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 trend 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 multiplysomething(thethingtobemultiplied):
        product = thethingtobemultiplied * 2
        return product
```

Call the function passing what you want as the parameter

```
result = multiplysomething(5)
```

If statements

```
x = 2
if 2 * x == 5:
   print ("equals five!")
else:
   print ("does not!")

vegetables = [“peas”,”celery”,”broccoli”,”cauliflower”,”carrots”,”parsnips”, “tomato”]

for vegetable in vegetables:
   if len(vegetable) < 5:
      print ("short word")
   elif len(vegetable == 5:
      print (“medium word”)
   else:
      print (“long word”
```