Smith College
Computer Science

Lecture Notes
CSC111

Week 6 — Spring 2018

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Wednesday 3/7: Midterm

- **In class**
- **Bring laptop**
- **Timed: starts at 11:00 a.m., lasts 70 minutes**
- **Closed books, closed notes, closed Python, closed Web except *Moodle*.**

Outline

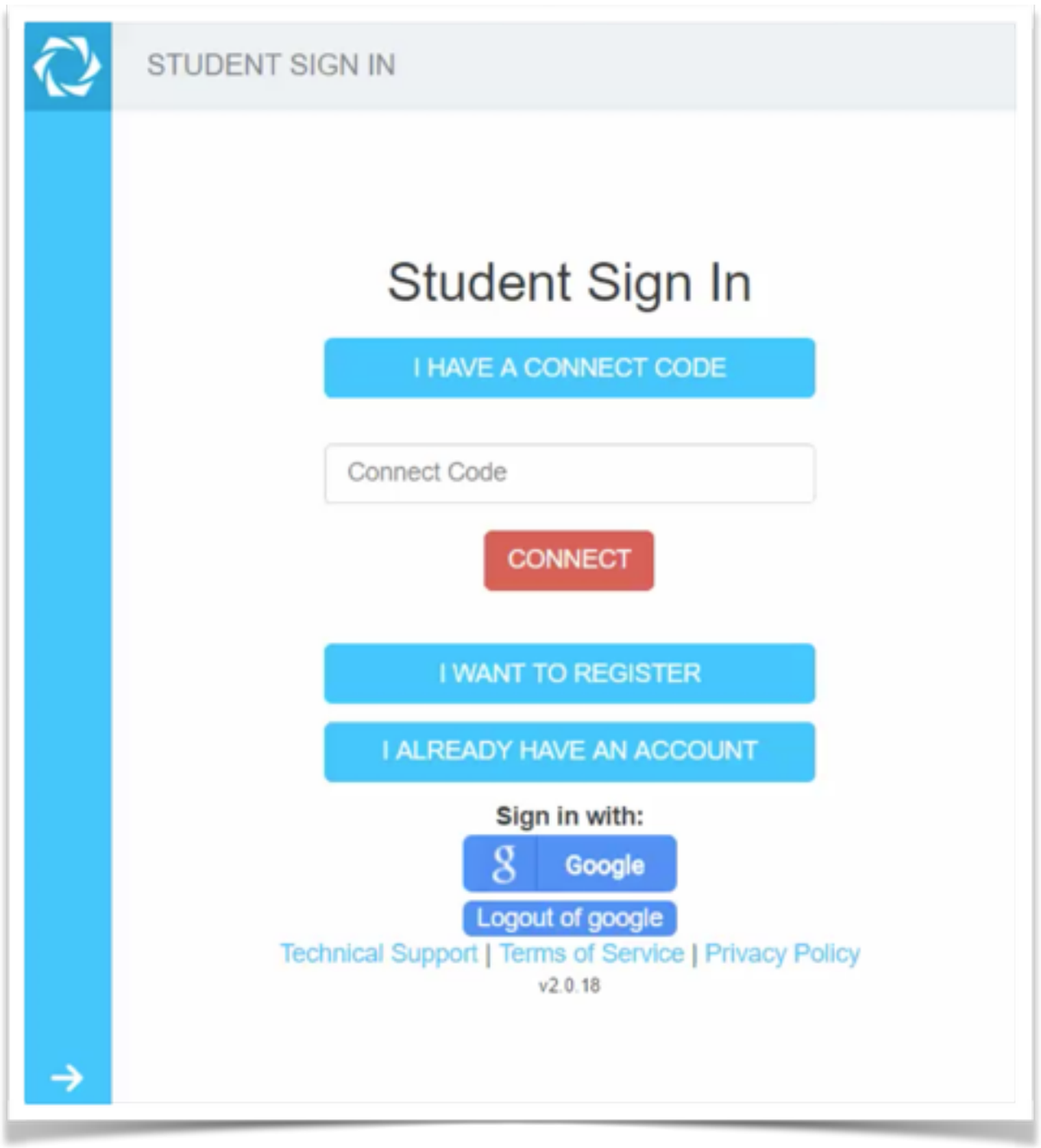
- **Decomposing a Problem into Sub-Problems**
- **Clicker Setup**
- **Mid-Semester Review**

Decomposing a Problem into Sub-Problems

- **Go to Item 13) on http://www.science.smith.edu/dftwiki/index.php/CSC111_Programs_Created_in_Class_2018**

Clicker Setup

- Go to http://app.theanswerpad.com/student#auth
- Pick "I HAVE A CONNECT CODE"
- Enter the Connect Code given in class



Review

Week 6 March 5

Topics:	Lab/Hw	Reading [Collapse]

• **Monday**
  • Review
  • indexing in a list
  • how range() works
  • functions returning values
  • "...{x:y}...".format( )
• **Wednesday**: Midterm Exam, in class, timed, on Moodle, closed notes, closed books, closed Idle.
• **Friday**
	•	•

We stopped here last time…

Friday Before Break

- **How does Moodle run the function for Lab 6?**
- **Different programming languages, different speeds of execution: A look at the N-Queens program**
- **Something completely different…**

Libraries

myLibrary.py - /Users/thiebaut/Desktop/Dropbox/111/myLibrary.py (3.5.4)

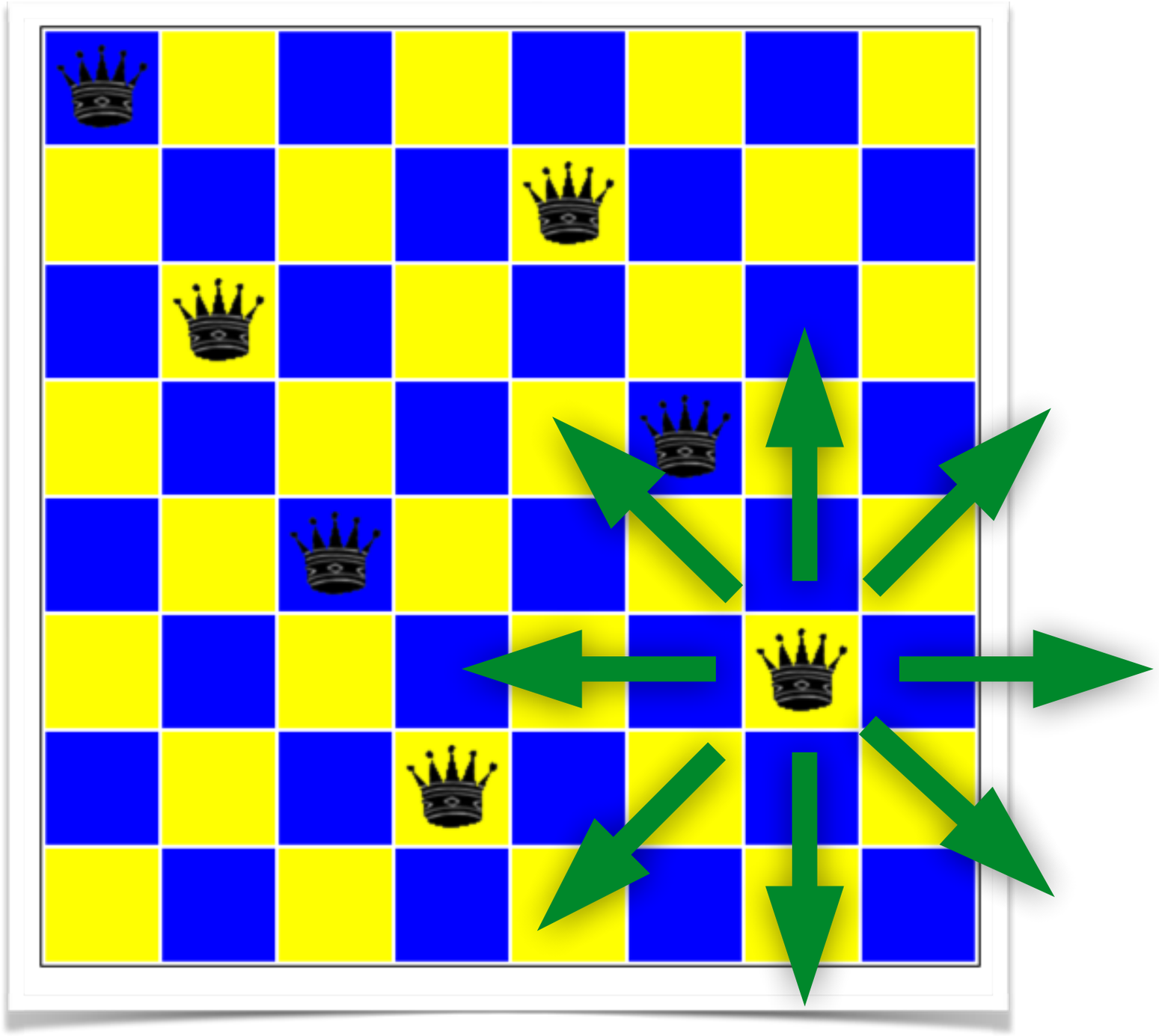
```
# myLibrary.py
# D. Thiebaut


def getFirstWordOf( line ):
    '''receives a line assumed not to be empty
    and returns its first words.  Uses whitespace
    to split the line into words.
    '''
    words = line.strip().split()
    return words[0]
```

libraryDemo.py - /Users/thiebaut/Desktop/Dropbox/111/libraryDemo.py (3.5.4)

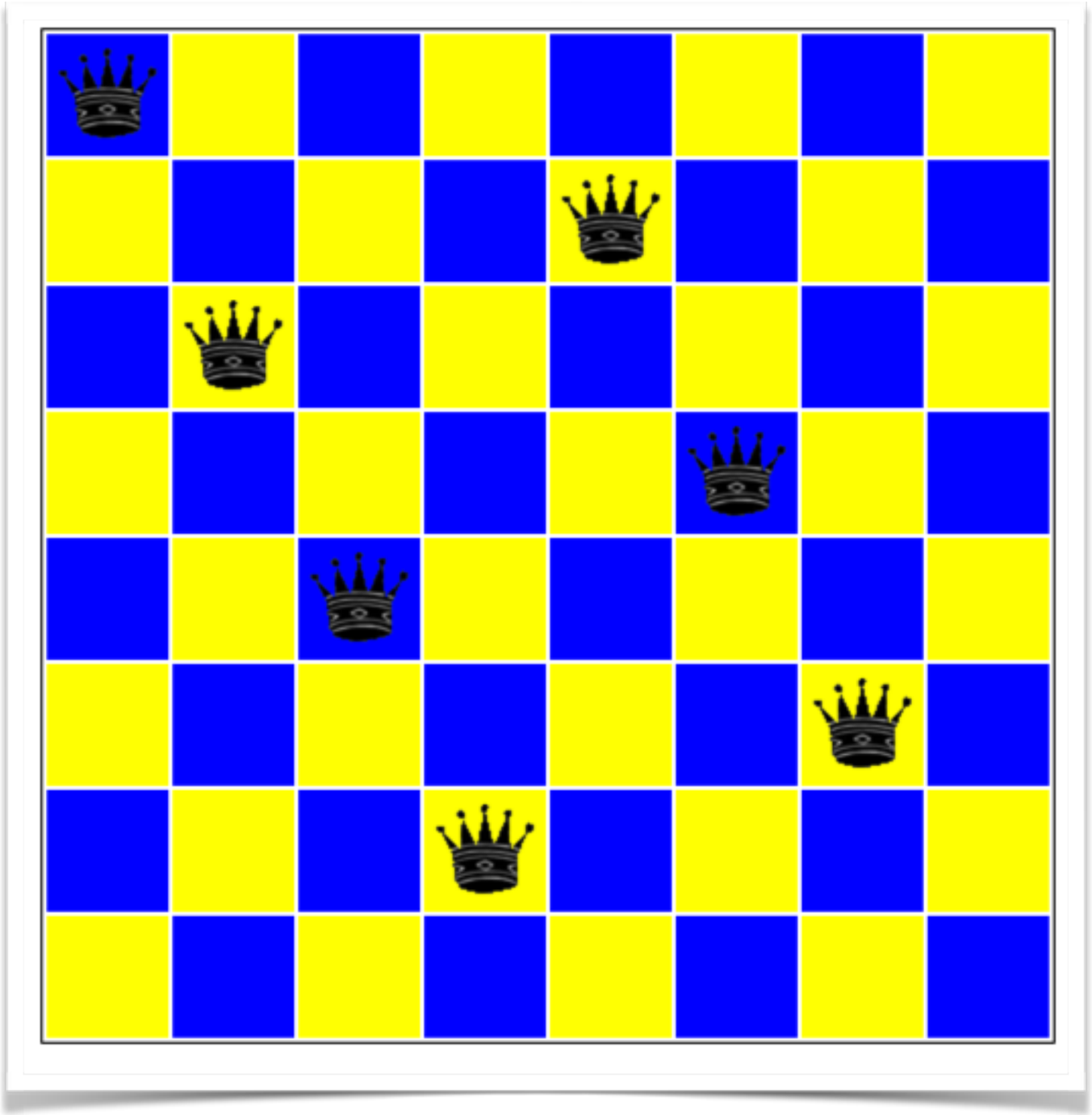
```
# libraryDemo.py
# D. Thiebaut

from myLibrary import *

def main():
    lines = [ "Soon there'll be lunch", "Spring into action",
              "Break bad habits!" ]

    for line in lines:
        print( getFirstWordOf( line ), end=" " )

    print()

main()
```

Ln: 7 Col: 20

The N-Queens Problem



http://eightqueen.becher-sundstroem.de/



The N-Queens Problem

Watch the animation...

http://eightqueen.becher-sundstroem.de/

Python Version

http://www.science.smith.edu/dftwiki/index.php/NQueens.py

Java Version

http://www.science.smith.edu/dftwiki/index.php/N-Queens_Problem_in_Java

And now, for something completely different…