

Outline

- Install software
- Crash course in Python and IPython
- Crash course in VTK (Visualization Toolkit)
- Begin modeling Indiana Arc

Programming Languages

- Tell computer what to do using an algorithm and a program in some language
(algorithm: a step-by-step problem-solving procedure)
- Popular languages: C, C++, Java, Python, etc.
- Python is nice because it's a scripting language and therefore more interactive and easier to develop a program.



Equilateral triangle: 184 cm sides



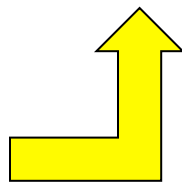
Approximately
3 x Eva's height

fruit.py

```
class Fruit:
    def __init__(self):
        self.sweet = True
    def color(self):
        return 'red'
```

```
class Banana(Fruit):
    def color(self):
        return 'yellow'
    def shape(self):
        return 'shape is not round'
```

```
class Tomato(Fruit):
    def __init__(self):
        self.sweet = False
```



```
print '----- Fruit -----'
fruit = Fruit()
print 'Sweet? ',fruit.sweet
print fruit.color()
```

```
print '----- Banana -----'
fruit = Banana()
print fruit.sweet
print 'Sweet? ',fruit.sweet
print fruit.color()
print fruit.shape()
```

```
print '----- Tomato -----'
fruit = Tomato()
print 'Sweet? ',fruit.sweet
print fruit.color()
print fruit.shape()
```

Some useful Python scripts at:

<http://mypage.iu.edu/~heiland/modeling>