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CS405 PROJECT-1 REPORT

I completed a 3D animation assignment consisting of 3 tasks as the Project-1 assignment of my CS405 Computer Graphics course. In this report, I explain in detail the methodology of how I completed the tasks in this project. Using ChatGPT, I calculated the modelview matrix, made the transformations of the cube object by myself, and then completed the animation.

TASK1

In Task1, I asked ChatGPT for the text in the transformation-prompt.txt file and put the values ​​in the desired format into the function that requested the response from it. Then, I opened the commnet in the task1 section of the html file and ran the code and took a screenshot of the resulting shape. You can see the shape created by GPT in the image below.

ekran görüntüsü, yazılım, multimedya yazılımı, grafik yazılımı içeren bir resim

Açıklama otomatik olarak oluşturuldu

Also, I have the link for my ChatGPT conversation for the Task1 below.

ChatGPT link for Task1 : https://chatgpt.com/share/670f8b9c-bb6c-800f-af9b-11ad8a111370

TASK2

In Task2, I created the same transformation matrix by myself using the functions given to me and performed these operations in the code section of the java script file. I created my translation matrix using the create matrix functions given to us according to the values ​​given in the txt file, then I created my scaling matrix and for rotations, I first converted the degree values ​​to radiants and then created 3 different rotation matrices for axes. After that, I created my identity matrix. Finally, I used the matrix multiplication function to perform rotationZ, rotationY, rotationX, then scaling, and finally applying the translation operations and combining them. Finally, I returned the result matrix. By opening the comment section in the html file, I obtained the resulting shape as seen in the screenshot below.

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As can be seen, a much different and more regular shape was obtained than the one created by chatgpt. The reason for this is that chatgpt cannot do matrix multiplication correctly and cannot create matrices correctly. When you obtain them incorrectly and combine them incorrectly, chatgpt obtains a different shape.

TASK3

In Task3, I asked chatgpt about the requested animation rules and saw the animation correctly on the screen. We are doing this animation based on the shape that I calculated in Task2 and that appears in the screenshot on the screen. Chatgpt had initially completed it using another extra function, but I told him not to use it and then I completed the requested animation correctly within the single function given to us. By opening the comment line in the html file, I saw the animation on the screen correctly and as desired. The conversation I had with chatgpt for this task is also available in the link below.

Chatgpt link for Task3 : https://chatgpt.com/share/670e713c-2cf4-800f-8a6e-9bd57c997f2f