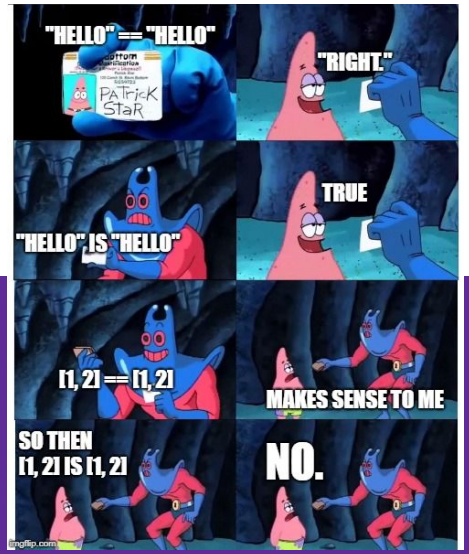
CSE 120, Section 12



Important Dates

Date and Time	Type	Assignment
Thursday, 2/13	Checkoff	Color Filters
Friday, 2/14	Checkoff	Arrays & Elli
Friday, 2/14 lecture	Quiz	Quiz 3
Monday 2/17	Vacation :)	No class!

1:1 meetings - sign up on Piazza!

Elli

Arrays - like a list of variables

While loops let us update them

Variable scope

Color Filters

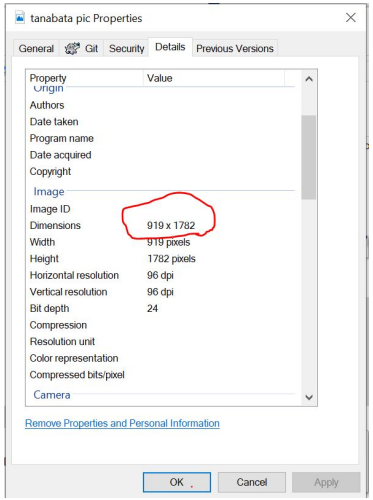
File

Make a new folder

Put the image in that folder

Save your processing code for this assignment in the **same** folder

Write down the width and height of photo - pixels



Processing file

Need global variable of type PImage (*this goes before setup*):

```
PImage pic;

color c;
```

Inside void setup(){} set the size so that it is equal to the width and height of your photo

After that, still inside setup:

```
pic = loadImage("greatPic.jpg"); //pic being the variable name
```

Void draw(){

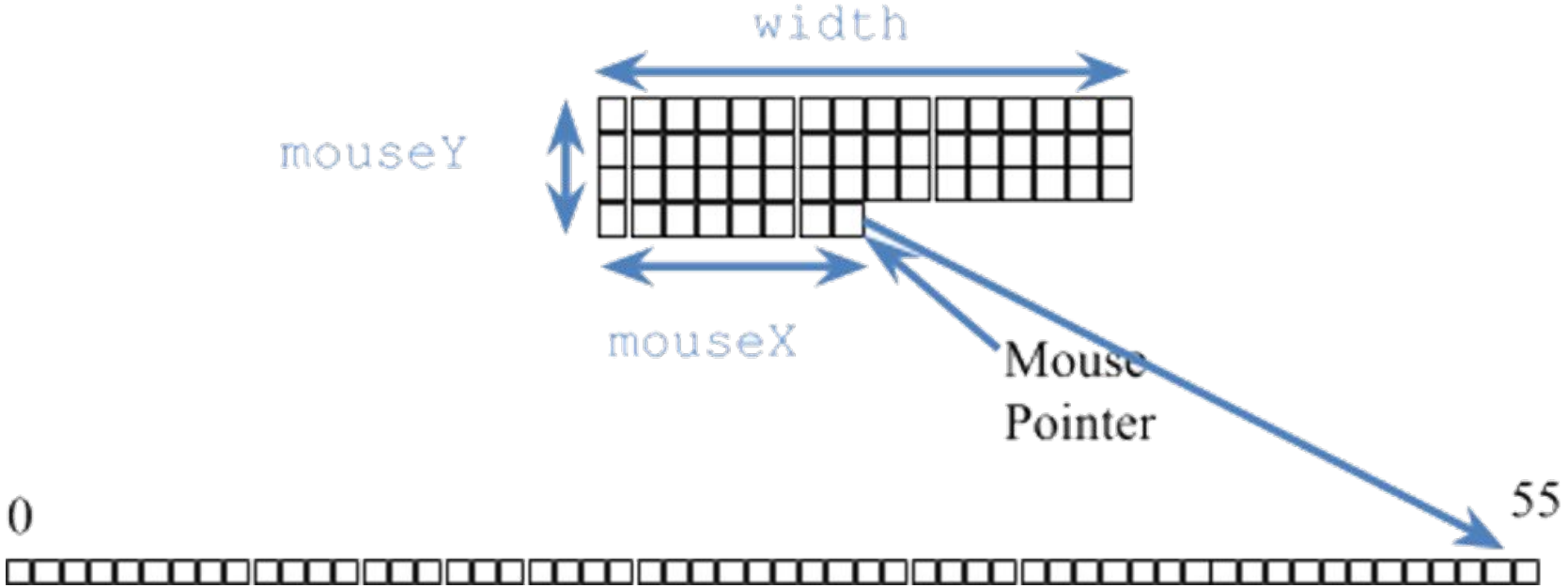
image(pic, 0, 0); //pic being the variable name from the last slide

loadPixels(); //makes you an array called pixels[]

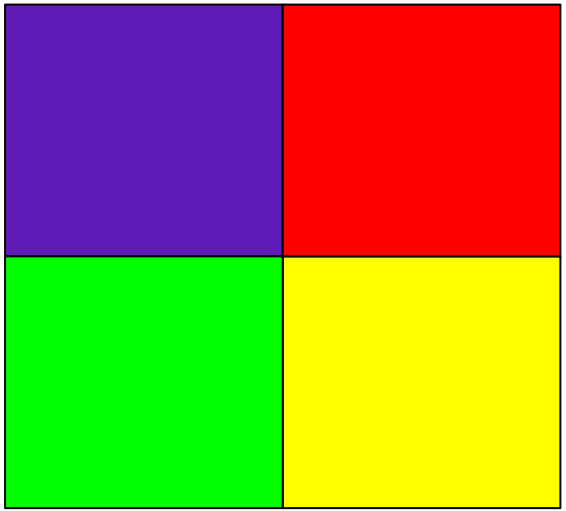
c = mouseX + mouseY*width;

println(int(red(c)) + " " + int(green(c)) + " " + int(blue(c)));

Linearizing a Picture

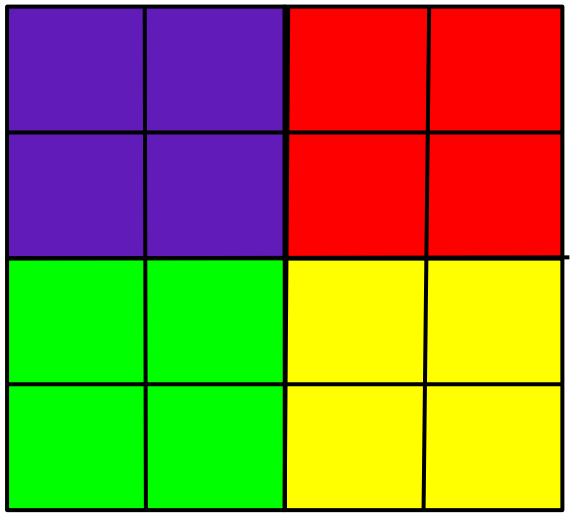


Linearizing a Picture cont.



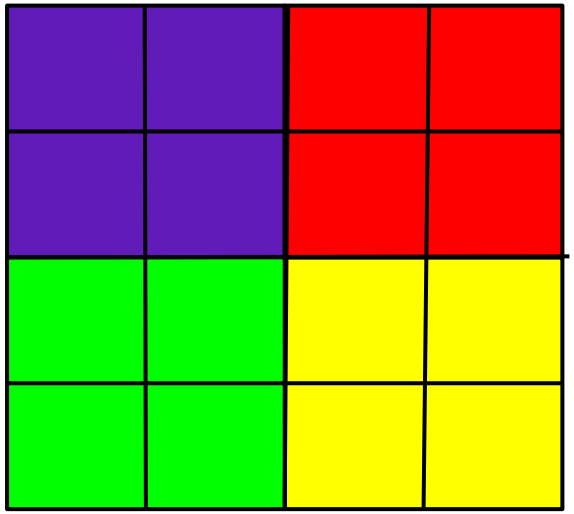
Now that you've loaded
an image into Processing

Linearizing a Picture cont.



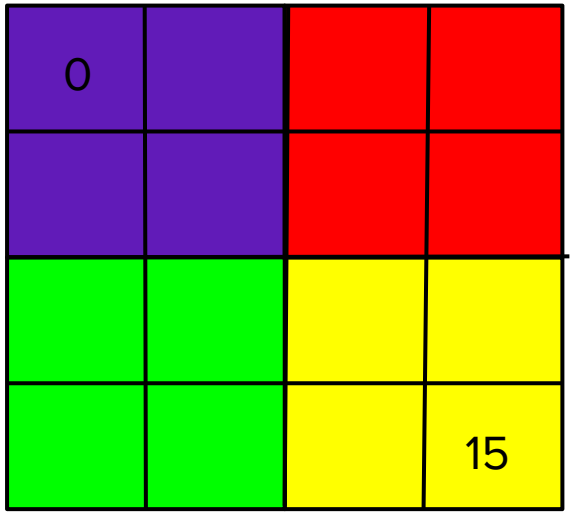
The grid represents the pixels in the image, so each grid square represents one pixel.

Linearizing a Picture cont.

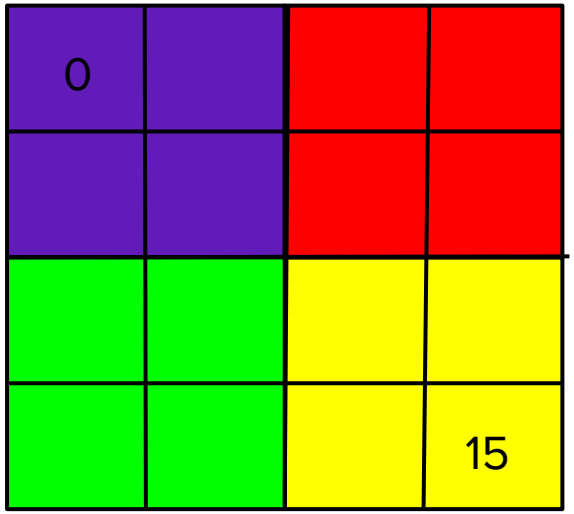


- **loadPixels()**
  - Loads a snapshot of what is currently on your canvas into an array pixels[]
- **pixels[]**
  - An array that stores all the values of the pixels on the canvas
  - Stores values of the **color** datatype

Linearizing a Picture cont.



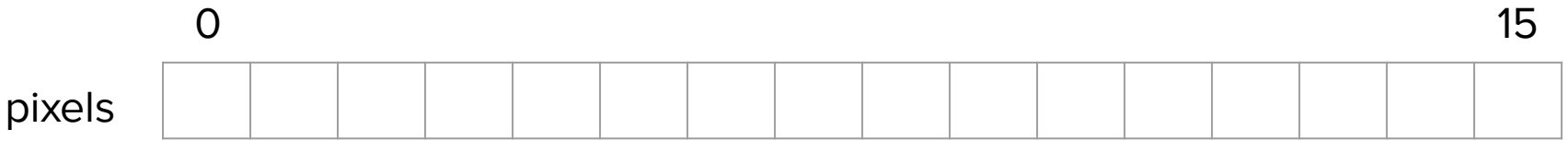
Linearizing a Picture cont.



What does pixels[6] return?

What does pixels[15] return?

What does pixels[16] return?



Color Filters

keyPressed() function - if statements to check if ‘r’ is pressed

Then refill pixels with pixels[i] = color(red(pixels[i]), 0, 0); with a loop

draw() { updatePixels();}

Restore

keyPressed() - for not ‘r’

Redraw picture - image()

- loadPixels()

More colors

Repeat for red with

- ‘g’ green
- ‘b’ blue
- ‘c’ green + blue -> cyan
- ‘y’ red + green -> yellow
- ‘m’ red + blue -> magenta
    - REMINDER - red =
        - keyPressed() function - if statements to check if ‘r’ is pressed
        - Then refill pixels with pixels[i] = color(red(pixels[i]), 0, 0); with a loop

Checkoff

Worksheet!(?)

Friday office hours?

Worktime

- Color Filters
- Arrays & Elli
- Quiz studying