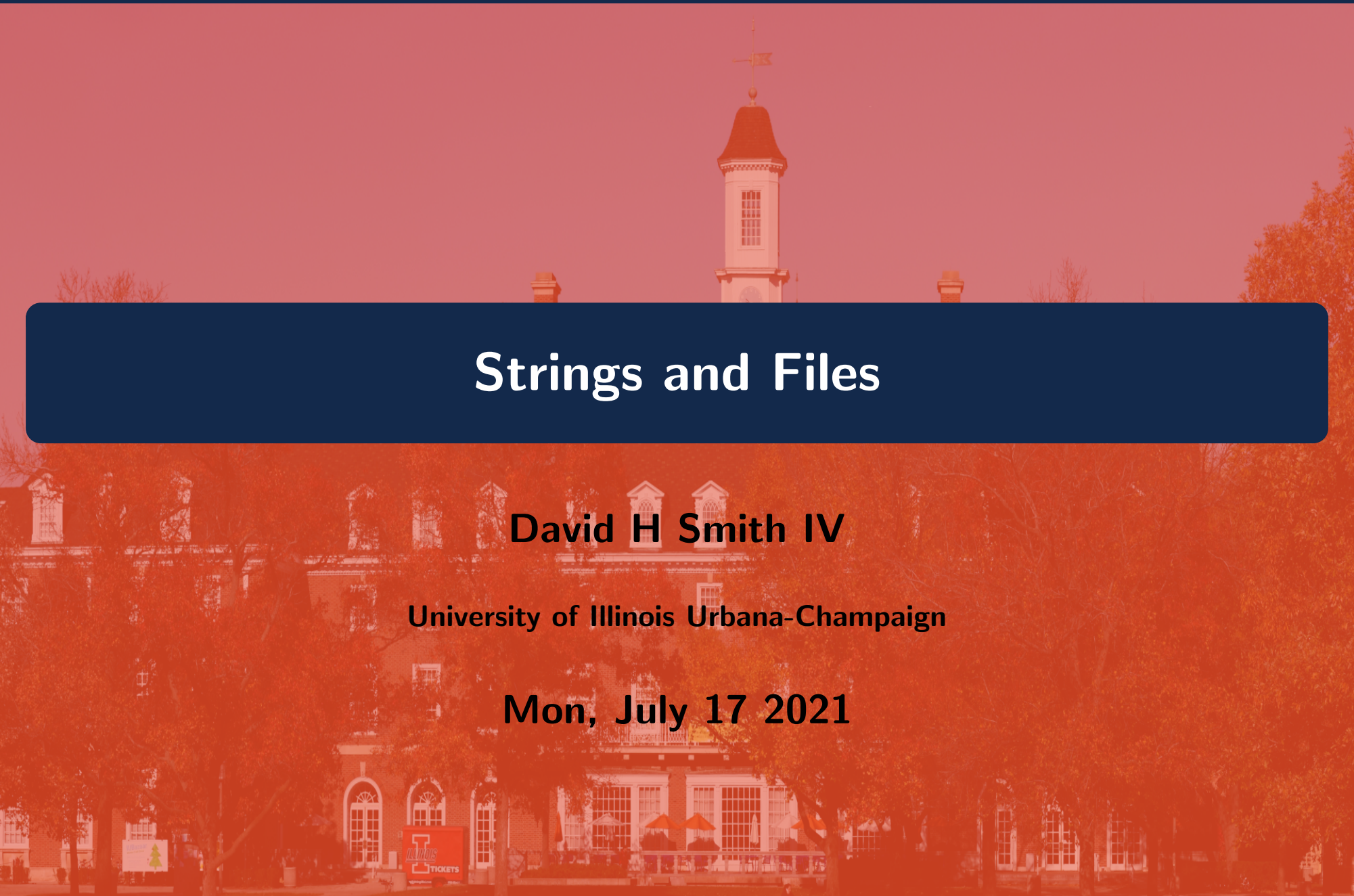

Strings and Files

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Course Overview

Reminders

- Signup for the quiz or submit a conflict request
- Homework 6 is up
- Practice quiz is up
- zyBooks and post reading are due tomorrow

The Internet

Poll Question: Acronyms

When you request a web page your request is part of what protocol?

A. HTML
B. DNS
C. CSS
D. HTTP
E. JS
F. WWW

Poll Question: Acronyms

When you request a web page your request is part of what protocol?

A. **HTML:** Hyper Text Markup Language
B. **DNS:** Domain Name Service
C. **CSS:** Cascading Style Sheets
D. **HTTP:** Hyper Text Transfer Protocol
E. **JS:** Javascript
F. **WWW:** World Wide Web

Poll Question: The Internet

Which of the following are true?

A. Tags in HTML documents typically come in pairs
B. HTML documents are hierarchical
C. CSS properties consists of attribute: value pairs
D. The preferred method of styling web pages is through CSS
E. Javascript can be used to modify both the content of a web page and its presentation
F. All of the statements are true

Patterns

Counting Pattern

```
1 def count(collection):
2   counter = 0
3   for item in collection:
4     if <item meets condition>:
5       counter += 1
6   return counter
```

Computing a Sum/Total

```
7  def sum(collection):
8    total = 0
9    for item in collection:
10     total += item
11   return total
```

Finding (single thing) in a Collection

```
12 def find_thing(collection):
13   for thing in collection:
14     if <thing meets condition>:
15       return thing
```

```
16 def find_thing(collection):
17   found = None
18   for thing in collection:
19     if <thing meets condition>:
20       found = thing
21       break
22   return found
```

Using Loop else when nothing found

```
def find_thing(collection):
  for thing in collection:
    if <thing meets condition>:
      found = thing
      break
  else:
    found = <something>

 return found
```

Finding best in collection

```
32 def find_best(collection):
33   currentbest = ??
34   for thing in collection:
35     if <thing is better than current best>:
36       currentbest = thing
37   return currentbest
```

- If we're searching over a list and we want to return the largest or smaller number: `currentbest = stufflist[0]`

Finding best in collection

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38 def find_best(collection):
39   currentbest = ??
40   for thing in collection:
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```

- If we're searching over a list and we want to return the largest or smaller number: `currentbest = stufflist[0]`
- If we're searching over a list of strings and we want to return the longest string: `currentbest = stufflist[0]` or `currentbest = ""`

Finding best in collection

```
44 def find_best(collection):
45   currentbest = ??
46   for thing in collection:
47     if <thing is better than current best>:
48       currentbest = thing
49   return currentbest
```

- If we're searching over a list and we want to return the largest or smaller number: `currentbest = stufflist[0]`
- If we're searching over a list of strings and we want to return the longest string: `currentbest = stufflist[0]` or `currentbest = ""`
- If you know the list contains only non-negative integers: `currentbest = -1`

Filtering a collection

```
50 def filter(collection):
51   new_list = []
52
53   for thing in collection:
54     if <thing meets criteria>:
55       newlist.append(thing)
56
57   return new_list
```

Poll Question: Patterns

Given a list of names, make a new list containing only those enrolled in a given course.

```
1 def find_student_enrolled_in_course(student_registrations,
    course):
2   students = []
3   for student in student_registrations:
4     if course in student_registrations[student]:
5       students.append(student)
6   return students
```

A. Sum
B. Counter
C. Finding "best" in collection
D. Filtering a collection
E. None of the above

Poll Question: Patterns

Given a list of strings find the longest string.

```
1 def find_longest_string(strings):
2   longest_string = strings[0]
3   for string in strings[1:]:
4     if len(string) > len(longest_string):
5       longest_string = string
6   return longest_string
```

A. Sum
B. Counter
C. Finding "best" in collection
D. Filtering a collection
E. None of the above

Poll Question: Patterns

Given a list of strings, find the number of strings that contain the substring `"tion"`.

A. Sum
B. Counter
C. Finding "best" in collection
D. Filtering a collection
E. None of the above

```
1 def count_substring(strings):
2   counter = 0
3   for string in strings:
4     if "tion" in string:
5       counter += 1
6   return counter
```