

DUE NEXT WED

Your a-Maze-ing algorithm

Use the API that I gave you Monday

Code it carefully

You will NOT get my code

all testing will be visual !

Java GUI

Basic Graphics in Java

0,0

750,0

Graphics

Pixel

Two-D graphics

Upper-left is 0,0

All visible coordinates are positive

0,500

750,500

Color

like everything else in computers are represented by numbers

Red : Green : Blue intensity level

Intensity ranges from 0-255

Lots of intensity? lots of that light!

No intensity? none of that color!

0,0,0 is ??

0,255,255

255,0,255

60,60,60

Image could also be black & white : 0 or 1

Applets

Small application

Written for the web

Run in a web browser

Support in Eclipse

Applets

Class *inherits* from JApplet class

```
public class ShowQuote extends JApplet ...
```

No "main"

- `public void paint (Graphics page)`

Import several important libraries

```
javax.swing.*
```

```
java.awt.*
```

Graphics Class

page is defined: **Graphics page;**

a “graphics context”

i.e. the thing we interact with — the applet window

- `page.drawRect (x,y, w,h)`
- `page.drawOval (x,y,w,h) //draw within bounds`
- `page.drawLine (x1,y1, x2,y2)`
- `page.drawString (String, x, y)`

More drawing

`fillRect (x,y, w, h) //fills with “current” color`

`setColor (Color c)`

`Color.black` , `Color.red`, `Color.blue`, etc.

or create your own...

Java Graphical Objects

GUI

Graphical User Interface

Component

object that represents a screen element

(labels, buttons, text fields, etc)

Containers

A graphical component that organizes (holds) other components

Containers: Frames and Panels

Containers

Frame

Top-level container for GUI

separate window, title bar, icon

reposition-able, resize-able, menus, et al

JFrame class

Containers

Panel

container within another container

rectangular area used to group components

not ‘stand alone’

must be added to another container

JPanel class

Java GUI Application

“regular” Java application

Create a JFrame

set parameters to the Frame

build panels and draw within those panels

add panel to the Frame

make the frame visible