

# UW CSE 160 Section 1

January 7, 2016

# 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
<code>pwd</code>	<code>echo %cd%</code>

- List contents in the current directory/folder

Unix, linux, osx	Windows
<code>ls</code>	<code>dir</code>

- Directory separator

Unix, linux, osx	Windows
<code>/</code>	<code>\</code>

# Basics continued

- Change directory

Unix, linux, osx	Windows
<code>cd</code>	<code>cd</code>

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

- Make directory

Unix, linux, osx	Windows
<code>mkdir</code>	<code>md</code>

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

# Mac/Linux

```

cse160 — bash — 53x29
Sonjas-MacBook-Pro:~ sonjakhans$ ls
Applications      Downloads          Music
Desktop           Library           Pictures
Documents         Movies            Public
Sonjas-MacBook-Pro:~ sonjakhans$ cd Do
Documents/ Downloads/
Sonjas-MacBook-Pro:~ sonjakhans$ cd Documents/cse160
Sonjas-MacBook-Pro:cse160 sonjakhans$ ls
hw                sections
Sonjas-MacBook-Pro:cse160 sonjakhans$ pwd
/Users/sonjakhans/Documents/cse160
Sonjas-MacBook-Pro:cse160 sonjakhans$ mkdir test
Sonjas-MacBook-Pro:cse160 sonjakhans$ ls
hw                sections          test
Sonjas-MacBook-Pro:cse160 sonjakhans$ █
```

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



# 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

# 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)`

# 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]`

# 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)
```

# 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

- Command line environment
- Print
- Range
- Loop