Introduction to Computer Programming

Section 8

Lecture 26

Recursion
A tree is “self-similar”.

You can cut off a branch, and it has the same shape and structure as the original tree.

And so on....
Trees in Programs

This is a parse tree for understanding English

```
S
  NP
    Adj Fruit
    N flies
  VP
    V like
    NP
      Det a
      N banana
```
To draw a tree in python, use recursive functions.

A recursive function is a function that calls itself!!

To avoid an infinite recursion, the function must have an if statement that implements:

a) A base case that returns

b) Recursive calls to the function with arguments that make the problem “smaller”