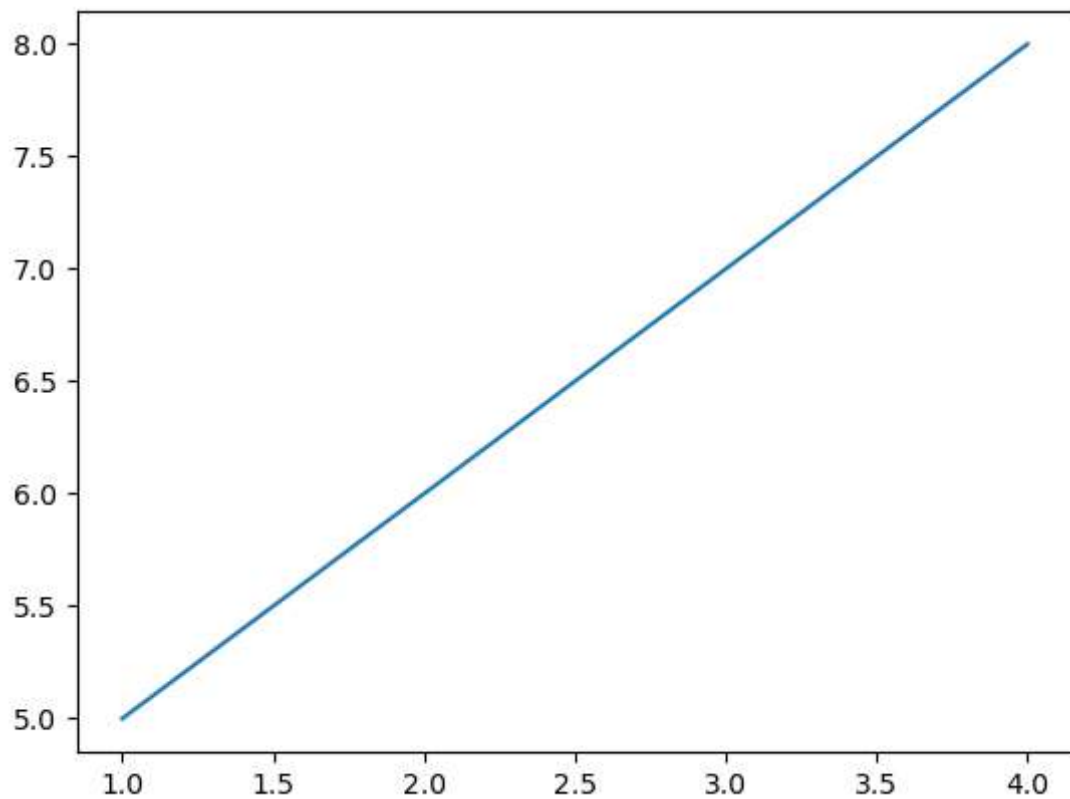


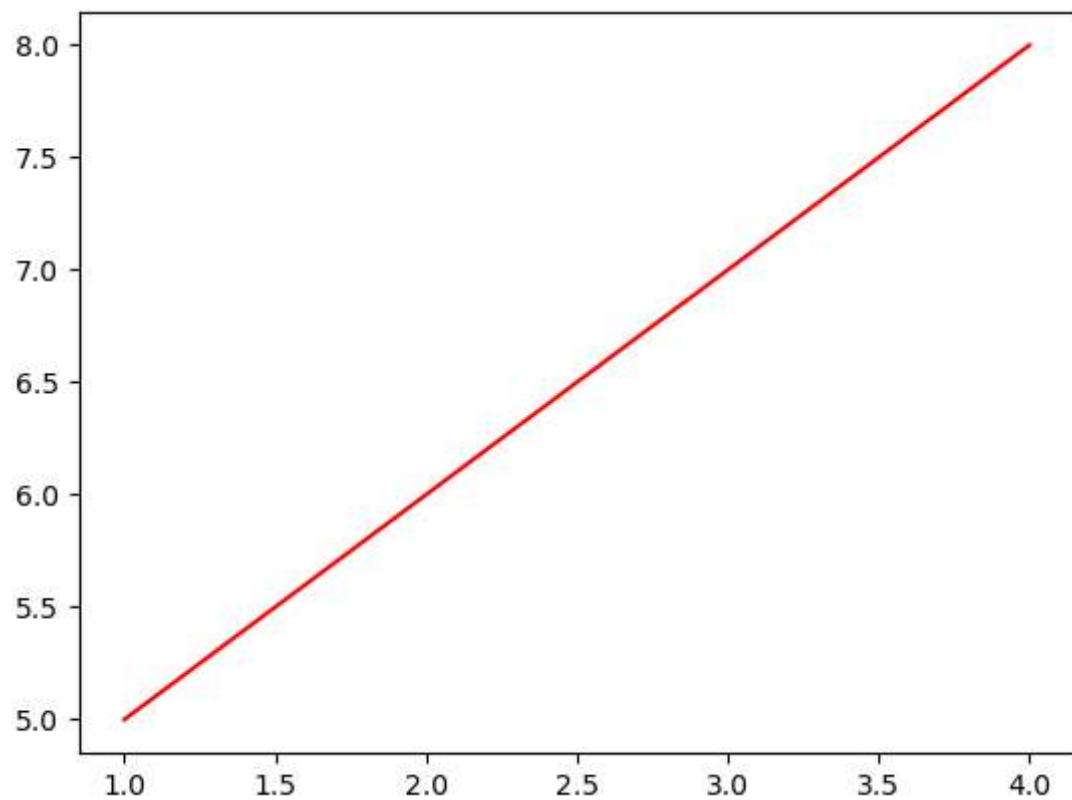
# Matplotlib

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

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



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



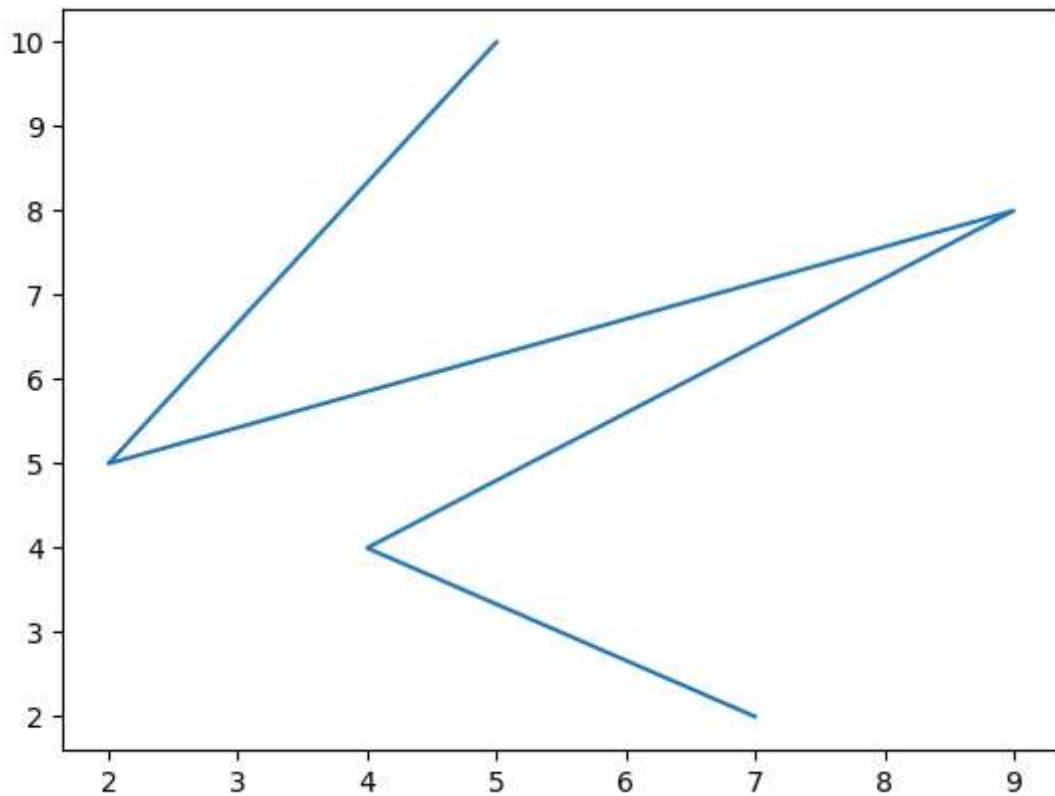
```
In [7]: # importing matplotlib module
from matplotlib import pyplot as plt

# x-axis values
x = [5, 2, 9, 4, 7]

# Y-axis values
y = [10, 5, 8, 4, 2]

# Function to plot
plt.plot(x,y)

# function to show the plot
plt.show()
```



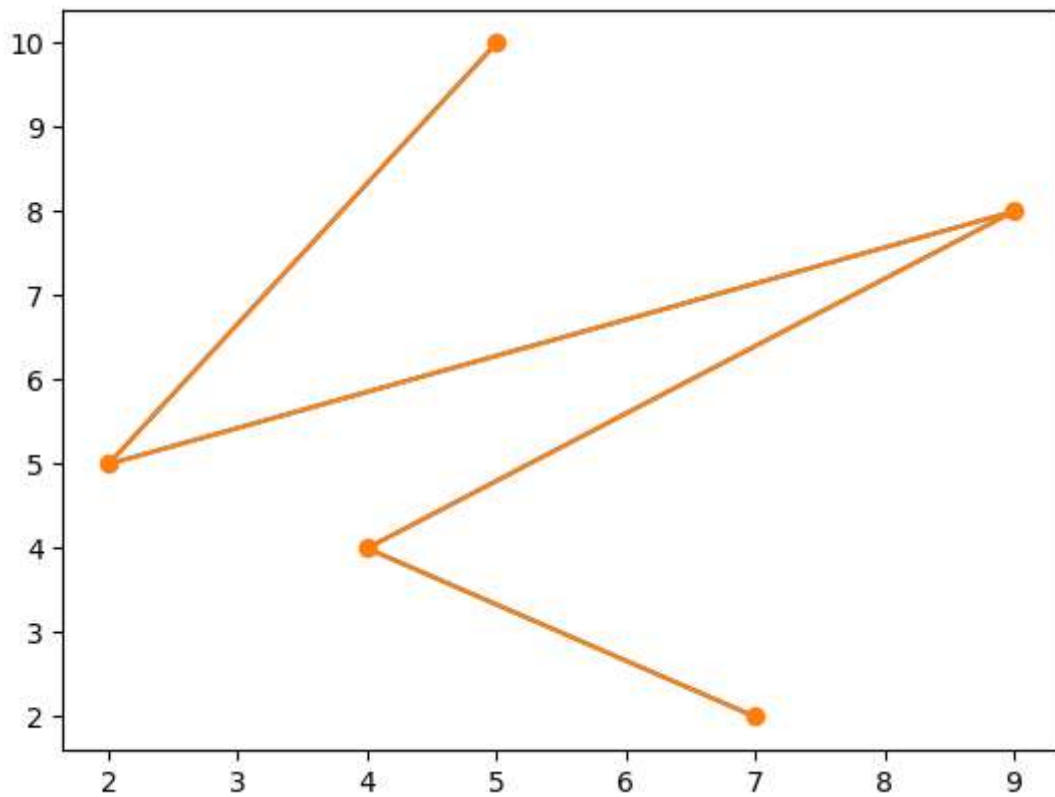
```
In [10]: # importing matplotlib module
from matplotlib import pyplot as plt

# x-axis values
x = [5, 2, 9, 4, 7]

# Y-axis values
y = [10, 5, 8, 4, 2]

# Function to plot
plt.plot(x,y)
plt.plot(x,y, marker = 'o')

# function to show the plot
plt.show()
```



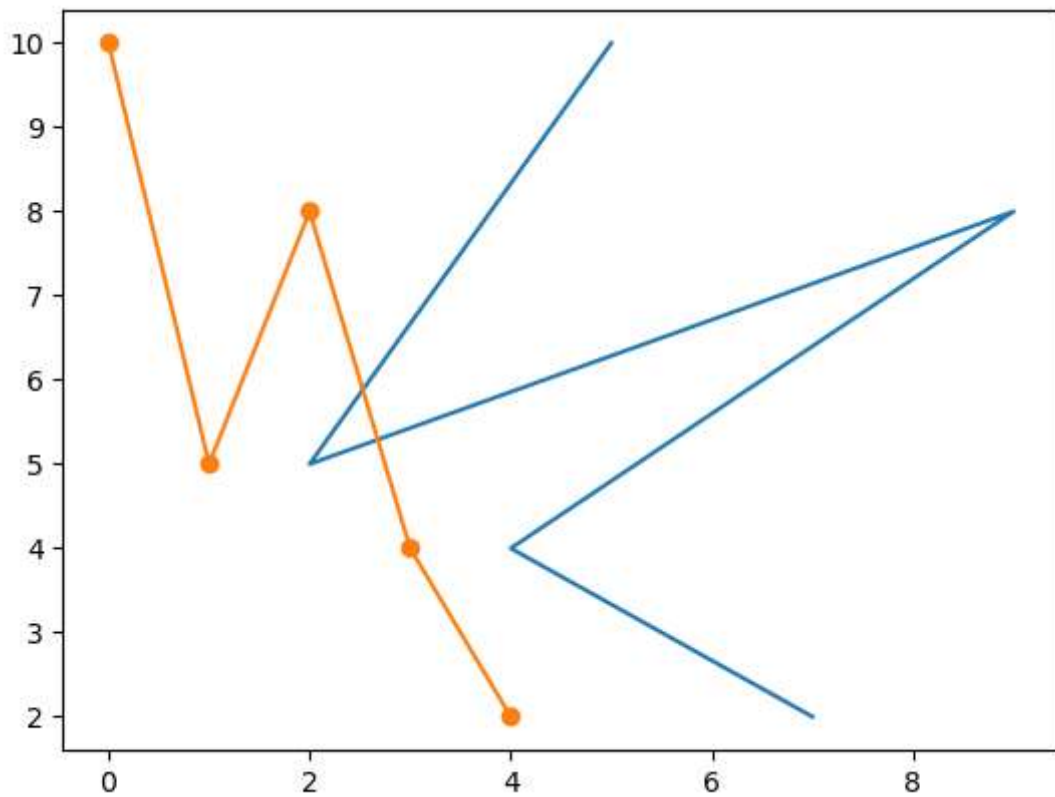
```
In [11]: # importing matplotlib module
from matplotlib import pyplot as plt

# x-axis values
x = [5, 2, 9, 4, 7]

# Y-axis values
y = [10, 5, 8, 4, 2]

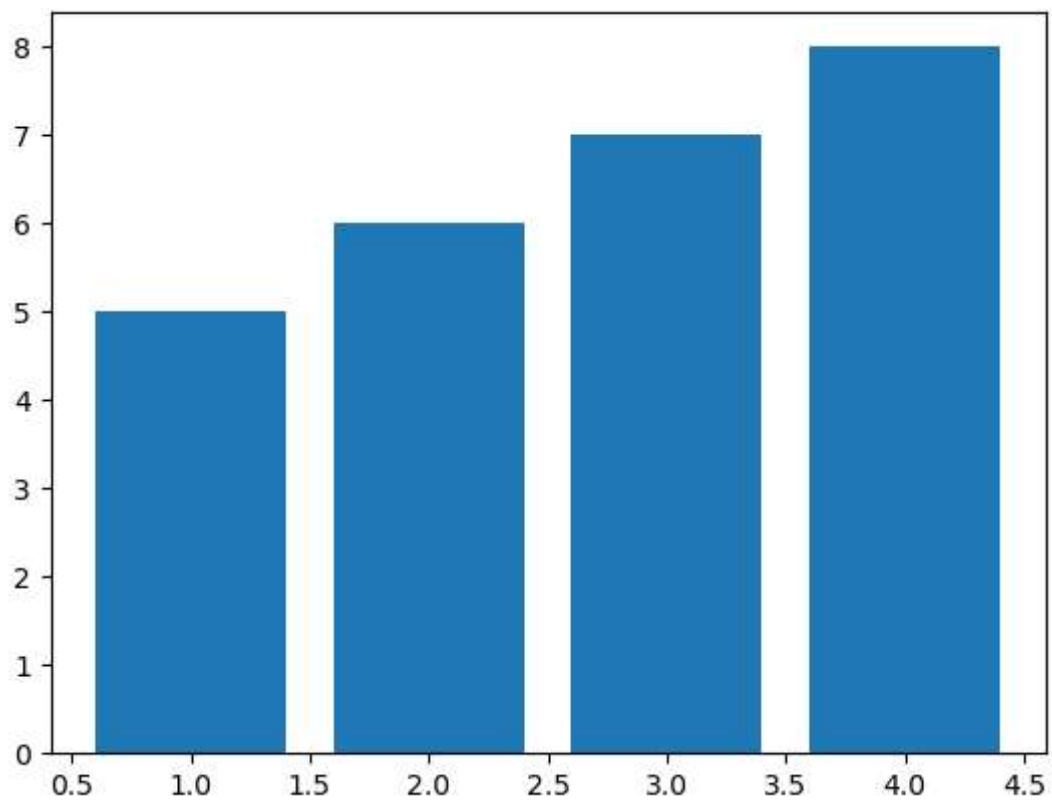
# Function to plot
plt.plot(x,y)
plt.plot(y, marker = 'o')

# function to show the plot
plt.show()
```

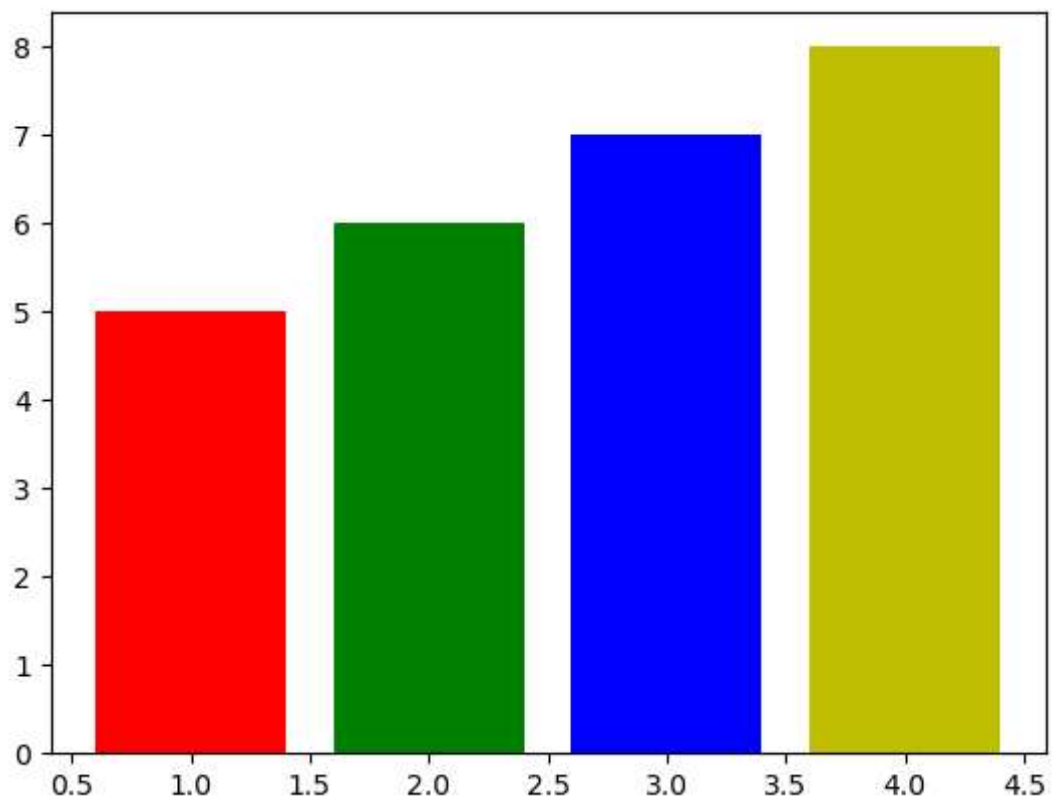


## Bar Graph

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



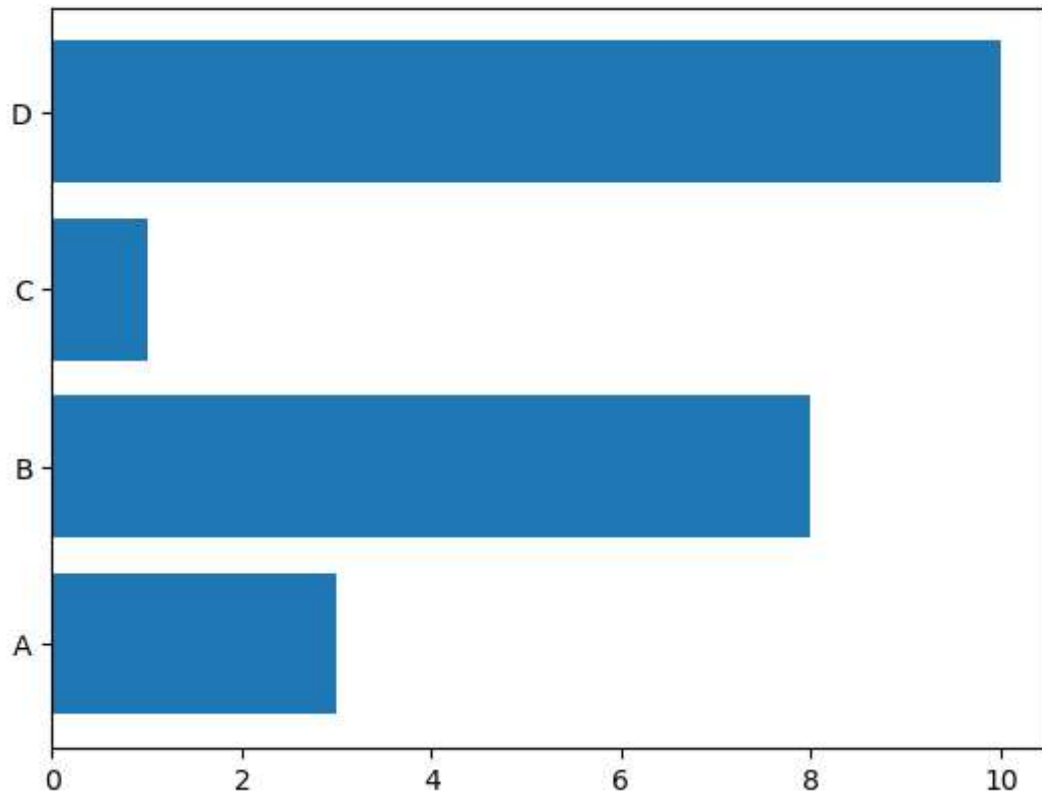
```
In [12]: x = [1,2,3,4]
y = [5,6,7,8]
c = ['r','g','b','y']
plt.bar(x,y,color = c)
plt.show()
```



```
In [13]: import matplotlib.pyplot as plt
import numpy as np

x = np.array(["A", "B", "C", "D"])
y = np.array([3, 8, 1, 10])

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

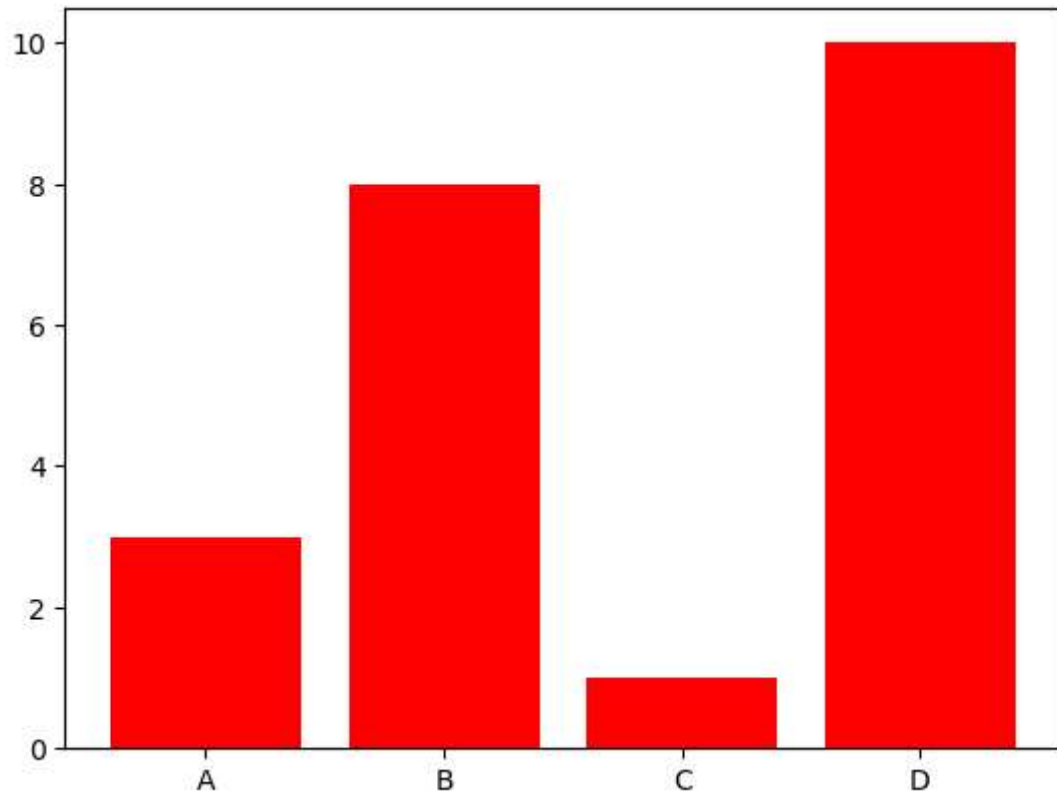




```
In [14]: import matplotlib.pyplot as plt
import numpy as np

x = np.array(["A", "B", "C", "D"])
y = np.array([3, 8, 1, 10])

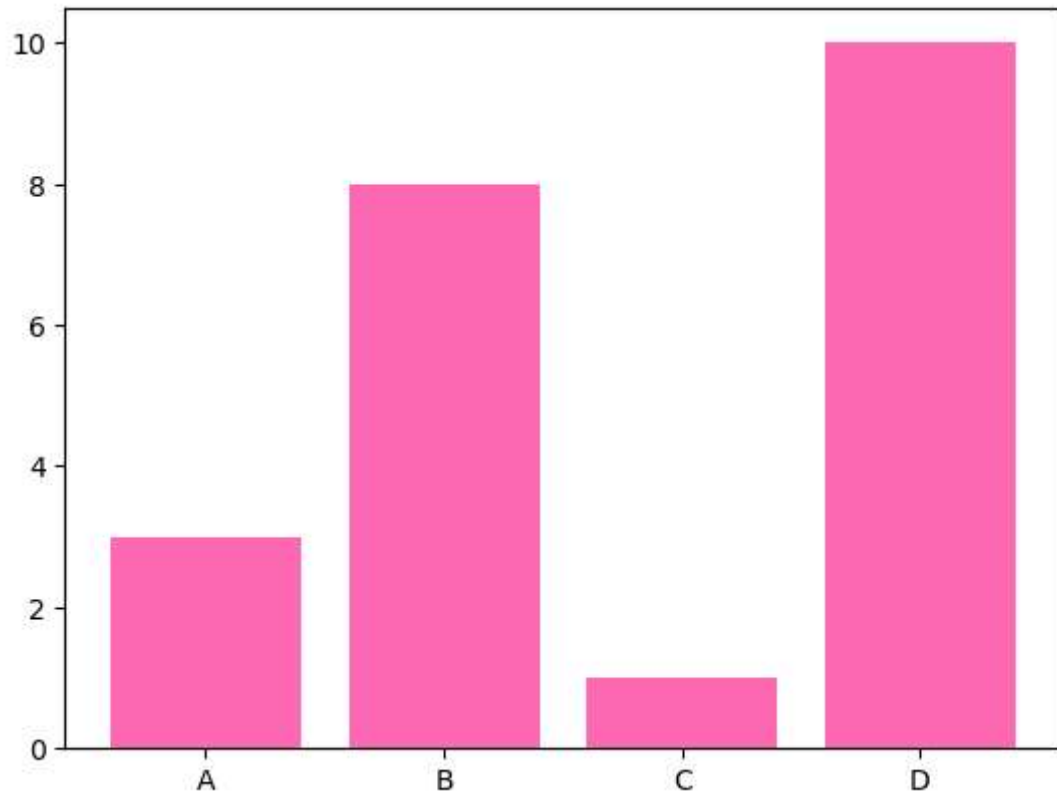
plt.bar(x, y, color = "red")
plt.show()
```



```
In [15]: import matplotlib.pyplot as plt
import numpy as np

x = np.array(["A", "B", "C", "D"])
y = np.array([3, 8, 1, 10])

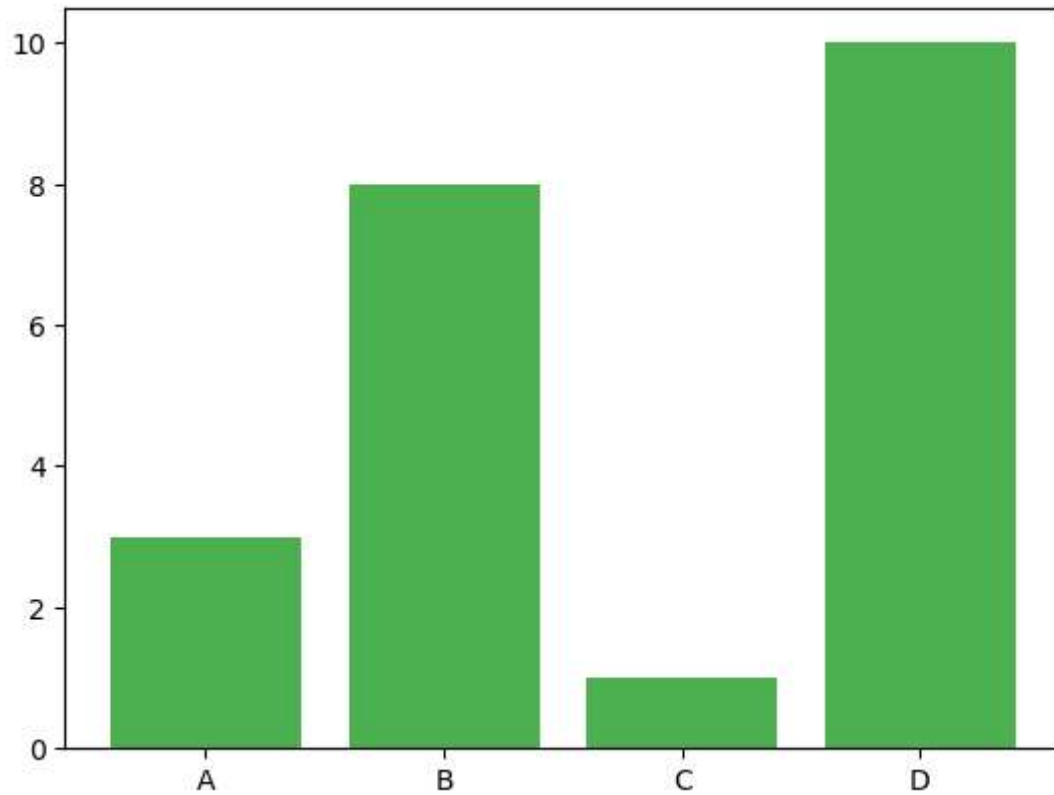
plt.bar(x, y, color = "hotpink")
plt.show()
```



```
In [16]: import matplotlib.pyplot as plt
import numpy as np

x = np.array(["A", "B", "C", "D"])
y = np.array([3, 8, 1, 10])

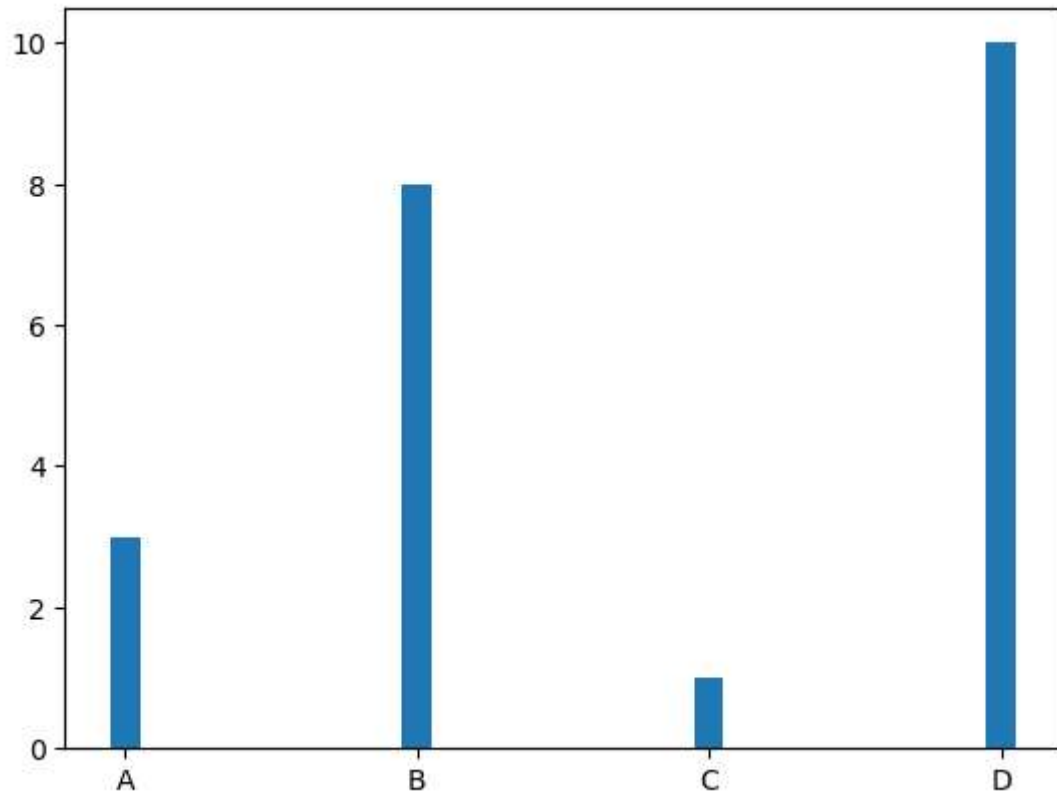
plt.bar(x, y, color = "#4CAF50")
plt.show()
```



```
In [17]: import matplotlib.pyplot as plt
import numpy as np

x = np.array(["A", "B", "C", "D"])
y = np.array([3, 8, 1, 10])

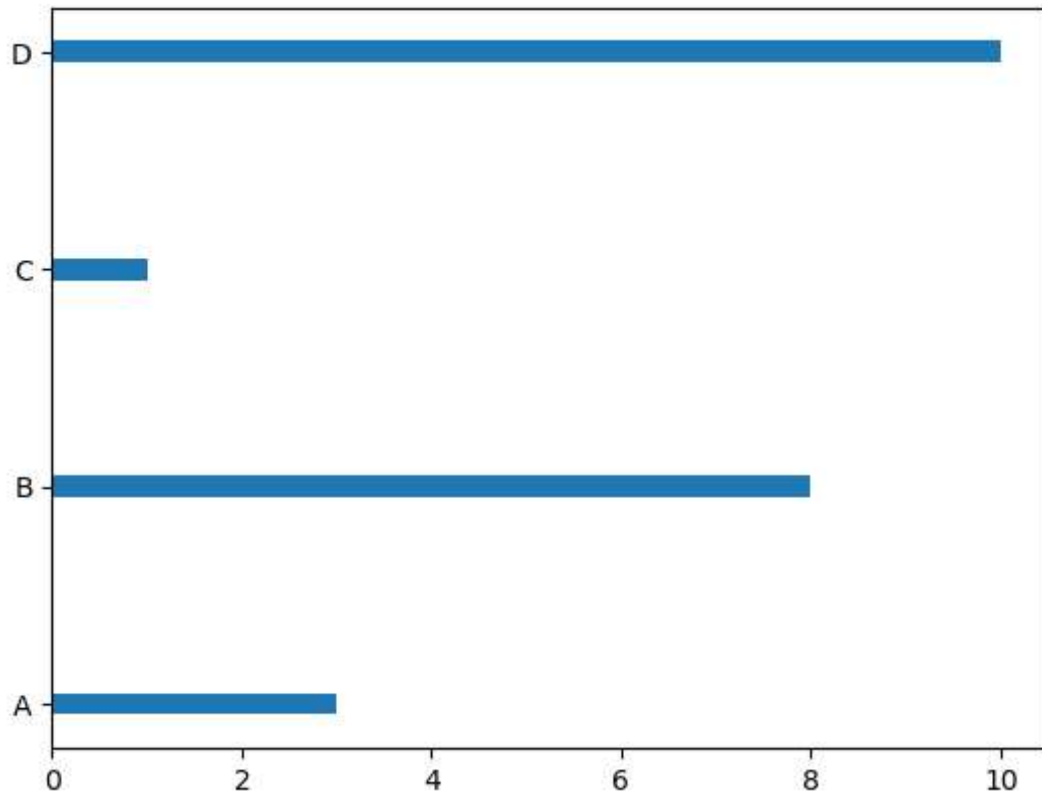
plt.bar(x, y, width = 0.1)
plt.show()
```



```
In [18]: import matplotlib.pyplot as plt
import numpy as np

x = np.array(["A", "B", "C", "D"])
y = np.array([3, 8, 1, 10])

plt.barh(x, y, height = 0.1)
plt.show()
```



In [25]:

```
# importing libraries.
import numpy as np
import matplotlib.pyplot as plt
from PIL import Image

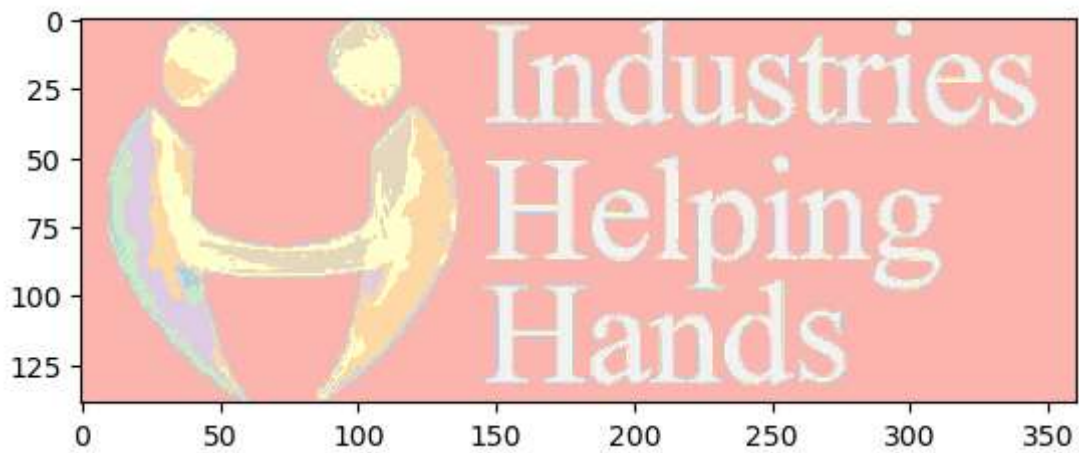
# storing image path
fname = r'ihh.jpg'

# opening image using pil
image = Image.open(fname).convert("L")

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



```
In [27]: # importing libraries.  
import numpy as np  
import matplotlib.pyplot as plt  
from PIL import Image  
  
# storing image path  
fname = r'ihh.jpg'  
  
# opening image using pil  
image = Image.open(fname).convert("L")  
  
# mapping image to gray scale  
plt.imshow(image, cmap='Pastell1_r')  
plt.show()
```

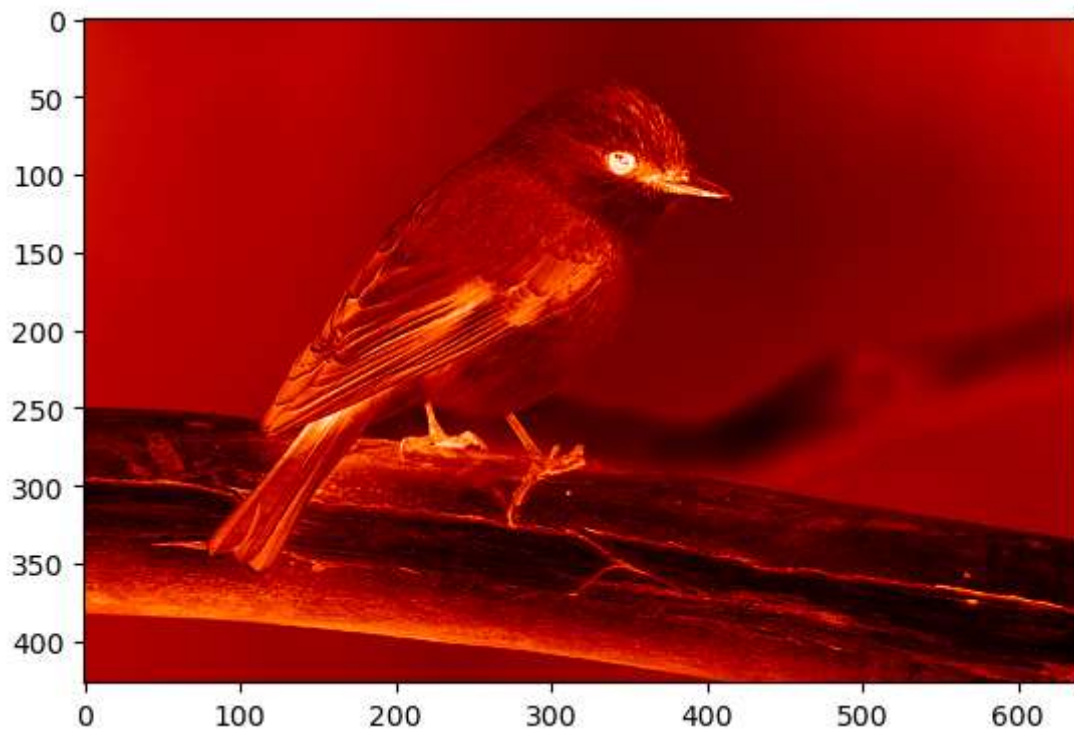


```
In [29]: # importing libraries.  
import numpy as np  
import matplotlib.pyplot as plt  
from PIL import Image  
  
# storing image path  
fname = r'ihh.jpg'  
  
# opening image using pil  
image = Image.open(fname).convert("L")  
  
# mapping image to gray scale  
plt.imshow(image, cmap='gist_heat_r')  
plt.show()
```





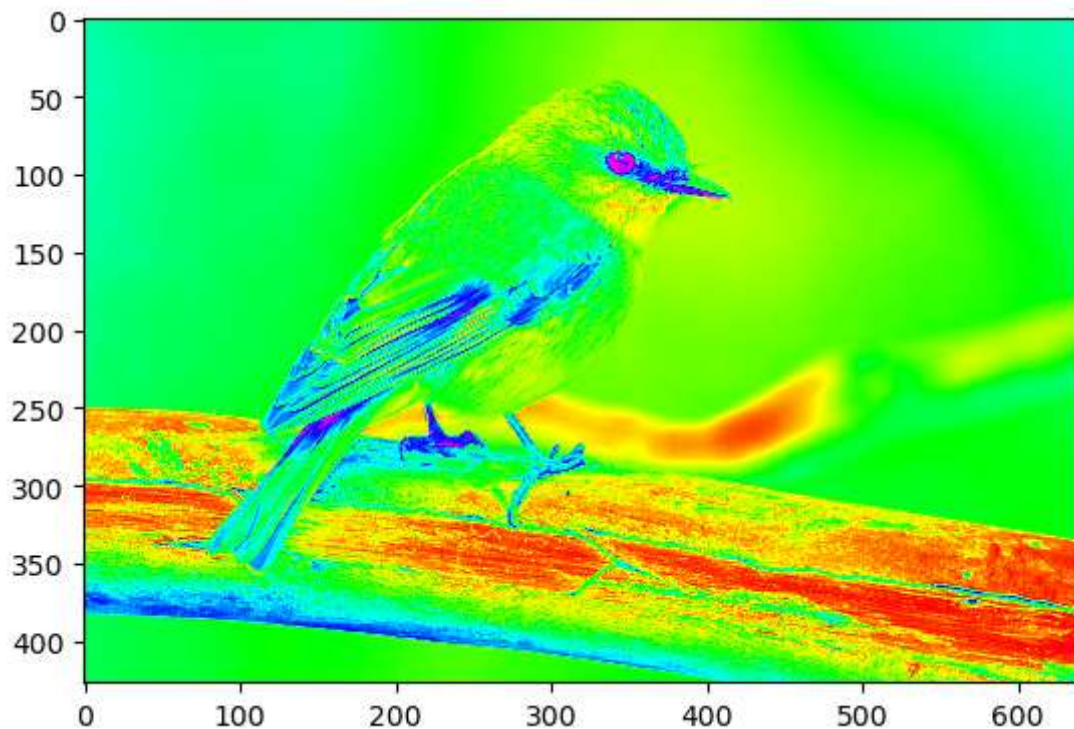
```
In [30]: # importing libraries.  
import numpy as np  
import matplotlib.pyplot as plt  
from PIL import Image  
  
# storing image path  
fname = r'bird.jpg'  
  
# opening image using pil  
image = Image.open(fname).convert("L")  
  
# mapping image to gray scale  
plt.imshow(image, cmap='gist_heat_r')  
plt.show()
```



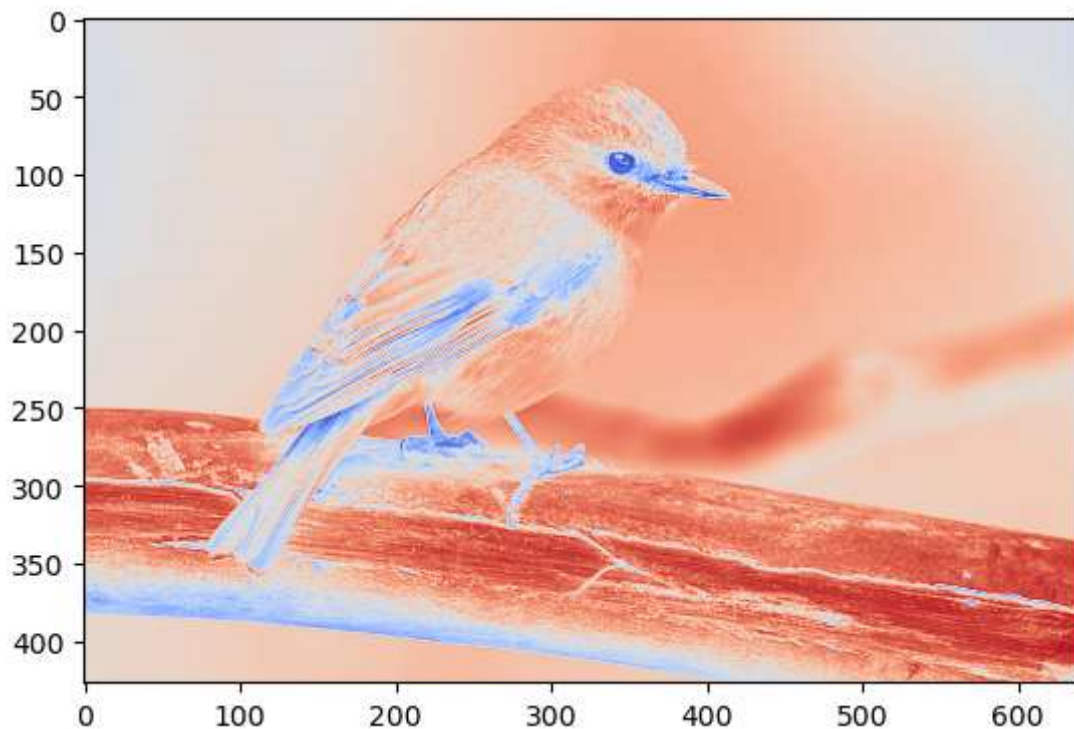
```
In [32]: # importing libraries.  
import numpy as np  
import matplotlib.pyplot as plt  
from PIL import Image  
  
# storing image path  
fname = r'bird.jpg'  
  
# opening image using pil  
image = Image.open(fname).convert("L")  
  
# mapping image to gray scale  
plt.imshow(image, cmap='Greens_r')  
plt.show()
```



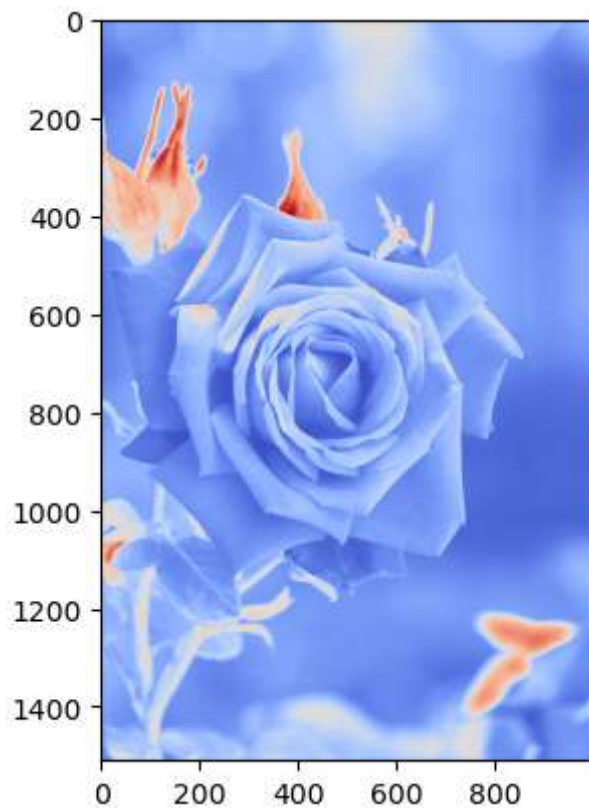
```
In [34]: # importing libraries.  
import numpy as np  
import matplotlib.pyplot as plt  
from PIL import Image  
  
# storing image path  
fname = r'bird.jpg'  
  
# opening image using pil  
image = Image.open(fname).convert("L")  
  
# mapping image to gray scale  
plt.imshow(image, cmap='gist_rainbow_r')  
plt.show()
```



```
In [36]: # importing libraries.  
import numpy as np  
import matplotlib.pyplot as plt  
from PIL import Image  
  
# storing image path  
fname = r'bird.jpg'  
  
# opening image using pil  
image = Image.open(fname).convert("L")  
  
# mapping image to gray scale  
plt.imshow(image, cmap='coolwarm')  
plt.show()
```



```
In [41]: # importing libraries.  
import numpy as np  
import matplotlib.pyplot as plt  
from PIL import Image  
  
# storing image path  
fname = r'rose.png'  
  
# opening image using pil  
image = Image.open(fname).convert("L")  
  
# mapping image to gray scale  
plt.imshow(image, cmap='coolwarm')  
plt.show()
```



```
In [47]: # importing libraries.  
import numpy as np  
import matplotlib.pyplot as plt  
from PIL import Image  
  
# storing image path  
fname = r'rose.png'  
  
# opening image using pil  
image = Image.open(fname).convert("RGB")  
  
# mapping image to gray scale  
plt.imshow(image, cmap='twilight')  
plt.show()
```



In [ ]: