Python

TunnelsUp.com v1.0

General Information

```
Whitespace matters! Indent where needed
Import modules with "import modulename"
# Comments start with a #
print "Hello, World!" # prints to screen
```

Numbers

```
total = 3 * 3          # 9
total = 5 + 2 * 3      # 11
cost = 1.50 + 3.75     # 5.25
total = int("9") + 1   # 10
```

Conditional Statements

```
if weight < 50 and weight >= 10:
  print 'stuff'
elif ((role == 'it') or (role == 'qa')):
  print 'stuff'
elif not os == 'Windows':
  print 'stuff'
else:
  print 'stuff'
```

Strings

```
title = 'Us and them'
len(title)         # 11
title[3:6]         # 'and'
title[:-5]         # 'Us and'
title[0]           # 'U'
title.split(' ')   # ['Us', 'and', 'them']
':'.join(['A','B','C']) # 'A:B:C'
nine = str(9)      # convert int to string
```

Lists

```
scores = ['A', 'C', 90, 75, 'C']
scores[0]          # 'A'
scores[1:3]        # 'C', 90
scores[2:]         # 90, 75, 'C'
scores[:1]         # 'A'
scores[:-1]        # 'A', 'C', 90, 75
len(scores)        # 5
scores.count('C')  # 2
scores.remove('A') # removes 'A'
scores.sort()      # 75, 90, 'C', 'C'
scores.append(100) # Adds 100 to list
scores.pop()       # removes the last item
scores.pop(2)      # removes the third item
75 in scores       # True
```

Tuples

```
Like lists, except they cannot be changed
tuple1 = (1,2,3,"a","z")  # Creates tuple
tuple1[3]                 # 'a'
```

Dictionaries

```
votes = {'red': 3, 'blue': 5}
votes.keys()           # ['blue', 'red']
votes['gold'] = 4      # add a value
del votes['gold']      # deletes item
votes['blue'] = 6      # change value
len(votes)             # 2
votes.values()         # [6, 3]
'green' in votes       # False
votes.has_key('red')   # True
```

For Loops

```
grades = ['A', 'C', 'B', 'F']
for grade in grades:          # iterate over all vals
  print (grade)

for k,v in enumerate(grades): # using key value pair
  if v=='F':
      grades[k]='A'           # change all Fs to As

inv = {'apples': 7, 'peaches': 4}
for fruit in inv:             # using dictionaries
    print("We have " + str(inv[fruit]) + ' ' + fruit)

for i in range(10):       # 0 to 9 counting by 1s
for i in range(5, 10):    # 5 to 9 counting by 1s
for i in range(9, 2, -1): # 9 to 3 decreasing by 1s
```

While Loops

```
i = 0
while True:
  i += 1
  if i == 3:
      continue # restart loop
  if i == 7:
      break    # end loop
  print i      # 1 2 4 5 6
```

Functions

```
def sumNums(numOne, numTwo = 0):
  return numOne + numTwo
print sumNums(3,4)          # 7
print sumNums(3)            # 3
```

Class

```
class Person:
 name = None
 age = None
 def __init__(self, name, age):
  self.name = name
  self.age = age
 def toString(self):
  return "{} is {} years
old".format(self.name, self.age)

user = Person('Jimmi', 27)
print user.name   # prints Jimmi
```