

Programming Concepts in Python

Variable

- *the name that you give the variable does not matter

- *types - string, integer, float

```
astringaboutcats = "Cats are felines that go meow."
```

```
thenumberfortytwo = 42
```

```
floatshavedecimalpoints = 2.75
```

Operations

- + addition or concatenation

- subtraction

- / division

- * multiplication

- ** exponent

- % modulus, gives you the remainder when dividing something by something

Lists

- *Can hold numerous elements

- *you declare an empty list with square brackets

```
myemptylist = []
```

```
otherlist = ['tree', 'flower', 72, 8.5]
```

- *Access elements of the list with square brackets:

```
print (otherlist[2])
```

```
## 72
```

Dictionaries

- *Declared with curly brackets

- *Contain a key and value

- *Two lists can be turned into a dictionary with the zip() function

```
countries = ['Canada', 'Mexico', 'Germany']
```

```
capitals = ['Ottawa', 'Mexico City', 'Berlin']
```

```
newdict = dict(zip(countries, capitals))
```

Functions

Built-in functions, such as print(), len(), int(), str(), type()

Functions are declared with the def keyword:

```
def multipliesomething(thethingtobemultiplied):  
    product = thethingtobemultiplied * 2  
    return product
```

Call the function passing what you want as the parameter

```
result = multipliesomething(5)
```