

# Python Decorators

**Fun With Functions!**

# Functions

Type This:

```
def add(x,y):  
    return x + y
```

```
add(2,3)
```

# Function Scope

```
def add():  
    x = 2  
    y = 3  
    return x+y  
  
add()  
5  
  
print x -- NO!  
print y -- NOPE!
```

# Scope? Scope! What Th--!!

```
def add(x,y):  
    print x  
    print y  
    return x+y
```

```
add(2,3)  
print x  
print y
```

# Functions in Functions

TYPE THIS:

```
def math(x,y):  
    def add():  
        print "Adding",x,y  
        return x+y  
  
    return add
```

# Stay Calm & Type This...

```
a = math(2,3)
```

```
a
```

```
a()
```

# WHOA WHOA WHOA!

What the hell, yo?

Assigned the function 'add' with the params 2,3  
Now have a new 'handle' to the add function;  
'a'

What is this black voo-doo magic!?

# Let's Look At It...

```
def math(x,y):  
    print "You entered:" , x, y  
    def add():  
        print "Adding", x,y  
        return x + y  
    return add
```



# Closures

“An inner function which is returned as the result of the outer function is known as a closure.”

You just wrote a ‘closure’! w00t!!

# Why On EARTH Would I...

EVER want to do this?

I am \*so\* glad you asked!!