Images Recap

- declare a variable to hold an image – at the beginning of the sketch

  ```
  PImage img;
  ```

- load an image – in setup (image must also be added to sketch with Sketch->Add File...)

  ```
  img = loadImage("myimage.jpg");
  ```

- displaying an image

  ```
  image(img,x,y);
  image(img,x,y,w,h);
  ```

  (use `imageMode(CORNER)` or `imageMode(CENTER)` to specify whether (x,y) is the upper left corner or center of the image)

- size of an image

  ```
  img.width
  img.height
  ```

- tint() – effects apply to subsequent images (until changed)

  ```
  tint(gray);          // adjust brightness
  tint(gray,alpha);    // adjust brightness and transparency
  tint(r,g,b);         // adjust brightness of color components
                       //  individually
  tint(r,g,b,alpha);   // adjust brightness of color components and
                       //  transparency
  noTint();            // turn off tint effects
  ```

Provided Images

Some images have been provided for you to use in these exercises –

- If you are working on your own computer, use the link on the schedule page – right-click on the filename and choose "Save Link As..." to save the images you want to use on your computer.
- If you are working in Linux (either the virtual desktop or on an actual machine), you can find the same images in **/classes/cs120/images** – copy the ones you want to use from there.

At the End of Class

Hand in whatever you have done during class, even if a sketch is incomplete.

- Make sure each sketch is named as directed and has a comment with the names of your group. Also be sure to save your sketches! (in Linux, this should be in your sketchbook **~/cs120/sketchbook**)
- Copy the entire directory for each sketch (not only the .pde file) into your handin directory (**/classes/cs120/handin/*username***). You only need to hand in one copy for the group. (If you are running Processing on your computer instead of using the Linux virtual desktop, you will need to use FileZilla to copy the sketches.)

Exercises

For all sketches, be sure to **include a comment with the names of your group at the beginning of the sketch.**

See the "Provided Images" section on the other side of the page for information on how to obtain images for use in these exercises. Then –

- ~~Copy the image(s) you are using in a sketch into the sketch's folder in your sketchbook so that they get handed in when you hand in your sketch.~~
- Don't forget to also add the image(s) to each sketch you create with Sketch → Add File… so that your sketch can find the images when it runs.

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1. Create a sketch called **sketch_241113a** which displays an image in an 800x800 window. The image should be centered in the window (display it with its normal size) and the window should have a black background.
2. Save a copy of the previous sketch as **sketch_241113b**, then modify the copy so the image moves from left to right across the screen. (It should start just outside the window on the left side so that it appears to slide into the window from the left.) When the image disappears completely off the right side of the window, it should slide back in on the left.
3. Save a copy of the previous sketch as **sketch_241113c**, then modify the copy so that the image fades (i.e. becomes more transparent) as it moves across the screen.
4. Create a sketch called **sketch_241113d** which displays four copies of the same image – the original image, a darker version, a red filtered version (all red, no green and blue), and a blue-green filtered version (no red, just green and blue). Scale the images so that each fits in one quadrant of the window.

If you have time –

- Create a sketch called **sketch_241113e** which displays an image centered in a 400x400 window. Scale the image so it fits, preserving the aspect ratio. (The aspect ratio is the ratio of the width to the height – to preserve the aspect ratio, scale both width and height by the same factor.) Write your sketch so it works for any size window and any size image.
- Create a sketch called **sketch_241113f** which displays two images (one on top of the other). The transparency of the top image should be controlled by the mouse – when the mouse is on the left side of the window, the top image should be fully opaque; when the mouse is on the right side of the window, the top image should be fully transparent (revealing the bottom image).
- Save a copy of your **sketch_241113e** sketch as **sketch_241113g** and modify the copy to display a slideshow containing at least 5 different images – create an array of `PImages` to hold the loaded images and change to the next image when the mouse is clicked. (When the last image is reached, the slideshow should start over on the next mouse click.) Each image should be centered in the drawing window and should be scaled to fit (preserving the aspect ratio).

  To do this, use the initializer list syntax to create and initialize the array:

  ```
  PImage[] images = { "file1.jpg", "file2.jpg", "file3.jpg" };
  ```

  This will need to go at the beginning of the sketch. You'll also need an animation variable for the index in the array for the current image.

If you still have time, create a new sketch **sketch_241113h** and create something interesting using images, animation and/or interaction, and `tint()`.