Assignments - Ray Casting

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In this assignment, you will implement ray casting algorithm.

Follow the lecture content, write a program to generate the ray casting result.

The objects in the scene are spheres.

You need to define in your program:

the light source intensity (R, G, B),
light source location (Lx, Ly, Lz),
eye location (Ex, Ey, Ez),
at least 2 spheres,
location/radius of spheres,
surface property (K value in the lighting model),
view plane size/location/orientation (perpendicular to one axis)

Your result should be showing 2 shaded spheres (or more), with one sphere casting a shadow on the other
(after your program works, just change the sphere location or light location to get shadow)

ground plane is optional. Reflection and refraction are optional.

A diagram image is provided for your reference.

Write comment to explain your code.

submit program code and result image

example result: