Little Alchemy!



15-112 Lecture 2

Week 8 Tue Set, Dictionaries, Efficiency

Instructor: Pat Virtue

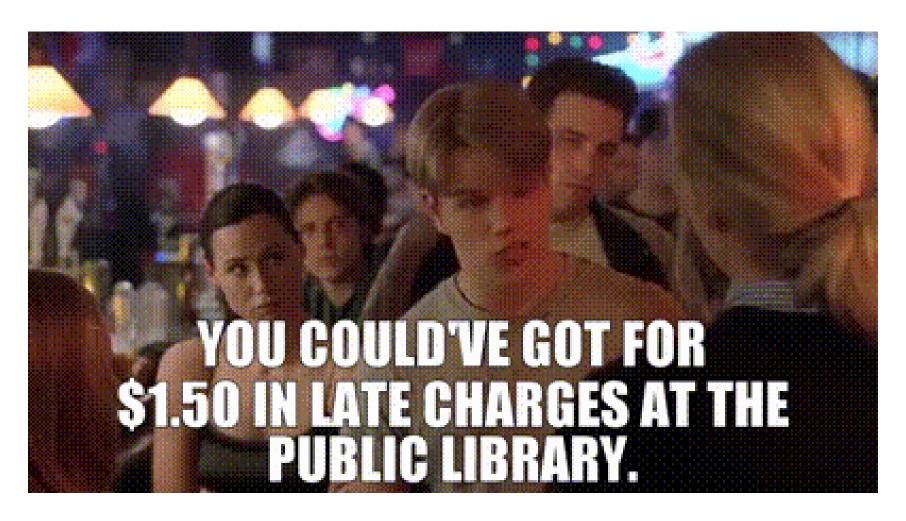
Discussion

Good Will Hunting

https://www.youtube.com/watch?v=e1DnltskkWk

Discussion

Why is being here at CMU better than a library card (or set of online courses)?



Course Feedback

Thank you!

Feedback on Feedback

Recitation

Timing

- Homework window
- Context switching
- Number of deadlines

Pace/difficulty

Announcements

Schedule

Pre-reading checkpoints

Due on Mondays, 8 pm

Tartan Community Day

- Friday holiday
- No 112 OH or Friday sections
- HW8 due Sunday, 8 pm

Final Exam

Optional

- Decide after midterm 2 and TP are graded
- If opting out, midterm average will replace final



Debate

Which are better sets or lists?

Lists vs Sets

Property Lists Sets

Indexing

Iterate over

Mutable

Mutable elements

Get length

Check contents

Sort different types

Sort repeated elements

Stored in order added

"I feel the need, the need for speed"

-- Top Gun



Poll 1

F. None of the above

Which of these needs to visit all N elements in the list data, assuming N = len(data)? Select ALL that apply. A. for x in data: print(x) B. for i in range(len(data)): print(x) C. if x in data: print("Found it") D. x = data[i]E. x = max(data)

Poll 2

F. None of the above

Which of these needs to visit all N elements in the set data, assuming N = len(data)? Select ALL that apply. A. for x in data: print(x) B. for i in range(len(data)): print(x) C. if x in data: print("Found it") D. x = data[i]E. x = max(data)

Discussion

Brainstorm: How can I make finding a specific student's exam more efficient?

Set lookup is *way* faster

How do sets work?

Hashtables

Dictionaries

Dictionaries

Map keys to values

Keys are stored like sets

Efficiency