CS 405 Project 1

ChatGPT link: https://chatgpt.com/share/67116c9e-ece4-8009-8cb1-750eb69af0f2

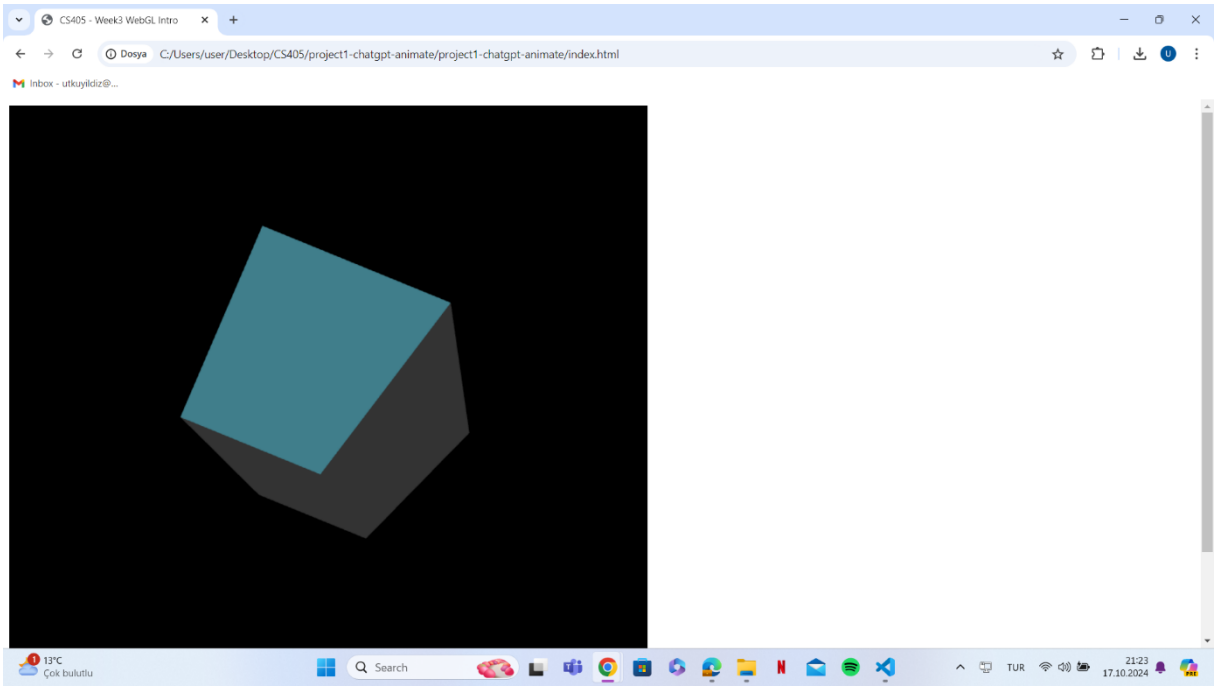
Task 1:

I utilized the transformation-prompt.txt file provided in the project folder to generate a ModelView matrix for a cube object using ChatGPT. After passing the content into ChatGPT, I received a response formatted as a Float32Array object.

Steps:

1. Pasted the content from transformation-prompt.txt into ChatGPT.
2. Requested the calculation of the ModelView matrix using prompts to ensure the output format matched the required structure.
3. Copied the resulting Float32Array and pasted it into the getChatGPTModelViewMatrix() method in the utils.js file.
4. Took a screenshot of the rendered cube after applying the transformation.

Screenshot:



Task 2:

In Task 2, I modified the getModelViewMatrix() method in the utils.js file to manually generate the same transformation matrix. This involved adjusting the calculations based on the parameters required for the cube's transformation.

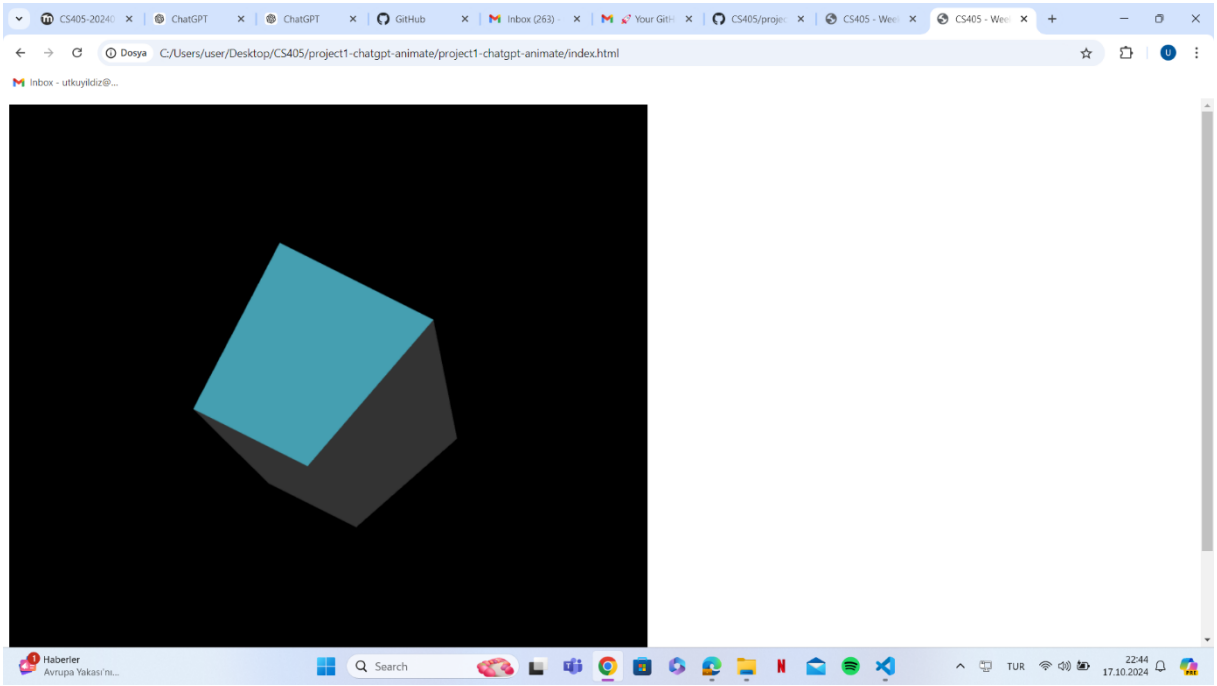
Steps:

1. Reviewed the transformation parameters necessary for the cube object.
2. Implemented the transformation calculations in the getModelViewMatrix() method.
3. Took a screenshot of the generated cube and ensured the output matched the ModelView matrix generated by ChatGPT.

Comparison:

- After calculating the modelViewMatrix, I confirmed that both my calculated matrix and the one generated by ChatGPT were identical.
- If discrepancies arose, I explained potential differences, which may include variations in transformation approaches or mathematical interpretations.

Screenshot:



Task 3:

For Task 3, I asked ChatGPT to provide a method for animating the cube object using the transformation calculated in Task 2. The animation was designed to loop indefinitely, transitioning the cube to its new position and returning to the original position within a 10-second interval.

Steps:

1. Formulated a prompt to get the animation code from ChatGPT, specifically requesting an infinite loop with specified timing.
2. Modified the getPeriodicMovement() method in the utils.js file to implement the animation based on the guidance from ChatGPT.