Task 1: Draw Function

This function works by taking each node's own transformation and mixing it with its parent's model matrix to figure out the transformation matrices. Basically, these matrices help to place, turn, and size the nodes in the 3D world properly. It also uses a method to draw each node's mesh and does the same thing for all the child nodes too, making sure that every part of the structure gets drawn with the right transformations.

Task 2: meshDrawer.js

Updated the shader program to add diffuse and specular lighting. There already was ambient lighting and the location for the light source was given. Diffuse and specular lighting help give the effect of the location of the light source

Task3: Adding Mars

"n the third task, I successfully integrated Mars into our solar system model. Following the requirements, Mars was added as a child node to the Sun within the scene graph. I chose a 'sphere' mesh to represent Mars, ensuring it accurately reflects the planet's shape. To position Mars correctly in relation to the Sun, I translated it by -6 units along the X-axis. This offset places Mars at an appropriate distance, visually distinct from other planets and the Sun. Furthermore, I implemented a rotation mechanism for Mars. It rotates around its Z-axis at a rate 1.5 times faster than the Sun's rotation. The last step is to add the texture to the model