Importing modules

There are thousands of programs that others have written that you can include in your own program.

The os (short for operating system) module comes with a basic python installation

```
import os
```

use dir() to see what belongs to it

```
dir(os)
```

Working with text files

Objects of type "file" can be created using the `file()` function that comes in __builtins__.

The `file()` method is used to create or open a file. It takes a filename (a string) and a one letter string, either 'w' for write, 'r' for read, or 'a' for append.

Read about the `file()` function.

```
help(file)
```

Try creating a file:

```
a = file("test.txt","w")
type (a)
dir (a)
a.write("hello file world")
a.close()
```

Now go look at this file (e.g. open it in a text editor)

Download the file Dromel_Adh.fasta from google drive to your folder .
Open the file using "r" mode:

```
fname = "Dromel_Adh.fasta"
adhfile = file(fname,"r")
```

Read the lines into a list using the readlines() function (which belongs to things of type file). Then close the file:

```
linelist = adhfile.readlines()
adhfile.close()
```

Look at linelist:

```
type(linelist)
len(linelist)
linelist[0]
linelist[1]
```

Functions - pieces of code that form their own separate program within a program .

Functions within a program can be called and executed from other parts of the program

Functions use the keyword def and often use the keyword return.
The first line of a function should be a string that begins and ends in triple quotes ("""). This string can then be used by the help function to return information about the function

```
def myprint (toprint) :
    """simple print function example"""
    print "now printing: ",toprint
```

```
 myprint(“hello”)

def plusone (addto) :
    """ simple addition function example"""
    return addto + 1

a= plusone(3.5)
```