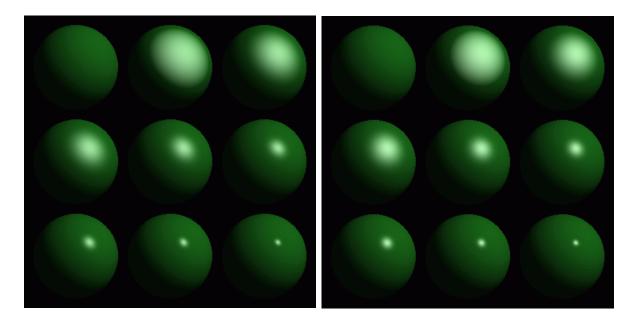
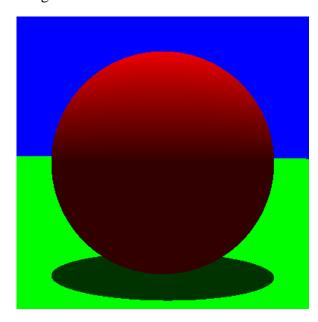
## **Sample Results**

 $ray tracer \verb|-input| scene1_exponent\_variations.txt| - output out 1.tga| - size 400 400 - bounces 0 - weight 0.01$ 

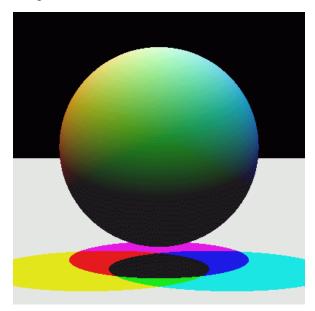
(2nd image shows Blinn Torrance Variation, scaled to match Phong)



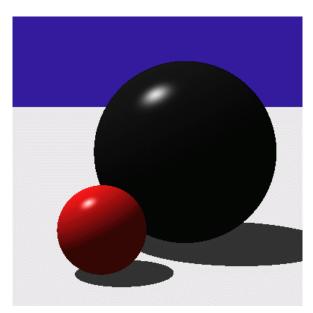
raytracer -input scene2\_plane\_sphere.txt -output out2.tga -size  $400\ 400$  -bounces 0 -weight 0.01



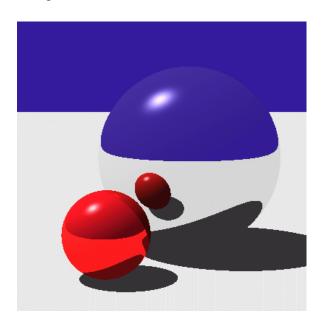
raytracer -input scene3\_colored\_lights.txt -output out3.tga -size  $400\ 400$  -bounces 0 -weight 0.01



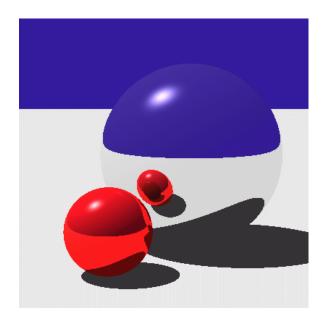
ray tracer -input scene4\_reflective\_sphere.txt -output out 4\_0.tga -size  $400\ 400$  -bounces 0 -weight 0.01



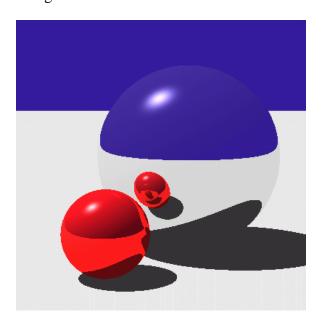
 $ray tracer \verb|-input| scene4\_reflective\_sphere.txt| -output| out4\_1.tga| -size| 400| 400| -bounces| 1| -weight| 0.01$ 



 $ray tracer \verb|-input| scene4\_reflective\_sphere.txt| - output out 4\_2.tga| - size 400 400 - bounces 2 - weight 0.01$ 



raytracer -input scene4\_reflective\_sphere.txt -output out4\_3.tga -size 400 400 -bounces 3 -weight 0.01



 $ray tracer \verb|-input| scene5_transparent\_bars.txt| - output out5\_0.tga| - size 400 400 - bounces 0 - weight 0.01$ 



 $ray tracer \verb|-input| scene5_transparent_bars.txt| -output out5\_1.tga| -size 400 400 -bounces 1| -weight 0.01$ 



 $ray tracer \verb|-input| scene5_transparent_bars.txt| -output out5_2.tga| -size 400 400 -bounces 2| -weight 0.01$ 



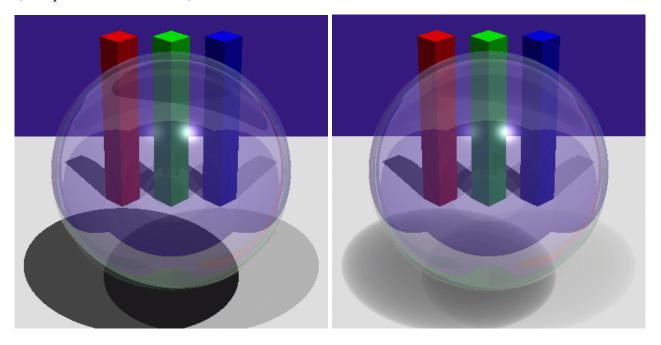
 $ray tracer \verb|-input| scene5_transparent_bars.txt| -output| out5\_3.tga| -size| 400| 400| -bounces| 3| -weight| 0.01$ 



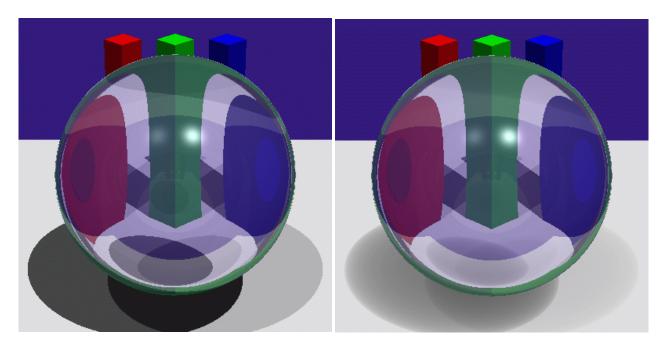
raytracer -input scene5\_transparent\_bars.txt -output out5\_10\_cs.tga -size 400 400 -bounces 10 -weight 0.01 -transparent\_shadows (transparent shadows extra credit)



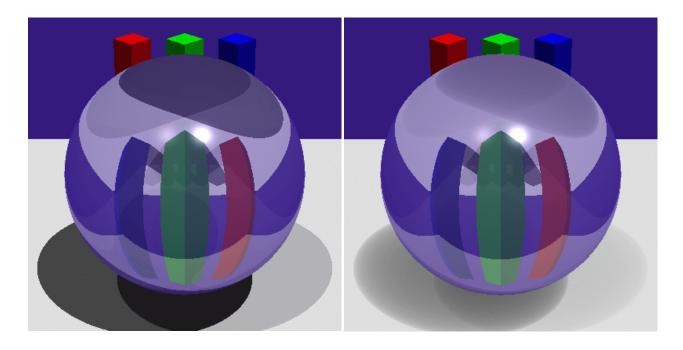
raytracer -input scene6\_transparent\_sphere\_1.0.txt -output out6.tga -size 400 400 -bounces 5 -weight 0.01 (transparent shadows extra)



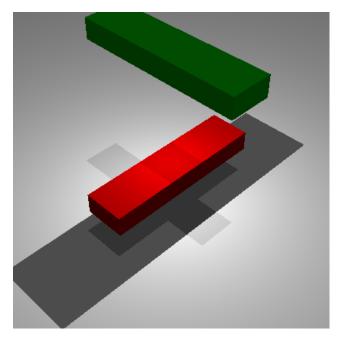
raytracer -input scene7\_transparent\_sphere\_1.1.txt -output out7.tga -size 400 400 -bounces 5 -weight 0.01 (transparent shadows extra)



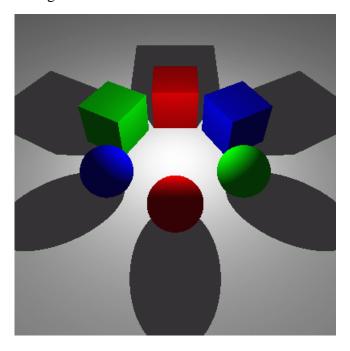
raytracer -input scene8\_transparent\_sphere\_2.0.txt -output out8.tga -size 400 400 -bounces 5 -weight 0.01 (transparent shadows extra)



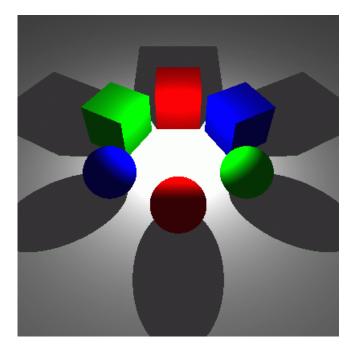
raytracer -input scene9\_point\_light\_distance.txt -output out9.tga -size  $400\ 400$  -bounces 0 -weight 0.01



raytracer -input scene 10\_point\_light\_circle.txt -output out 10.tga -size 400 400 -bounces 0 -weight  $0.01\,$ 



raytracer -input scene 11\_point\_light\_circle\_d\_attenuation.txt -output out 11.tga -size 400 -bounces 0 -weight 0.1



raytracer -input scene12\_point\_light\_circle\_d2\_attenuation.txt -output out12.tga -size 400 400 -bounces 0 -weight 0.1

