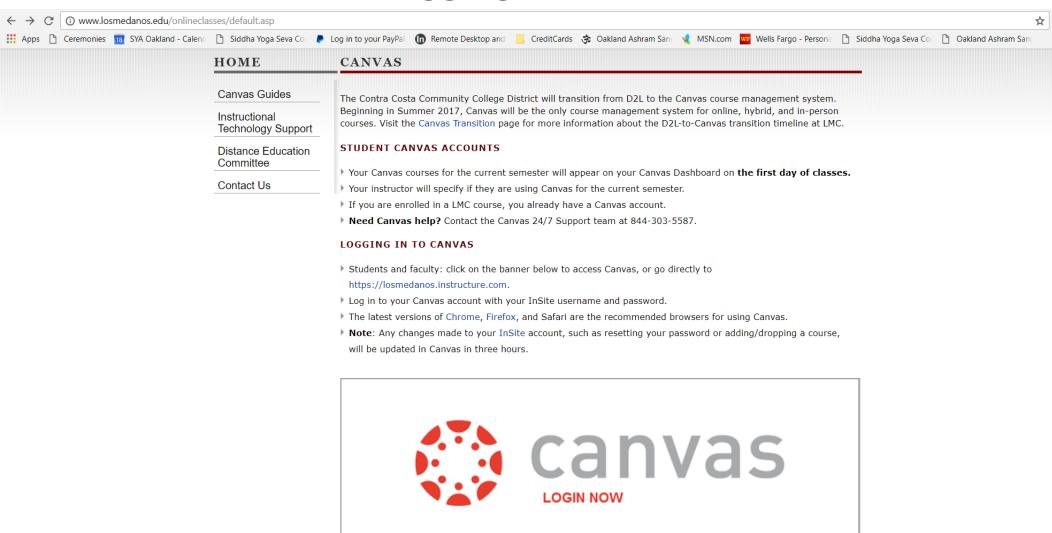
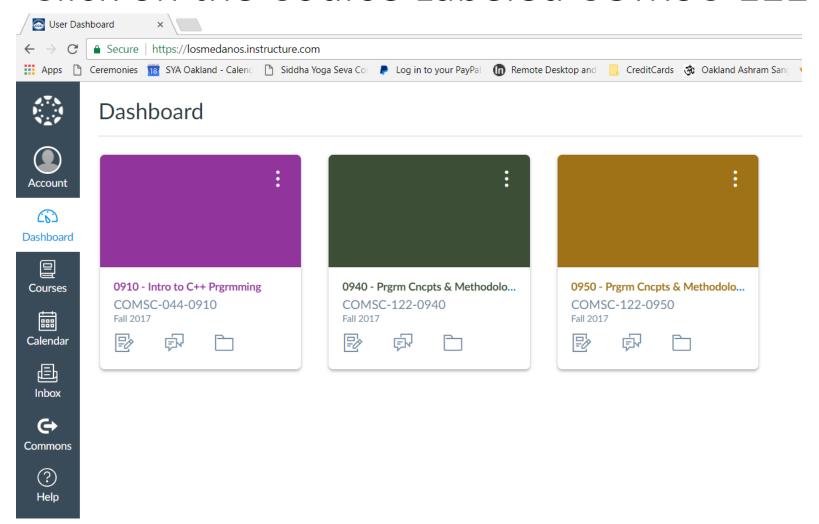
## Laboratory 1

COMSC-122 Fall 2017

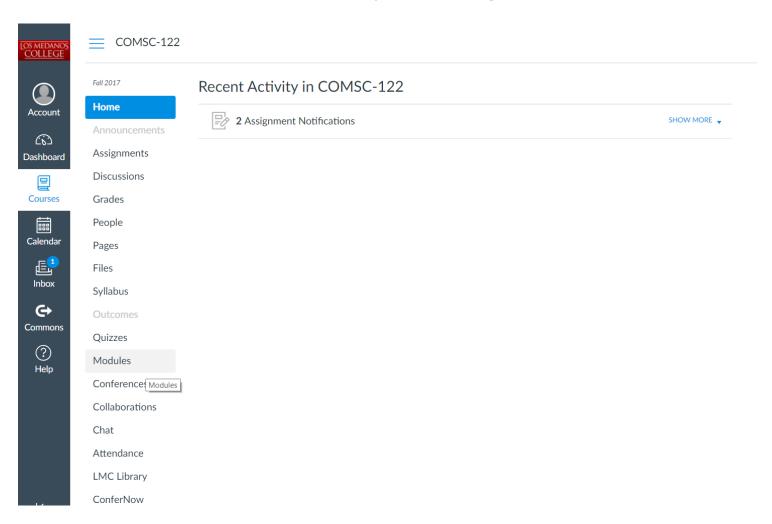
#### Logging Into Canvas



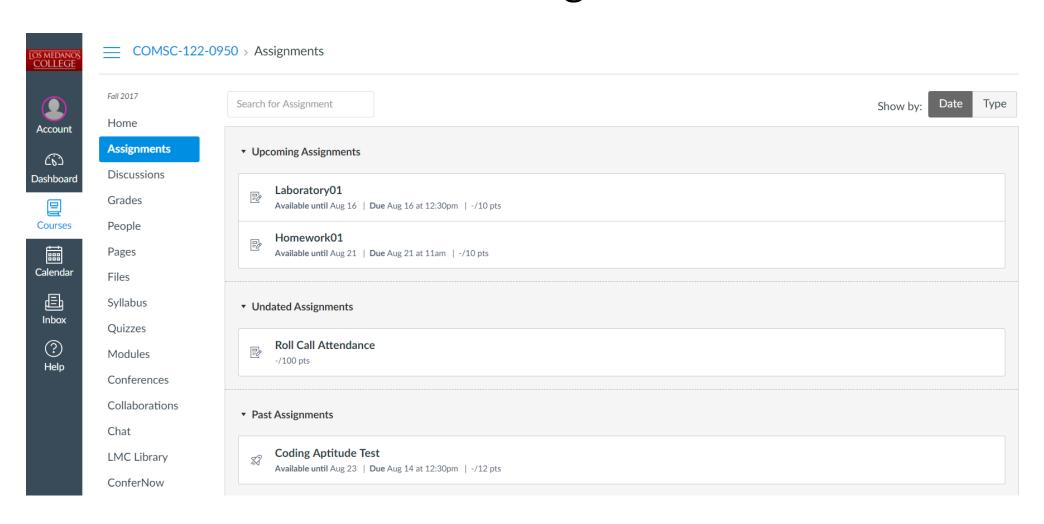
#### Click on the Course Labeled COMSC-122



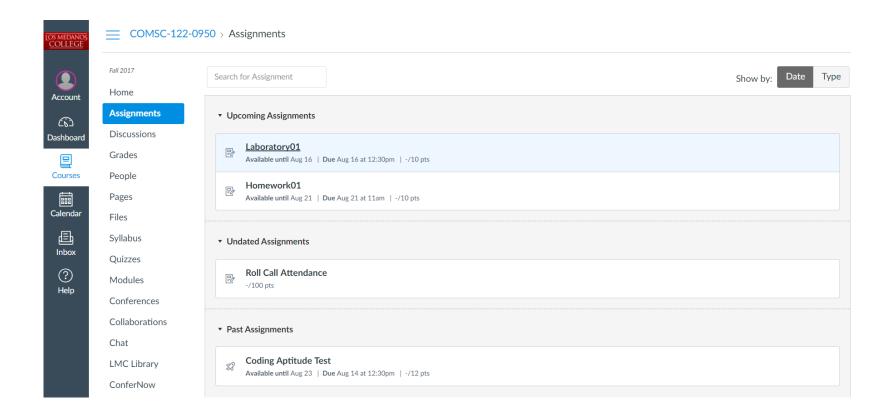
### Canvas Opening Screen



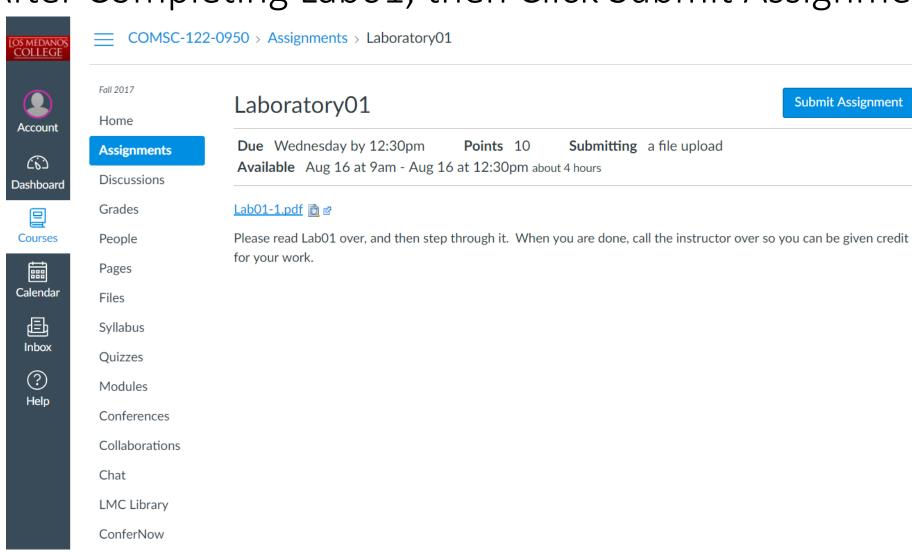
### Click On Assignments



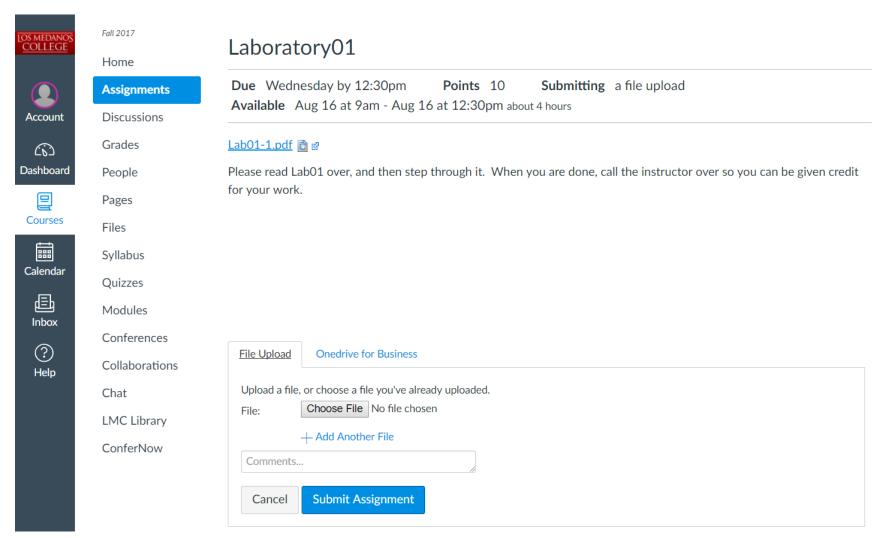
### Click on Laboratory01



### After Completing Lab01, then Click Submit Assignment



### Click on Choose File, and upload your program to Canvas



### Laboratory 01

- What you are being asked to do is to type in a program called: chaos.py, and then run the program in two different ways, in order to familiarize yourself with both of these possible methods.
- You will use the Windows Accessory "Notepad" to type in the script.
- Once typed in, you will run it in both of the ways shown in the notes that follow.
- Once you have made it run in both ways, call over the Instructor to show it to him so that you can get credit for completion of the Lab.
- Note: Case and spacing matter in Python so copy this code precisely.
- You'll note that chaos is a function that jumps all around and never settles down in a predictable manner. So don't let its chaotic output worry you.

### Use Notepad to type in: chaos.py

```
# chaos.py
# Your Name
print("This program illustrates a chaotic function")
x=eval(input("Enter a number between 0 and 1: "))
x = 3.9*x*(1-x)
print (x)
exit = input('Hit any key to Exit: ')
```

# Here are two easy ways you can run the program, chaos.py:

- 1. Through use of IDLE (Integrated Development Environment)
- 2. Directly from the Windows Explorer GUI
  - You must have set the pathway so that the operating system knows where the Python interpreter is located. for this method to work.

### Method 1: The IDLE Programming Environment

- IDLE (Integrated Development Program): single program that provides tools to write, execute and test a program
  - Automatically installed when Python language is installed
  - Runs in interactive mode
  - Has built-in text editor with features designed to help write Python programs
- Right click on the Python file that you have created: chaos.py.
  - Now left click on Edit with IDLE
  - This will put you into the IDLE editor with your program displayed.

• The program emerges ready to be Run.

```
chaos.py - C:\LosMedanos\COMSC-122\Classes\Class01\Lecture2\chaos.py (3.4.4)
                                                                              ×
File Edit Format Run Options Window Help
print("This program illustrates a chaotic function")
x=eval(input("Enter a number between 0 and 1: "))
x = 3.9*x*(1-x)
print (x)
x = 3.9*x*(1-x)
x = 3.9*x*(1-x)
print (x)
exit = input('Hit any key to Exit: ')
```

• Click on Run/Run Module or strike F5 key.

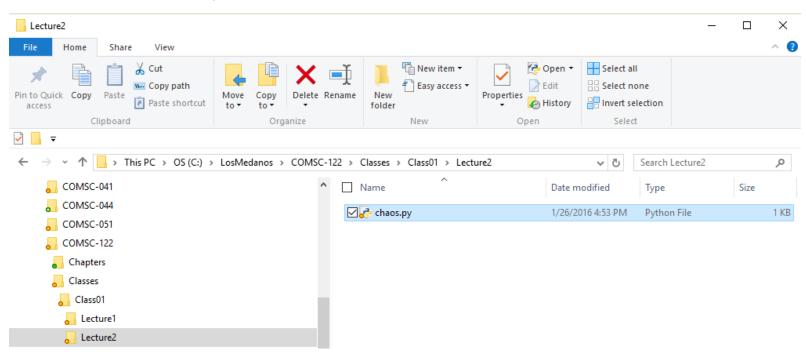
```
chaos.py - C:\LosMedanos\COMSC-122\Classes\Class01\Lecture2\chaos.py (3.4.4)
                                                                                \times
File Edit Format Run Options Window Help
                     illustrates a chaotic function")
 Python Shell
                      a number between 0 and 1: "))
 Check Module Alt+X
Run Module F5
x = 3.9*x*(1-x)
print (x)
x = 3.9*x*(1-x)
x = 3.9*x*(1-x)
print (x)
x = 3.9*x*(1-x)
print (x)
x = 3.9*x*(1-x)
print (x)
x = 3.9*x*(1-x)
exit = input('Hit any key to Exit: ')
```

• Now the program executes and asks you to enter a number between 0 and 1.

- We will type in .25 and hit Enter.
- 10 lines of output emerge from the program.

# Method 2: Run Directly from Windows Explorer

- Double click on chaos.py within Windows Explorer
  - In order to do this the Python Interpreter must be in the Pathway or this won't work.



# The Console will Emerge and run the Program

• The key to holding this console on the screen is contained in the last line of the program:

exit = input('Hit any key to Exit: ')

```
This program illustrates a chaotic function
Enter a number between 0 and 1: .5
0.975
0.095062500000000008
0.33549992226562525
0.8694649252590003
0.44263310911310905
0.962165255336889
0.1419727793616139
0.4750843861996143
0.9725789275369049
0.1040097132674683
Hit any key to Exit: _
```

#### Additional Note

- There are at least three other ways to run a Python program.
  - Interactively
  - From the Python Console
  - From the Windows Console
- Read the document called: PythonInterpreter&ItsUse.pdf for more information on these alternative methods.