**CSCI 1470.3 Classroom Notes and Demonstrations**

8/20/2025

**General Professionalism: … Make yourself useful and helpful.**

Some thoughts on what may be helpful to your fellow classmates:We

* WE don’t know where to start?
* Contact info for the future.
* We are lost.
* Complete to me.
* Greek to me.

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Are:

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They are Python program assignment. To be submitted through Canvas.

Zybooks stuff:

### Computer program basics

Computer programs are abundant in many people's lives today, carrying out applications on smartphones, tablets, and laptops, powering businesses like Amazon and Netflix, helping cars drive and planes fly, and much more.

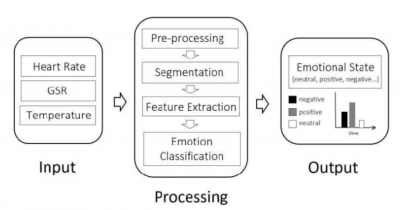
A computer ***program*** consists of instructions executing one at a time. Basic instruction types are:

* ***Input***: A program receives data from a file, keyboard, touchscreen, network, etc.
* ***Process***: A program performs computations on that data, such as adding two values like x + y.
* ***Output***: A program puts that data somewhere, such as a file, screen, or network.

From Google:

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In this example, input biometric data, output emotional state.

Programs use ***variables*** to refer to stored data, like x, y, and z below. The name is due to a variable's value "varying" as a program assigns a variable like x with new values.

**participation activity**

## 1.1.1: A basic computer program. (Algorithm actually)

Start

Input (keyboard)

Output (screen)

x = Get next input

>> In Python: x = input()

y = Get next input

>> In Python: y = input()

z = x + y

Put z to output

>> In Python: print(z)

2

5

7

Computer program

2

5

7

x:

y:

z:

2

5

|  |
| --- |
| x = input()  78  y = input()  243  z = x + y  print(z)  78243 |

78 is a string  
243 is a string

x + y -> 78243 (string): +: string concatenation function.

x = int(input())

y = int(input())

z = x + y

print(z)

Lessons:

* Variable stores data, which can be referred to later.
* Data has data types, which must be correct.

E.g.,

a = 126

b = 'hello'

print(a+b)

Traceback (most recent call last):

File "<pyshell#10>", line 1, in <module>

print(a+b)

TypeError: unsupported operand type(s) for +: 'int' and 'str'

>>>print(x + y)

321

The print function prints values from a variable (z) or an expression (e.g. x + y)

The animation executes the following computer program: x = Get next input y = Get next input z = x + y Put z to output Input (keyboard) is as follows: 2 5 Output (screen) is as follows: 7

Captions

1. A basic computer program's instructions receive input, process the input, and produce output. This program first assigns x with what is typed on the keyboard input, in this case, 2.
2. The program's next instruction assigns y with the next input, in this case 5.
3. The program then processes the input, in this case the program assigns z with x + y (so 2 + 5 yields z of 7).
4. Finally, the program puts z (7) to output, in this case to a screen.

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Is in ZYbooks: (MC questions): to be done within ZYbooks.

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**Running Pythons in Windows**

by K. Yue

**1. Organizing Windows for Python Development**

* This is about a simple setup of Python development in Windows using text editors.
* It does not include the uses of Integrated Development Environment (IDE), such as PyCharm, VS Code, etc.
* It does not include the uses of Python platforms (such as for Web development, Graphical User Interface (GUI) appications of data science).

**Command Prompt**

* The Command Prompt in Windows is a Command Line Interface (CLI) for executing commands to interact with the operating systems.
* In Mac and Linux, it is known as a command terminal or terminal.

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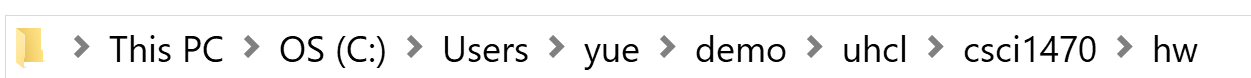
A screenshot of a computer screen

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**Project Directory**

* It is beneficial to create a directory for a project.

E.g. C:\Users\yue\Documents



* For example, for this course, you may create a folder: Documents\uhcl\csci1470, and put all files related to CSCI 1470 there.
* You may create additional subfolder for better organization.

**Working Directory**

* A working directory, ore current working directory (CWD), is the specific location within a computer's file system where commands are executed, such as in the command prompt.
* It is a common practice to set the working directory to the appropriate folder of your project directory. For example, you may then use relative file names.

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**2. Running Python in Windows**

**2.1 Python Interpreter**

* To start the Python interpreter, open a command line prompt in your working directory and execute, for example:

set path=C:\Python311;%path%  
python

* You may need to replace "C:\Python311" by the location of your python installation.
* You may set the environmental variable PATH in your OS. If so, you will not need to execute the set path command.

Demo1.py:

x = int(input())

y = int(input())

z = x + y

print(z)

TO run:

C:\Users\yue\demo\uhcl\csci1470\hw>python demo1.py

97

21

118

**2.2 Python IDLE**

* Integrated Development and Learning Environment  (IDLE) is a bundled Python environment for simple development and learning.
* It is a simple Integrated Development Environment (IDE).

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**Running Python Program**

* To run a Python program, helloworld.py, in a command line prompt (in the project directory), use:

python helloworld.py