## First Idea: Calculator Suite / PyCalc

#### Summary of idea.

An advanced calculator GUI that performs advanced and basic mathematical operations and some advanced features using NumPy
Trigonometric functions

#### Stretch goals

- Chart, plot equations
- Derivation, integration of polynomials
- Random & statistic
- Sudoku solver

# What problem or pain point does it solve? a. Keep it high level without going into too much detail. (3-4 sentences is enough)

An easy-to-use scientific calculator that supports many advanced features, including unit conversion, equation solving, and even complex-number math.

We have simulated different calculators for solving the different problems from mathematics, numerical methods, and number theory.

Second Idea: Image Manipulation

## Summary of idea.

GUI application to manipulate pics and implement filters Rotate, resize, crop, Brightness

## Stretch goals

Colorize Black & White Images in Python

What problem or pain point does it solve? a. Keep it high level without going into too much detail. (3-4 sentences is enough)

There are many reasons for this, but a couple of main reasons can be listed as saving storage space, improving the quality of training, and faster running time. The manipulation techniques that will be covered in this post are image resizing, image brightness, and lastly converting the image color to grayscale. We will do some hands-on practice on an image by testing each of them.

# Third Idea: Expense Tracker

#### Summary of idea.

Expense tracker is a simple project developed using python which helps us to analyze our expenses by storing them in a systematic tabular form.

We'll use tkinter for GUI.

#### Stretch goals

Charts
On track or not
Comparing periods of time

What problem or pain point does it solve? a. Keep it high level without going into too much detail. (3-4 sentences is enough)

Expense tracking is important for the financial health of your personal or professional budget.

You need to keep a record of your daily expenses and stocks in a proper format so that you can analyze all your expenditures efficiently and correctly.