

Assignment 4

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Ex.1:Triangle Mesh Ray Tracing

Utilizing formula: quadratic equation $a*x^2 + B*x + c = 0$, we can get the delta is $\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$. Since $\frac{-b - \sqrt{b^2 - 4ac}}{2a}$ would always give us the smallest number to intersect which we do not check the $\frac{-b + \sqrt{b^2 - 4ac}}{2a}$.

Ray_parallelogram_intersection:

Utilizing Assignment 2 and incremented the p and N we would get the solution for the ray_parallelogram_intersection

It used the same methodology of Ray-parallelogram intersection and ray-sphere-intersection of a3 which means I copied the code from my previous assignment, utilizing the same logic.

Ex:2

I had tried to do it, but failed epically. Did know what to do

Bonus 1, 2 ,3

The image below consists of the bonus question



Figure 1: picture with no reflection and shadows



Figure 2: picture with shadows but no reflection



Figure 3: picture have reflection but no shadows

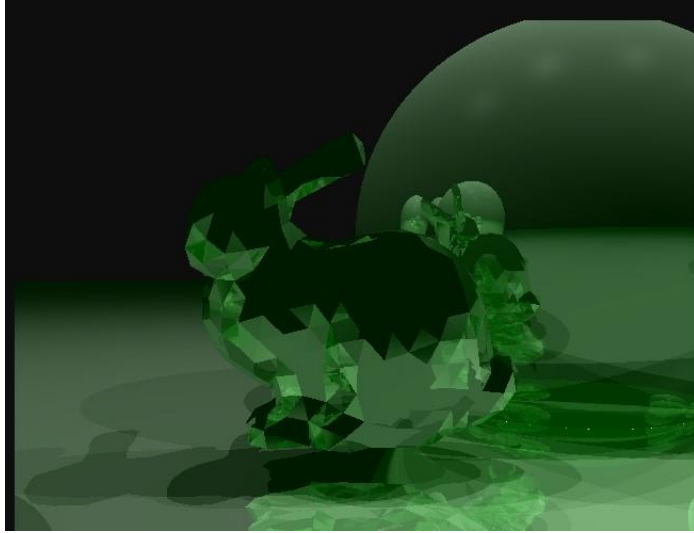


Figure 4: picture have reflection and shadow

These images are slight off since I used the discord to upload the image, and somehow it does not allow me to download the source file, the above images were all sniped from the web browser when download the file using discord.