

Final Project Outline

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Elementary Modern Algebra - Dr. Ben Clark

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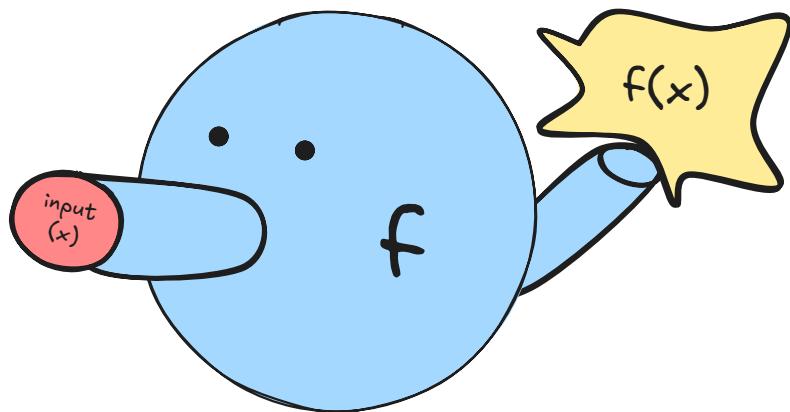
Chosen Project: Lesson Plan

As a bit of context, I am the president of my high school's (PHS) math team. I frequently teach our club members a variety of math concepts. Recently, I have been creatively teaching graph theory with comedic slides and scenarios, explaining terminology as I go.

For my final project, I hope to continue my graph theory lectures but dive into the group theory concept of *isomorphisms*. Particularly, I hope to teach how to find isomorphisms through finding isomorphic maps, which members can validate as being bijective and operation preserving.

Also, I hope to teach them about the automorphism groups of graphs.

For the *creative elements*, I will continue to teach them with my unique, *visual + humor* style. For instance, I visualize one-to-one functions as being a creature that eats an input and farts an output.



I will also continue my *elaborate scenarios incorporating members* of the club.

For instance, when last teaching graph theory, I modeled the situation after a made-up K-Drama plot and made them prove a property by the Pigeonhole Principle.

Next, I might continue the K-Drama scenario, but say that all the characters moved to different locations. From this, I will explain the gist of isomorphism.

I will make a cohesive lesson plan. I may decide to switch from graph theory to *group theory entirely*, and try to make it digestible for an average high schooler.

Please let me know your thoughts!

Attached is a sample of my old graph theory lectures.
