



APCS-A First Semester Extra Credit Assignment

“Drawing with JFrame, Canvas, and Graphics”

(extra credit can be worth up to 3% of total first semester grade, no more)

Print Name:

Signature:

Kush Patel
KUSHPATEL

(by signing here, you agree that you worked alone with NO human assistance, you did not provide code to, or receive code from anyone, and you cited ALL resources used. Pasted code from the Internet receives no credit.)

Due By:

Friday, January 21st, 2022, 5:00pm (Late Extra Credit projects are not taken)

INTRODUCTION:

One of the simplest ways to do graphics in Java is to use a JFrame window, a Canvas object, and the Java Graphics class. These three things can be combined to create a drawing system that is more powerful (but sometimes more difficult to use) than the GPDDraw class we have used previously on assignments this year.

SOURCES:

This assignment was based on the following sources:

Java 2D Graphics Tutorial:

<http://greenteapress.com/thinkjava6/html/thinkjava6017.html>

How to Draw A Polygon:

<https://www.geeksforgeeks.org/draw-polygon-java-applet/>

Java 11 Graphics class API:

<https://docs.oracle.com/en/java/javase/11/docs/api/java.desktop/java.awt/Graphics.html>

Java Color class API:

<https://docs.oracle.com/en/java/javase/11/docs/api/java.desktop/java.awt/Color.html>

DIRECTIONS:

Using the sample program provided on Mr. Eliot's website as a starting point (**Sem01ExtraCreditJavaDrawing.zip**), create your own drawing program this is **beautiful, unique, detailed, colorful, and interesting**. The Canvas size should be 1000 x 800 in size maximum. Use of advanced skills you learned this semester (recursion, loops, if statements, decomposition of complex code into methods, etc.) will be rewarded with a higher score. Minimal effort that is similar to other students without originality will result in little credit. Students are required to work alone without assistance (see the top of this page). This extra credit project will not be graded without a signed copy of this sheet included in your code ZIP file as a scanned PDF file or JPG image (*I suggest the free "JotNot Scanner Pro" iOS and Android app if you don't have a way to scan this page at home: <https://www.jotnot.com/scanner.html>.*)

REQUIREMENTS CHECKLIST (leave blank for Mr. Eliot to use when grading):

- (01) Complete name, date, period, assignment, description, and sources were provided in ALL Java files.
- (02) The project has a separate **DrawingTester.java** and **Drawing.java** file both coded and created 100% by you alone.
- (03) The coded drawing(s) you made are be beautiful, unique, detailed, colorful, and interesting.
- (04) All code and drawings are 100% original and written exclusively by the student receiving credit. Any evidence of copying from another student or human or other online sources will result in a zero grade for all students involved.
- (05) Code appears to be written only by the student and is clearly within their current Java skill set.
- (06) The paint() method and the default Drawing() constructor are the only PUBLIC METHODS found in your class.
- (07) There should be a number of PRIVATE HELPER METHODS which help the paint() method draw different shapes, lines, etc.
- (08) Use of global PRIVATE VARIABLES should be minimal and you should have a good reason for all global private variables.
- (09) Use of the Java Color class is required to make the image colorful, vivid, and interesting.
- (10) Smart use of for loops, while loops, recursion, and if statements to help draw will be recognized during grading
- (11) Use of Boolean true and false values will be recognized during grading.
- (12) Objects created must not be related to Objects created in class as assignments, examples, demos, or quizzes.
- (13) Use of good commenting, indenting, and identifier names, will be recognized during grading.
- (14) This project followed the AP Java Style & Lesson Guide provided at MrEliot.com for all code.
- (15) Code Interview: If questions arise, you might be asked to discuss your code in detail and run it for Mr. Eliot.

NOTE: Quizzes are 50% of the entire weighted grade. The maximum effect of extra credit is less than, or equal to 3% of total grade. Therefore, this assignment is worth up to 6% of the total expected QUIZ grade, which is 9 points based on an estimated 150 total QUIZ points for first semester.

COMMENTS:

SCORE: _____ / 09

BASIC GRADING RUBRIC (maximum points available):

9pts = Excellent, one of the best I've seen

7-8pts = Very Good, shows hard work and effort

5-6pts = Good, student did extra work beyond average

3-4pts = OK, minimal Object, no attempt to go beyond basics

1-2pts = Incomplete, issues, project doesn't work

0pts = No credit, copied, no sources, internet code, etc.