Today

- Ask me questions about PA6
- ICA in Gradescope
- Chapter 7
  - Media

Practice with variables and if statements

Question 1

Given two numeric variables x and y. Write the processing instructions to swap the values of these two variables.

For example, if x =5 and y=6 before your code, the value of the variables would be x=6 and y=5 after executing your code.

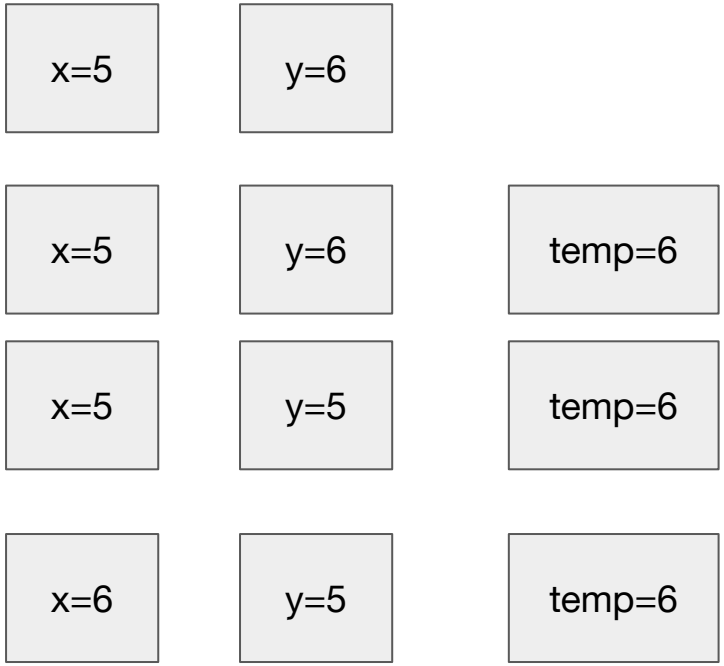
SOLUTION FROM A STUDENT

```
int x=5;
int y=6;

int temp = y;

y = x;


x = temp;
```



Question 2

Write a code that prints in console the words “face” or “arrow” depending on the key pressed (‘f’ or ‘a’)

SOLUTION FROM A STUDENT

```
void draw() {
  if (keyPressed) {
    if (key=='f') {
      print("face");
    } else if(key=='a'){
      print("arrow");
    }
  }
}
```

SOLUTION FROM A STUDENT

```
void draw()
{
  if(keyPressed == true && key == 'f')
  {
    println("face");
  }
  else if(keyPressed == true && key == 'a')
  {
    println("arrow");
  }
}
```

Question 3

Write a code that prints in console the words “red” or “green” depending on the key pressed (‘r’ or ‘g’)

SOLUTION FROM A STUDENT

```
void draw() {
  if(key == 'r'){
    println("red");
  }
  else if(key == 'g'){
    println("green");
  }
}
```

Question 4

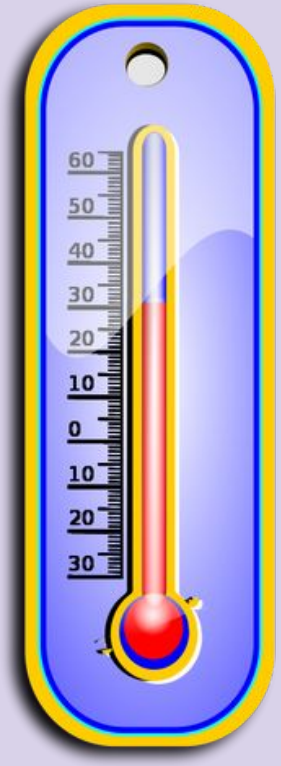
Write a code that prints in console the **combination** of color and shape depending on the key pressed
“red” or “green” for ‘r’ or ‘g’ keys
and
“face” or “arrow” for ‘f’ or ‘a’

Example, press ‘r’ and ‘f’
Prints
red face

Please ask me questions

How are you feeling?

A. Very confused
B. Need a lot more practice
C. Need a little more practice
D. Just have a couple of questions
E. Feeling good



CS 101
Media

Chapter 7

Code analysis - added comments

```
PImage img;    //defining the variable img which will contain the image

void setup() {
  size(480, 120);
  img = loadImage("lunar.jpg"); //name and path of the image
}

void draw() {
  image(img, 0, 0); //position of the image
}
```

loadImage( ) function to assign value to the PImage variable

Syntax

```
loadImage(filename)
loadImage(filename, extension)
```

Parameters

filename	(String)	name of file to load, can be .gif, .jpg, .tga, or a handful of other image types depending on your platform
extension	(String)	type of image to load, for example "png", "gif", "jpg"

Return

PImage

image( ) function to display an image

Syntax	`image(img, a, b)`		
	`image(img, a, b, c, d)`		
Parameters	**img**	(PImage)	the image to display
	a	(float)	x-coordinate of the image by default
	b	(float)	y-coordinate of the image by default
	c	(float)	width to display the image by default
	d	(float)	height to display the image by default
Return	`void`		

Image formats

- Processing can display multiple types of formats
  - jpg, png, and others
- Some image formats support ***transparent pixels*** (see-through) and some do not
- Can use images with some parts transparent so that the image doesn’t always just look “boxy”
- See more examples on Chapter 7

jpg

- JPG is a widely used type of file for digital images.
- Short for JPEG = Joint Photographic Experts Group
- JPG is a compressed image format. It is the most common image format used in digital cameras.

https://en.wikipedia.org/wiki/JPEG <- read more

png

- PNG is commonly used on the internet.
- Short for Portable Network Graphics
- PNG is a high-quality graphic file format.

https://en.wikipedia.org/wiki/PNG <- read more

Demo - using a image from the internet

- Search the jpg of a flower (wikimedia is a good option)
- Copy the URL of the image
- Replace the name and path of the image in the code
- Test
- Adjust canvas size

- Show how to get image URL from Google Images -> tools _> advanced image search

Question 5

Write the program that loads two images:

- On the left of the canvas, display a picture of Wilbur and Wilma T. Wildcat
- On the right side of the canvas, display an image of the UA logo

The images should have paths to images on the internet. Do not need to download the images.

Wilbur and Wilma T. Wildcat are the mascots of U of Arizona.

Practice with Loops

What will it do?

something.jpg is:

```
PImage img;

void setup() {
  size(560, 300);
  img = loadImage("something.jpg");
}

int k = 0;

void draw() {
  for (int i = 10; i < 550; i+= 110) {
    image(img, i, k, 100, 100);
  }
  k += 2;
}
```

ICA

What will it do?

Let's say we want to remove the animation (image repainted below) but keep the code to show the image multiple times.

What line of code should be removed?

A
B
C
D
E

```
PImage img;

void setup() {
  size(560, 300);
  img = loadImage("something.jpg");
}

int k = 0;

void draw() {
  for (int i = 10; i < 550; i+= 110) {
    image(img, i, k, 100, 100);
  }
  k += 2;
}
```

Whiteboards –change the code to do this:

```
PImage img;

void setup() {
  size(560, 300);
  img = loadImage("bear.jpg");
}

int k = 0;

void draw() {
  for (int i = 10; i < 550; i+= 110) {
    // need to change this
    image(img, i, k, 100, 100);
  }
  k += 2;
}
```

Question 3. Create a sketch that does this: