Assignment 0:

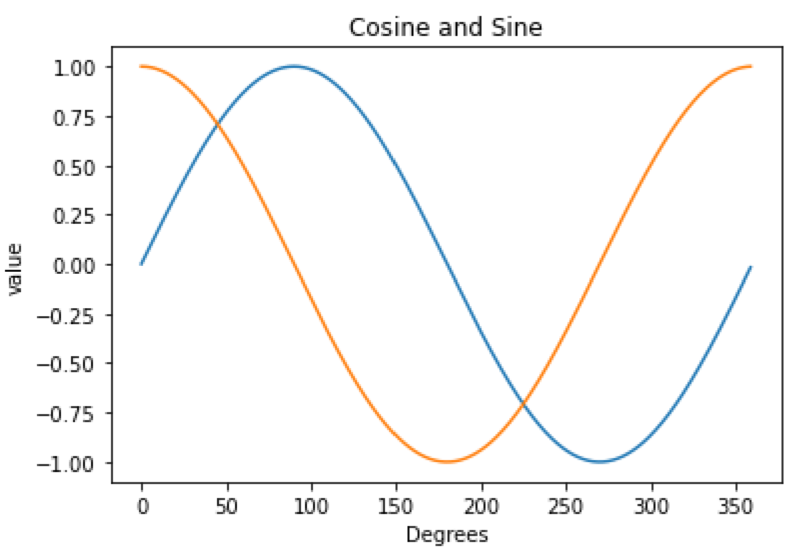
Data science is using statistics and math to come to conclusions about a given data set

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

%matplotlib inline
sin=[]
cos=[]
for x in range(360):
    sin+=[np.sin(x*np.pi/180)]
    cos+=[np.cos(x*np.pi/180)]

plt.plot(sin)
plt.plot(cos)
plt.title('Cosine and Sine')
plt.ylabel('value')
plt.xlabel('Degrees')
```

Out[1]:
```
Text(0.5, 0, 'Degrees')
```



Course Policies

1. Communication channels include: Office hours, Canvas discussion board, Emailed directly to the professor or discussed in a phone call (If FERPA protection is required), or the slack page.
2. All late work is acceptable so long as the solutions have not already been uploaded by the professor. This will elicit a score drop prior to the solutions being posted or a 0 after the solutions have been posted.
3. If an assignment needs to be regraded, it must be discussed with the professor within one week of the original score being posted. The entire assignment will then be subject to a regrade.
4. Healthy collaboration includes: discussing course material with peers, discussing assignments to better understand the expectations, and aiding with general programming and debugging. Whenever you use one of these methods for an assignment, that student should be cited along with other resources. It does not include sharing direct solutions to problems and assignments
5. A computer with a webcam and stable internet connection is required to take Honorlock exams. Additionally, you will need the Honorlock Chrome extention.

Pre-requisites

I took Calculus II in the Spring 2019 semester and have reviewed the provided material. That being said, I still hate sequences and series

$$f(x) = xe^{-x^2}$$

$$\int_0^2 xe^{-x^2}\,dx \qquad u = x^2 \quad du = 2x\,dx$$

$$[0,2] \rightarrow [0,4]$$

$$-\frac{1}{2}\int_0^4 e^{-u}\,du = \frac{1}{2}\left(-e^{-u}\right)\Big|_0^4 \Rightarrow -\frac{1}{2}e^{-u}\Big|_0^4$$

$$= \frac{-e^{-4}}{2} + \frac{1}{2}$$