

IT 3110 : Advanced System Administration

Python

Review (loops)

```
for i in range(10):  
    print i  
  
i=0  
while i<10:  
    print i  
    i+=1
```

Review (decisions)

```
x=3  
if x>2:  
    print ("greater")  
else:  
    print ("less than")
```

Review command line arguments

```
#!/usr/bin/python  
  
import sys  
  
if (len(sys.argv) != 2):  
    print ("Not enough args")  
    print sys.argv
```

Run the above like `./foo.py arg1 arg2 arg3`

Review (loop through a file)

Here is my input file: ('animals.txt')

```
cows  
chicken  
goats  
horses  
  
f = open('animals.txt')  
for line in f:  
    line=line.strip()  
    print(line)
```

Review (functions)

```
def foo(arg1, arg2):  
    print ("the contents of arg 1" + arg1)  
    return 1  
  
returnvalue = foo(4,5)
```

Python (subprocess)

```
import subprocess
import sys
HOST="ns2.mojojoho.ml"
COMMAND="uname -a"

ssh = subprocess.Popen(["ssh", "%s" % HOST, COMMAND],
                        shell=False,
                        stdout=subprocess.PIPE,
                        stderr=subprocess.PIPE)

result = ssh.stdout.readlines()
if result == []:
    error = ssh.stderr.readlines()
    print >>sys.stderr, "ERROR: %s" % error
else:
    print result
```

Python (os)

[Link](#)

```
import os

for file in os.listdir("samples"):
    print file
```

Python (os)

```
import os

# where are we?
cwd = os.getcwd()
print ("1", cwd)

# go down
os.chdir("samples")
print ("2", os.getcwd())

# go back up
os.chdir(os.pardir)
print ("3", os.getcwd())
```

Python (os)

```
import os

os.mkdir("test")
os.rmdir("test")
```

Python (os)

```
import os
import time

file = "samples/sample.jpg"

def dump(st):
    mode, ino, dev, nlink, uid, gid, size, atime, mtime, ctime = st
    print ("- size:", size, "bytes")
    print ("- owner:", uid, gid)
```

```
print ("- created:", time.ctime(ctime))
print ("- last accessed:", time.ctime(ctime))
print ("- last modified:", time.ctime(mtime))
print ("- mode:", oct(mode))
print ("- inode/dev:", ino, dev)

#
# get stats for a filename

st = os.stat(file)

print ("stat", file)
dump(st)
print

#
# get stats for an open file

fp = open(file)

st = os.fstat(fp.fileno())

print ("fstat", file)
dump(st)
```

Python (os)

```
import os

if os.name == "nt":
    command = "dir"
else:
    command = "ls -l"

os.system(command)
```

Python (send email) (gmail will probably not like)

```
import smtplib

server = smtplib.SMTP('stumail.cs.utahtech.edu', 25)
server.ehlo()

msg = "I like candy"
server.sendmail("joe@thegummibear.com", "foo@gmail.com", msg)
server.quit()
```

Might also need to read some google fu documentation

Command line arguments

```
import argparse
```

```
parser = argparse.ArgumentParser(description='Need path') parser.add_argument('-p', dest='path',
required=True) parser.add_argument('-s', dest='semester', required=True) parser.add_argument('-c',
dest='course', required=True) args = parser.parse_args() path = args.path semester = args.semester course
= args.course
```