Python Lab - 11

11.Write python program to show following plots using Matplotlib library.

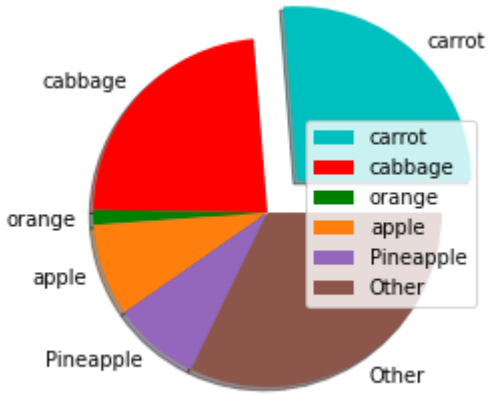
a.To create a pie chart of the popularity of programming Languages

b.To create bar plot of scores by group and gender. Use multiple X values on the same chart for men and women.

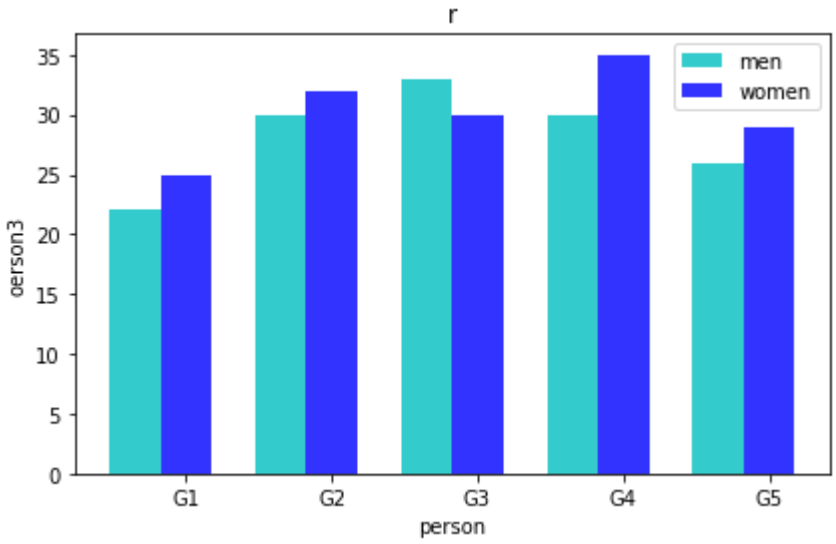
c. To draw a scatter plot comparing two subject marks.

In [4]:
```
import matplotlib.pyplot as plt
%matplotlib inline
```

In [5]:
```
popularity = [23.95,21.42,1.26,7.82,7.37,29.38]
mylabels = ['carrot','cabbage','orange','apple','Pineapple','Other']
myexplodes = [0.25,0,0,0,0,0]
mycolors = ['c','r','g','#FF7F0E','#9467BD','#8C564B']

# pie function contains various parameters namely lables , explode , shadow, c
olours and start angle
plt.pie(popularity,
    labels = mylabels,
    explode= myexplodes,
    shadow= True,
    colors= mycolors)

#loc parameter changes the location of the legend
plt.legend(loc=5)
plt.show()
```



In [8]:
```
import numpy as np

# data to plot
n_groups = 5
men_means = (22, 30, 33, 30, 26)
women_means = (25, 32, 30, 35, 29)

# create plot
fig, ax = plt.subplots()
index = np.arange(n_groups)
bar_width = 0.35
opacity = 0.8

rects1 = plt.bar(index, men_means, bar_width,
alpha=opacity,
color='c',
label='men')

rects2 = plt.bar(index + bar_width, women_means, bar_width,
alpha=opacity,
color='b',
label='women')

plt.xlabel('person')
plt.ylabel('oerson3')
plt.title('r')
plt.xticks(index + bar_width, ('G1', 'G2', 'G3', 'G4', 'G5'))
plt.legend()

plt.tight_layout()
plt.show()
```



In [7]:
```
subject1 = [88, 92, 80, 89, 100, 80, 60, 100, 80, 84]
subject2 = [95, 79, 79, 48, 100, 88, 52, 45, 60, 30]
marks_range = [10, 20, 30, 40, 50, 60, 70, 80, 90, 100]

plt.scatter(marks_range, subject1, label='Math marks', color='c')
plt.scatter(marks_range, subject2, label='Science marks', color='b')
plt.title('Scatter Plot')
plt.xlabel('Marks Range')
plt.ylabel('Marks Scored')
plt.legend()
plt.show()
```