

Fibonacci using loop
Loops - using processor

```
e.g.  
x = 1  
y = 1  
print(y)  
while True:  
    z = x + y  
    x = y  
    y = z  
    print(y)
```

Fibonacci using function
Recursion - using RAM

```
e.g.  
x = 1  
y = 1  
def fib(x, y):  
    print(x + y)  
    fib(y, x + y)  
def fib(x, y):  
    print(x)  
    print(y)  
    fib(x, y)
```

pip - package installer for python
-numpy, scipy etc... python libraries

Python Libraries

- Numpy, Scipy library for calculations and stuff
- Matplotlib library for visualization
- Scikit-learn library for various ML algo implementation
- lasagne and keras library for DL algo implementation
- nltk library for natural language processing

Natural Language Processing (NLP):

- early objective: part of speech tagging
- label every word with a part of speech
 - supervised classification task

* different from normal supervised classification (as context)

e.g. 1. I bat for this team.

2. This is a bat.

Note: 1. bat - verb

2. bat - noun

- segmentation
 - * breaking sentence into segments/parts
- tokenization
 - * converting segments into tokens/numbers
- Named Entity Detection
 - * \start and \stop tokens added before words to find specific phrases/named entities in text
 - * State of the Art Models also give ~70-80% accuracy
- stanford coreNLP library
 - * for NLP algo implementation - not SOTA but pretty good girl
- most NLP datasets based on news related texts, journalistic text
- direct and not have lot of references, therefore need better datasets for coreference resolution
 - * e.g. confusing text with lot of references asked while quizzing