

There are methods to your madness – and pretty pictures.

Summative Essay Project

This project consists of two primary (and many tertiary) components.

1. Use JavaFX to make an art program of your choosing.
2. A two page essay – double spaced, Times New Roman, 12 pt. font, 1” margins. Document – **using content area vocabulary** – the development and structure of your program. [You will describe the programmatic choices you have made using the appropriate computer science vocabulary.]

¡Que Arte!

Building off of the previous art project [here](#), develop an art program that is noticeably and substantively (i.e. not just colors) different from the existing project in at least 5 ways.

This program should:

1. Be visually different than the previous art project.
2. Accept user input for some purpose.
3. Make substantive use of methods:
 - a. This program should incorporate at least 5 new methods (developed by you) – in a separate file from main().
 - b. At least three of the methods should accept values (i.e. some value / information should be passed to the method).
 - c. At least three of the methods should **return** a value of some sort.
 - d. At least one of the methods should accept values returned by another method.
 - e. At least one of the methods should utilize or provide type **validation**.
 - f. Each method must be called in some way, e.g. in main() or through another method, in the program.

Cognition and Complex Verbal Behaviors

You will write an essay describing the development and design/structure of your program.

Using content area (CS) vocabulary, you should describe:

1. What does this project do? What makes your program/art “cool”, i.e., how is it different than the previous program (and classmates’ programs)?
2. How does your program evidence the underlying design principles of object oriented programming – such as **encapsulation**?
3. Where and how are different classes used in your program?
4. How are validation and error handling evidenced in your program?
5. Describe the methods you have added.
6. Describe the values passed to your methods.
7. Describe the values returned by your methods and how (and why) they are used.
8. Describe which methods are called in main(), those that aren’t, and why.
9. Describe the access modifiers used with your methods.
10. Describe the class constructors called by your program.

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