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2. For Object 2 (Node 2):

$$I_2 = I_f + I_{L2} + 0 \cdot 0 + 0 \cdot 0$$

Here, I_2 is directly influenced by I_f and I_{L2} . The reflected and refracted rays for object 2 exit the scene, contributing 0 to the final intensity.

3. For Object 1 (Node 1):

$$I_1 = I_f + I_{L1} + 0.3 \cdot I_2 + 0.7 \cdot I_3$$

Substituting I_2 and I_3 :

$$I_1 = I_f + I_{L1} + 0.3 \cdot (I_f + I_{L2}) + 0.7 \cdot (0.7 \cdot I_f)$$

Simplification:

Let's break down the components step-by-step:

$$I_1 = I_f + I_{L1} + 0.3 \cdot I_f + 0.3 \cdot I_{L2} + 0.7 \cdot 0.7 \cdot I_f$$

$$I_1 = I_f + I_{L1} + 0.3I_f + 0.3I_{L2} + 0.49I_f$$

$$I_1 = I_f(1 + 0.3 + 0.49) + I_{L1} + 0.3I_{L2}$$

$$I_1 = I_f \cdot 1.79 + I_{L1} + 0.3I_{L2}$$

Final Intensity I_p :

The intensity of the pixel, I_p , is the sum of these components:

$$I_p = I_f + I_{L1} + 0.3 \cdot (I_f + I_{L2}) + 0.7 \cdot (0.7 \cdot I_f)$$



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ChatGPT can make mistakes. Check important info.