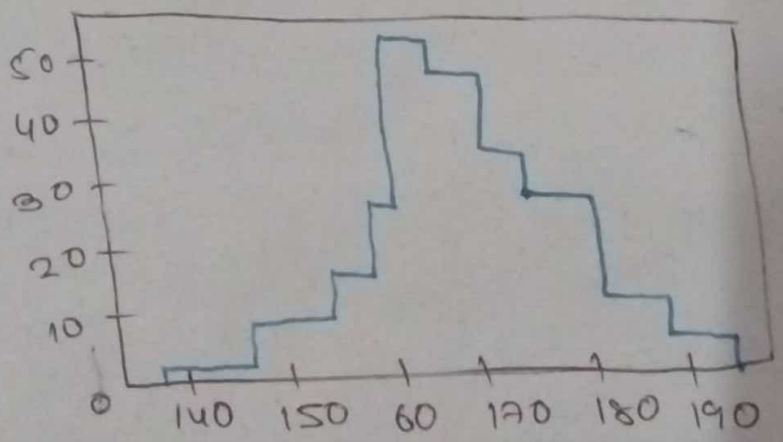
Matplotlib Histograms

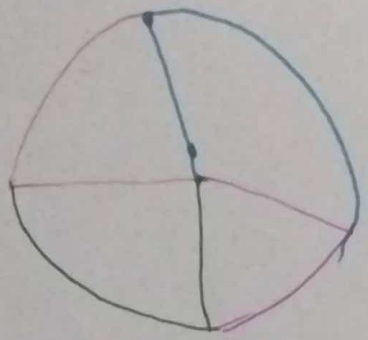
A histogram is a graph showing frequency distributions.
In matplotlib, we use the hist() function to create histograms.
It is a graph showing the number of observations within each given interval

```
x = np.random.normal(170, 10, 250)
plt.hist(x)
plt.show()
```



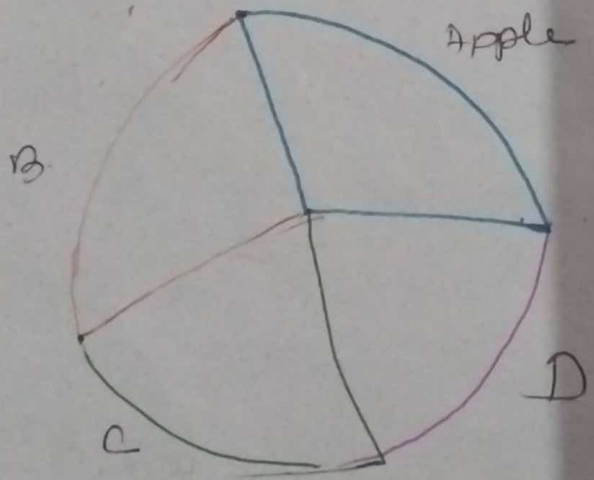
Matplotlib Pie Charts

```
y = np.array([35, 25, 25, 15])
plt.pie(y)
plt.show()
```



Labels

```
y = np.array([55, 25, 25, 15])
mylabels = ['Apples', 'Banana', 'Cherries', 'Dates']
plt.pie(y, labels = mylabels)
plt.show()
```



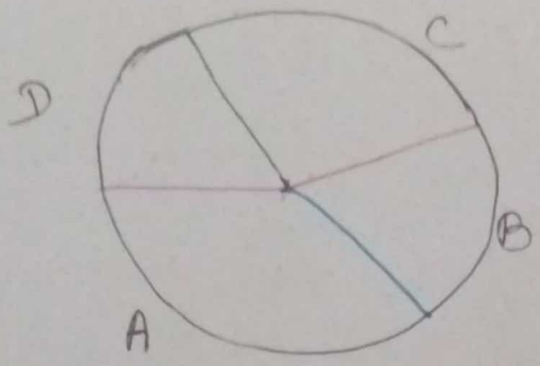
Start Angle

As mentioned the default start angle is at the x-axis, but you can change the start angle by specifying a startangle parameter.

The startangle parameter is defined with an angle in degrees, default angle is 0:

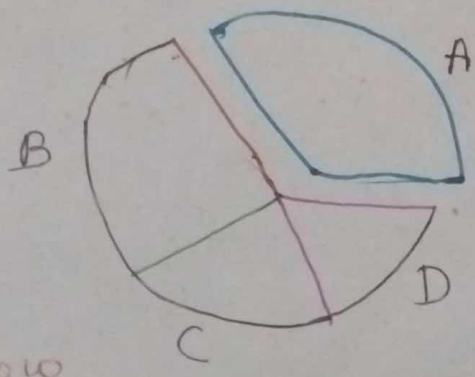
Eg:

```
y = np.array([35,25,25,15])
mylabels = ['Apples', 'Banana', 'Cherries', 'Dates']
plt.pie(y, labels = mylabels, startangle 180
```



Explode

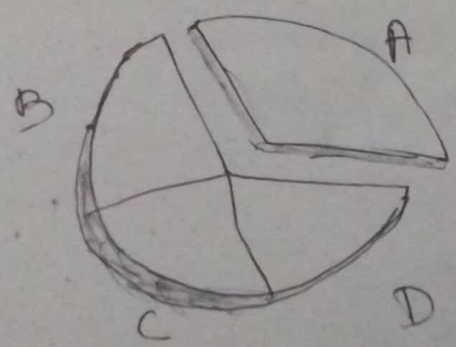
```
y = np.array([35,25,25,15])
mylabels = ['Apples', 'Banana', 'Cherries', 'Dates']
myexplode = [0.2,0,0,0]
plt.pie(y, labels = mylabels, explode = myexplo
plt.show()
```



Shadow

Add a shadow to the pie chart by setting the shadows parameter to True

```
plt.pie(y, labels = mylabels, explode = myexplode,
                                shadow = True)
```

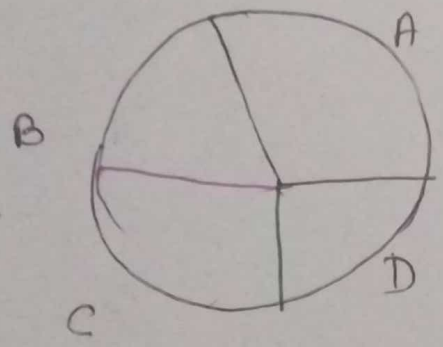


Colors

~~plt.pie(y, labels = mylabels, color = m~~

mycolors = ['black', 'hotpink', 'orange', 'blue']

plt.pie(y, labels = mylabels, color = mycolor)



Legend

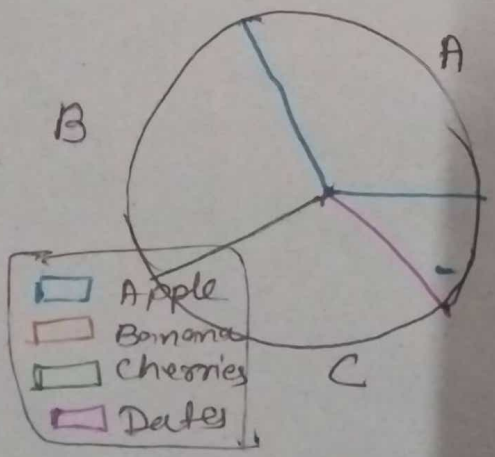
y = np.array([35, 25, 25, 15])

mylabels = ['Apple', 'Banana', 'Cherries', 'Dates']

plt.pie(y, labels = mylabels)

plt.legend()

plt.show()



Legend With Header

plt.legend(title = 'Four Fruits')