

# GOAL

# modErn Codes

# DATA

As a mathematics major, I get grouped into the stereotype that I hate English, writing, and reading, whereas this is quite the opposite. Something that I want to break and make a dent in is the stigma surrounding mathematics and its negativity in the world. My absolute favorite quote is none other than from Albert Einstein, and states, "Pure mathematics is, in its way, the poetry of logical ideas." (Albert Einstein) This attitude and quote is such a fitting thing for the mathematics I want to study. A lot of the time math and English are separated and not looked at as there are correspondence. In math, you must have a good writing and logic foundation to understand the concepts and processes. I also wanted to have a project that makes math look fun through the engagement of others. Growing up, my favorite pastimes included sudoku, crossword puzzles, mazes, and number games, just to name a few. This is the inspiration for this project. Maybe others have had similar experiences but have negative thoughts about math. My goal is to help alleviate the anxiety and fear that some have regarding math. I also hope that others get exposed to topics they may never encounter in their education career because it is a topic that is not related to or talked about in those areas of study.

The general goal of this project is to make mathematics accessible to everyone and also alleviate some of the stress that math can cause. I get stressed about math sometimes, but I study long enough for me not to be able to fail. I understand that it is stressful sometimes; it has made me contemplate life choices many times, but at the end of the day, there is nothing else I would rather do. These concepts may seem irrelevant to some, but this is my passion; it keeps me motivated. I want to show math as an art rather than it being displayed in a type set online or in a textbook way. I want to make math more disguised and pretty in the Zines. That is the point of this project, as math can look nice and be fun.

# RELEVANCE

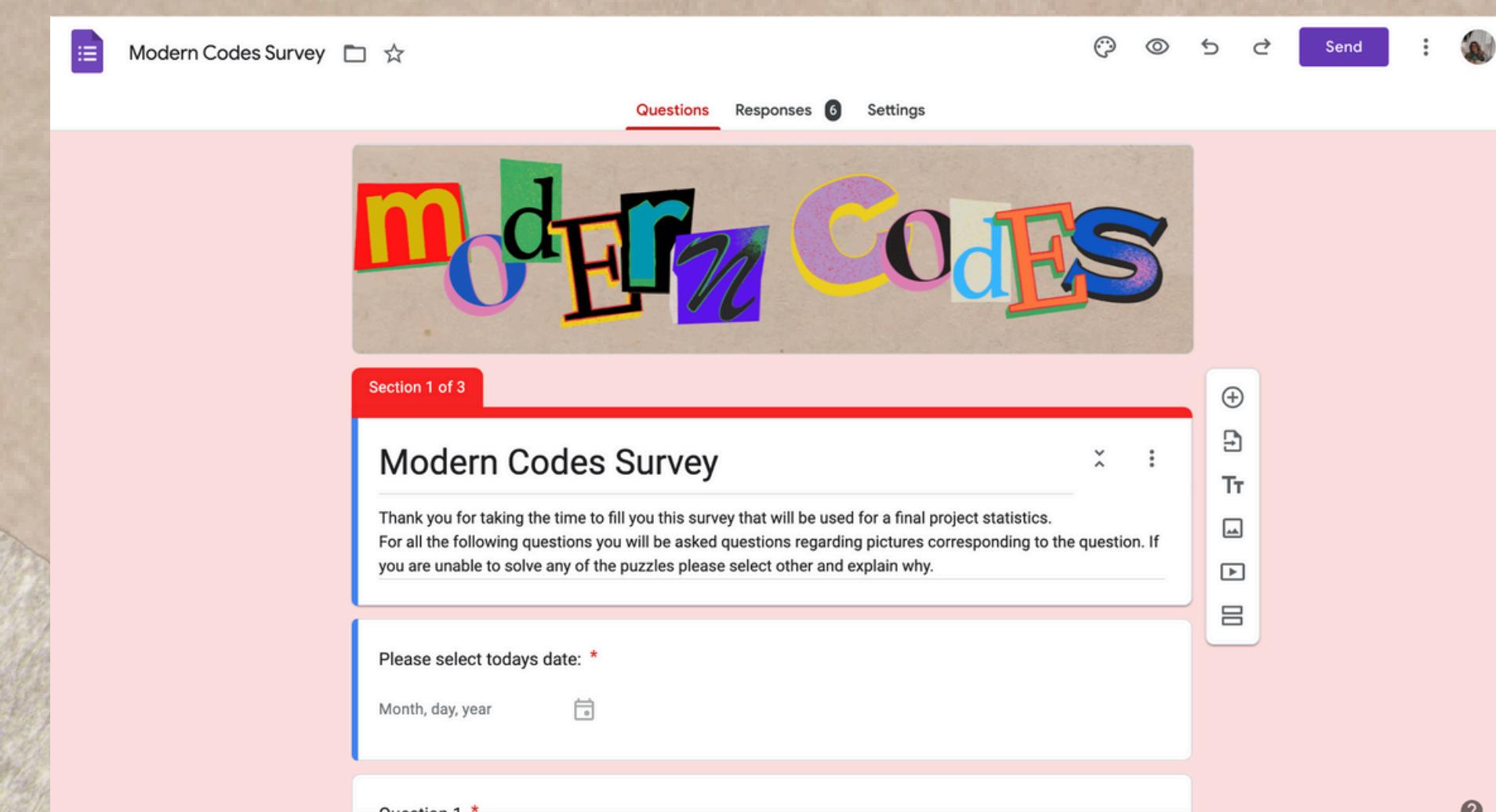
In my career of getting an associate's degree, I completed three competitions. In these competitions, there were various puzzles in logic to solve, which sparked my love for puzzles and cryptography. When talking about cryptography, people generally think of data and cyber security. The New Oxford Dictionary describes cryptography as "the art of writing and solving codes". I like the side of cryptography that focuses on pure mathematics and the logical thinking of codes. One goal for this project is to show that math can be an art form in some ways. This art form is codes and fun puzzles that are at a level that everyone can enjoy. Modern Codes was inspired by expressing mathematical ideas as art and poetry. In this artistic approach, the zines and content of the project were carefully curated to ensure that zines displayed creative approaches. For example, the zines and what they are made of are examples of art. I hand-wrote all the codes and tested them over time to ensure they were written correctly and easy to follow. For the poetry, I added quotes from mathematicians that could be poetry. I also want to highlight how mathematics can be poetry as we write strategic proofs like poetry. I specifically made two zines that cover the philosophical concepts that I mentioned. These Zines were full of quotes from mathematicians, and these quotes I thought were like poetry.

I am using Zines and Twine to get my points across; the Zines contain some disguised math puzzles that prove math can be fun. Again, I want to make mathematics less scary and possibly fun for others. The significance of this project is that I love mathematics a lot, and this is something I could do further research on. This project is a motivation for me to be in the degree paths that I am in. I am a math major because I love the beauty of mathematics and the way that it logically flows.

# MOVING

# FORWARD

I love the puzzles and problems in the project; they are interesting and fun. I also am proud of the concepts and the topic of mathematics as an art. I effectively showed the point that I was trying to make. The two zines I made that are math as an art are my favorite parts and the parts I am most proud of. If I were to repeat this project, I would make the targeted audience very specific and have that down before I even start. Next time it would be interesting to make it for younger children and also a project targeted for people in STEM and higher level maths. I also really liked making all the components in the project. If I make this project again, I think I will use something other than Twine. Sometimes I felt the Twine game was unnecessary, but it worked for this project.



Once I had the complete project draft, I made a Google form and sent that out to friends and family to complete and finish. The results that came from that were that a lot of people could do the project and complete most of the problems. The results surprised me because I would have thought some of my friends who are not stem-related would not be able to complete the project, but they were. The only significant thing I changed was problem four in the zine because from the feedback in the survey, it was the most complex problem. I rewrote it differently and changed it that way.

The different majors that I had complete my survey included:

Chemistry

Biology/Environmental Science

Computer Science

Pre-Med (Computer Science /Biology)

Psychology

Business

I wanted to make sure that people not in STEM could complete and understand the content, and they could. The psychology major did well, and so did the biology major. I also asked two children under the age of 14 to complete it, and they did pretty well.

# METHODS

I was able to ask various people throughout the process of revisions and editing. I mainly asked my best friend to fill out some things and complete the puzzles to get feedback. I also created a Google form and sent that out to different people. When I started and made the zine in Canva, it allowed me to make revisions online. I also took time to think about the puzzles that I wanted to add to the project. I revised the problems multiple times. Throughout the process, I asked many of my friends about the problems that I made to ensure they were easy to understand and complete. I also think about the problems and believe subconsciously and solve them. This quote describes this process: "Often when one works at a hard question, nothing good is accomplished at the first attack. Then one takes a rest, longer or shorter, and sits down anew to the work. During the first half-hour, as before, nothing is found, and then all of a sudden the decisive idea presents itself to the mind." – Poincaré, Henri, In: Mathematical creation The Monist (1910): 321-335.)

Want a copy of the Zine ready to print?



Canva  
Book:



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