

# COL781 A3

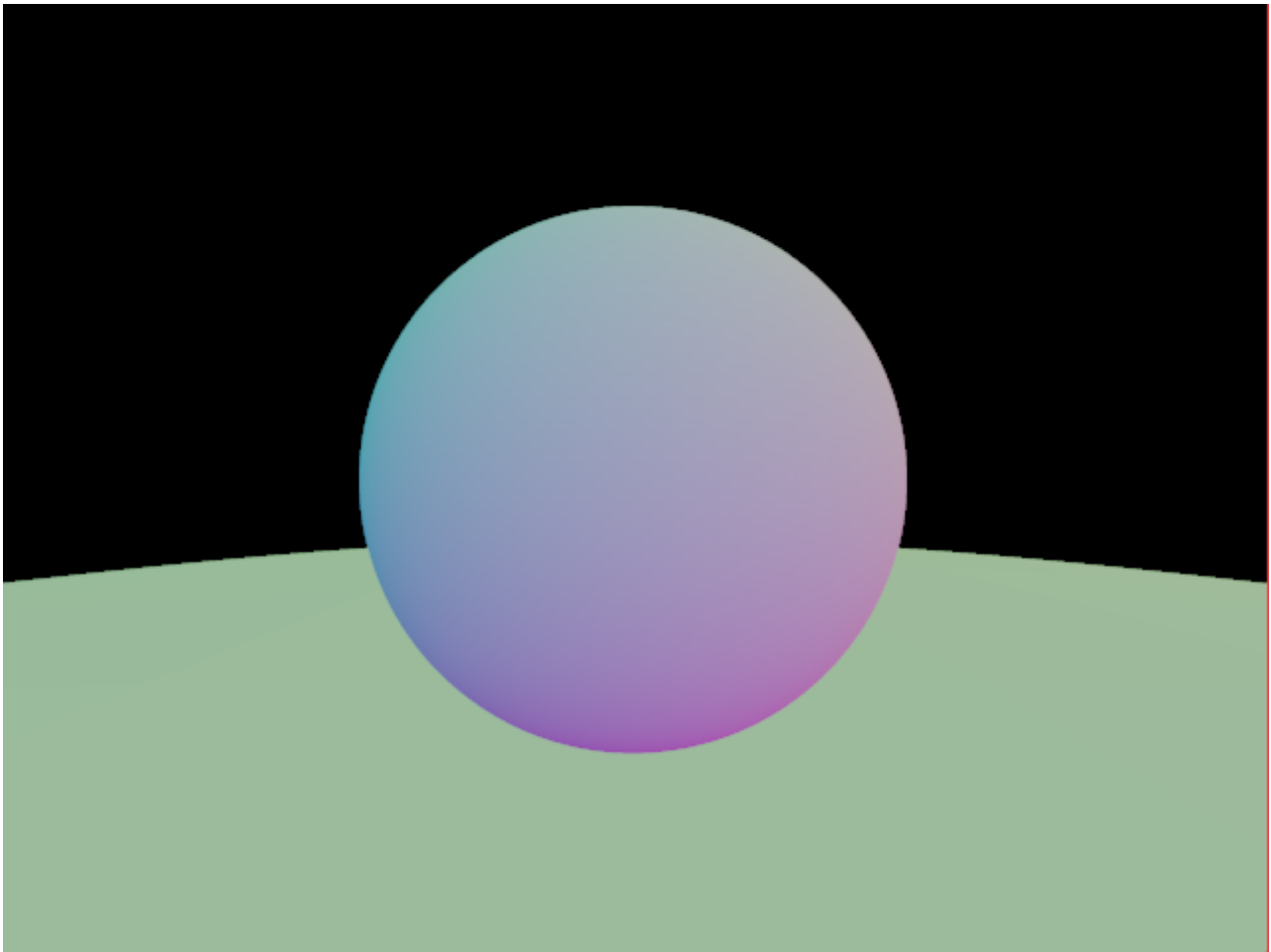
Prakhar Jagwani - 2019CS10382  
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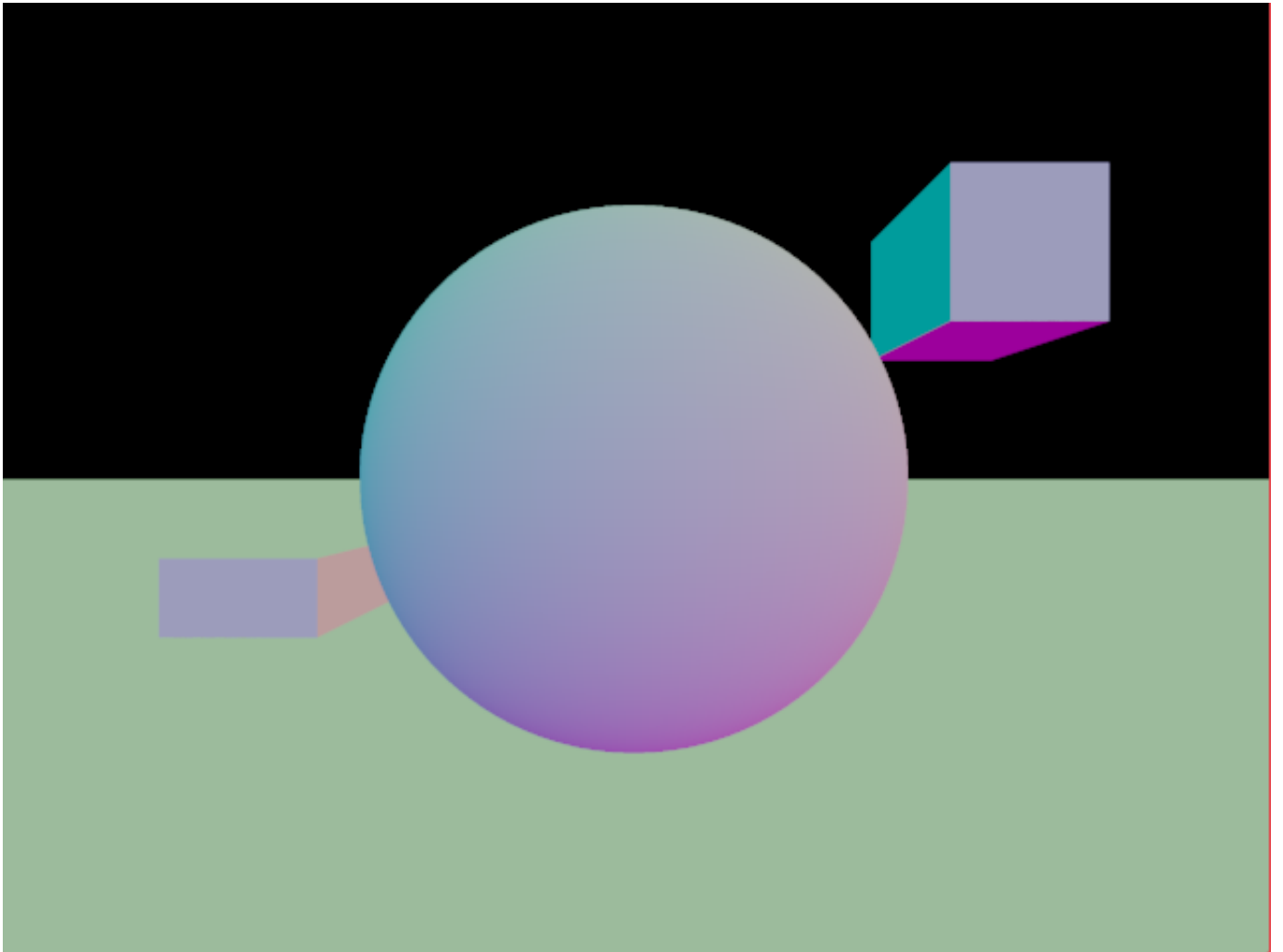
## 1 Ray Traced

Maximum bounces was set to 10.

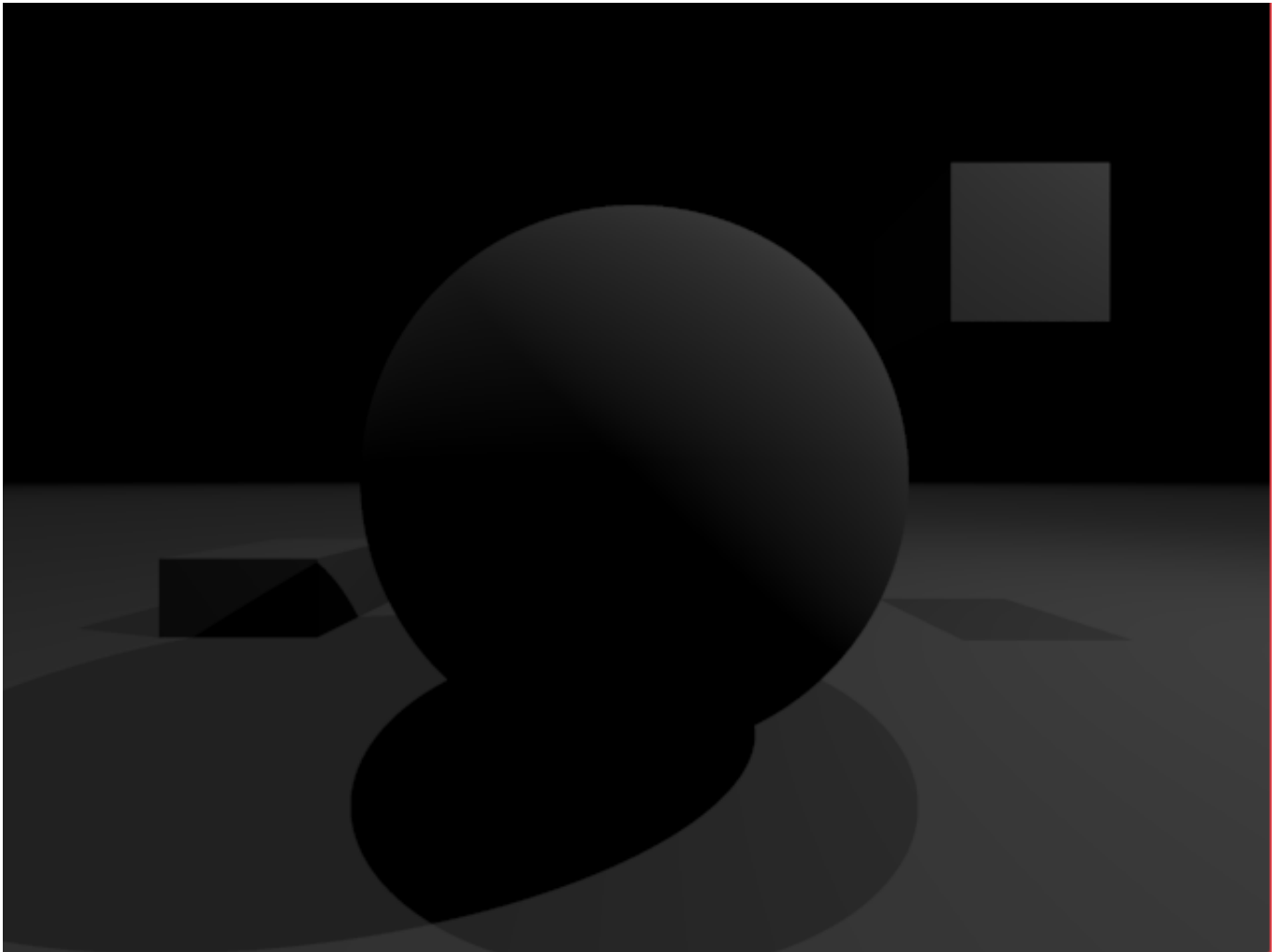
### 1.1 Sphere



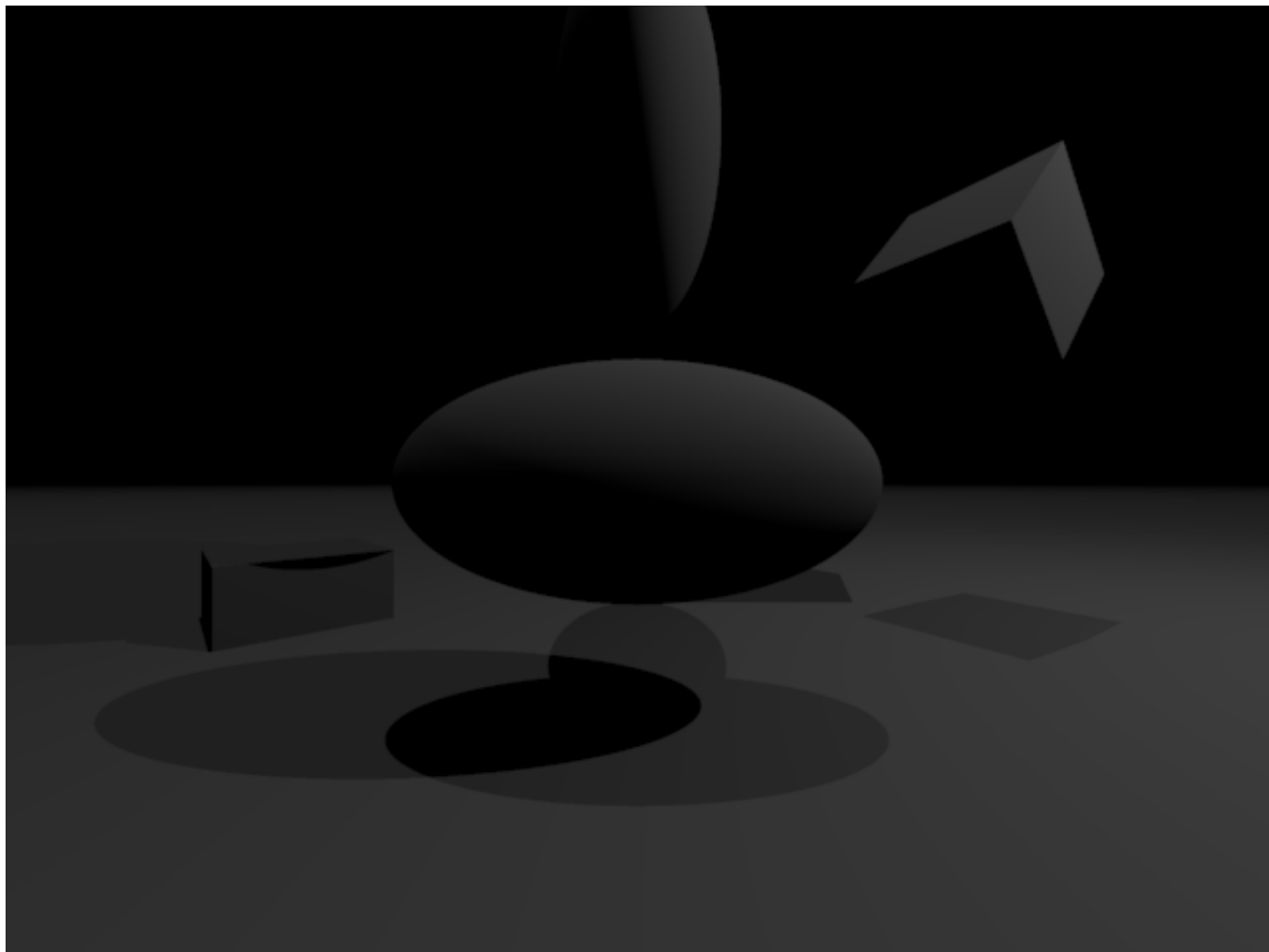
## 1.2 Sphere, Boxes and Planes



### 1.3 Sphere, Boxes and Planes with Light

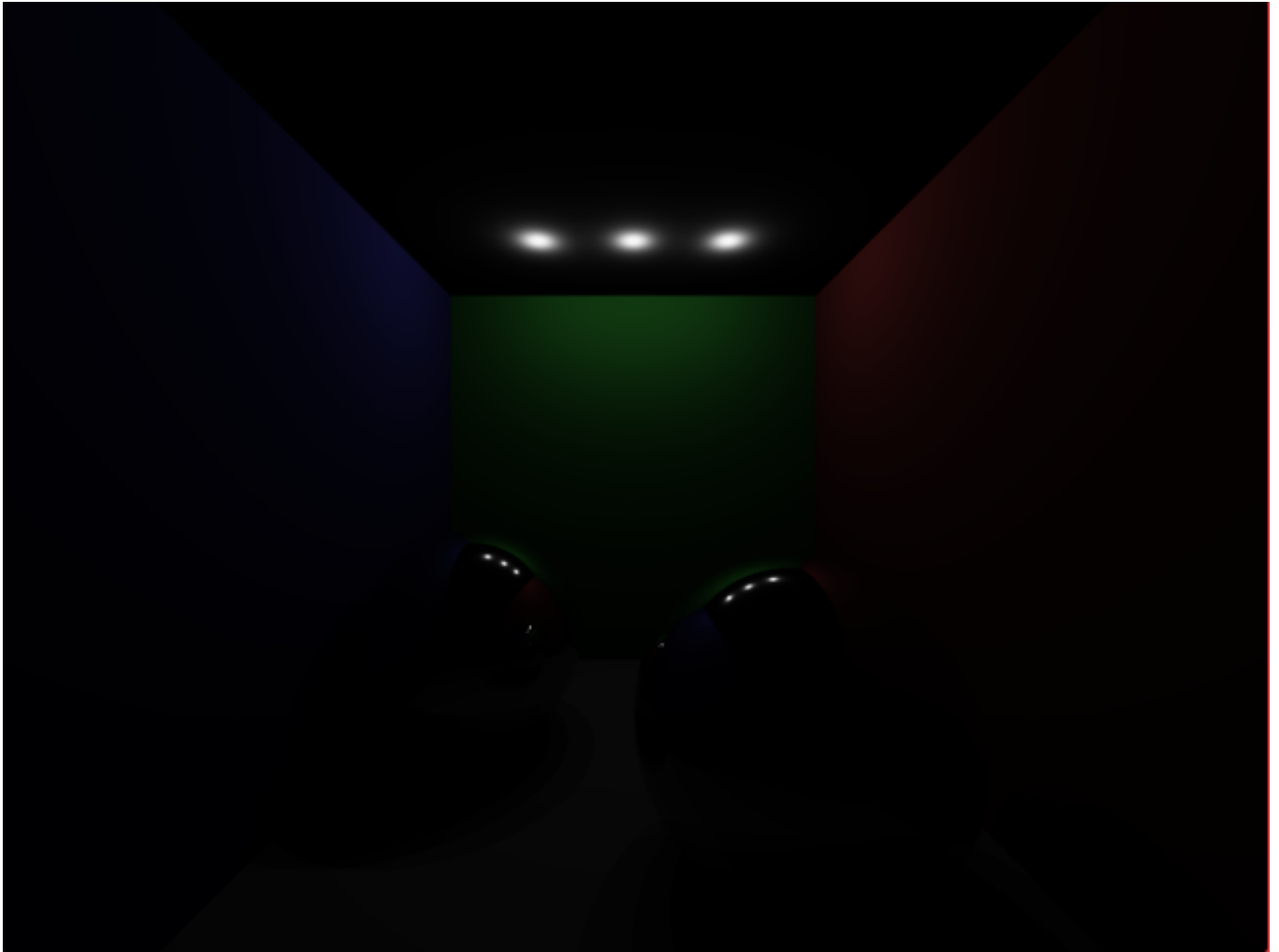


## 1.4 Transformations

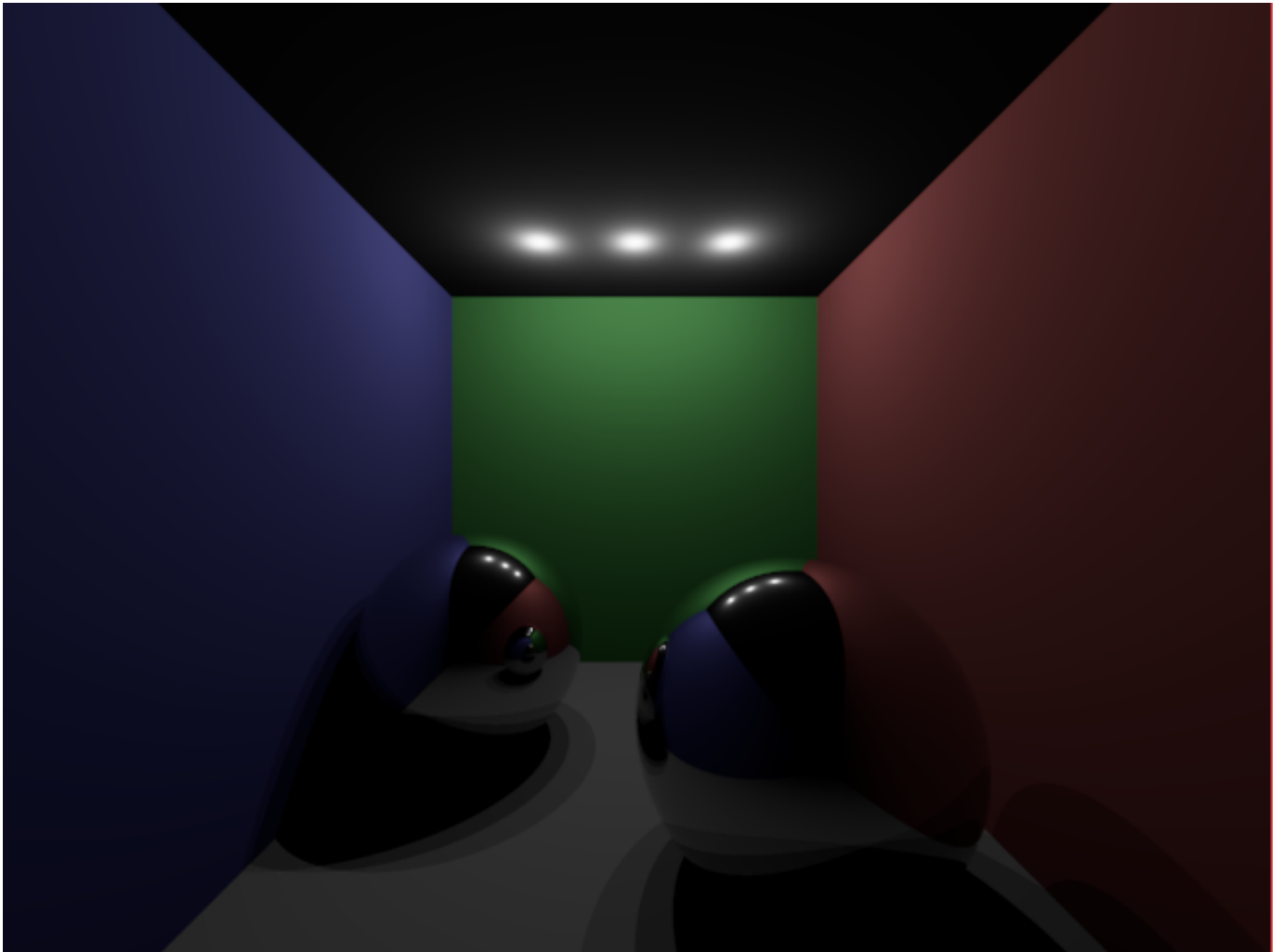


## 1.5 Gamma Correction

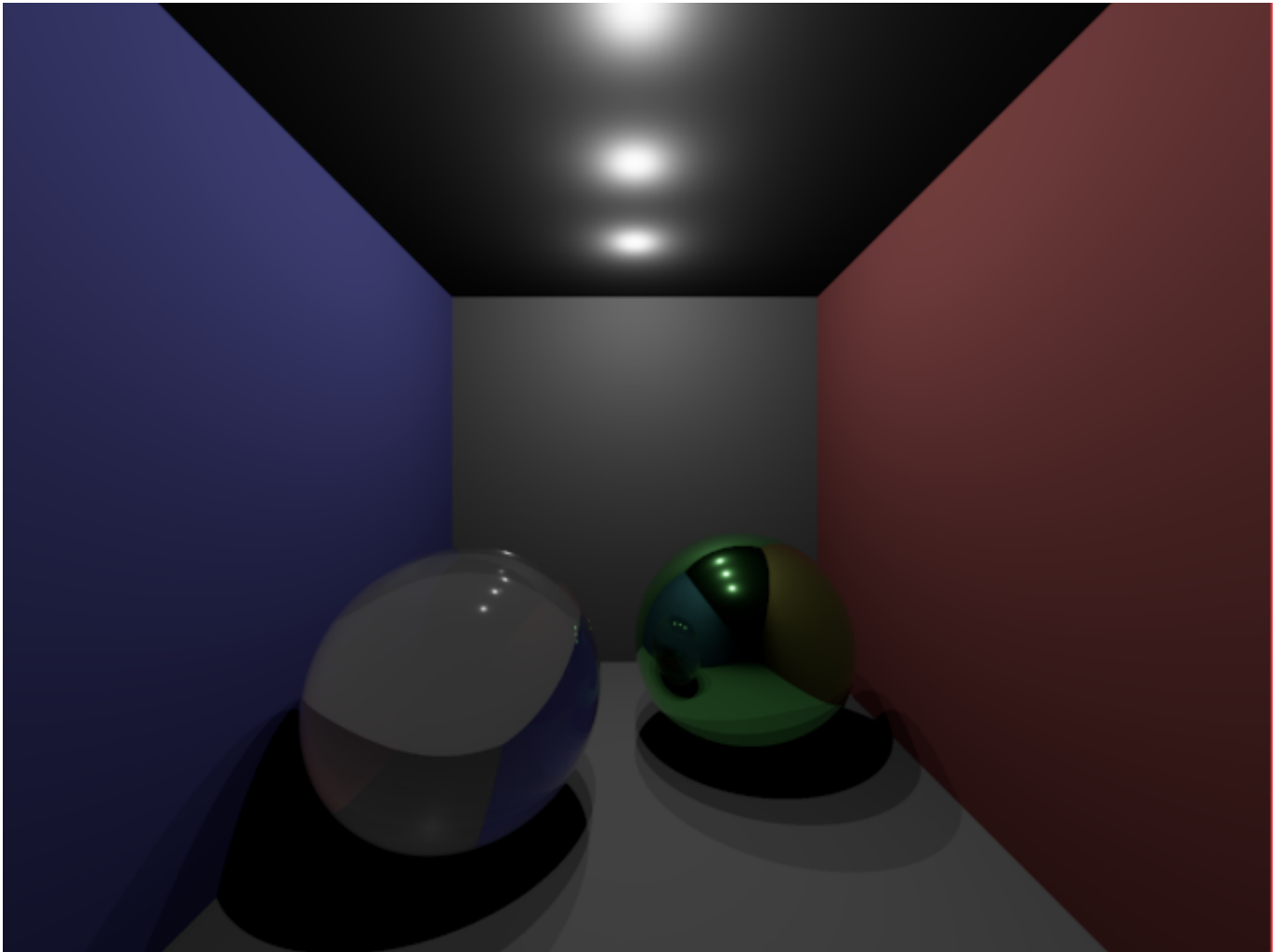
### 1.5.1 Without Gamma Correction



### 1.5.2 With Gamma Correction



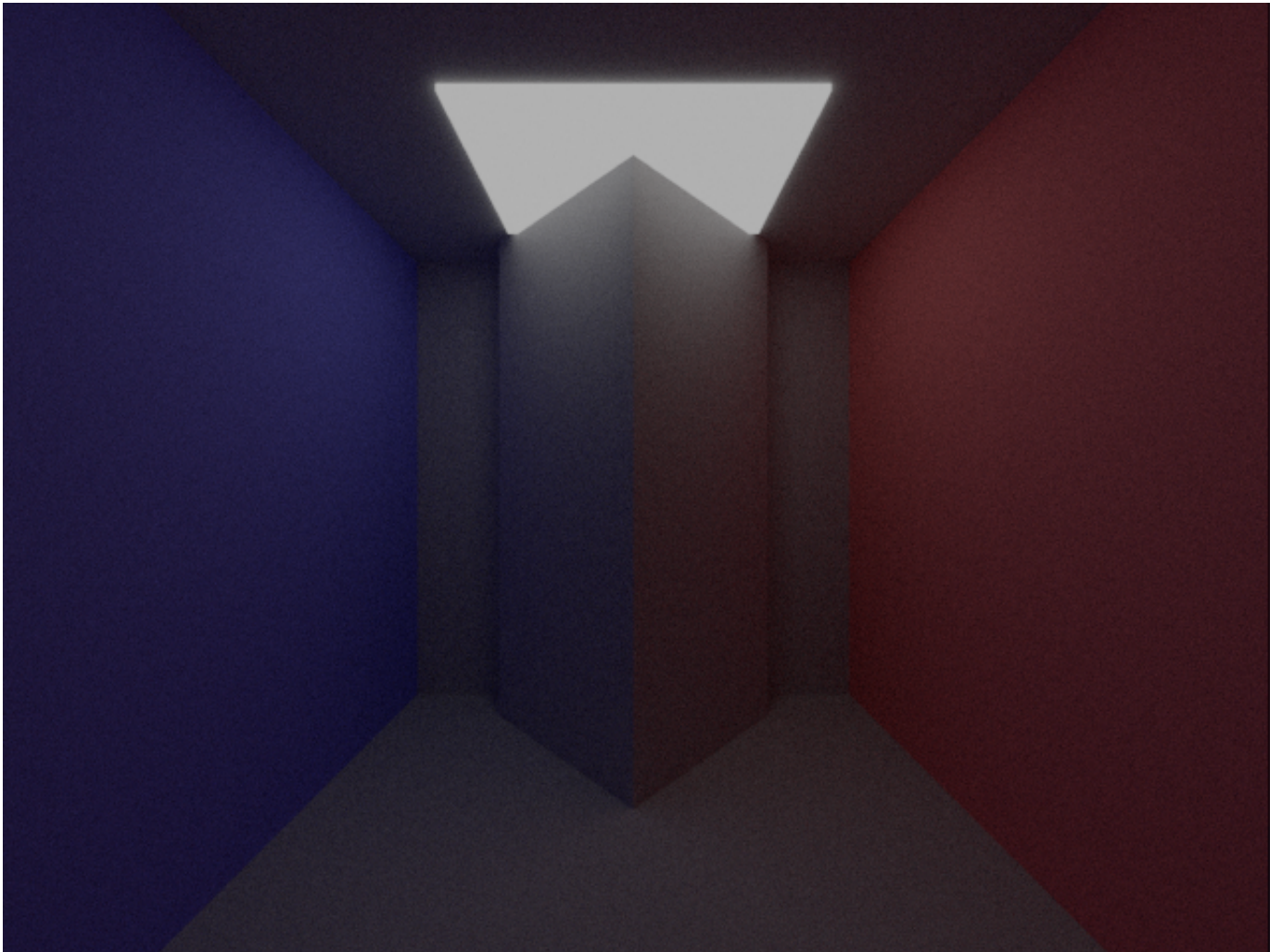
## 1.6 Glass and metal



## 2 Path Traced

16 samples per image were taken 200 times. Expected number of bounces ( $n$ ) was set to 5.

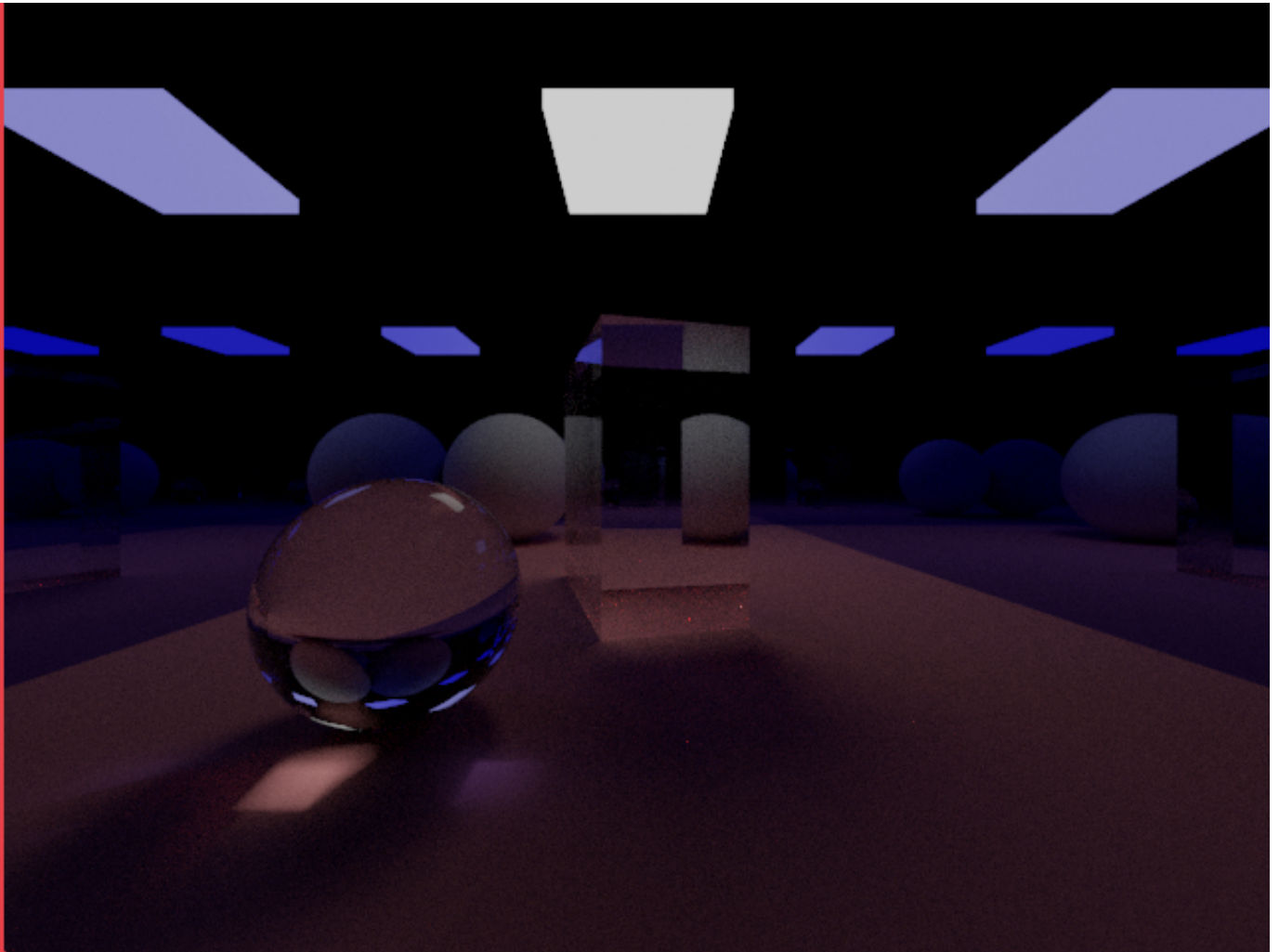
## 2.1 Diffuse Interreflection



There are two colored walls: left and right. All other walls are white.



## 2.2 Creative Scene



Objects contained in this scene:

1. Transparent cuboid prism
2. Glass sphere
3. Diffuse white sphere
4. Three blue metallic planes (left, right and back)
5. Red diffuse plan (bottom)
6. One cuboid light source

Effects observed:

1. Recursive reflections: Metal planes

2. Refractions: Transparent cuboid and sphere
3. Total Internal Reflection: White sphere's reflection in the prism
4. Transformations: Prism is rotated
5. Caustics: Below the glass sphere
6. Indirect illumination: Red tint in the bottom half of the white sphere.