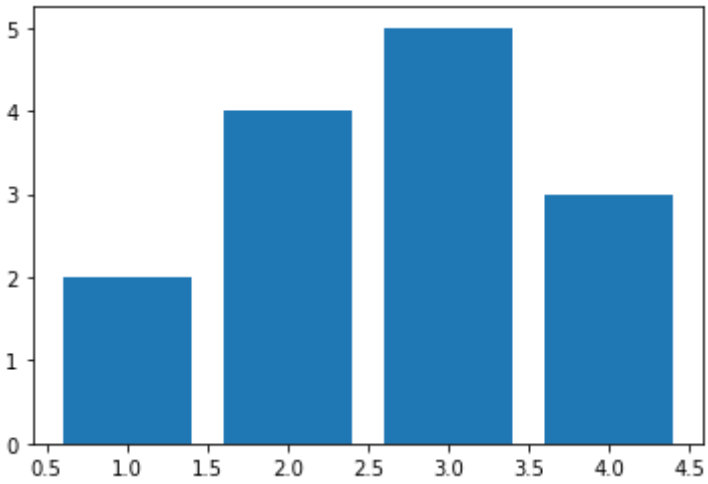
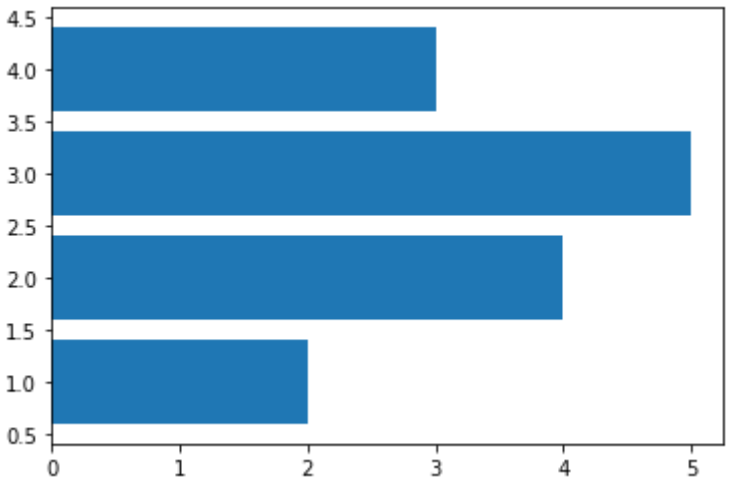
In [4]:

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

#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()
```



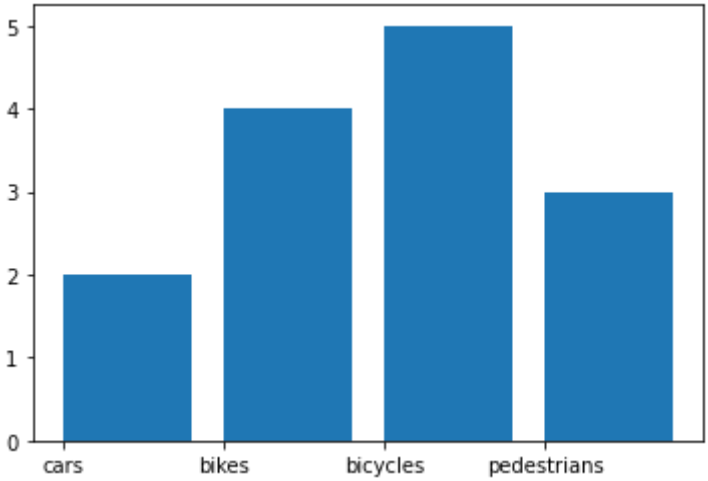
In [5]:

```
#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()
```



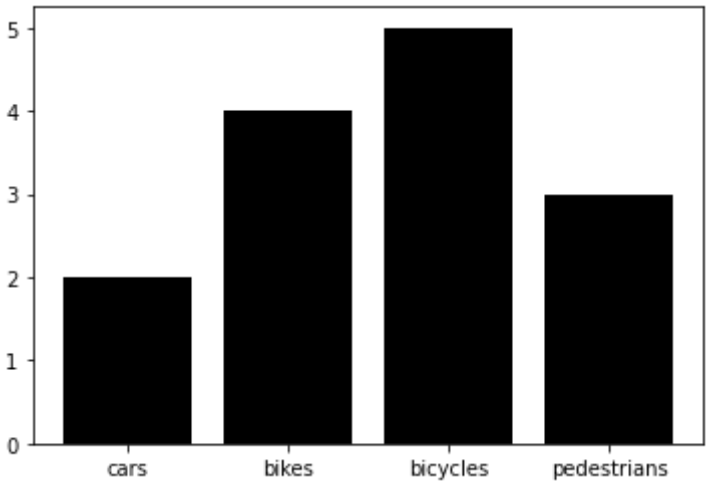
In [6]:

```
#edge aligned bar charts
plt.bar(x, height, align='edge')
plt.xticks(x, labels)
plt.show()
```



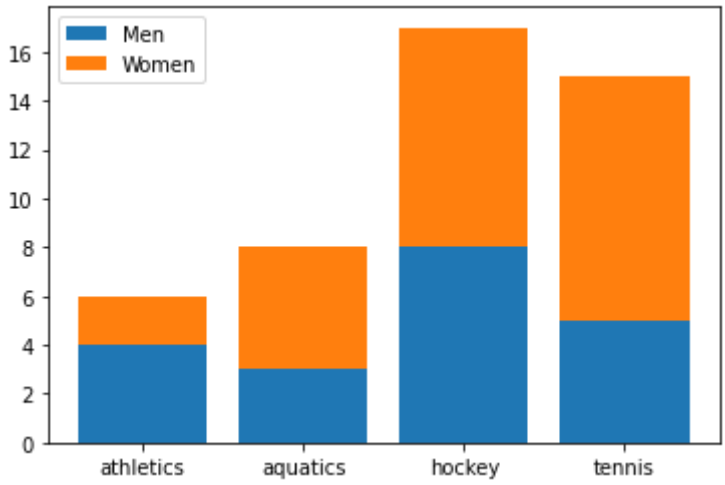
In [7]:

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



In [8]:

```
#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()
```

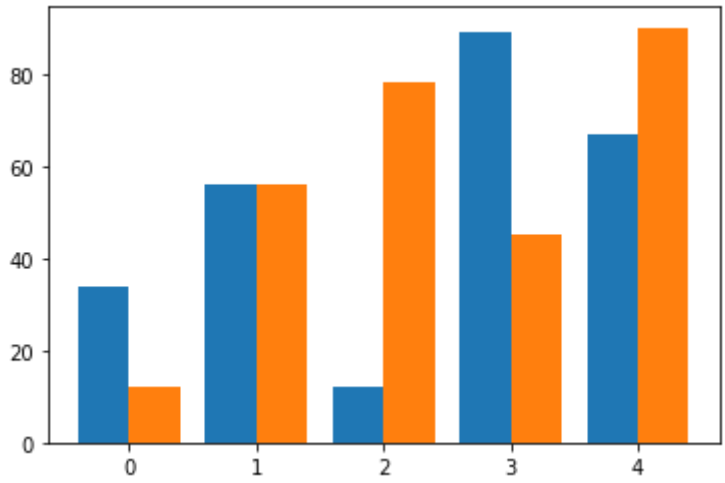


In [17]:

```
x = np.arange(5)
y1 = [34, 56, 12, 89, 67]
y2 = [12, 56, 78, 45, 90]
width = 0.40

# plot data in grouped manner of bar type
plt.bar(x-0.2, y1, width)
plt.bar(x+0.2, y2, width)
```

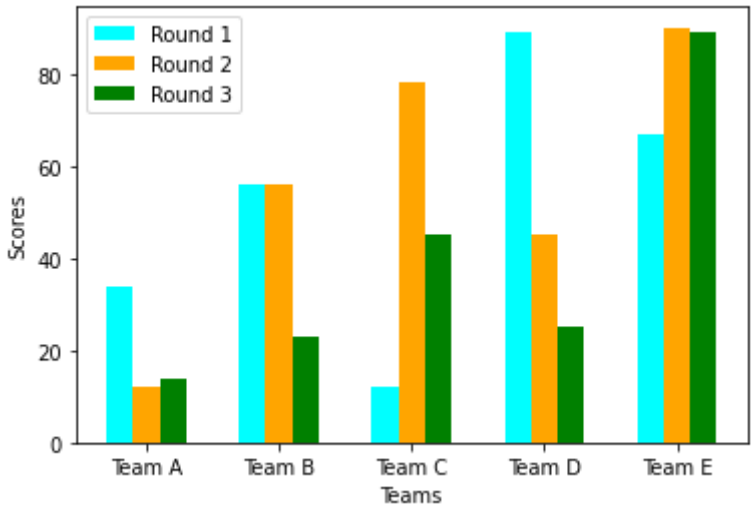
Out[17]:

```
<BarContainer object of 5 artists>
```



In [16]:

```
# 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()
```



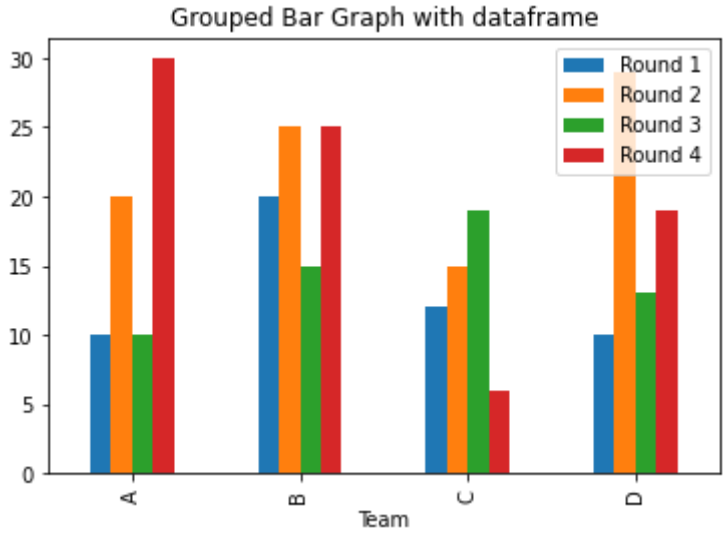
In [19]:

```
import pandas as pd

# create data
df = pd.DataFrame([['A', 10, 20, 10, 30], ['B', 20, 25, 15, 25], ['C', 12, 15, 19, 6
                    ['D', 10, 29, 13, 19]],
                  columns=['Team', 'Round 1', 'Round 2', 'Round 3', 'Round 4'])
# view data
print(df)

# plot grouped bar chart
df.plot(x='Team',
        kind='bar',
        stacked=False,
        title='Grouped Bar Graph with dataframe')
```

```
  Team  Round 1  Round 2  Round 3  Round 4
0    A       10       20       10       30
1    B       20       25       15       25
2    C       12       15       19        6
3    D       10       29       13       19
```

Out[19]:

```
<AxesSubplot:title={'center':'Grouped Bar Graph with dataframe'}, xlabel='Team'>
```



In [ ]: