

Announcements

- **Checkpoint 1** due tonight at 11:59pm on Gradescope
- **Lesson 3 Canvas Quiz** due tonight at 11:59pm!
- **Take Home Assessment 1: Processing** due on Gradescope by Thursday, April 9th at 11:59pm!
 - Attend office hours if you are stuck!

Lesson Recap: Lists and Files

- ***Lists***
 - Introduced function to alter lists
 - Lists are mutable! Strings are not!
 - The in keyword
- ***File Processing***: Line vs. Token Processing
- ***File Paths***
 - Absolute vs. relative paths
 - Make sure to use relative paths in Gradescope submissions!

Strings vs. Lists

```
s = 'hello world'
# Length
len(s) # 11

# Indexing
s[1] # 'e'
s[len(s) - 1] # 'd'

# Looping
for i in range(len(s)):
    print(s[i])

for c in s:
    print(c)
```

```
l = ['dog', 'says', 'woof']
# Length
len(l) # 3

# Indexing
l[1] # 'says'
l[len(l) - 1] # 'woof'

# Looping
for i in range(len(l)):
    print(l[i])

for word in l:
    print(word)
```

Advanced Lists

- List methods can modify the contents of the list. Lists are *mutable*!
- Can use the `in` keyword to see if a list contains a value

```
words = ['I', 'love', 'dogs']
```

```
if 'dogs' in words:  
    print('Found it')
```

```
if 'cats' not in words:  
    print('Not there')
```

File Processing

Line-by-line processing

```
with open(file_name) as f:  
    lines = f.readlines()  
    for line in lines:  
        # do something with line
```

Token processing

```
with open(file_name) as f:  
    lines = f.readlines()  
    for line in lines:  
        tokens = line.split()  
        for token in tokens:  
            # do something with token
```

When would you use one over the other?

Group Work: Best Practices

- When working with a new group for the first time:
 - Introduce yourself!
 - If possible, angle one of your screens so that everyone can see and discuss together
 - Be respectful of each other and allow everyone to speak
- Tips:
 - Start with making sure that everyone agrees to work on the same problem
 - Allow everyone to contribute or a chance to ask questions.
 - Ask if everyone agrees and periodically ask each other questions.
 - Call TAs or Adrian over if you need any help.
 - Don't sit in silence.