

libery

March 6, 2024

1 Matplotlib Library

```
[14]: pip install matplotlib
```

```
Requirement already satisfied: matplotlib in
c:\users\lenovo\appdata\roaming\python\python311\site-packages (3.8.0)
Requirement already satisfied: contourpy>=1.0.1 in
c:\users\lenovo\appdata\roaming\python\python311\site-packages (from matplotlib)
(1.1.1)
Requirement already satisfied: cyclor>=0.10 in
c:\users\lenovo\appdata\roaming\python\python311\site-packages (from matplotlib)
(0.12.1)
Requirement already satisfied: fonttools>=4.22.0 in
c:\users\lenovo\appdata\roaming\python\python311\site-packages (from matplotlib)
(4.43.1)
Requirement already satisfied: kiwisolver>=1.0.1 in
c:\users\lenovo\appdata\roaming\python\python311\site-packages (from matplotlib)
(1.4.5)
Requirement already satisfied: numpy<2,>=1.21 in
c:\users\lenovo\appdata\roaming\python\python311\site-packages (from matplotlib)
(1.25.1)
Requirement already satisfied: packaging>=20.0 in
c:\users\lenovo\appdata\roaming\python\python311\site-packages (from matplotlib)
(23.1)
Requirement already satisfied: pillow>=6.2.0 in
c:\users\lenovo\appdata\roaming\python\python311\site-packages (from matplotlib)
(9.4.0)
Requirement already satisfied: pyparsing>=2.3.1 in
c:\users\lenovo\appdata\roaming\python\python311\site-packages (from matplotlib)
(3.1.1)
Requirement already satisfied: python-dateutil>=2.7 in
c:\users\lenovo\appdata\roaming\python\python311\site-packages (from matplotlib)
(2.8.2)
Requirement already satisfied: six>=1.5 in
c:\users\lenovo\appdata\roaming\python\python311\site-packages (from python-
dateutil>=2.7->matplotlib) (1.16.0)
Note: you may need to restart the kernel to use updated packages.
```

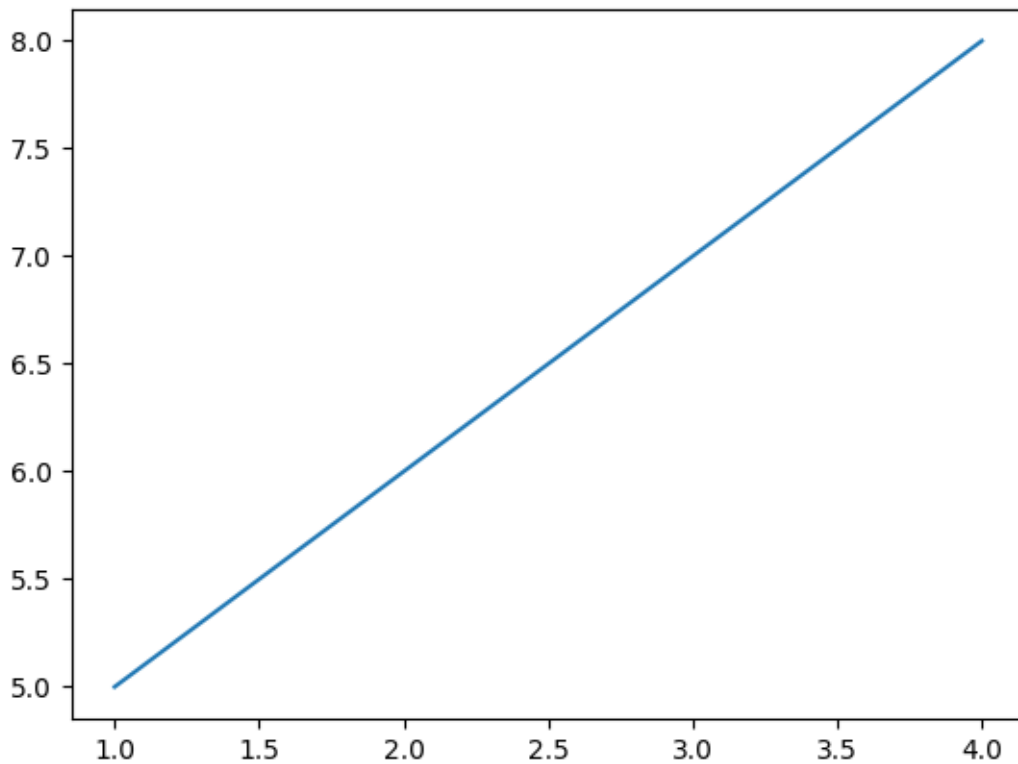
[notice] A new release of pip is available: 23.3.1 -> 23.3.2
[notice] To update, run: python.exe -m pip install --upgrade pip

which graph can create which matplotlib, liner plot, scatter plot, bar plot, stem plot, step plot, hist plot, Box plot, pie plot, fill_between_plot,

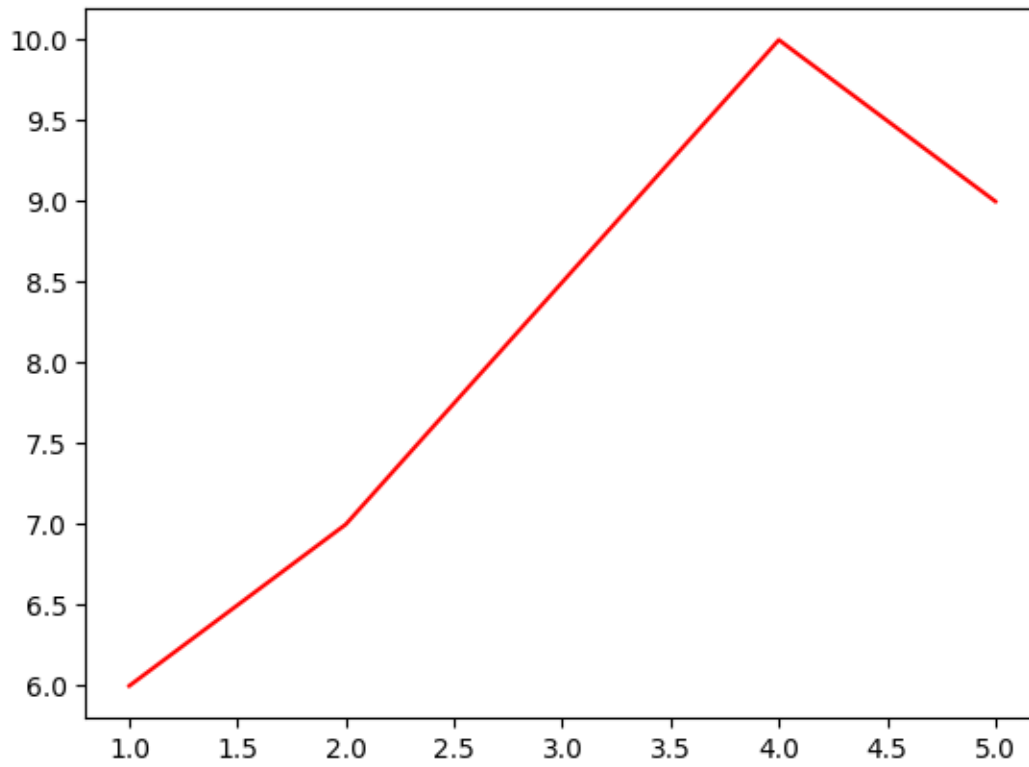
```
[1]: import matplotlib.pyplot as plt
```

2 Linear graph

```
[2]: x = [1,2,3,4]  
y = [5,6,7,8]  
  
plt.plot(x,y)  
plt.show()
```

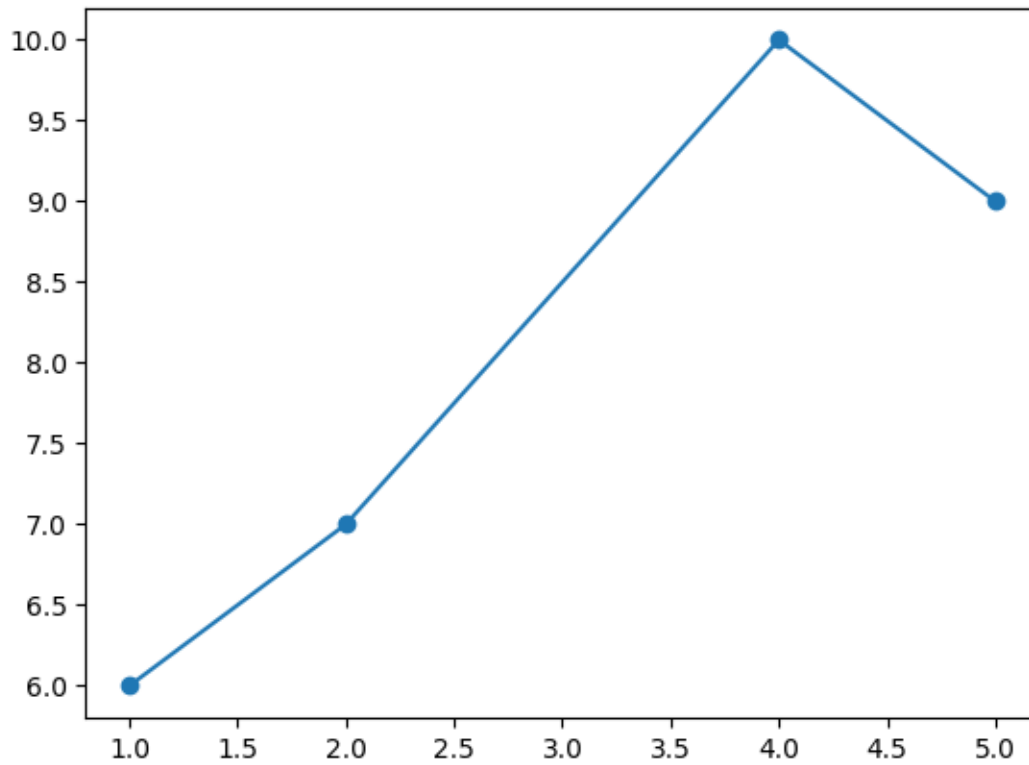


```
[5]: x = [1,2,4,5]  
y = [6,7,10,9]  
c = 'r'  
plt.plot(x,y,c)  
plt.show()
```



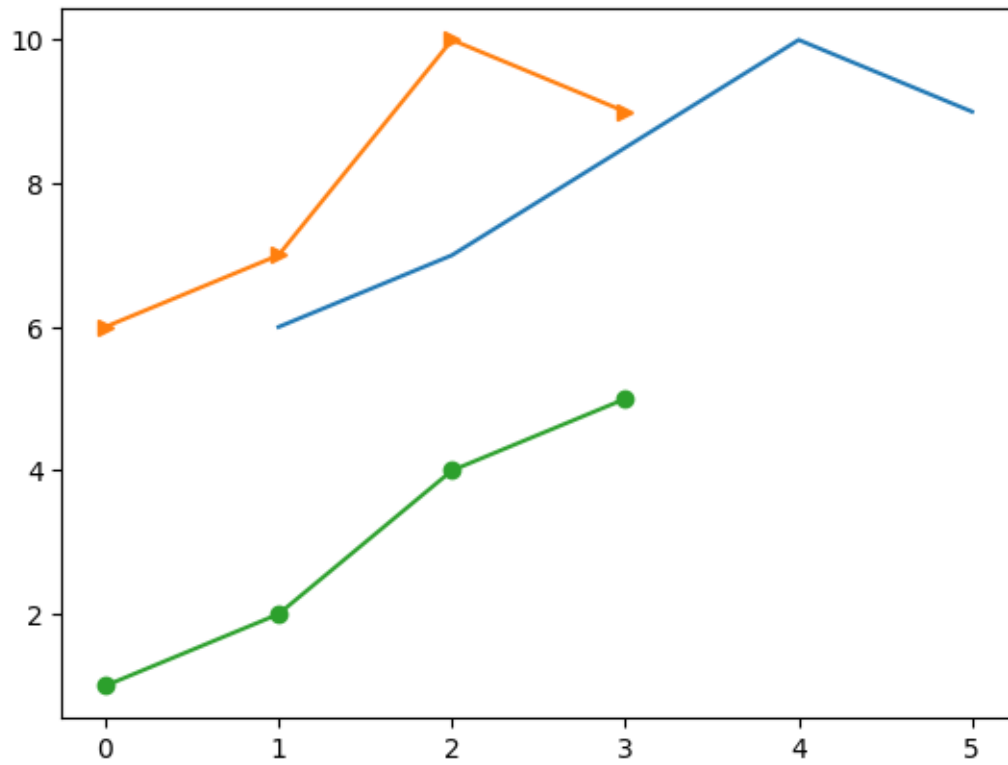
```
[6]: x = [1,2,4,5]
      y = [6,7,10,9]

      plt.plot(x,y,marker = 'o')
      plt.show()
```



```
[9]: x = [1,2,4,5]
      y = [6,7,10,9]

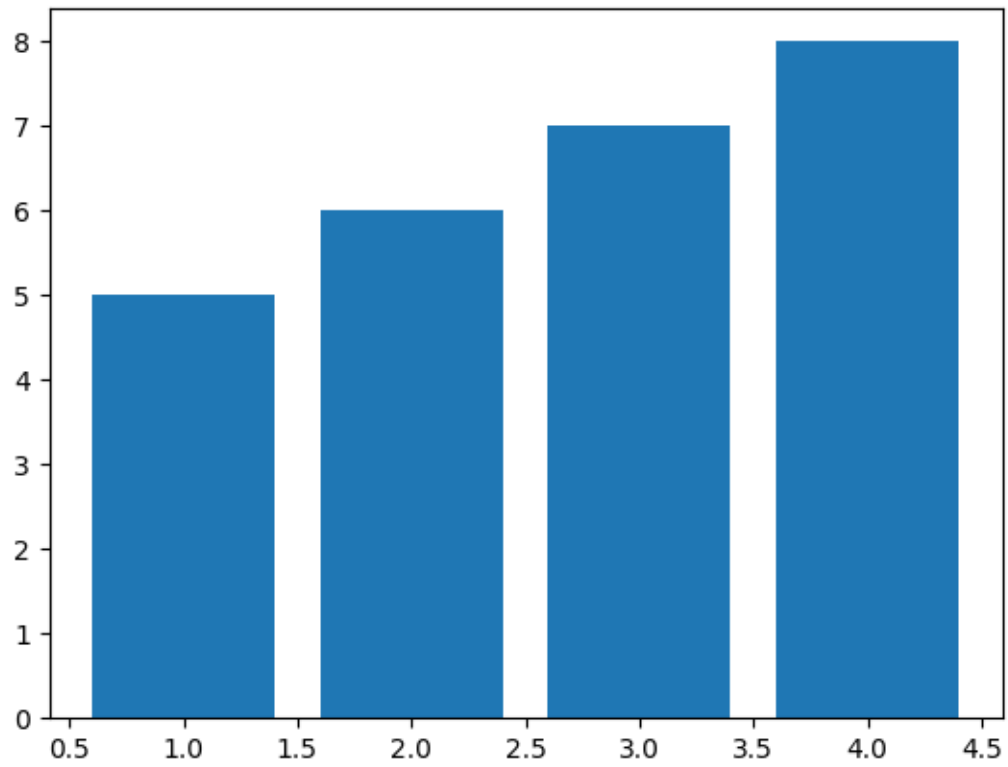
      plt.plot(x,y)
      plt.plot(y, marker = ">")
      plt.plot(x, marker = "o")
      plt.show()
```



3 Bar Graph

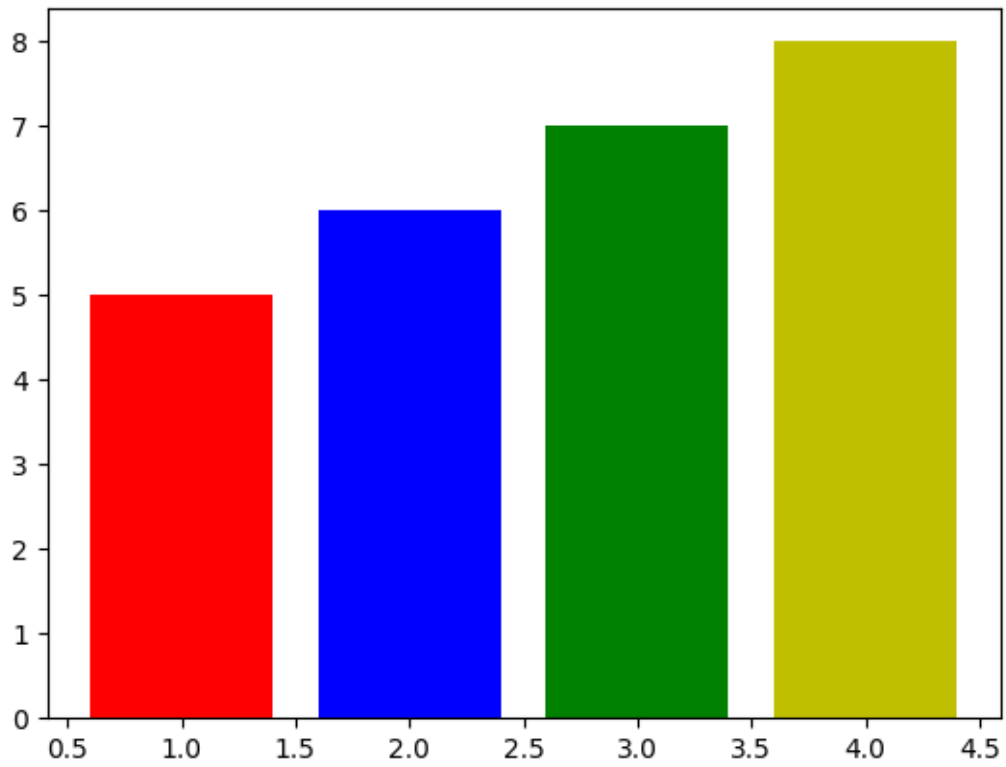
```
[10]: x = [1,2,3,4]
      y = [5,6,7,8]

      plt.bar(x,y)
      plt.show()
```



```
[11]: x = [1,2,3,4]
      y = [5,6,7,8]

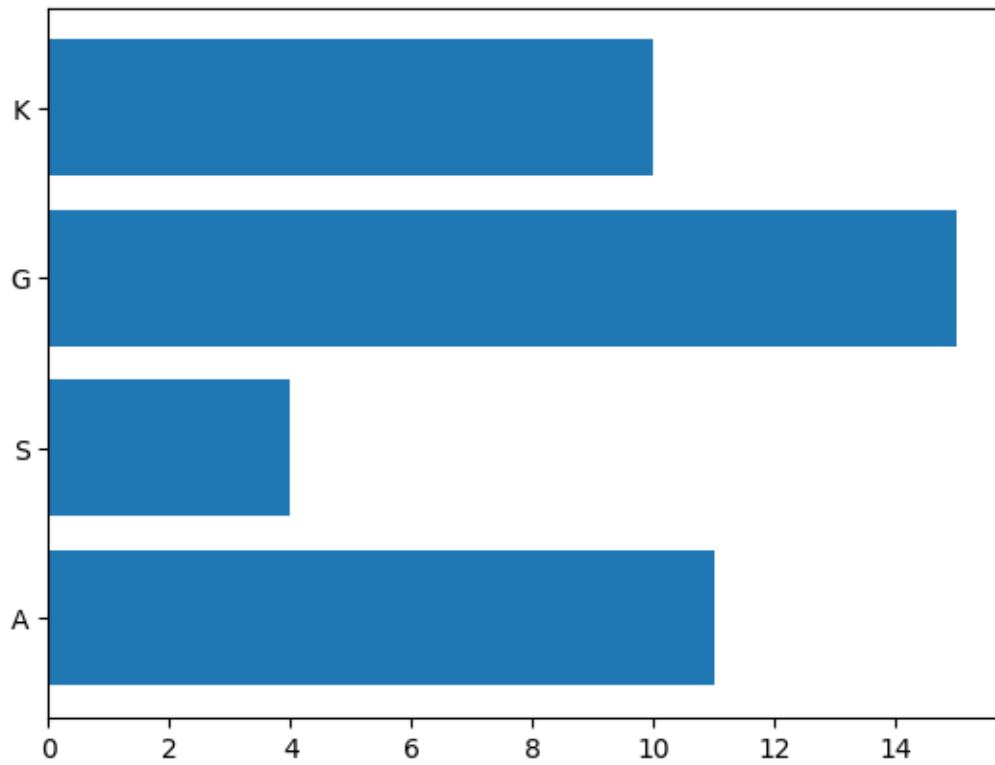
      c = ['r','b','g','y']
      plt.bar(x,y, color=c)
      plt.show()
```



```
[12]: import numpy as np
```

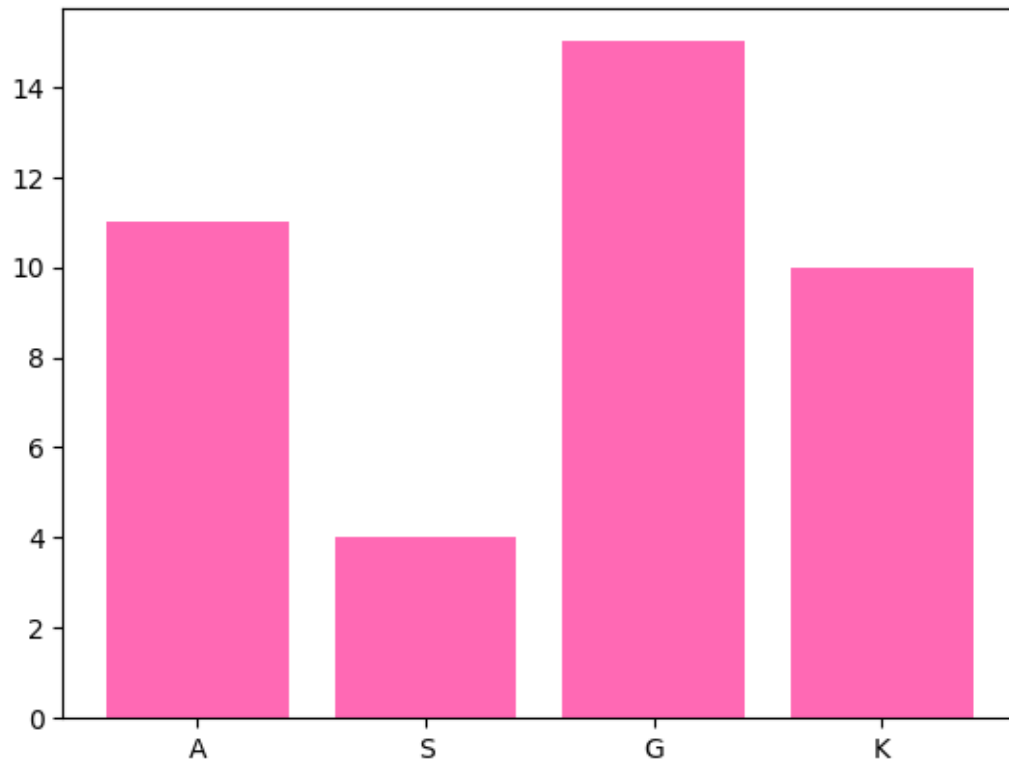
```
[15]: x = np.array(["A", "S", "G", "K"])
      y = np.array([11,4,15,10])

      plt.barh(x,y)
      plt.show()
```



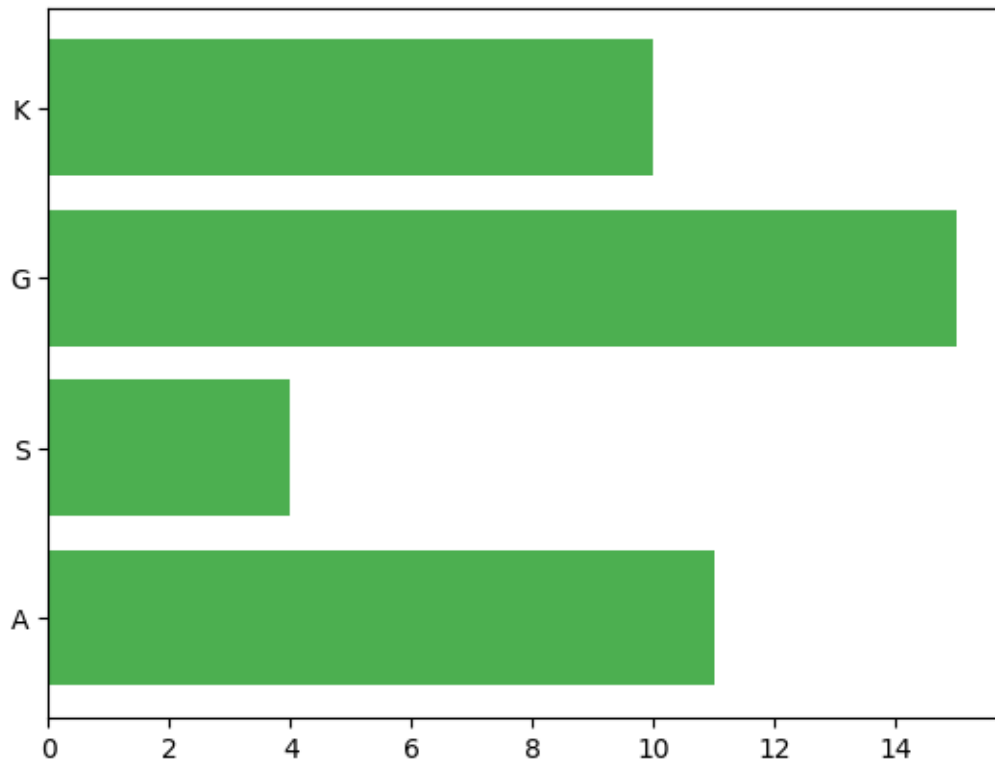
```
[18]: x = np.array(["A", "S", "G", "K"])
      y = np.array([11,4,15,10])

      plt.bar(x,y, color="hotpink")
      plt.show()
```

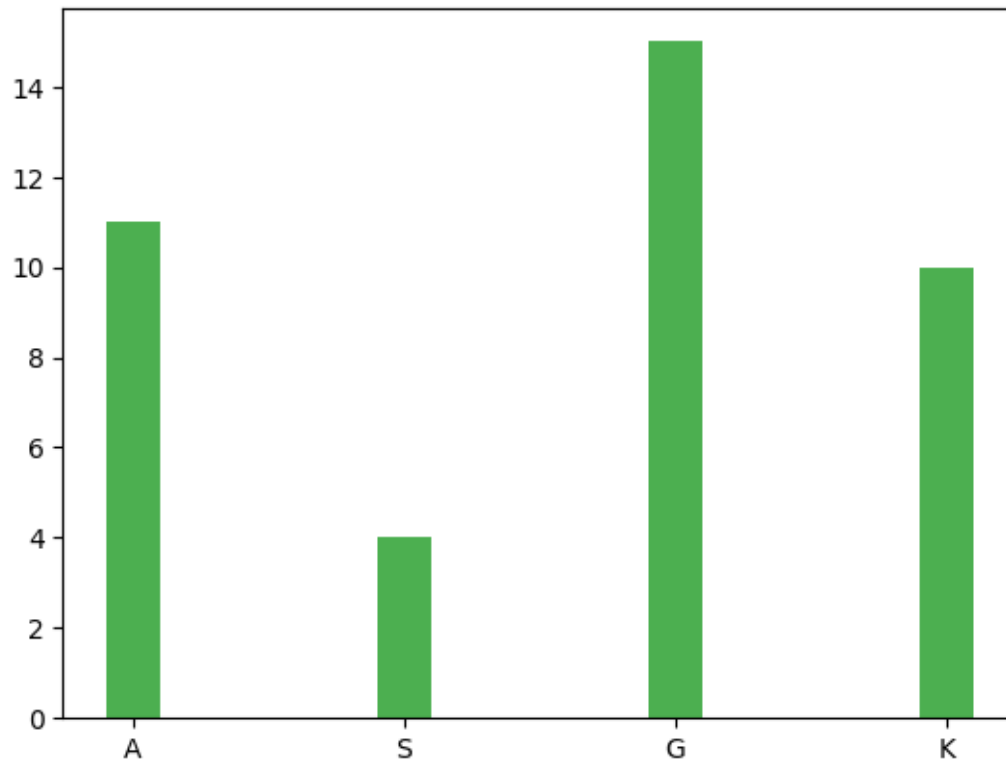
```
[19]: x = np.array(["A", "S", "G", "K"])
      y = np.array([11,4,15,10])

      plt.barh(x,y, color="#4CAF50")
      plt.show()
```



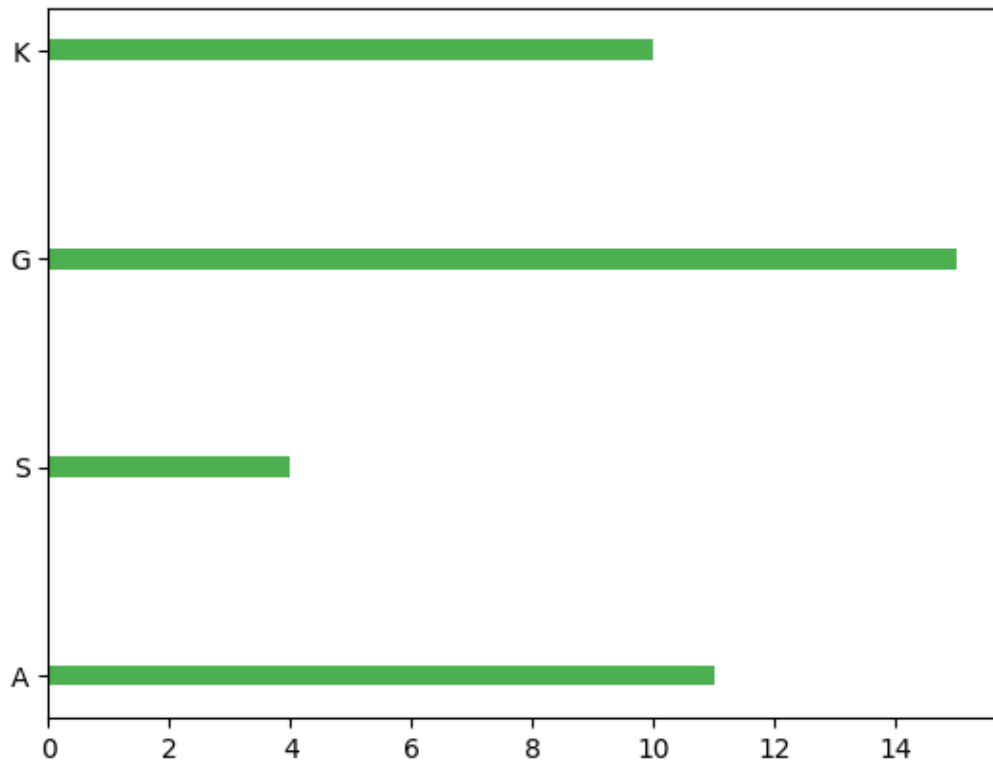
```
[21]: x = np.array(["A", "S", "G", "K"])
      y = np.array([11,4,15,10])

      plt.bar(x,y, color="#4CAF50", width=0.2)
      plt.show()
```



```
[25]: x = np.array(["A", "S", "G", "K"])
      y = np.array([11,4,15,10])

      plt.barh(x,y, color="#4CAF50", height=0.1)
      plt.show()
```

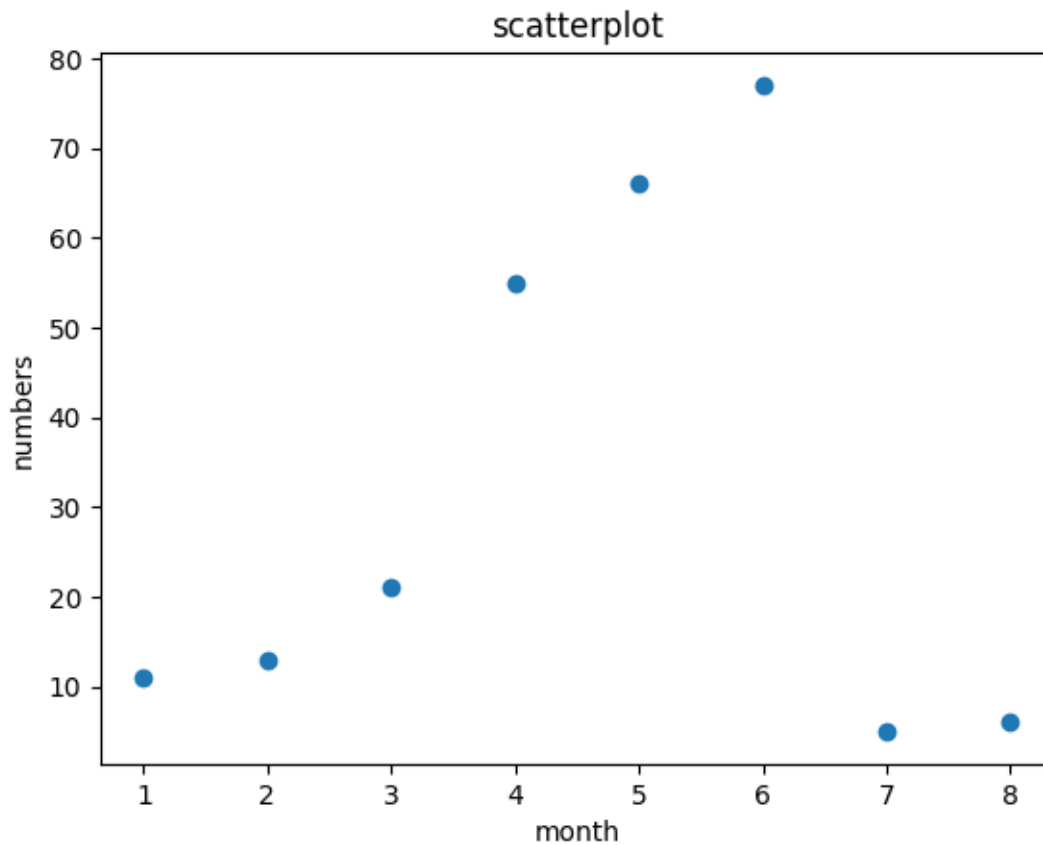


scatter plot

```
[26]: import matplotlib.pyplot as plt
```

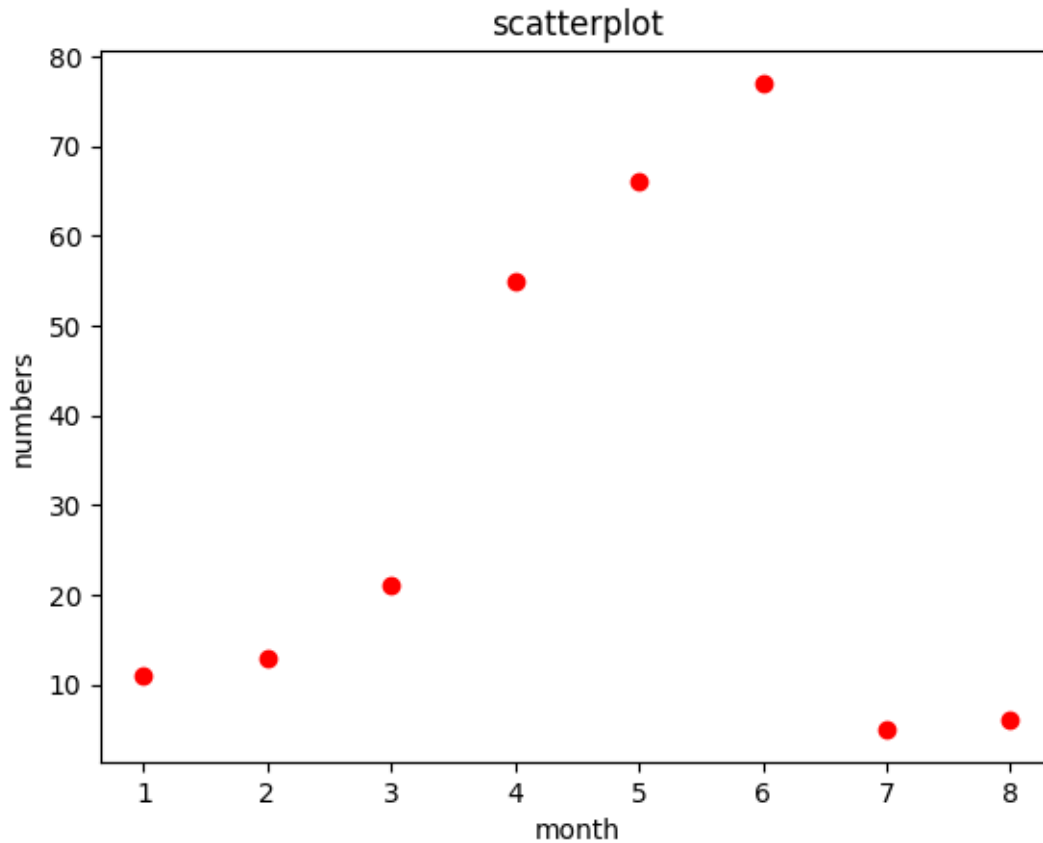
```
[29]: x = [1,2,3,4,5,6,7,8]
      y = [11,13,21,55,66,77,5,6]
      plt.title("scatterplot")
      plt.xlabel("month")
      plt.ylabel("numbers")

      plt.scatter(x,y)
      plt.show()
```



```
[30]: x = [1,2,3,4,5,6,7,8]
y = [11,13,21,55,66,77,5,6]
plt.title("scatterplot")
plt.xlabel("month")
plt.ylabel("numbers")

plt.scatter(x,y, color = "r")
plt.show()
```

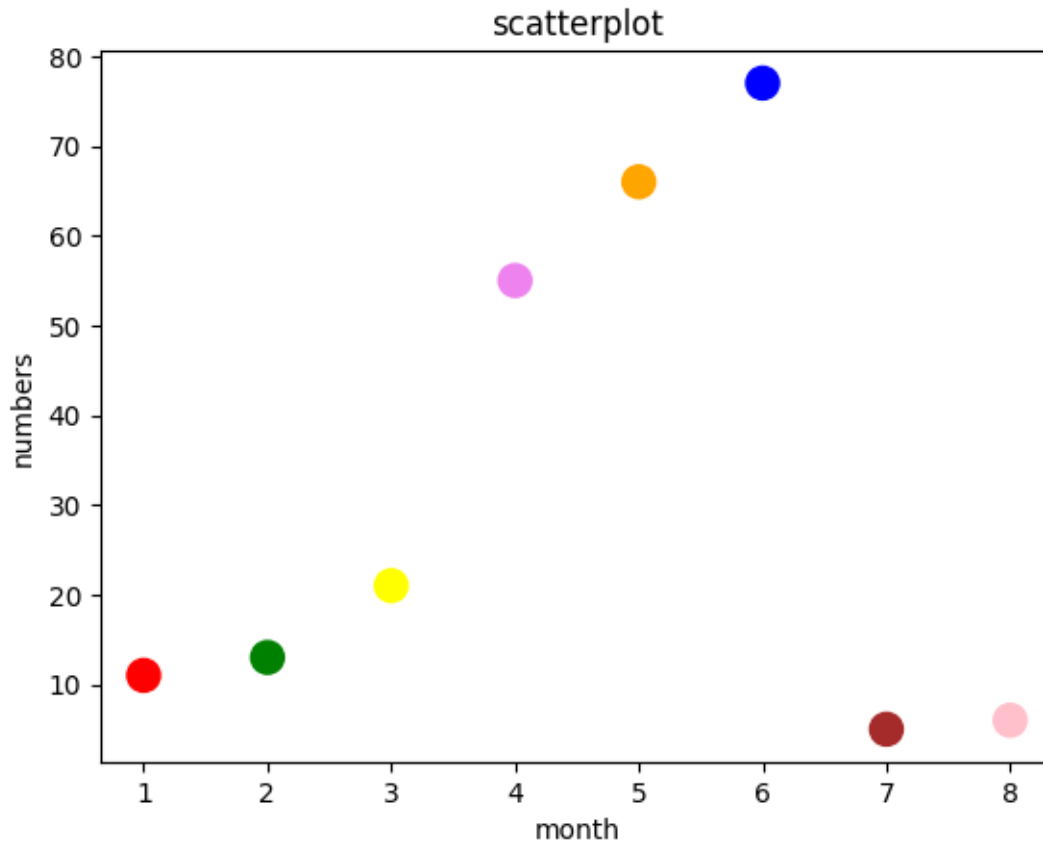


```
[1]: import matplotlib.pyplot as plt

x = [1, 2, 3, 4, 5, 6, 7, 8]
y = [11, 13, 21, 55, 66, 77, 5, 6]
plt.title("scatterplot")
plt.xlabel("month")
plt.ylabel("numbers")

c = ['red', 'green', 'yellow', 'violet', 'orange', 'blue', 'brown', 'pink']

plt.scatter(x, y, color=c, s=150)
plt.show()
```



```
[2]: import matplotlib.pyplot as plt
```

```
[8]: #importing libraries

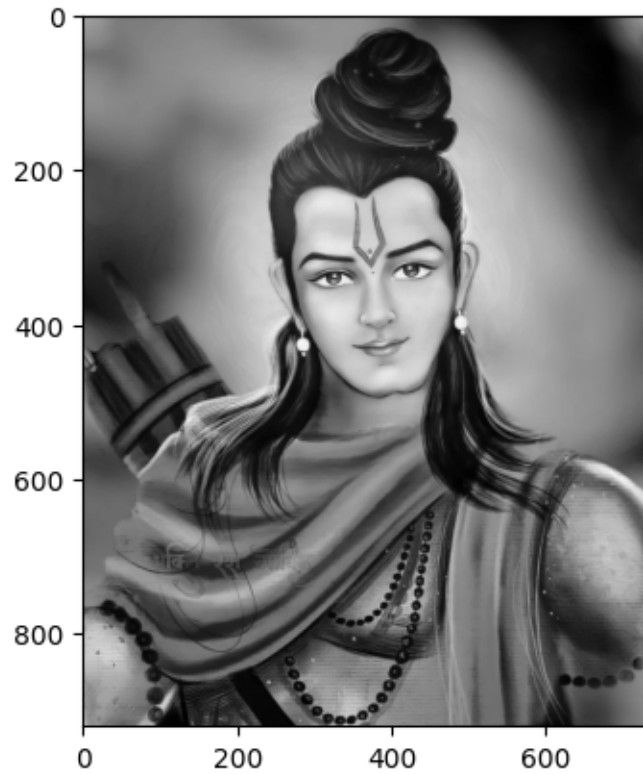
import numpy as np
import matplotlib.pyplot as plt
from PIL import Image

fname = r'sky.jpg'

#opening image using piL

image = Image.open(fname).convert('L')

#mapping image to gray scale
plt.imshow(image, cmap = 'gray')
plt.show()
```



```
[19]: #importing libraries

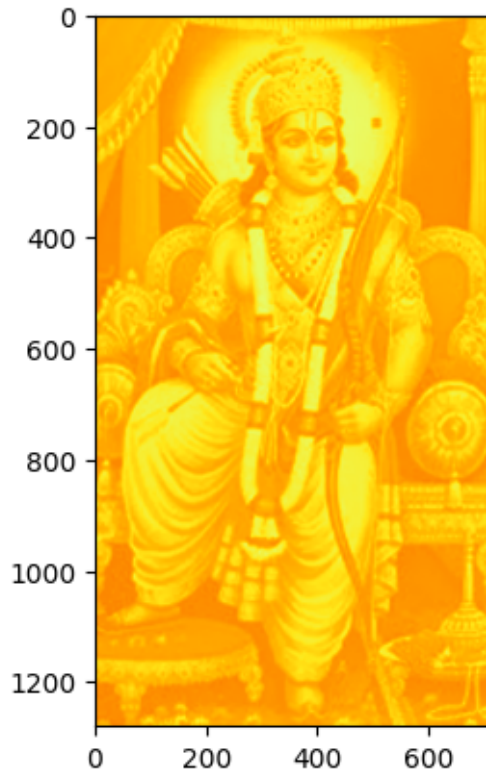
import numpy as np
import matplotlib.pyplot as plt
from PIL import Image

fname = r'100858494.cms'

#opening image using piL

image = Image.open(fname).convert('L')

#mapping image to gray scale
plt.imshow(image, cmap = 'Wistia_r')
plt.show()
```

```
[15]: #importing libraries

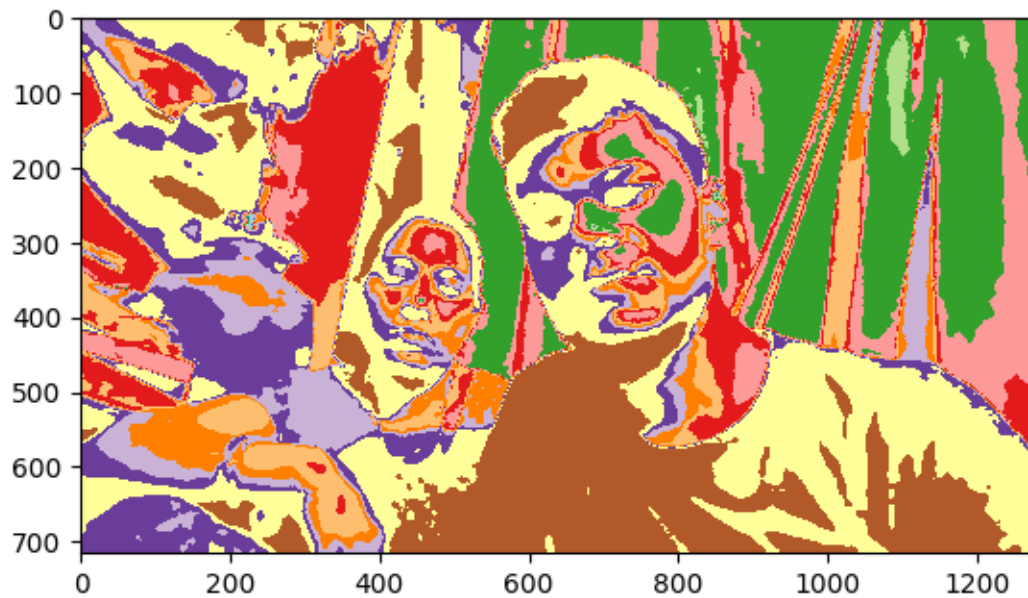
import numpy as np
import matplotlib.pyplot as plt
from PIL import Image

fname = r'WIN_20220128_10_26_18_Pro.jpg'

#opening image using piL

image = Image.open(fname).convert('L')

#mapping image to gray scale
plt.imshow(image, cmap = 'Paired_r')
plt.show()
```



```
[22]: #importing libraries

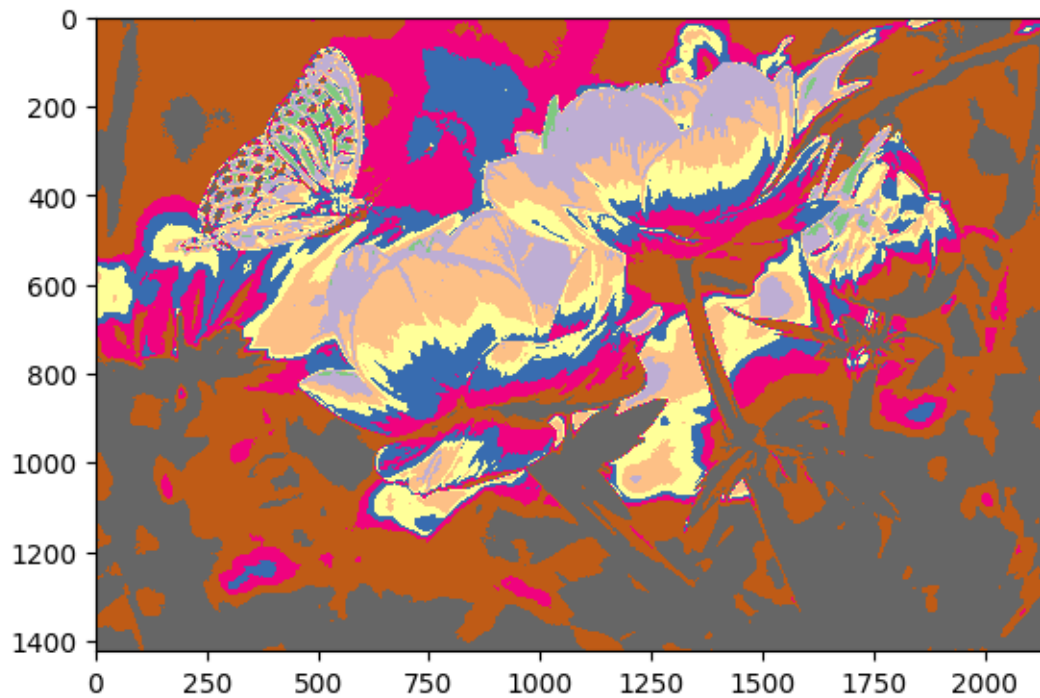
import numpy as np
import matplotlib.pyplot as plt
from PIL import Image

fname = r'pexels-pixabay-87452.jpg'

#opening image using piL

image = Image.open(fname).convert('L')

#mapping image to gray scale
plt.imshow(image, cmap = 'Accent_r')
plt.show()
```



```
[23]: #importing libraries

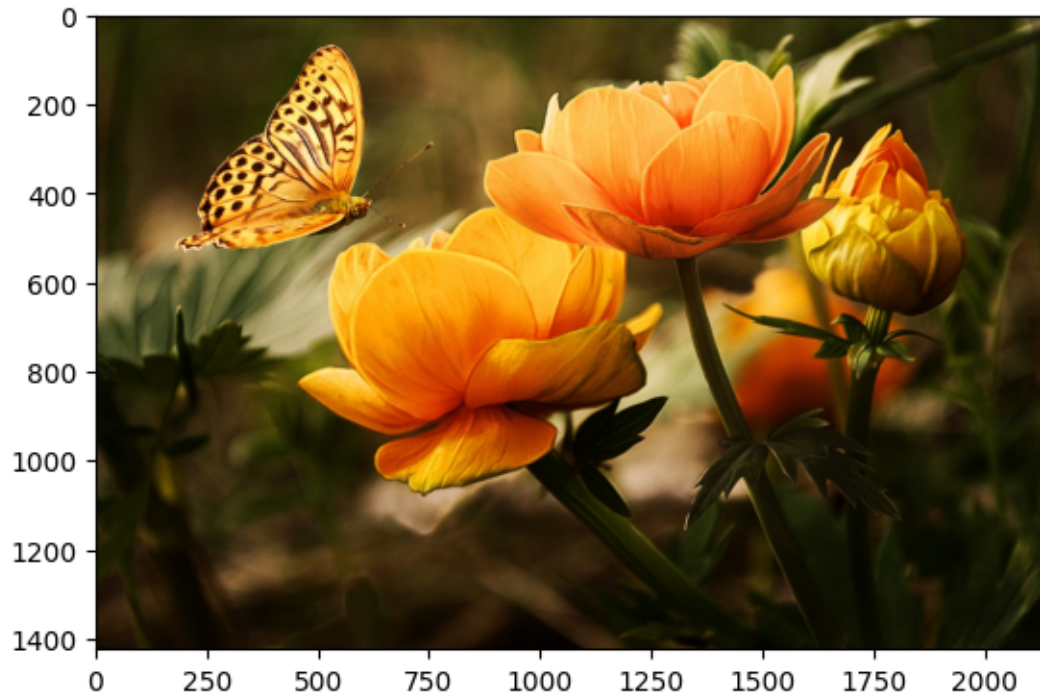
import numpy as np
import matplotlib.pyplot as plt
from PIL import Image

fname = r'pexels-pixabay-87452.jpg'

#opening image using piL

image = Image.open(fname).convert('RGB')

#mapping image to gray scale
plt.imshow(image, cmap = 'Accent_r')
plt.show()
```



```
[34]: #importing libraries

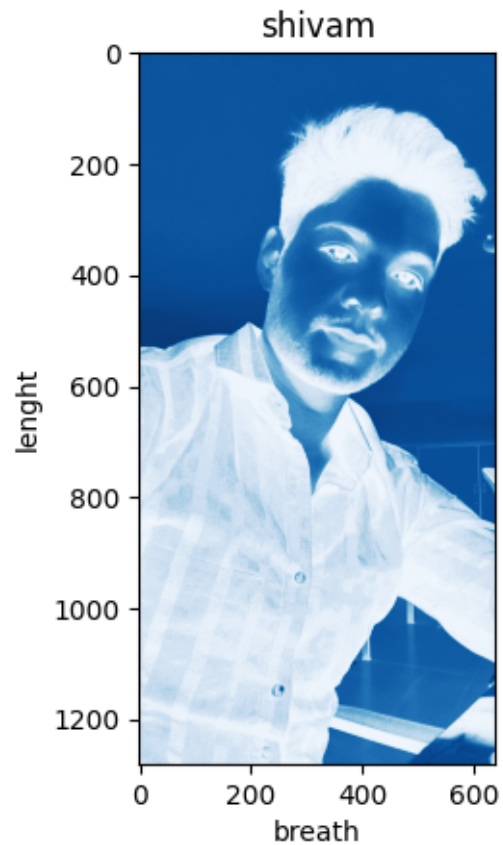
import numpy as np
import matplotlib.pyplot as plt
from PIL import Image

fname = r'Snapchat-1131765899 (1).jpg'

#opening image using piL

image = Image.open(fname).convert('L')

#mapping image to gray scale
plt.imshow(image, cmap = 'Blues')
plt.title("shivam")
plt.xlabel("breath")
plt.ylabel("lenght")
plt.show()
```



4 Matplotlib-PieChart

```
[36]: import matplotlib.pyplot as plt
```

```
[44]: import matplotlib.pyplot as plt

x = [20, 30, 25, 25]
y = ['english', 'hindi', 'maths', 'science']
c = ['yellow', 'pink', 'brown', 'aqua']

plt.pie(x, labels=y, colors=c)
plt.legend()
plt.show()
```

