CPSC 1301, Computer Science I Lab Assignment

Lab 02a

Run the following commands in your Python interpreter. Submit a transcript of your session as your deliverable for this lab. This should be a plain text file named `lab02a_lastname.txt`.

1 Writing and Running your First Python Program

Use this template for writing your Python labs and other quick and dirty scripts. Use any text editor of your choice. I recommend Notepad++ (`https://notepad-plus-plus.org/`).

1.1 Hello World

```
1  #--------------------
2  # week2_1.py
3  #--------------------
4
5  print("hello world")
```

1.2 Hello `name`

```
1  #--------------------
2  # week2_2.py
3  #--------------------
4
5  name = "Your Name"
6  print(name)
```

1.3 Print `sum`

```
1  #--------------------
2  # week2_3.py
3  #--------------------
4
5  lhs = 4
6  rhs = 4
7  sum = lhs + rhs
8  print(sum)
```

1.4 Getting data from users

```
1  #--------------------
2  # week2_4.py
3  #--------------------
4
5  print("Enter an integer:")
6  lhs = int(input())
7  print("Enter another integer:")
8  rhs = int(input())
9  product = lhs * rhs
10 print(product)
```

1.5 A void function

```
#----------------------
# week2_5.py
#----------------------

def my_fun():
    print("You have called my_fun")

my_fun()
```

1.6 A void function with parameter

```
#----------------------
# week2_6.py
#----------------------

print("Enter your name: ", end = '')
name = input()
def my_fun(name):
    print("Hello", name)

my_fun()
```

1.7 A value returning function

```
#----------------------
# week2_7.py
#----------------------

def my_fun():
    print("Enter your first name: ", end = '')
    first = input()
    print("Enter your last name: ", end = '')
    last = input()
    fullname = first + " " + last
    return fullname

turnip = my_fun()
print(turnip)
```

1.8 A function that has input and returns a value

```
#----------------------
# week2_8.py
#----------------------

def my_fun(lhs, rhs):
    produce = lhs * rhs
    return product

print("Enter the lhs: ", end = '')
lhs = int(input())
print("Enter the rhs: ", end = '')
rhs = int(input())

out = my_fun(lhs, rhs)
print("The product of %d and %d is %d", (lhs, rhs, out))
```

2 At the Python prompt

```
C:\Users\ccc31\cols-st\cpsc1301>python
Python 3.8.5 (tags/v3.8.5:580fbb0, Jul 20 2020, 15:43:08) [MSC v.1926 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>> # VARIABLES ########################################
>>> print ("Hello, CSU!");
>>> w = print("Hello")
>>> w
>>> print(w)
>>> name = "Student"
>>> print("Hello", name, "!")
>>> c = "Columbus"
>>> s = "State"
>>> u = "University"
>>> print("Hello", c, s, u)
>>> h = "Hello"
>>> print(h, c, s, u)
>>> greeting = "Hello, CSU!"
>>> print(greeting)
>>> # assign your name to a variable and greet yourself
>>> # ----------- your code here -----------------
>>> # ARITHMETIC #######################################
>>> x = 5
>>> y = 7
>>> z = 9
>>> x + y
>>> x * z
>>> z - y
>>> z / x
>>> z % x
>>> x % z
>>> x // z
>>> z // x
>>> x / z
>>> z / x
>>> print(x + y, x - z, z * y, z / x, z % x, y // x)
>>> x + y * z
>>> (x + y) * z
>>> x + (y * z)
>>> x + y * z - x
>>> (x + y) * (z - x)
>>> x + (y * z) - x
>>> x * y / z
>>> (x * y) / z
>>> x * (y / z)
>>> x / y * z
>>> (x / y) * z
>>> x / (y * z)
>>> # COMPARISON OPERATORS ##############################
>>> x == 5
>>> x != 5
>>> x == y
>>> x != y
```

```
>>> x > y
>>> x < y
>>> x >= 5
>>> x >= y
>>> 5 >= x
>>> 5 > x
>>> # LOGICAL OPERATORS ######################################
>>> 0 and 0
>>> 1 and 1
>>> 2 and 4
>>> 2 or 4
>>> True
>>> not True
>>> False
>>> not False
>>> not (1 and 1)
>>> not (1 or 12)
>>> not (0 and 0)
>>> not (0 or 0)
>>> True and True
>>> True and False
>>> False and True
>>> False and False
>>> True or True
>>> True or False
>>> False or True
>>> False and False
>>> # DOING MATH ############################################
>>> import math
>>> math.pi
>>> math.sqrt(4)
>>> math.sin(0)
>>> math.cos(0)
>>> math.tan(0)
>>> exit()
```