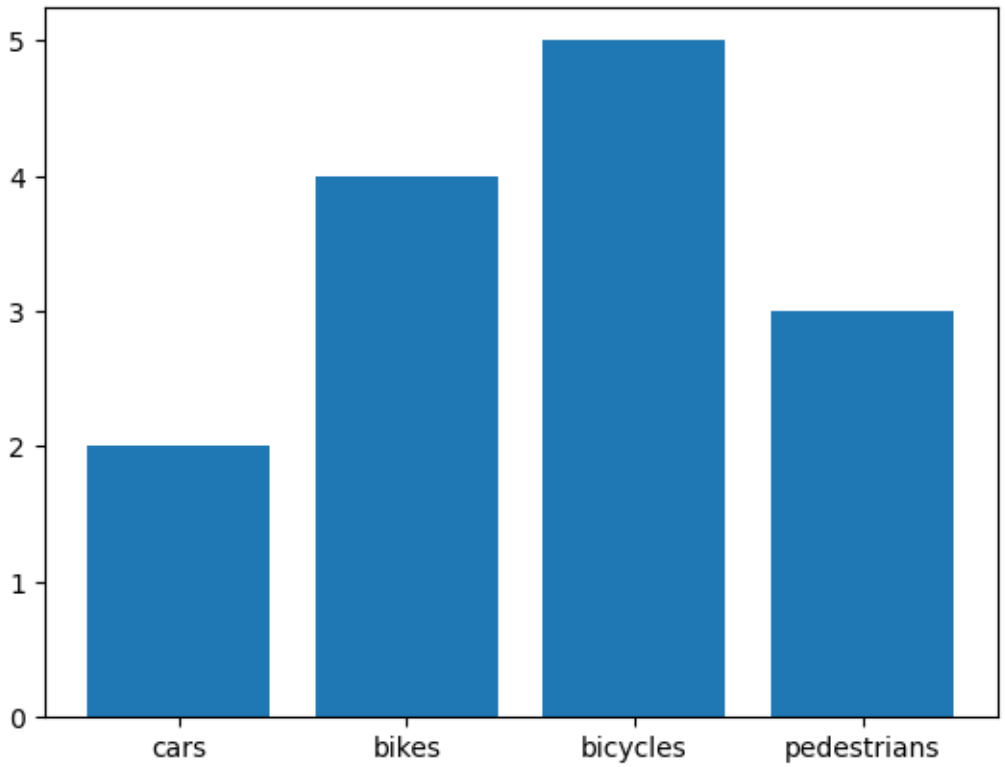
barchart-1

November 1, 2024

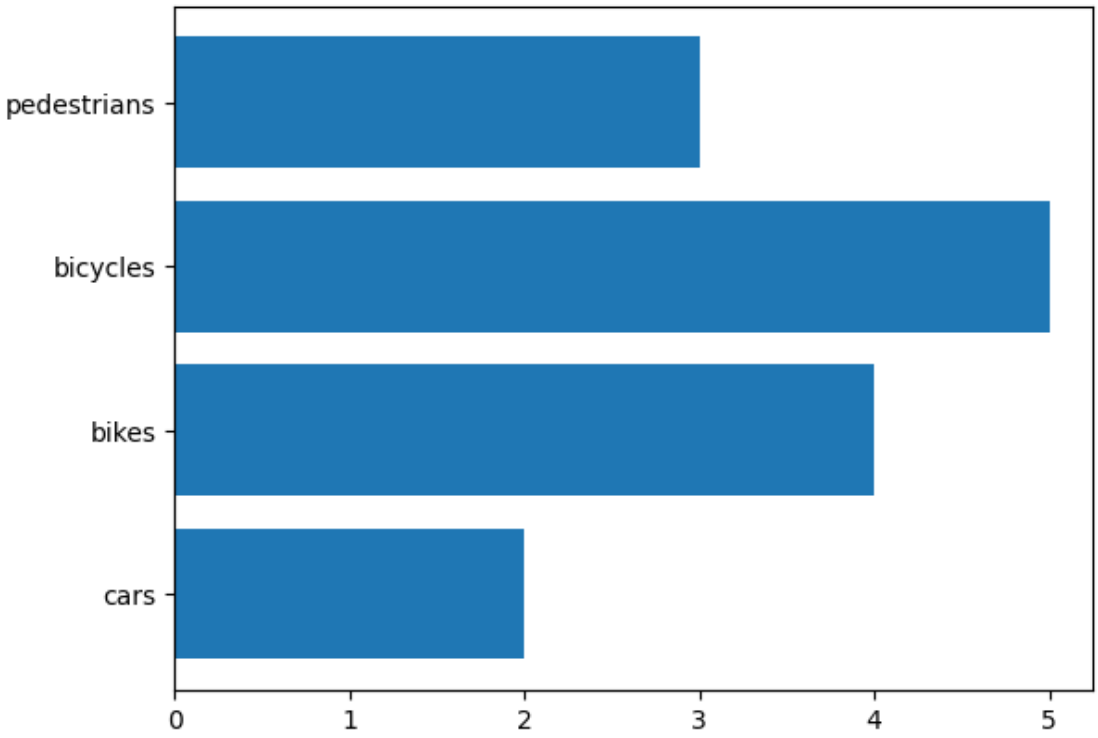
[1]:
```
import matplotlib.pyplot as plt
import numpy as np

#plt.bar(x, height, width, bottom, align)


#Vertical Bar Graph
x = [1, 2, 3, 4]
height = [2, 4, 5 , 3]
labels = ['cars', 'bikes', 'bicycles', 'pedestrians']
y = np.arange(0.2,100)
plt.bar(x, height, align='center')
plt.xticks(x, labels)    #optional to set the class names for the bars
#plt.yticks(x, y)     #optional to set the values of y axis
plt.show()
```



[2]:
```
#Horizontal Bar Graph
x = [1, 2, 3, 4]
height = [2, 4, 5 , 3]
labels = ['cars', 'bikes', 'bicycles', 'pedestrians']
y = np.arange(0.2, 100)
plt.barh(x, height, align='center')
plt.yticks(x, labels)    #optional to set the class names for the bars
#plt.xticks(x, y)     #optional to set the values of y axis
plt.show()
```

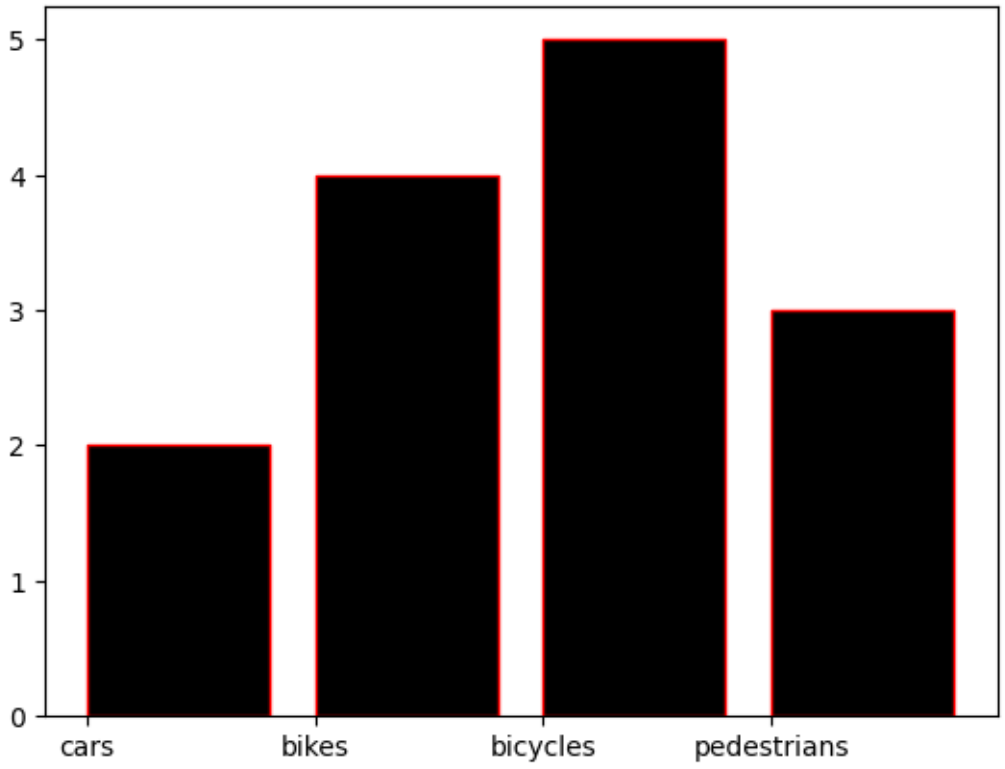


[3]:
```
y
```

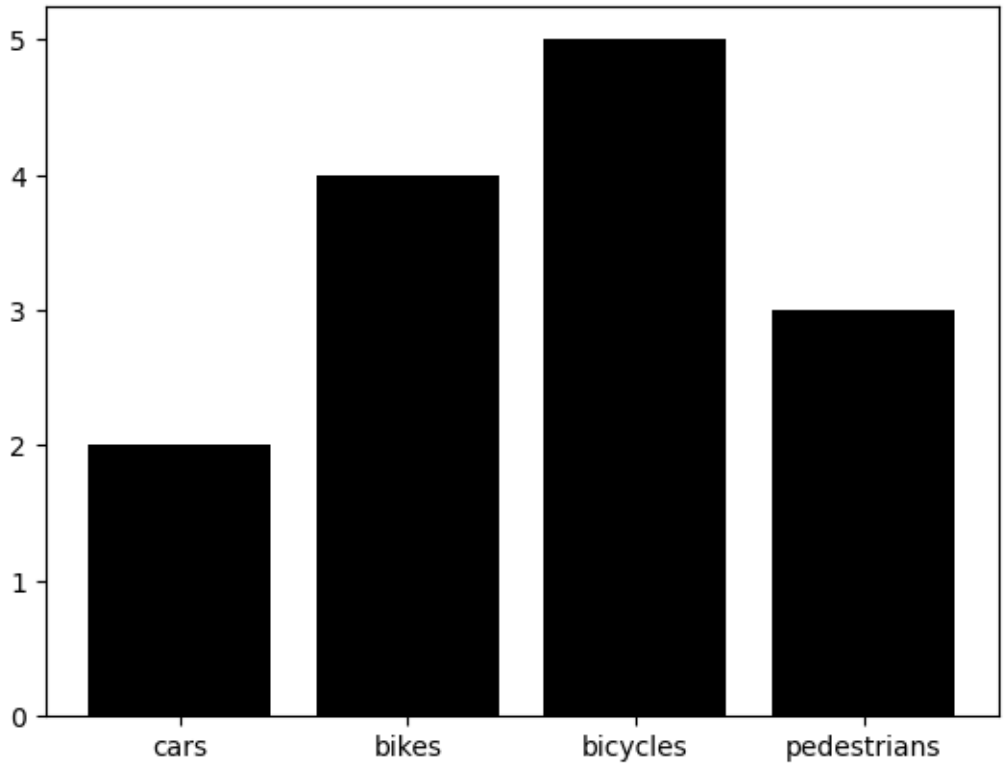
[3]:
```
array([ 0.2,  1.2,  2.2,  3.2,  4.2,  5.2,  6.2,  7.2,  8.2,  9.2, 10.2,
       11.2, 12.2, 13.2, 14.2, 15.2, 16.2, 17.2, 18.2, 19.2, 20.2, 21.2,
       22.2, 23.2, 24.2, 25.2, 26.2, 27.2, 28.2, 29.2, 30.2, 31.2, 32.2,
       33.2, 34.2, 35.2, 36.2, 37.2, 38.2, 39.2, 40.2, 41.2, 42.2, 43.2,
       44.2, 45.2, 46.2, 47.2, 48.2, 49.2, 50.2, 51.2, 52.2, 53.2, 54.2,
       55.2, 56.2, 57.2, 58.2, 59.2, 60.2, 61.2, 62.2, 63.2, 64.2, 65.2,
       66.2, 67.2, 68.2, 69.2, 70.2, 71.2, 72.2, 73.2, 74.2, 75.2, 76.2,
       77.2, 78.2, 79.2, 80.2, 81.2, 82.2, 83.2, 84.2, 85.2, 86.2, 87.2,
```

```
       88.2, 89.2, 90.2, 91.2, 92.2, 93.2, 94.2, 95.2, 96.2, 97.2, 98.2,
       99.2])
```

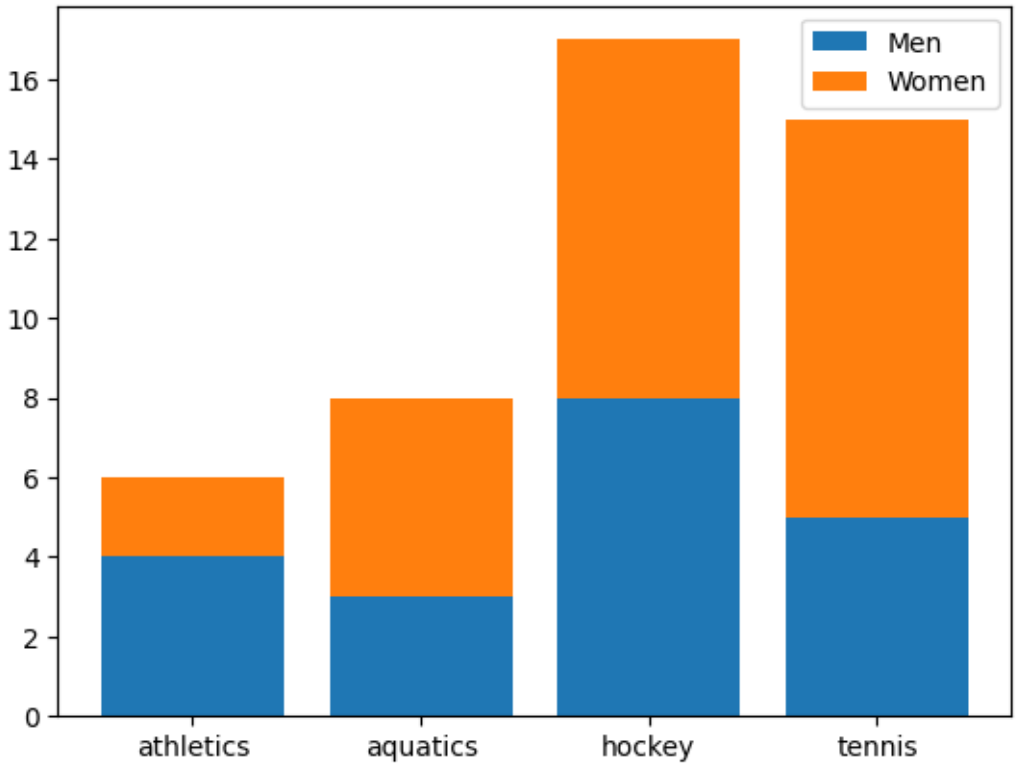
[4]:
```
#edge aligned bar charts
plt.bar(x, height, align='edge',ec='red',color='black')
plt.xticks(x, labels)
plt.show()
```



[5]:
```
#setting the colours of the bars
plt.bar(x, height, color='black')
plt.xticks(x, labels)
plt.show()
```



[6]:
```
#stacked bar chart
x = [1, 2, 3, 4]
men = [4, 3, 8, 5]
women = [2, 5, 9, 10]
labels = ['athletics', 'aquatics', 'hockey', 'tennis']
p1 = plt.bar(x, men)
p2 = plt.bar(x, women, bottom=men)
plt.xticks(x, labels)
plt.legend((p1[0], p2[0]), ('Men', 'Women'))
plt.show()
```



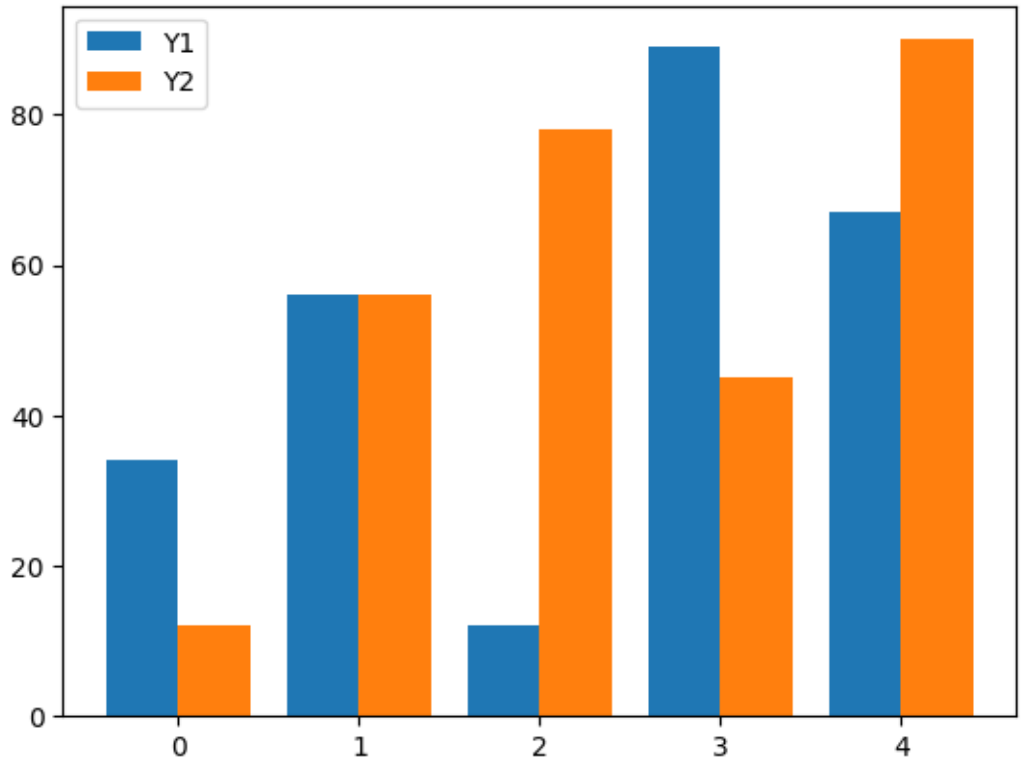
[7]:
```
np.arange(0.2,100)
```

[7]:
```
array([ 0.2,  1.2,  2.2,  3.2,  4.2,  5.2,  6.2,  7.2,  8.2,  9.2, 10.2,
       11.2, 12.2, 13.2, 14.2, 15.2, 16.2, 17.2, 18.2, 19.2, 20.2, 21.2,
       22.2, 23.2, 24.2, 25.2, 26.2, 27.2, 28.2, 29.2, 30.2, 31.2, 32.2,
       33.2, 34.2, 35.2, 36.2, 37.2, 38.2, 39.2, 40.2, 41.2, 42.2, 43.2,
       44.2, 45.2, 46.2, 47.2, 48.2, 49.2, 50.2, 51.2, 52.2, 53.2, 54.2,
       55.2, 56.2, 57.2, 58.2, 59.2, 60.2, 61.2, 62.2, 63.2, 64.2, 65.2,
       66.2, 67.2, 68.2, 69.2, 70.2, 71.2, 72.2, 73.2, 74.2, 75.2, 76.2,
       77.2, 78.2, 79.2, 80.2, 81.2, 82.2, 83.2, 84.2, 85.2, 86.2, 87.2,
       88.2, 89.2, 90.2, 91.2, 92.2, 93.2, 94.2, 95.2, 96.2, 97.2, 98.2,
       99.2])
```

[8]:
```
# importing package
import matplotlib.pyplot as plt
import numpy as np

# create data
x = np.arange(5)    #0,1,2,3,4
y1 = [34, 56, 12, 89, 67]
y2 = [12, 56, 78, 45, 90]
width = 0.40
```

```
# plot data in grouped manner of bar type
p1=plt.bar(x-0.2, y1, width)
p2=plt.bar(x+0.2, y2, width)
plt.legend((p1[0], p2[0]), ('Y1', 'Y2'))
plt.show()
```



[9]:
```
# importing package
import matplotlib.pyplot as plt
import numpy as np

# create data
x = np.arange(5)
y1 = [34, 56, 12, 89, 67]
y2 = [12, 56, 78, 45, 90]
y3 = [14, 23, 45, 25, 89]
width = 0.2

# plot data in grouped manner of bar type
plt.bar(x-0.2, y1, width, color='cyan')
plt.bar(x, y2, width, color='orange')
plt.bar(x+0.2, y3, width, color='green')
```

```
plt.xticks(x, ['Team A', 'Team B', 'Team C', 'Team D', 'Team E'])
plt.xlabel("Teams")
plt.ylabel("Scores")
plt.legend(["Round 1", "Round 2", "Round 3"])
plt.show()
```