

15-102 Exploring Programming with Graphics
Homework 1**Start:** Mon 5.16.10
Due: in class Tue 5.17.10
Goal: The First One...**Course Web Site:**

<http://www.andrew.cmu.edu/course/15-102/>

Reading:

They are posted on the calendar web page available from the link shown above.

Assignment:

You are going to draw your initials in the graphics window.

Specifications:

1. ____ Download the appropriate version of Processing to your computer. There is a link on the course web page for downloading the software which is called *Processing*. Choose either Macintosh or Windows.

Windows folks -- Do not choose the option: *Windows(without Java)*.

2. ____ The first six lines must be comments as follows:

- a. your name:
- b. your class section or time:
- c. your e-mail id:
- d. a copyright notice (look at the bottom of this page):
- e. a list of any students from the 15-102 class with whom you collaborated:
- f. a list of any other people who helped you:

3. ____ The seventh line must be this line of executable code:

```
size( 400, 400 );
```

This will set the size of the graphics window in which your initials are displayed. This MUST be the first line of executable code.

4. ____ Using the Processing IDE (Integrated development Environment), draw your three initials using at least six different functions shown in the Shape/2d Primitive subset of functions in the API (Application Programming Interface).

Shape 2D Primitives

```
arc()  
ellipse()  
line()  
point()  
quad()  
rect()  
triangle()
```

This drawing of your three initials must be “interesting” but readable by someone of Jim’s generation. If you have more than 3 initials, choose 3 of them as long as they are different letters. If you do not have three initials, then choose as a third letter any letter that is different from the other two.

To satisfy the “using at least six different functions” part of the specification, you must do just that – use six different functions. You can use multiple triangles in your initials but all of the triangle functions will only count as use of one of the six required functions. You must find a design for your initials that uses six different functions.

Each letter must be visually different from the other two letters. If you have duplicate letters in your initials, they must be different.

You may not use one letter as the basis of the next letter; e.g. if your initials have the letters, F E, you may not take the function set that draws the F and add a lower horizontal line to make the E.

Your initials must use a major portion of the graphics window.

5. ____ You must use three different colors other than black, white, or shades of gray. These other colors may be defined using RGB or HSB values. Explore the [Color Selector](#) option in the Tools tab of the IDE. The use of these color functions does not satisfy the requirement to use six different drawing functions required above.

Feel free to explore any of the other drawing primitives in the API. Some of the suggested functions include the **size()** function (which MUST be the first function called in your code), **background()**, **fill()**, **noFill()**, **stroke()**, **noStroke()**, and **strokeWeight()**.

This is an exploratory homework. In this and future homeworks you will be tasked to do stuff with little or no background information. Learning something on your own is better than being told how to do it. It can also be more frustrating. Learning to cope with frustration is a side benefit of this class.

6. ____ The last line of code in your program must be:

```
saveFrame( "hw1.jpg" );
```

You need this to be able to hand in your program’s output on Wednesday. This function will literally take a picture of the graphics window and save it as a .jpg file in your homework folder.

Extra Information:

Extra information about Processing and this assignment will be given out in class on today. You can get an A if you do exactly what is required here but you might find the assignment more interesting if you have the extra stuff covered in class. Bottom line – come to class.

Grading:

This is due tomorrow at the start of class. You must bring two things with you to class on Wednesday:

- _____ A printout of your code. You can print your code using the print option under the file menu. Processing has a bug that frequently keeps it from printing the entire program. If this occurs, copy the entire program and paste it into a word document and print that. The colors of the various terms in your code will disappear if you do this but that is ok.
- _____ Print the hw1.jpg file that your program created when you called the saveFrame() function. This does not have to be in color.

Handin:

The grade that you receive for homework 1 is “provisional”. A final homework 1 grade will be assigned when your homework is posted on your Portfolio page. You will maintain and post all of your homeworks on your Portfolio page. Details for making the page and maintaining it will be covered later this week. Do not worry about this right now.

Sample:

This is from Jim’s somewhat limited imagination – it is his attempt to be “*artistic*”... sigh... Note that you only need to show the graphics initials in your print; the console window does not need to be printed. Look carefully at Jim’s attempt. Did he satisfy all of the specifications? Does it look like he will get 100%?

