

CSC 212

PROGRAMMING WITH

DATA STRUCTURES

SPRING 2016

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SMITH COLLEGE

CLASS 6: FEB 11

OUTLINE

- **Debrief Homework 1**
- **Revisit Honor Code**
- **Demo Eclipse debugging**
- **Revisit Interfaces**
- **Graphical User Interfaces (GUIs)**

DEBRIEF HOMEWORK 1

FROM REFLECTIONS

- **Java is more different than Python than I expected**
- **I learned a lot from this assignment**
- **Too specific or too open ended?**
- **Several comparisons to natural languages (substitutions)**
- **Integrating and synthesizing many concepts already:**
 - Working with strings
 - For loops
 - If/else statements and boolean logic
 - User input
 - Arrays
 - Printing complex objects

GRADING

Main takeaway:

trajectory/improvement is valued,
don't worry if homework 1 didn't go well

Labs:

3: fully complete

2: almost there

1: submitted something functional

0: no submission or non-functional

GRADING

Homeworks:

reflection: 1pt

typescript or screenshot: 1pt

progress toward a functional solution (including style): 5pts

3 key concepts successfully executed: 1pt each

- * outer loop of interaction between user and computer**
- * correct mirroring of words with inner loop**
- * correct use of arrays (allocation, indexing, printing)**

SUGGESTIONS FOR FUTURE HOMEWORKS

- **Start early!**
- **Try to maintain a state of having something “working”**
- **Use Javadocs as much as possible**
 - We won't cover every method you'll need for homework
- **Just try it! (from the TAs)**

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- **Class size issues (key: make sure you can rsubmit early!)**
 - Late work or work not submitted over the server
 - No typescript/screenshot
 - Filenames and file formats need to be correct

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HONOR CODE

- **If you were alone in a room with no internet and no notes, could you reproduce your submission?**

(starting from any code given for the assignment)

- **Do you understand every line of code that you wrote?**
 - There are a lot of built-in classes in Java, but make sure you know what they are doing (Javadocs).

ECLIPSE DEBUGGING DEMO

GRAPHICAL USER INTERFACES

USER INTERFACES

- You use these everyday!
- Terminal
- Websites
- Games
- Apps
- Coffee maker buttons

- **User Interface** is a very broad term: facilitating the interaction between human and machine

- GUI (Graphical User Interface), pronounced “gooey”
- Subset of UI (User Interface), pronounced “you I”

EXAMPLE: FOLDER/FILE NAVIGATION

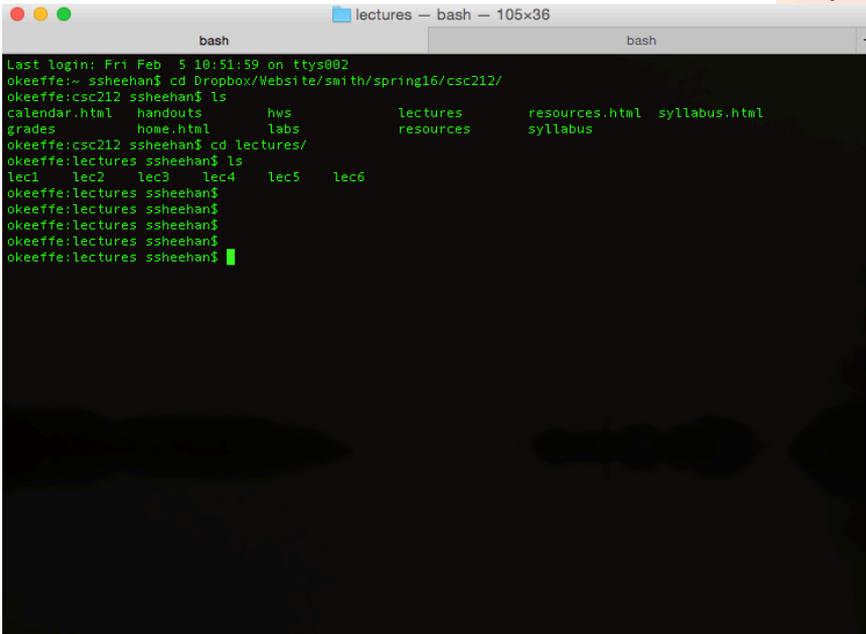
Wikipedia quote:

“GUIs were introduced in reaction to the perceived steep learning curve of command-line interfaces.” (i.e. the terminal)

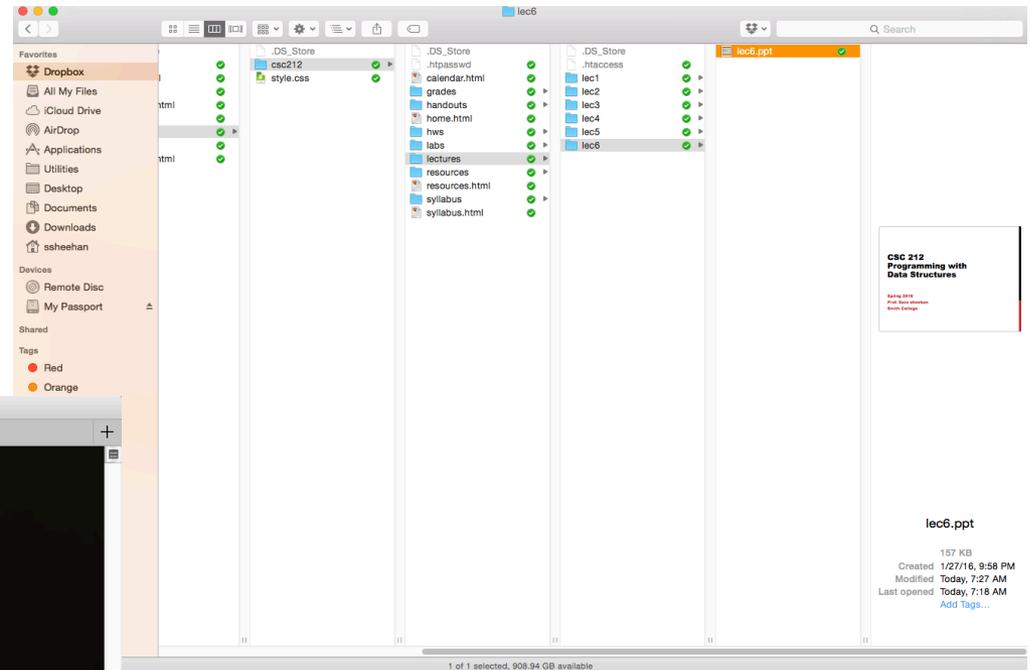
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**TEXT-BASED
USER
INTERFACE**

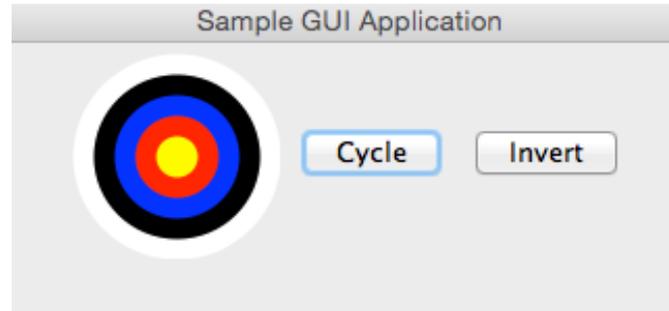


```
bash
Last login: Fri Feb 5 10:51:59 on ttys002
okeyffe:~ ssheehan$ cd Dropbox/Website/smith/spring16/csc212/
okeyffe:csc212 ssheehan$ ls
calendar.html  handouts      hws           lectures      resources.html  syllabus.html
grades         home.html     labs          resources     syllabus
okeyffe:csc212 ssheehan$ cd lectures/
okeyffe:lectures ssheehan$ ls
lec1  lec2  lec3  lec4  lec5  lec6
okeyffe:lectures ssheehan$
okeyffe:lectures ssheehan$
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```



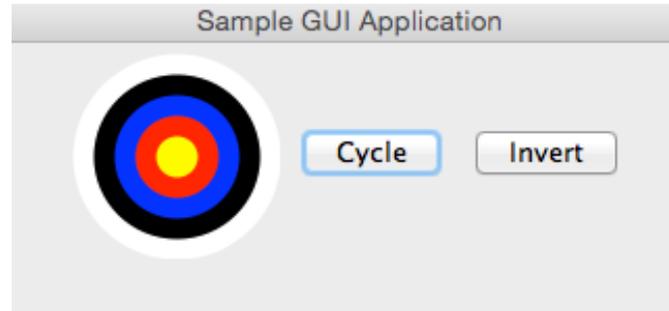
**GRAPHICAL
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LAB 3 (TODAY)



<https://docs.oracle.com/javase/7/docs/api/java/awt/event/ActionListener.html>

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```
/** Event handler for Cycle button */
private class CycleListener implements ActionListener {

    /**
     * Cycles the colors when the button is pushed.
     * @param e Holds information about the button-push event
     */
    public void actionPerformed(ActionEvent e) {
        bullseye.cycle(); // note reference to enclosing class's private field
    }
}
```

Only needs to
implement
one method

LAB 3 (TODAY)

```
 JButton cycleButton = new JButton("Cycle");  
 panel.add(cycleButton);  
 cycleButton.addActionListener(new CycleListener());
```

*Add new action listener
to the button*

