PA3 Discussion

By Jake

Two Programs

- Triangles.java
  - Command Line
  - Takes in size of triangle
    - Draws four triangles that size.
- Mickey.java part 2!
  - GUI (Graphical User Interface) Applet
  - Split into two files, Mickey.java and MickeyController.java
  - Mickey can be flipped upside down if you press and hold

README, not README.txt

- MUST be name “README”, not “README.txt”, “README.doc”, or anything else
- NO FILE EXTENSIONS (we won’t accept anything else)

Style

- Read the Style Guidelines carefully:
  - No Magic Numbers
  - File Headers and Method Headers
  - Inline Comments
  - Meaningful Variable Names
  - Use of Blank Lines
  - Lines <= 80 characters (README too!)
  - Consistent Indentation

Use Vim (or else...)

- DO NOT use Eclipse or an IDE
  - Rick asks VIM questions on READMEs and tests! So you should know it!
- Your program MUST work on the lab computers
- Your program MUST compile to be able to turn in

Triangles.java

- User inputs a single number, the size of the triangle, and hits enter.
- Program outputs four triangles that are that size.
- No Strings!
- Example

Triangles - Input

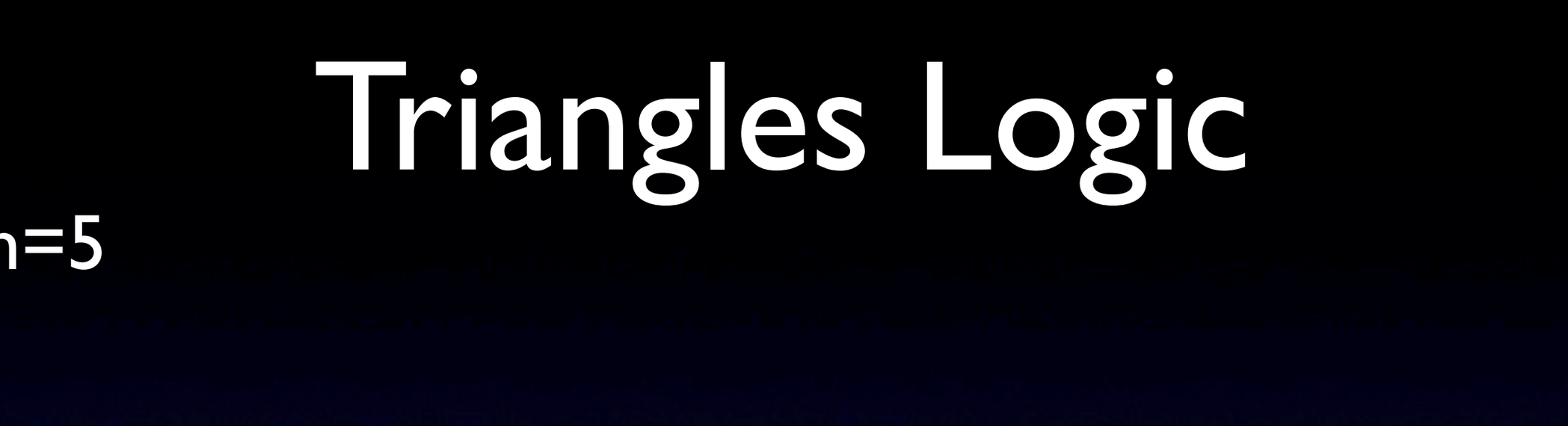
- Use a Scanner
  - Again, Start by checking out the Java API
- Useful functions:
  - hasNext()
  - nextInt()
- Creating the Scanner
  - x = new Scanner(System.in);

Triangles - Logic

- Loop while the number is invalid (< 2)
  - If the scanner hasNext(), take in an int and check if it's valid.
  - Else, the user has hit ctrl+d, exit.

Triangles Logic

n=5



Triangles Logic

n=5

row = 1

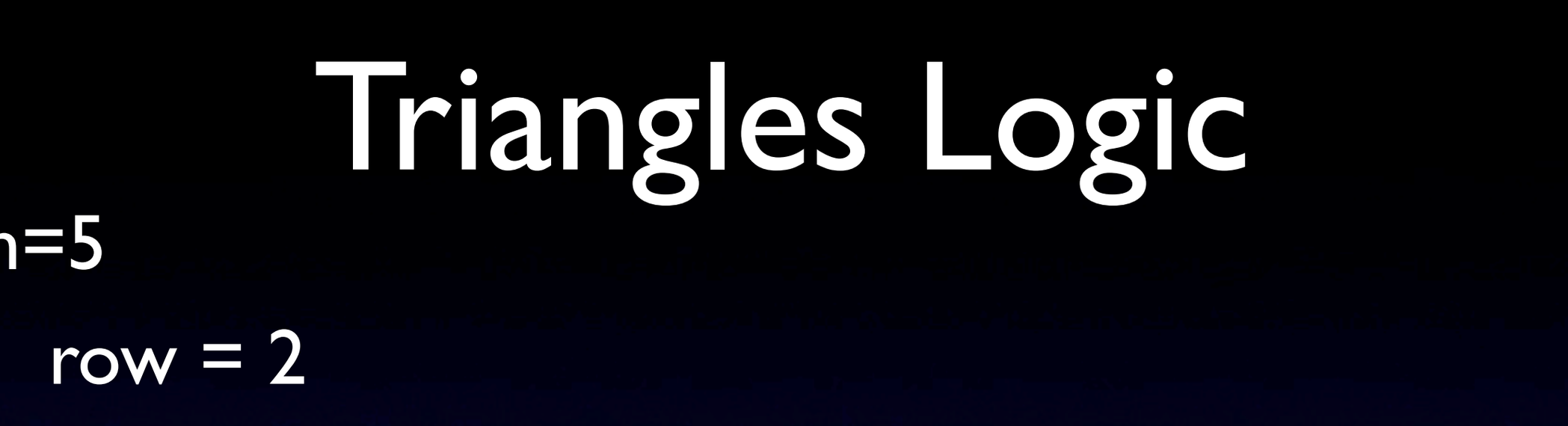
1 star, 4 spaces | 5 stars | 5 stars | 4 stars, 1 space

Triangles Logic

n=5

row = 2

2 stars, 3 spaces 4 stars, 1 space 1 space, 4 stars 3 spaces, 2 stars



Triangles Logic

n=5

row = 3

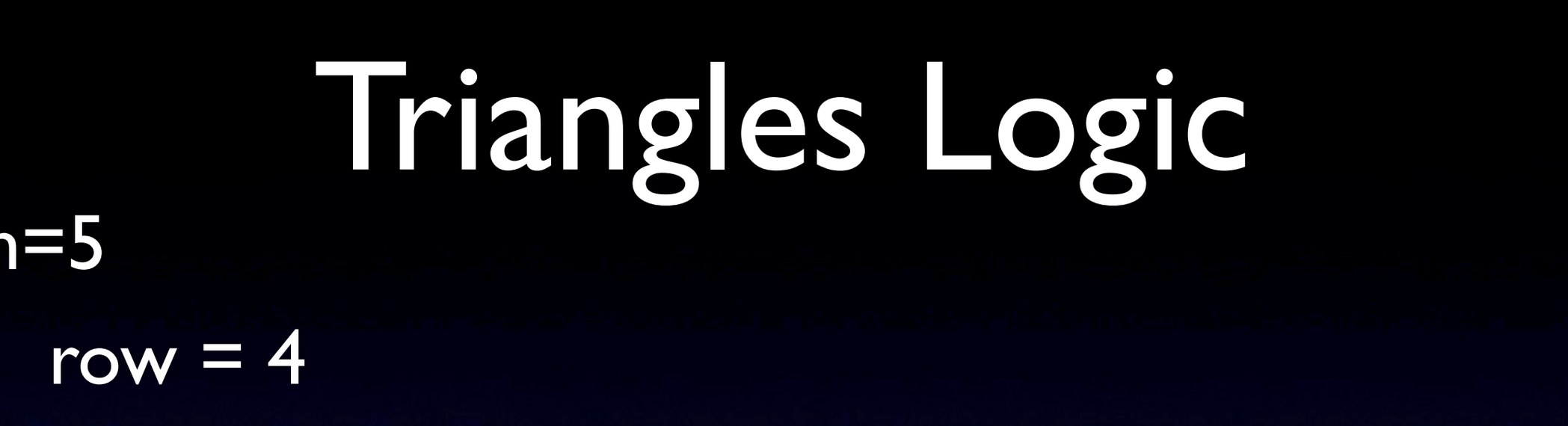
3 stars, 2 spaces 3 stars, 2 spaces 2 spaces, 3 stars 2 spaces, 3 stars

Triangles Logic

n=5

row = 4

4 stars, 1 space 2 stars, 3 spaces 3 spaces, 2 stars 1 space, 4 stars

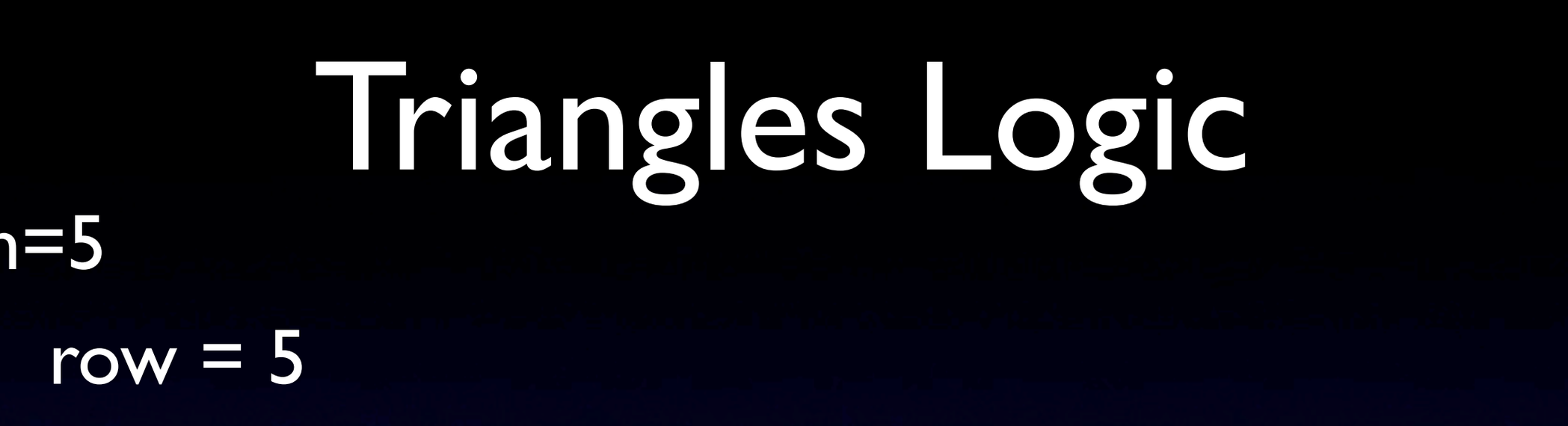


Triangles Logic

n=5

row = 5

5 stars | 1 star, 4 spaces | 4 spaces, 1 star | 5 stars



Triangles Logic

- So for any given size n, in the "i"th row, how many stars and spaces
- For the first triangle?
- Second?
- Third?
- Forth?

Mickey Part 2!

- Same specs as last Mickey program, but:
  - If you click on Mickey *without moving* for 500 milliseconds, Mickey flips upside down.
- Also, we will be splitting the program into two classes: Mickey and MickeyController
- Example!

Mickey Classes

- MickeyController
  - extends WindowController
  - has onMouse_____ methods
  - handles input and creates an instance of the Mickey class.
- Mickey
  - Has a constructor (that draws the head)
  - Has useful methods ie
    - flip()
    - move()
    - hide()
    - contains()
    - others...

Mickey - Timer

- The Timer class will allow you to determine if a click has lasted 500 milliseconds
- You can find the code for the Timer in your textbook.
- Start the timer in onMousePress()
- End the timer in onMouseRelease()
- Check if it was >=500ms in onMouseClick()

Mickey - Click Events

- A Click (with Movement) (aka a Drag)
  - A single call to onMousePress()
  - Several calls to onMouseDrag()
  - A single call to onMouseRelease()
- A Click (without Movement)
  - A single call to onMousePress()
  - A single call to onMouseRelease()
  - A single call to onMouseClick()

Mickey - Click Events

- When the mouse button goes down:
  - onMousePress()
- While the mouse is down, if there is movement:
  - onMouseDrag()
- When the mouse button goes up:
  - onMouseRelease()
- If there was no movement between the press and release
  - onMouseClick()

Extra Credit

- Each time Mickey flips, change his color through the list.
  - Hint: look at the API for java.awt.Color

Turnin and Verify

- To turn in the assignment, type “turnin pa3”
- To verify that your turn in was successful, type “verify pa3”

- Make sure you turn in and verify before midnight on the due date. NO Late assignments will be accepted, NO EXCEPTIONS.

Questions?

START

EARLY!!!