**Task 1**

I asked ChatGPT to calculate the modelViewMatrix. Here is my link to ChatGPT (first three prompts are about task 1, others are for task 3):

<https://chat.openai.com/share/89a1dee7-78b3-4931-8fa0-f304576a5b00>

Then it gave me

const transformationMatrix = new Float32Array([

0.4330126941204071, -0.25, 0.8660253882408142, 0.3,

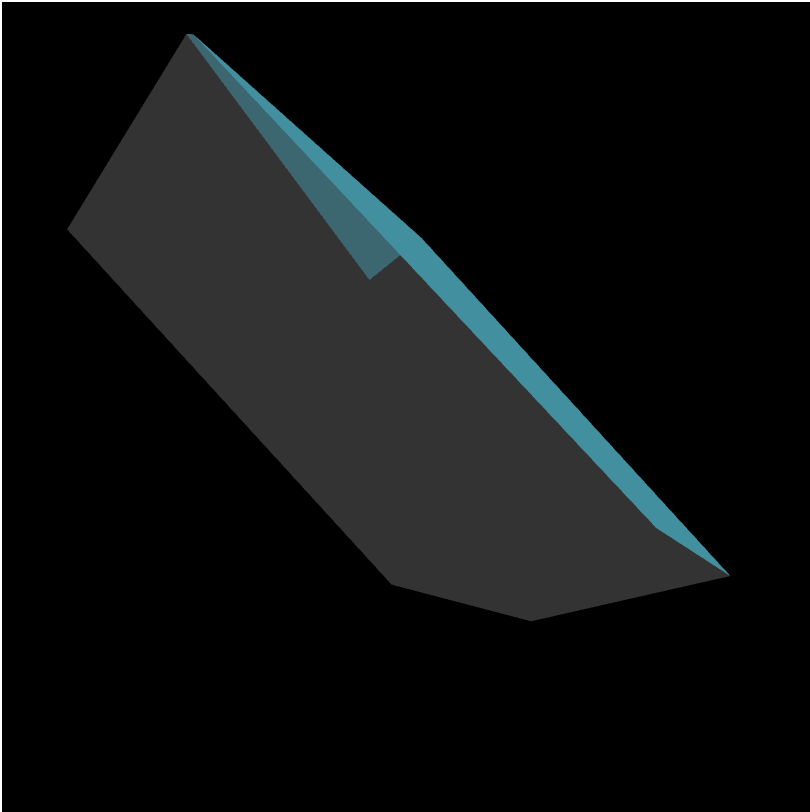
0.4330126941204071, 0.25, -0.8660253882408142, -0.25,

-0.7911540861129761, 0.8660253882408142, 0.25, 0,

0, 0, 0, 1

]);

And here is the generated cube:



I think it calculated wrong.

**Task 2**

Here is how I calculated it: A screen shot of a computer program

Description automatically generated

Here I create variables for transformation constants (translation, scaleY etc.). Then I create an identity matrix to work on. After that I create translation, scale, and rotation matrixes with the functions given. Then I apply it in the order of rotation, scale, and translation (As in the lecture slides). By apply, I mean I multiplied the transformation vectors with the identity vector. Here is the result:

A black and grey cube

Description automatically generated

It is a rotated scaled and translated the cube.

**Task 3**

Here is my code for the task 3:

A computer screen shot of a program code

Description automatically generated

First I get the currentTime with the Date.now function. After that I calculate the elapsed time and the half duration to see in which point of the animation the code is. Then I calculate the progress according to in which position the program is. The if check is for that. And then I calculate the interpolated matrix according to identity matrix and the matrix from the task 2.