**Chat Link:** [**https://chat.openai.com/share/d8da0b89-df3f-4f08-8ee5-74ac9acce968**](https://chat.openai.com/share/d8da0b89-df3f-4f08-8ee5-74ac9acce968)

# A screenshot of a computer program Description automatically generatedA blue rectangular object with a black background Description automatically generatedTask1:

After trying a lot of different prompts I have managed to get the result I have wanted and I got the transformation above.

# A screen shot of a computer program Description automatically generatedA black and grey rectangular object with a blue center Description automatically generatedTask 2:

This is the calculation that I have done myself. My result and the ChatGPT result are different but I believe that this difference is because of the calculations that GPT have done are out of order since my result seems more like what the transformation should look like. There is an order of transformation given in the prompt and I think that GPT did scaling after translation which gave it that look. For my calculations I have started with an identity matrix as a base and used the given functions to make the transformations. Then I made matrix multiplication in order of the wanted transformations.

# Task 3:

This function does the wanted animation by doing linear interpolation. Linear interpolation, computes a point between two values by taking a weighted average based on a factor, producing a smooth transition between them. We do linear interpolation for each frame and give out the result. I have added a function for linear interpolation which was given by the prompt.