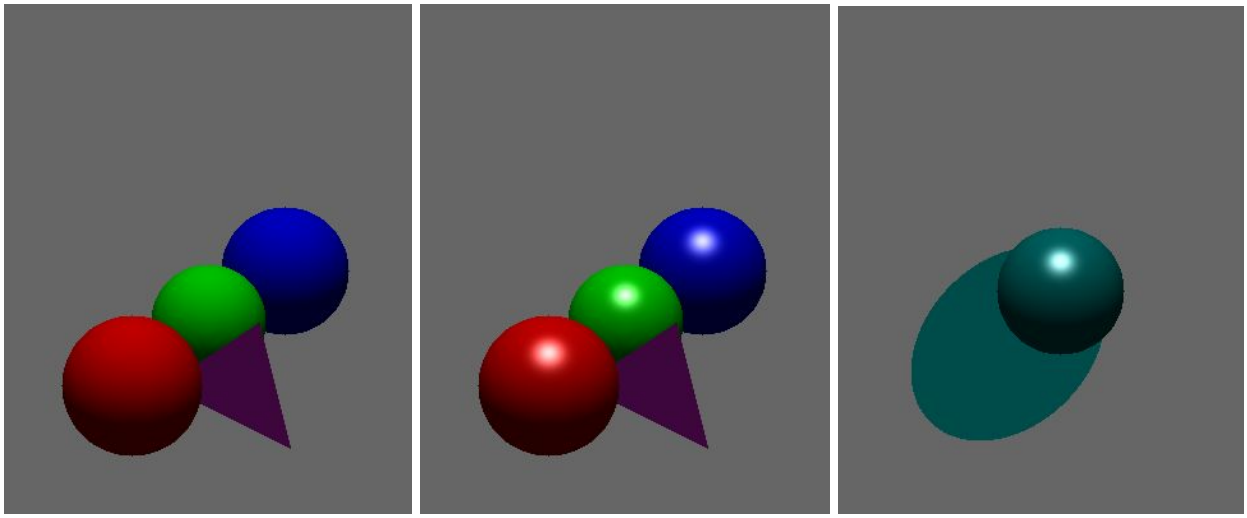
Project 2 Report

Screenshots

Lambertian Shading | Phong Shading | Mirror Reflection



Approach used for creating mirror reflection

Firstly, I created a mirror surface behind the sphere parallel to projection plane. I directed ray towards the mirror surface and determined the points where it hit the mirror surface. Then I calculated reflected ray using incoming ray and normal of the surface. If this reflected ray intersected with the sphere, I colored the points on the surface with the color of the sphere.

Difficulties with the assignment

- I had difficulty understanding the ray tracing algorithm for sphere intersection.
- I had difficulty implementing Phong shading and working with power coefficient.
- I had difficulty implementing mirror reflection functionality.

Special Instructions

- To change shading method, please change *mode* value to either **LAMBERTIAN** or **PHONG** in *int main* method(in file mainsrc_proj2.cpp)
- Screenshots are present in submit/data/images/screenshots folder.
- To start the mirror reflection functionality, (1)Uncomment a sphere in *mainsrc_proj2.cpp* (this sphere specified in code comments) (2)Comment 3 spheres and triangle in mainsrc_proj2 (3) Uncomment *mirrorReflection* function call in *Run* Method of *RayTracer.cpp.* Instructions mentioned in code for easy understanding.