# UW CSE 160 Section 1

January 5, 2017

# Introductions

# Does everyone have python installed and working?

Raise your hand if not, we'll help you get set up

# During Section

- Create an empty text file and save everything about what you try and what you get.

- You can also include your name and your teammate's name in the file.

- Email this text file to TA after class if you still feel doubt about any part of the section.

# Command Line Intro

- Command Prompt in Windows (cmd)
- Terminal in Mac/Linux

# Objectives

- Navigate file system
- Run Python (interactive and programs)

# Command Line Basics

- Show current directory/folder

| Unix, linux, osx | Windows |
|---|---|
| pwd | echo %cd% |

- List contents in the current directory/folder

| Unix, linux, osx | Windows |
|---|---|
| ls | dir |

- Directory separator

| Unix, linux, osx | Windows |
|---|---|
| / | \ |

# Basics continued

- Change directory

| Unix, linux, osx | Windows |
|---|---|
| cd | cd |

- Pro tip: Use "tab" key to loop through path!

- Make directory

| Unix, linux, osx | Windows |
|---|---|
| mkdir | md |

More info here: http://courses.cs.washington.edu/courses/cse160/16wi/shell-usage.html

# Mac/Linux



```
                    cse160 — bash — 53×29
Sonjas-MacBook-Pro:~ sonjakhan$ ls
Applications      Downloads        Music
Desktop           Library          Pictures
Documents         Movies           Public
Sonjas-MacBook-Pro:~ sonjakhan$ cd Do
Documents/ Downloads/
Sonjas-MacBook-Pro:~ sonjakhan$ cd Documents/cse160
Sonjas-MacBook-Pro:cse160 sonjakhan$ ls
hw                sections
Sonjas-MacBook-Pro:cse160 sonjakhan$ pwd
/Users/sonjakhan/Documents/cse160
Sonjas-MacBook-Pro:cse160 sonjakhan$ mkdir test
Sonjas-MacBook-Pro:cse160 sonjakhan$ ls
hw                sections         test
Sonjas-MacBook-Pro:cse160 sonjakhan$ ▌
```

Use ls to list all files/folders in current directory

Hit the "tab" key to list all files/folders starting with what you already typed

Use cd to change the directory

pwd shows the path to the current directory

mkdir creates a new directory (folder) in the current directory

8

# Windows



```
Administrator: Command Prompt

C:\>dir
 Volume in drive C has no label.
 Volume Serial Number is A433-661C

 Directory of C:\

2013-05-17  09:31 PM             1,024 .rnd
2014-02-23  06:43 PM    <DIR>          Android
2015-03-20  06:28 PM                61 COLLECTOR.txt
2013-09-17  03:25 PM    <DIR>          Cygwin
2012-09-19  05:28 PM               200 dns.cmd
2013-01-25  01:41 PM                 0 end
2014-01-10  03:51 PM               932 ndsvc.log
2009-07-13  08:20 PM    <DIR>          PerfLogs
2012-09-18  02:13 PM    <DIR>          Perl64
2014-09-17  04:29 PM    <DIR>          Program Files
2015-03-07  03:48 PM    <DIR>          Program Files (x86)
2014-03-02  07:26 PM    <DIR>          Python27
2013-05-02  10:43 AM    <DIR>          Python33
2013-05-27  10:48 PM    <DIR>          Samsung Galaxy S3 ToolKit
2012-09-24  01:21 AM               850 sophosrestore.cmd
2015-01-07  11:33 AM    <DIR>          temp
2012-07-02  03:24 PM             1,161 uptodate.cmd
2015-03-23  10:21 AM    <DIR>          Users
2015-03-09  04:58 PM    <DIR>          Windows
               7 File(s)          4,228 bytes
              12 Dir(s)  752,650,227,712 bytes free

C:\>cd Users\tperrier

C:\Users\tperrier>dir
 Volume in drive C has no label.
 Volume Serial Number is A433-661C

 Directory of C:\Users\tperrier
```

Use dir to list all files/folders in current directory

Use cd to change the directory

\ (backslash) separates directories

# Python with command line

- Using the interpreter
    - python
    - How to exit: exit()  ctr-D

- Using script
    - python myprogram.py
    - python myprogram.py *argument1 argument2*

- The operating system command shell/prompt is *not* the same as the Python interpreter

# Careful!

- Don't forget the colon

- Indentation matters!

# Range Basics

- The built-in range() function can be used to quickly create sequential lists.

range(start,stop[,step])

- range(10)
  - [0,1,2,3,4,5,6,7,8,9]
- range(0,10,2)
  - [0,2,4,6,8]
- range(10,0,-2)
  - [10,8,6,4,2]

# Now it's time to team up!

- Find partners! Group can be 2-4 people.

- Try to share as much as possible about what you think with your teammates!

# Exercise: Handout

# Today's takeaway

- Installing and Using Python
- Command line environment
- Variables
- Print


GO TO OFFICE HOURS IF YOU NEED MORE HELP GETTING UP AND RUNNING OR WITH HW #1!

# Extra Material

Preview: Loops

# Loop Basics

- Use loops to reduce code repetition!
- For loop:

  for iterating_var in sequence:

  statements(s)

- Example:

  **for x in [0,1,2,3,4,5,6,7,8,9]:**

  **print( x**2+x)**

# Exercise: Sum consecutive numbers

Format:

> 1
>
> 2
>
> …
>
> 10
>
> `sum:  55`

Requirements

> Use a for loop, range, and only one print statement outside the loop

Hints:

- Careful about the conversion between number and string

- Use str(some number)

# Solution

```
sum = 0
for i in range(1, 11):
    print i
    sum = sum + i
print "sum: " + str(sum)
```