CS 1112: Introduction To Programming

File Reading and

Regular Expressions (RegEx) Combined!

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Friendly Reminders

- Your *safety* and *comfort* is important!
  - If you choose to wear a mask you are welcome to do so
  - *We will interpret wearing a mask as being considerate and caring of others in the classroom (not that you are sick), and realize that some may choose to mask to remain distanced*

- Be an *active* participant in your learning!
  You're welcome and *encouraged* to ask questions during class!

- If you feel *unwell*, or think you are, please stay home
  - *We will work with you!*
  - Get some rest ☺
  - View the recorded lectures – *please allow 24-48 hours to post*
  - *Contact us!*

Announcements

- **Quiz 8** will be on RegEx and File I/O – will be out tonight and due by 11:00pm on 4/15 (*Monday*)   **(Last Quiz!)**

- **PA07** is due by 11:00pm on 4/17 (*Wednesday*)

- *Exam 2 is still being graded. Grading should be complete early next week.*

Review of File Reading
(plus see try-except in action!)

```python
def read_file(file_path):
    try:   # an exception could occur if opening a file that doesn't exist... place in "try" block
        with open(file_path, 'r') as file:
            content = file.read()   # reads EVERYTHING at once!
            print("File Contents:")
            print(content)
    except FileNotFoundError:   # "catch" a FileNotFoundError exception
        print(f"Error: File '{file_path}' not found.")
```

An exception could occur if we try to open a file that doesn't exist. So, place this code in the "try" block.

One way to open a file for reading is: with open(file_path, 'r') as file
Use .read() to read all the file contents

4

Combined Version is possible, too

- Instead of creating a file stream variable and calling a function in it directly, you can call .read() and so on directly after opening a file for reading. See examples below:

```
# Combined/compressed versions:
file_1 = open("data.txt", 'r').read()         # Read everything
file_2 = open("data.txt", "r").readlines()     # Puts in a list
file_3 = open("data.txt", "r").readline()      # Just first line
```

```
File_1:
New text
hello

File_2:
['New text\n', 'hello\n']

File_3:
New text
```

Python Demonstration

Let's jump on PyCharm!

```
file_reading_RegEx.py
file_reading_RegEx2.py
```

Activity for Today!

- In pairs or groups up to three work on the following activity.

- **file_reading_RegEx_ica.py**

- *Practicing file reading and regular expressions together*

> *Remember to check-in with a TA before leaving class today!*

In-Class "lab" Activity!

Reminder: CS Laptop Loaner Program

- This course requires students to have a **laptop**
- I realize that not everybody might have one (nor necessarily need one for their desired major / path…)
- If you do not have a laptop for any reason… *not to worry!*
- The CS department's Systems staff has a notebook / laptop loaner program and will be able to loan you a notebook / laptop computer for the duration of the semester if you don't have one or if you cannot afford one.
  - Also available if your laptop is broken and under repair, we can arrange for you to receive a loaner laptop for a week or two until your own laptop is fixed

Interested? Link: https://www.cs.virginia.edu/wiki/doku.php?id=cs_laptop_loaner

I am happy to be your sponsor. Please let me know.