CSc 110
Wrap-up

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Activity

After being run, what will be in one.txt ?

```
f1 = open('one.txt', 'w')
f1.write('Steak\nChicken\nHam')
f1.close()
f2 = open('one.txt', 'r')
f3 = open('one.txt', 'a')
for line in f2:
    f3.write(line)
f2.close()
f3.close()
```

Final Exam

- Wednesday, August 9th
- Start 3pm - 8pm AZ time
- 2 hours

Activity

Did you submit the

FEEDBACK FORM

?

Activity

how many unique outcomes?

```python
import random

r1 = random.random()
r2 = random.randint(1, 10)

if r1 < 0.5:
    if r2 > 4:
        print('Steak')
else:
    if r2 > 7:
        print('Chicken')
    elif r2 > 3:
        print('Turkey')
```

Difficulty, Topics

- The final will be LONGER than regular exams
- Some code writing questions, some other kinds
- You should study every concepts from this course!
- Review: the slides, the book, PAs, study guides, videos, preps, PyFlo

Activity

Approximately how many times would each print out?

```python
import random

for i in range(1000000):
    r1 = random.random()
    r2 = random.randint(1, 10)
    if r1 < 0.5:
        if r2 > 4:
            print('Steak')
    else:
        if r2 > 7:
            print('Chicken')
        elif r2 > 3:
            print('Turkey')
```

Activity

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```
import random

for i in range(1000000):
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    if r1 < 0.5:
        if r2 > 4:
            print('Steak')
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        if r2 > 7:
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            print('Turkey')
```

0.5 * 0.6 * 100 = 30%

0.5 * 0.3 * 100 = 15%

0.5 * 0.4 * 100 = 20%

Helping with Courses

- Are you interesting in helping with 101, 110, or 120 in the future?
- After or during 120, apply to help with the intro courses!

Helping with Courses

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- On that note . . .

Thanks TAs!

Activity

Always, Sometimes, Never

A. The variable **`number`** will refer an integer values less than 25 at **`LOCATION A`**

B. The variable **`limit`** will refer to an integer value that is positive at **`LOCATION B`**

C. The variable **`result`** will refer to an integer value that greater than 10 at **`LOCATION C`**

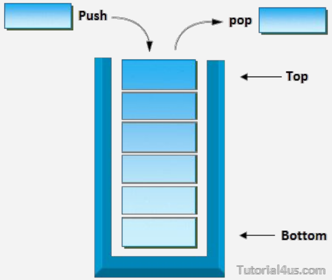
```python
def process_values(number, limit):
    result = 0
    i = 1
    while i < limit:
        i += 4
        if number > 100:
            # LOCATION A
            number -= 50
        print('iteration')
        # LOCATION B
        number += 5
        limit += 2
        result = number
    print(result)
    # LOCATION C
```

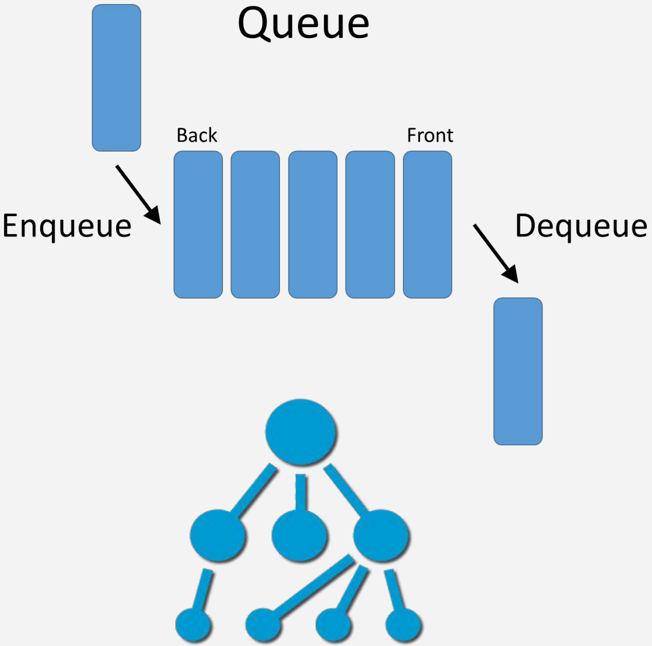
Why keep going with CS?

- Great job opportunities as software engineer/developer
- Also is a GREAT major or minor to pair with many other degrees
    - Business
    - Natural Sciences (Bio, Chem, Geos, etc)
    - Engineering
    - Medicine
    - Others!

CS 120

- Python - based
- Programming, programming, programming!
- Topics include:
  - Data structures: Lists (Arrays), Stacks, Queues, Trees, Linked-Lists
  - Classes and Objects





Computer Science

- Algorithms
- Security
- Data Vis
- Parallel + Distributed Computing
- Compilers
- Databases

Activity

What will this print?

```python
food = {'drink' : {'soda':150, 'lemonade':100, 'oj':75},
        'meat' : {'steak':350, 'chicken':250, 'ham':300},
        'side' : {'fries':250, 'potatoes':250, 'salad':100, 'coleslaw':200},
        'dessert' : {'pie':350} }

meal_1_cals = food['drink']['soda'] + \
              food['meat']['steak'] + \
              food['dessert']['pie']
meal_2_cals = food['drink']['oj'] +   \
            food['meat']['ham']

print('total calories', (meal_1_cals + meal_2_cals))
```

Activity

Write a function

Write a function named **even_sum**

This function should take one parameter

- A 2D list of numbers

The function should sum the even numbers within the 2D list, and return the sum.

Activity

Write a function

Write a function named **even_average**

This function should take one parameter

- A 2D list of numbers

The function should return the average of the even numbers within the 2D list

Activity

Write a function

Write a function named **split_on_strings**

This function should take two parameters:

- A string to split
- A string to split on

The function should return a list of string(s), which is the first string is split on the second string

No using the **split** function

Activity

Write a function

```
def split_on_strings(string, split_string):
    strings = []
    while split_string in string:
        i = string.index(split_string)
        before = string[0:i]
        after = string[i+len(split_string):]
        strings.append(before)
        string = after
    strings.append(after)
    return strings
```

Thank You

- Thanks to you, the students!
- Feel free to reach out in the future