

## 1. Define Objectives:

### ○ Zach:

Personally, I want to grow my python coding skills and team collaboration in coding. I also want to learn how to program GUI and integrate it as an interface for our project. As a team, I believe we should work on working together overall, having a fair workload distribution, and making sure to follow the deadlines we set.

### ○ Neil:

I would like to learn how to use python libraries and become familiar with coding as a team. I hope to become comfortable with github and explaining my code through the comments throughout this project to build my team coding skills. I would also want to learn how to use libraries efficiently, and how to import code from other languages like Matlab. Finally as a group, I believe we should constantly be working together to make sure everyone understands the code.

### ○ Louis:

I would like to refine my ability to create a useful, complete, and convenient algorithm for solving problems and processing information. Additionally, I think this project will help grow my skills with coding that involves high-level, very technical science and math. As a group, I think we should focus on ensuring valuable input from each team member and having a cohesive team dynamic that completes tasks efficiently.

## 2. Select Technologies and Tools:

We will primarily be using python and its various libraries. As for the GUI, we'll start with python but may move to c++ at a later time.

## 3. Create a Project Timeline:

### 1. Idea generation

- a. Brainstorm ideas for our project, including the basic ideas, how we'll achieve them, and the steps we'll go through to achieve these goals

### 2. Research

- a. We need to research both how differential equations can be solved and how to actually program it. We also need to define the scope of what we want to achieve in terms of programming the solutions
- b. We need to research how to plot graphs from an inputted equation
- c. We need to research how GUI's can be developed

### 3. Prototypes

- a. Prototypes of each researched component needs to be made. This will allow us to get a basic understanding of the different components, while working towards our main goal.

### 4. Combining

- a. Once each component is well designed, they can each be combined into one final piece. This allows the development stage to be easier, which further lets us understand our project.

### 5. Debugging

- a. Once everything is combined, we can debug any issues that arise.
- 4. Document the Plan:

This is the link to our gitHub: <https://github.com/Zach31106/FinalProject>