.744725   
min    1.000000      30.000000      12.000000    10.000000    10.000000   
25%    2.500000      42.000000      27.500000    21.000000    14.000000   
50%    4.000000      50.000000      40.000000    25.000000    20.000000   
75%    5.500000      52.500000      46.000000    37.500000    61.500000   
max    7.000000      58.000000      88.000000    69.000000    80.000000   

         speacse  
count   7.000000  
mean   36.857143  
std    35.125625  
min    12.000000  
25%    14.000000  
50%    18.000000  
75%    52.500000  
max    95.000000  
```



```
the size of the data for given data set
```

```
(7, 6)
```

```
In [ ]:
```