

# Files Continued

**David H Smith IV**

**University of Illinois Urbana-Champaign**

**Tues, Oct 12 2021**

# Reminders

# Reminders

- Last homework of the quarter is due Thursday by the end of the day.

## OS Review

# Poll Question: Opening a File

What is returned by `os.getcwd()` when called in `myfile.py`?

```
1  home
2  |__tracertong
3      |---mydata.csv
4      |___dev_website
5          |---index.html
6          |___elements
7              |--- myfile.py    <-- You are here
8
```

- ☐ A `"/home/tracertong/dev_website/elements"`
- ☐ B `"/home/tracertong/dev_website/elements/myfile.py"`
- ☐ C `"dev_website/elements/myfile.py"`
- ☐ D `"elements/myfile.py"`

## Poll Question: Opening a File

How many times will this function call iterate if placed in a for loop:

`os.walk("dev_website")?`

```
1 dev_website
2 |---index.html
3 |___elements
4     |--- about.html
5     |--- cv.html
6     |--- myfile.py
7     |___ projects.html
8
```

- ☐ A 1
- ☐ B 2
- ☐ C 6
- ☐ D 0

## Files Review

# Files

Which of the following reads all the contents of a file into a list of strings?

- ☐ A readlines
- ☐ B readall
- ☐ C read
- ☐ D readline



## Poll Question: Read Characters

Given a variable named `file_object` that contains a file object which of the following will read the next 15 character into a variable named `title`.

- ☐ A `title = file_object.read(15)`
- ☐ B `title = file_object.read(14)`
- ☐ C `title = file_object.reads(15)`
- ☐ D `title = read(file_object, 15)`

# Poll Question: Files

Read from a file that may not exist?

- Ⓐ `outf = open('filename', 'r+w')`
- Ⓑ `outf = open('filename', 'rw')`
- Ⓒ `outf = open('filename', 'r')`
- Ⓓ `outf = open('filename', 'r+')`
- Ⓔ `outf = open('filename', 'w+')`

## Poll Question: Opening a File

My data.csv contains three rows. What is the result of:  
`len(open("mydata.csv").readlines())`.

```
1  home
2  |__tracertong
3      |---mydata.csv
4      |___dev_website
5          |---index.html
6          |___elements
7              |___ myfile.py    <-- You are here
8
```

- ☐ A 2
- ☐ B 3
- ☐ C 4
- ☐ D FileNotFoundError
- ☐ E SyntaxError

# Poll Question: Opening a File

We are script myfile.py and we want to open mydata.csv.

```
1  home
2  |__tracertong
3      |---mydata.csv
4      |___dev_website
5          |---index.html
6          |___elements
7              |___ myfile.py    <-- You are here
8
```

- ☐ A fo = open(".././mydata.csv")
- ☐ B fo = open("/.././mydata.csv")
- ☐ C fo = open("/tracertong/mydata.csv")
- ☐ D fo = open(".././../mydata.csv")

## With-As vs Open-Close

# Reading from Files

## Method 1:

```
1 file_object = open('filename')
2 lines = file_object.readlines()
3 for line in lines:
4     print(line)
5 file_object.close()
```

## Method 2:

```
1 with open('filename') as inf:
2     lines = inf.readlines()
3     for line in lines:
4         print(line)
5     #automatic file close
```

# Writing to Files

## Method 1:

```
1 file_object = open('filename', 'w')
2 file_object.write('thing to write')
3 file_objekt.close() #automatic at program end
4 file_object.flush() #optional
```

## Method 2:

```
1 with open('filename', 'w') as outf:
2     outf.write('thing to write')
3     #automatic file close
```

# File Patterns



# Patterns and Files

## Usual Sum/Total:

```
1 def foo(some_list):  
2     total = 0  
3     for item in  
4         some_list  
5         total += item  
6     return total
```

## Sum/Total Pattern w/ File:

```
1 def foo(filename):  
2     file_object = open(filename)  
3     lines = file_object.readlines()  
4     total = 0  
5     for line in lines:  
6         total += int(line)  
7     return total
```

## Argument Vector (argv)

# Argument Vector (argv)

Example script time...