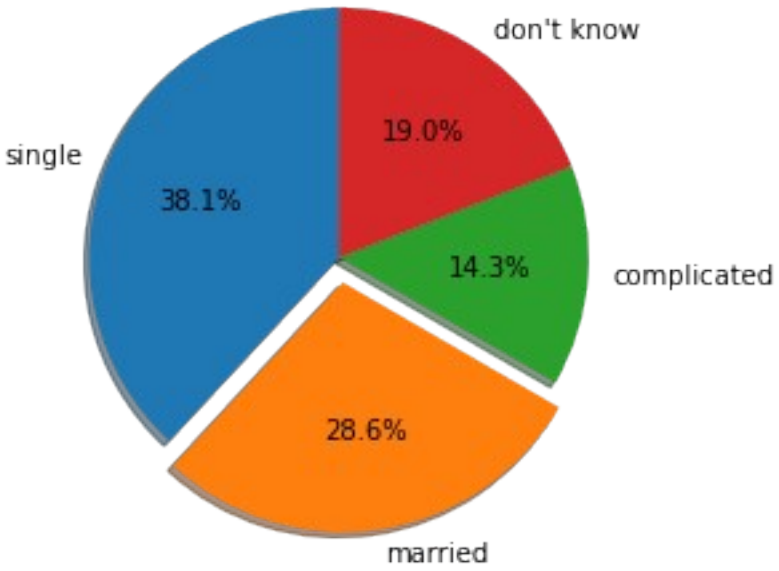
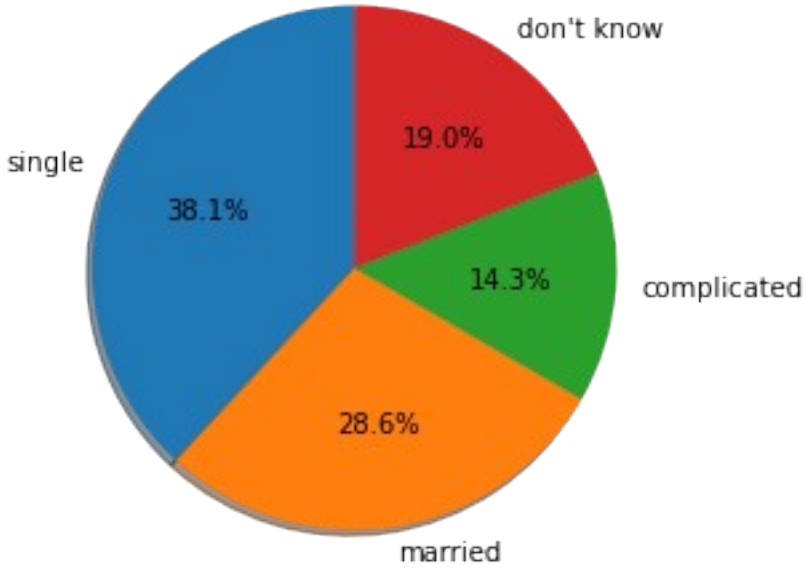
```
#import matplotlib for visualization
import matplotlib.pyplot as plt

a="single","married","complicated","don't know"
sizes=[40,30,15,20]
explode = (0, 0.1, 0, 0) #get that slice out
fig1,ax1=plt.subplots()
ax1.pie(sizes,explode = explode,labels=a,autopct='%1.1f%
%',shadow=True,startangle=90)
ax1.axis('equal')
plt.show()
```



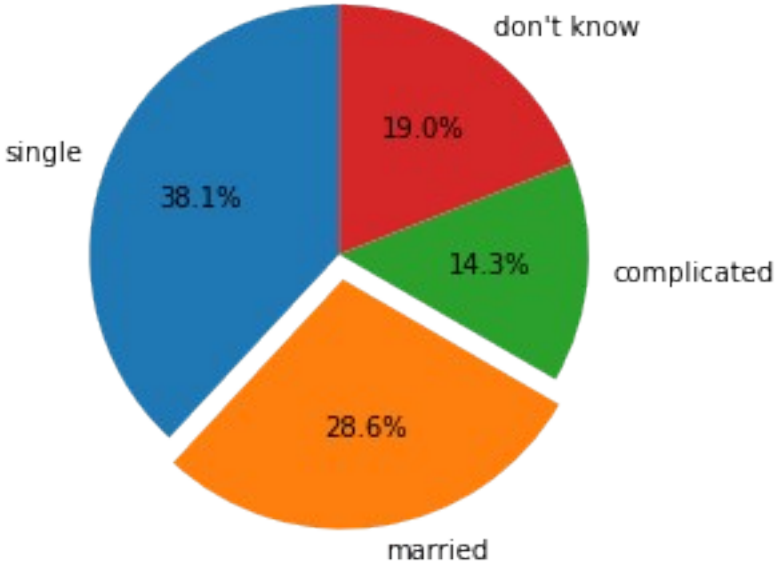
pie chart showing the percentage and name

```
#eliminate the explode option from the ax1.pie(…)

a="single","married","complicated","don't know"
sizes=[40,30,15,20]
explode = (0, 0.1, 0, 0) #get that slice out
fig1,ax1=plt.subplots()
ax1.pie(sizes,labels=a,autopct='%1.1f%%',shadow=True,startangle=90)
ax1.axis('equal')
plt.show()
```

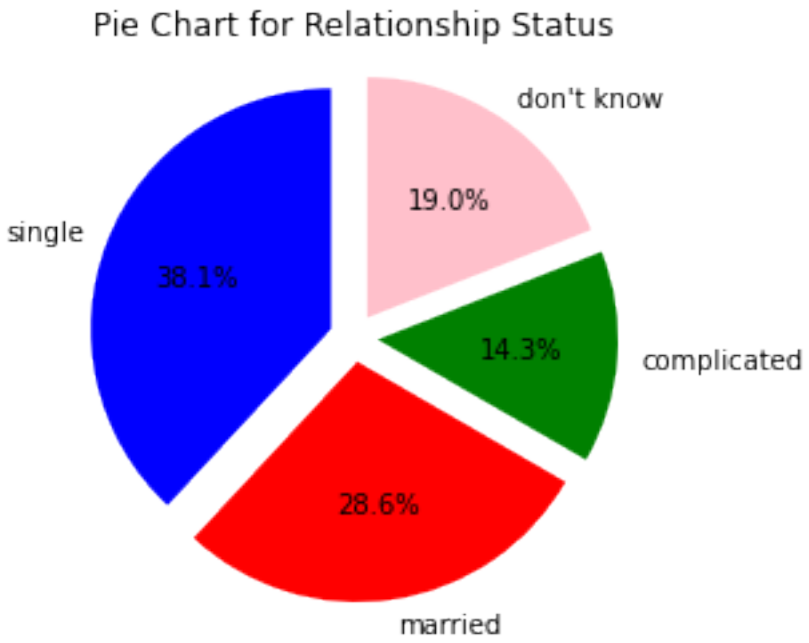


Here we don't have explodes in the section after removing explode

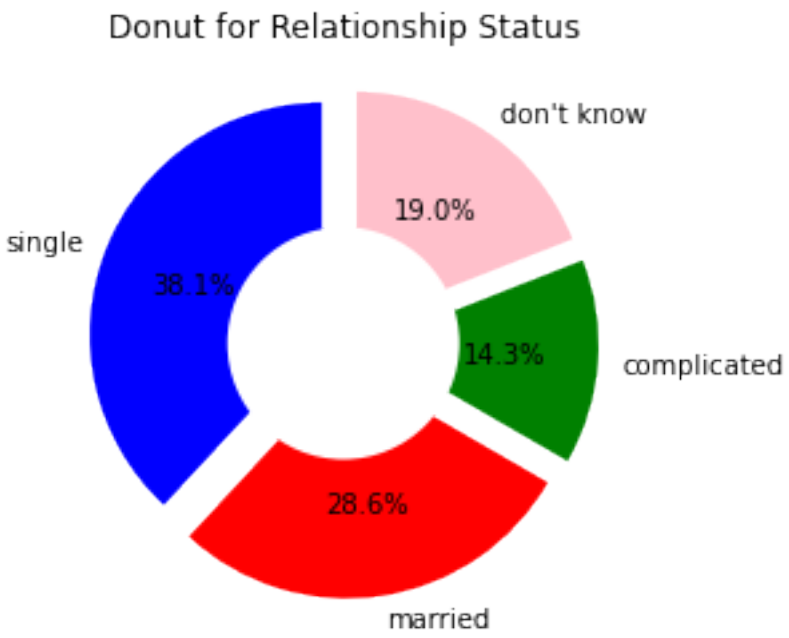
```
#Eliminate shadow=True, check
#Put back the explodes

a="single","married","complicated","don't know"
sizes=[40,30,15,20]
explode = (0, 0.1, 0, 0) #get that slice out
fig1,ax1=plt.subplots()
ax1.pie(sizes,explode = explode, labels=a,autopct='%1.1f%
%',startangle=90)
ax1.axis('equal')
plt.show()
```




```
#c) Let's try to make a graph reading from a file

import pandas as pd

dataset = pd.read_csv('file1.csv')

#distribute dataset into label and size
label = dataset['labels']
size = dataset['sizes']

#specifying color for the portions
color = ['blue', 'red', 'green', 'pink']

#explode portions
explode = (0.1, 0.1, 0.1, 0.1)

plt.pie(size, labels=label, autopct='%1.1f%%', colors=color,
startangle=90, explode = explode)
plt.title('Pie Chart for Relationship Status')
plt.axis('equal')
plt.show()
```




```
# (d): turn pie chart into donut

dataset = pd.read_csv('file1.csv')

#distribute dataset into label and size
label = dataset['labels']
size = dataset['sizes']

#specifying color for the portions
color = ['blue', 'red', 'green', 'pink']



#explode portions
explode = (0.1, 0.1, 0.1, 0.1)

plt.pie(size, labels=label, autopct='%1.1f%%', colors=color,
startangle=90, explode = explode)

circle = plt.Circle((0, 0), 0.50, fc='white')
figure = plt.gcf()
figure.gca().add_artist(circle)

plt.title('Donut for Relationship Status')
# plt.axis('equal')
plt.show()

#help taken from this site: https://www.geeksforgeeks.org/donut-chart-
using-matplotlib-in-python/
```




```
# (e):

#reading text of practice
#counting word 'of'


file = open('text.txt', 'r', encoding="utf-8")

#input specific word from user
word = input("Enter a word: ")

strng = file.read()

lst = strng.split()

count = 0
for i in lst:
    if(i == word):
        count = count + 1

print("{} occured {} times".format(word, count))
```

```
Enter a word: of
of occured 5 times
```

```
#reading text of practice
#counting word 'the'


file = open('text.txt', 'r', encoding="utf-8")
```

```
#input specific word from user
word = input("Enter a word: ")

strng = file.read()

lst = strng.split()

count = 0
for i in lst:
    if(i == word):
        count = count + 1

print("{} occured {} times".format(word, count))
```

```
Enter a word: the
the occured 22 times
```

```
#reading text of practice
#counting word 'that'


file = open('text.txt', 'r', encoding="utf-8")

#input specific word from user
word = input("Enter a word: ")

strng = file.read()

lst = strng.split()

count = 0
for i in lst:
    if(i == word):
        count = count + 1

print("{} occured {} times".format(word, count))
```

```
Enter a word: that
that occured 3 times
```

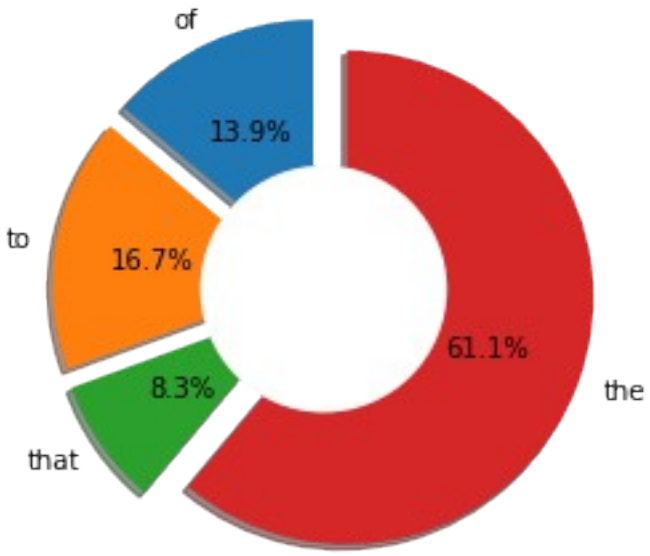
```
#reading text of practice
#counting word 'to'


file = open('text.txt', 'r', encoding="utf-8")

#input specific word from user
word = input("Enter a word: ")
```

```
strng = file.read()

lst = strng.split()

count = 0
for i in lst:
    if(i == word):
        count = count + 1

print("{} occured {} times".format(word, count))


#help taken for counting from video: https://www.youtube.com/watch?
v=jBgDhGY-roY
```

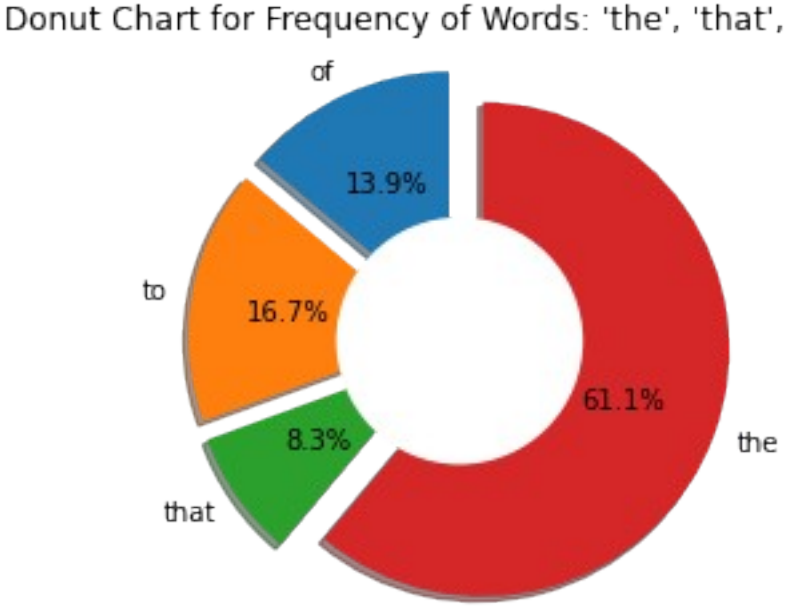
```
Enter a word: to
to occured 6 times
```

since we found that: of = 5 times to = 6 times that = 3 times the = 22 times

```
#now plot a donut for words: 'of', 'the', 'that', and 'to'

words='of', 'to', 'that', 'the'
frequency = [5, 6, 3, 22]

explode = (0.1, 0.1, 0.1, 0.1)
fig1,ax1=plt.subplots()
ax1.pie(frequency,explode = explode,labels=words,autopct='%1.1f%
%',shadow=True,startangle=90)

circle = plt.Circle((0, 0), 0.50, fc='white')
figure = plt.gcf()
figure.gca().add_artist(circle)

ax1.axis('equal')
plt.show()
```




```
# (f): putting a name for the graph

words='of', 'to', 'that', 'the'
frequency = [5, 6, 3, 22]

explode = (0.1, 0.1, 0.1, 0.1)
fig1,ax1=plt.subplots()
ax1.pie(frequency,explode = explode,labels=words,autopct='%1.1f%
%',shadow=True,startangle=90)

circle = plt.Circle((0, 0), 0.50, fc='white')
figure = plt.gcf()
figure.gca().add_artist(circle)

plt.title("Donut Chart for Frequency of Words: 'the', 'that', 'to',
'of'")
ax1.axis('equal')
plt.show()
```


Donut Chart for Frequency of Words: 'the', 'that', 'to', 'of'
of
13.9%
to
16.7%
61.1%
the
8.3%
that