WORKSHEET 07D – Classwork on week 4 day 1, & Homework due on week 4 day 2

Do your own work on this Picture Lab, NOT pair programming

Deliverables: paper and demo.

NOTE: The numbering here is same as that of the Guide

A0	**Getting ready:**
	• Decide where you are going to store the source files and image files for this Lab.
	• Create a folder called, say, **ProjLabPicture.**
	• Download the following zip files:
	  ○ **classesZip**
	  ○ **imagesZip**
	• Create a folder in **ProjLabPicture** called **classes,** and unzip **classesZip** into it.
	• Create a folder in **ProjLabPicture** called **images,** and unzip **imagesZip** into it.
	• What are the names of the **.java** files in the **classes** folder? Cite in alphabetical order of these file names, on binder paper.
	• What are the names of the *image files* in the **images** folder? Cite in alphabetical order of these file names, on binder paper. What is the extension of these files?
	• To bring up this program in BlueJ (for later activities), simply double-click on the **package** file in the **classes** folder.
	• Download/access the **Picture Lab Student Guide**: http://media.collegeboard.com/digitalServices/pdf/ap/picture-lab-studentguide.pdf
	• If you downloaded the **Picture Lab Student Guide**, you may want to keep it in **ProjLabPicture**, so everything about the Lab is in one place.
	• Read **Picture Lab Student Guide,** p. 2:
	  ○ Introduction
	  ○ Activities

A1	**Introduction to digital pictures and color**: • Read **Picture Lab Student Guide,** p. 3 • Answer the Questions 1-3 on p. 3, on binder paper
A2	**Picking a color**: • Read **Picture Lab Student Guide,** pgs. 4-5. • Answer the Questions 1-5 on pgs. 4-5, on binder paper, writing down the RGB components of each color.
A3	**Exploring a picture:** • Read **Picture Lab Student Guide,** pgs. 5-6. • Answer Questions 1-7 on p. 5, on binder paper • Do Exercises 1-2 on p. 6, and demo in class, using your own image file, not the beach file.
A4	**Two-dimensional arrays in Java:** • Read **Picture Lab Student Guide,** pgs. 7-9. • Do Exercises 1-3 on p. 9, and demo in class
	(cont. next page)

A5 **Modifying a picture:**

- Read **Picture Lab Student Guide,** p. 10
- Answer Questions 1-7 on p. 11, on binder paper
- Continue reading**,** pgs. 11-13
- Do Exercises 1-2 on p. 12, to practice testing for later Exercises.
- Look over Exercises 3-6 on p. 13, to prepare for the Lab.
- Do the Lab, by coding and testing after each Exercise/method:

	In the following class ...	Write the following method ...
3	`Picture`	`keepOnlyBlue`
	`PictureTester`	`testKeepOnlyBlue`
	Test with `PictureTester`, using your own photo	
4	`Picture`	`negate`
	`PictureTester`	`testNegate`
	Test with `PictureTester`, using your own photo, which may be the same as in 3	
5	`Picture`	`grayscale`
	`PictureTester`	`testGrayscale`
	Test with `PictureTester`, using your own photo, which may be the same as in 3 & 4, or your selfie	
6	Optional	

- Demo in class, handing in the paper at the same time.

A6 **Mirroring pictures**:

- Read **Picture Lab Student Guide,** pgs. 14-16.
- Look over Exercises 1-4 on pgs. 15-16, to prepare for the Lab.
- Do the Lab, by coding and testing after each Exercise/method:

	In the following class ...	Write the following method ...
1	`Picture`	`mirrorVerticalRightToLeft`
	`PictureTester`	`testMirrorVerticalRightToLeft`
	Test with `PictureTester`	
2-4	`Don't do`	

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A9 **Edge detection**:

- Read **Picture Lab Student Guide,** pgs. 21-23.
- Do the Lab, by coding and testing after each Exercise/method:

	In the following class ...	Write the following method ...
1	`Picture`	`edgeDetection`
	`PictureTester`	`testEdgeDetection`
	Test with `PictureTester`	
2-4	`Don't do`	

Demo in class, handing in the paper at the same time

On due date, demo in class and hand in paper.

THE END