**Python Scripting 5 Answers**

**1**

Using the **vi** editor, enter the following python script, call the file **examplefor.py**

edibles = ["ham", "spam","eggs","nuts"]

for food in edibles:

if food == "spam":

print("No more spam please!")

break

print("Great, delicious " + food)

else:

print("I am so glad: No spam!")

print("Finally, I finished stuffing myself")

Save the file, change the permissions and execute it to understand the operation of the for loop.

Now remove “spam” from your list and check that your new output includes the message:

I am so glad: No spam!

**2**

Using the **vi** editor, write a python script that uses a **for** loop to add all the numbers between 1 and 100, call the file **exampleforiteration.py**

**Hint: use the range function range(1,101)**

n = 100

sum = 0

for counter in range(1,n+1):

sum = sum + counter

print("Sum of 1 until %d: %d" % (n,sum))

**3**

Using the **vi** editor, re-write the python script from task 2, to use a **while** loop to add all the numbers between 1 and 100, call the file **examplewhile.py**

n = 100

sum = 0

counter = 1

while counter <= n:

sum = sum + counter

counter += 1

print("Sum of 1 until %d: %d" % (n,sum))

**4**

Using the **vi** editor, enter the following python script to display a menu to the user with a list of options, call the file **menu.py**

import subprocess

def press\_enter():

raw\_input( "Press Enter to continue")

subprocess.call([‘clear’])

selection = 1

while selection !=3:

print “PROGRAM MENU”

print “1 – display free disk space”

print “2 – display free memory”

print “3 – exit the program”

selection = int(raw\_input(“Please enter a selection: “))

if selection == 1:

print (subprocess.check\_output([‘df’], shell=True))

press\_enter()

elif selection == 2:

print (subprocess.check\_output([‘free’], shell=True))

press\_enter()

elif selection == 3:

print “closing program”

break

else:

print “Invalid choice, please select a valid option”

press\_enter()

Save the file, change the permissions and execute it to understand the purpose of this script.

Add a third menu choice that displays who is logged on (using the **who** command).

Execute and test the new version.

**5**

Using the **vi** editor, re-write the python script from task 4, to use dictionary mapping rather than **if** statements. Refer to **PythonScripting3.doc** to remind you of how dictionary mapping is used to implement a “case” type control structure.

Execute and test the new script

import subprocess

def press\_enter():

raw\_input(“Press enter to continue”)

subprocess.call([‘clear’])

def display\_menu():

menu = {

“1”: “display free disk space”,

“2”: “display free memory”,

“3”: “Exit the program”

}

options = menu.keys()

options.sort()

for entry in options:

print entry, menu[entry]

def free\_disk():

print (subprocess.check\_output([‘df’], shell=True))

press\_enter()

def free\_memory():

print (subprocess.check\_output([‘free’], shell=True))

press\_enter()

def exit\_program():

print “closing program”

def invalid():

print “invalid choice, please select a valid option”

press\_enter()

def process\_selection(choice):

switcher = {

1: free\_disk,

2: free\_memory,

3: exit\_program

}

func = switcher.get(choice, invalid)

return func()

selection = 1

while selection != 3:

display\_menu()

selection = int(raw\_input(“Please enter a selection: “))

process\_selection(selection)

print “Goodbye”