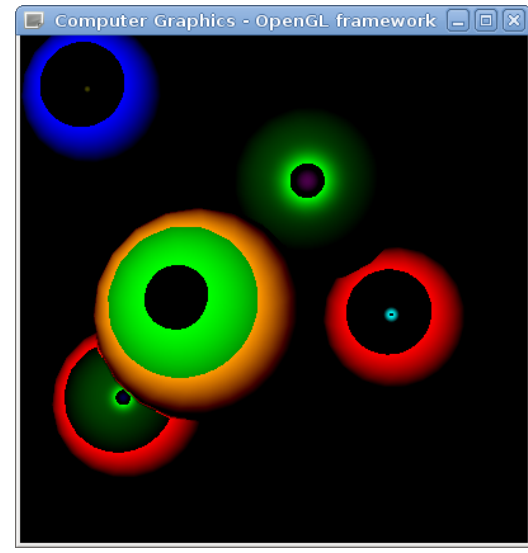
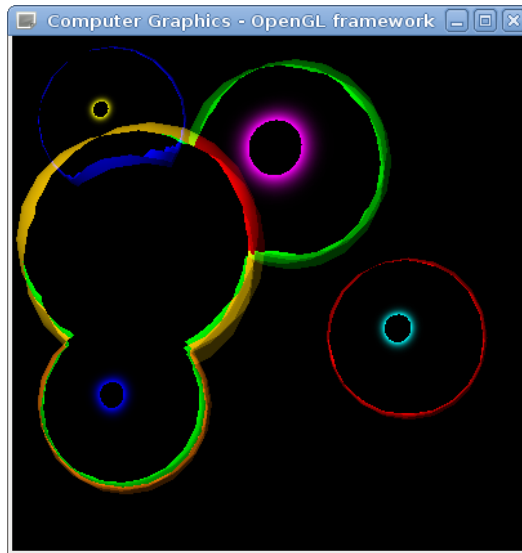
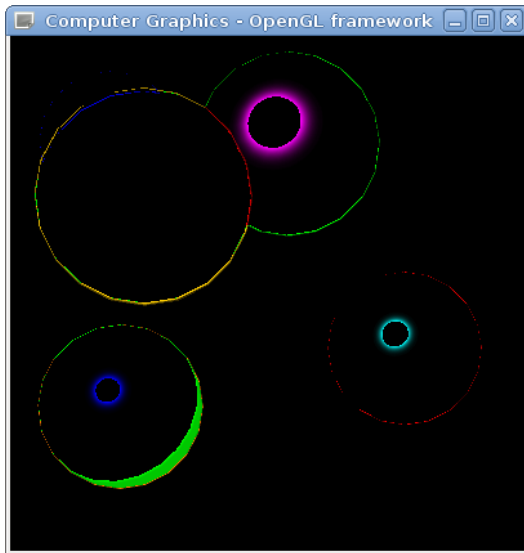


Computer Graphics

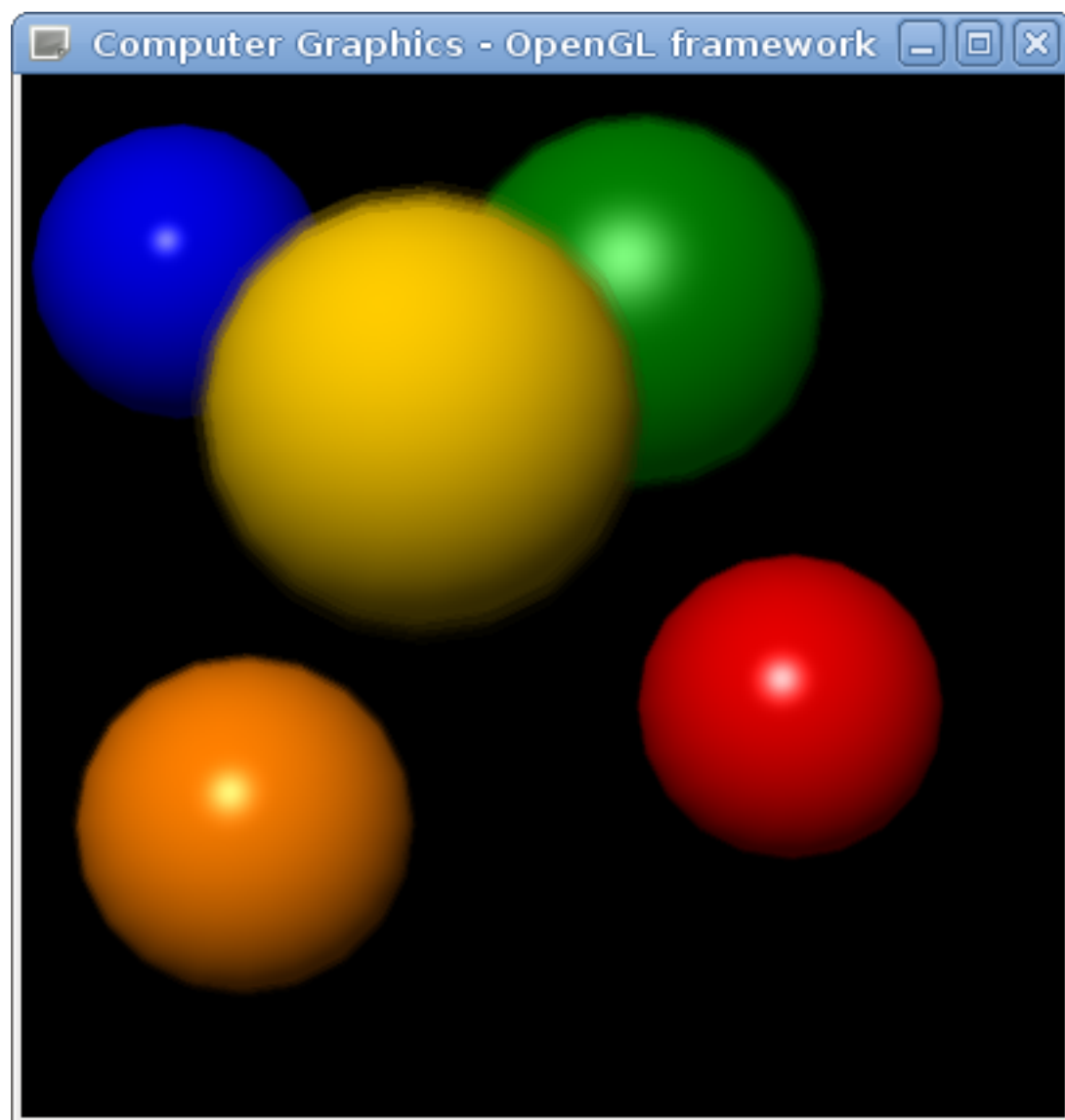
week 3

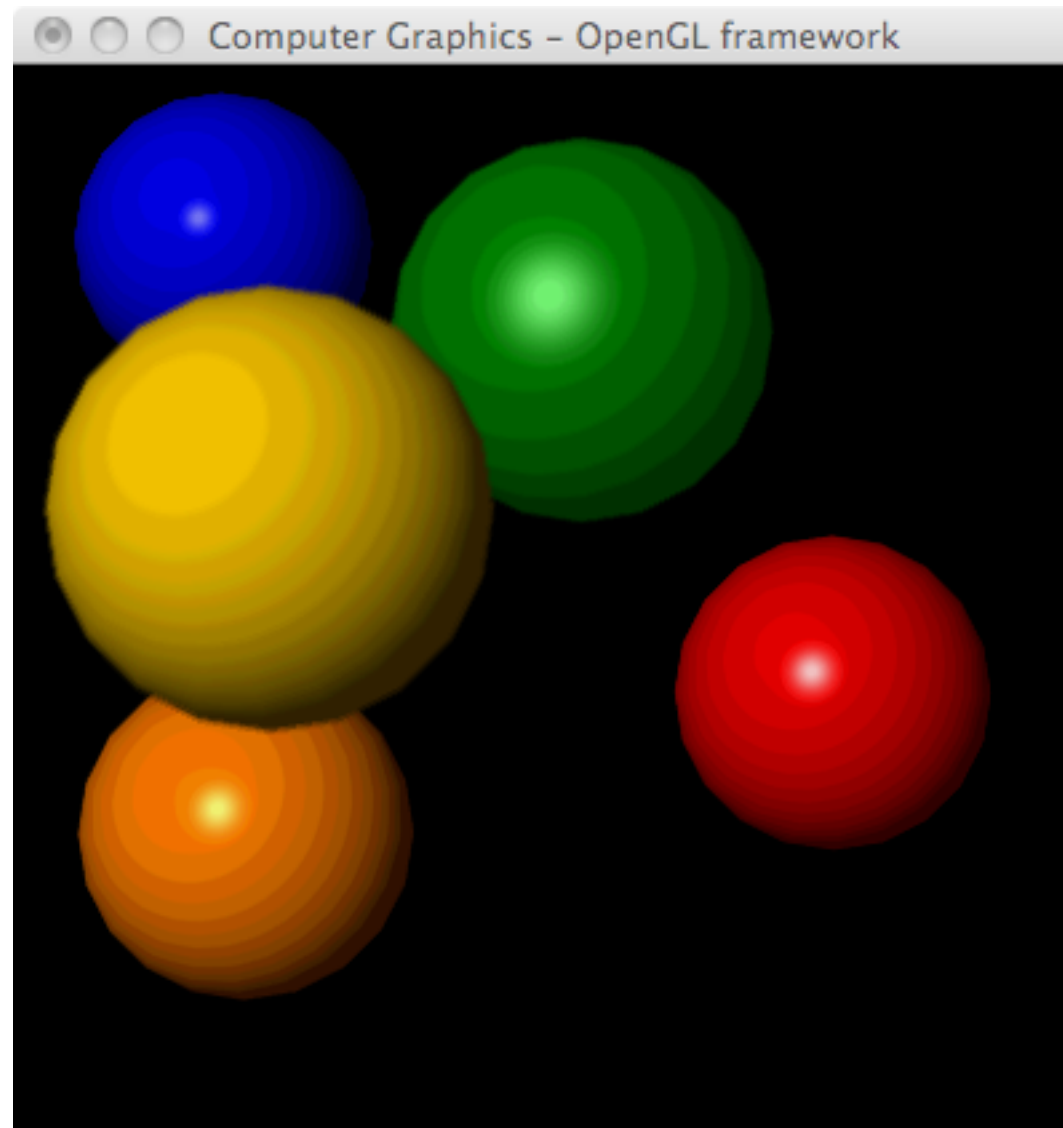
Roan Kattouw (1770993)

Jan Paul Posma (1775707)

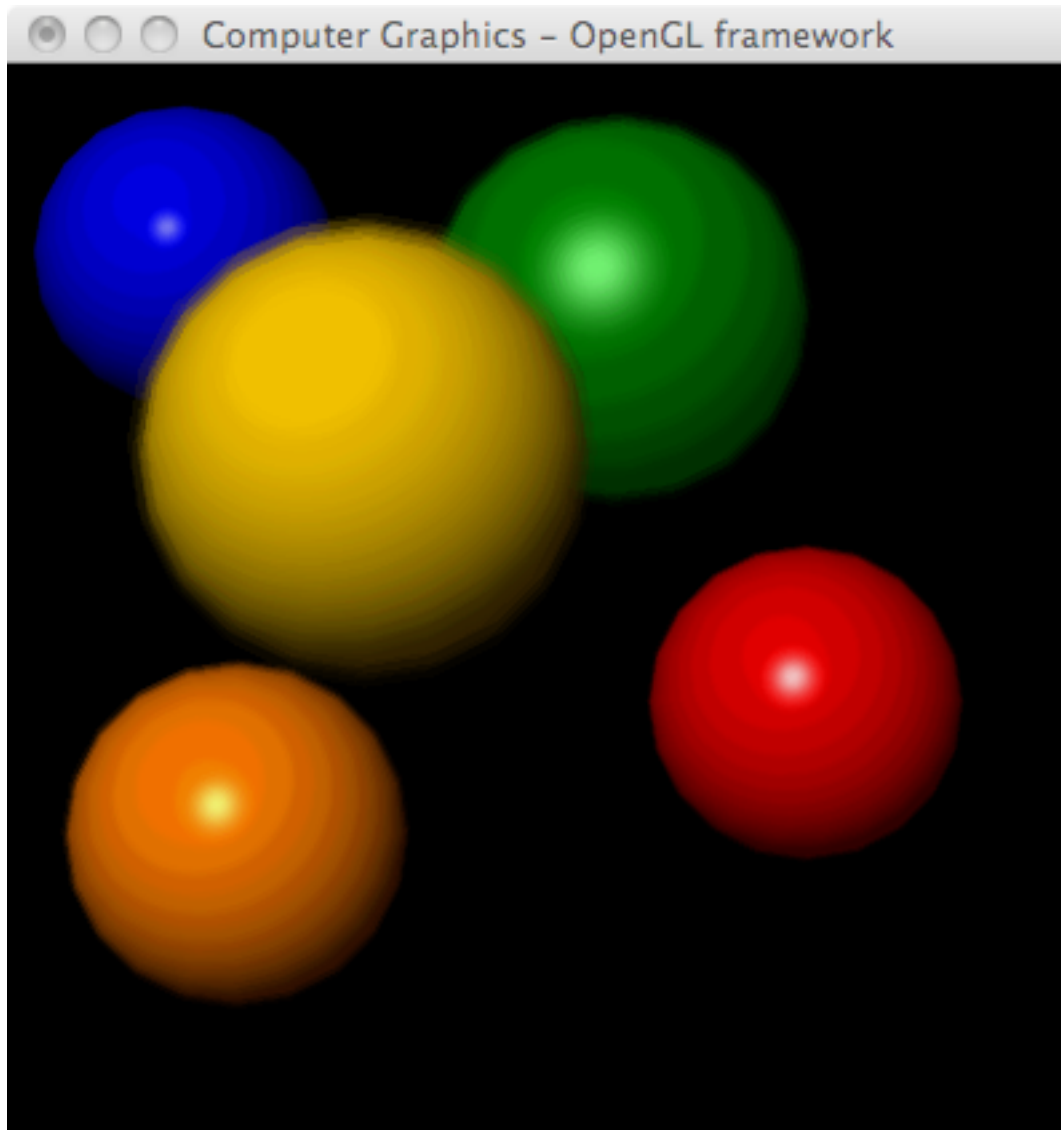


```
glAccum(GL_ACCUM, 1.0/(float)i);  
glAccum(GL_ACCUM, 1.0/(float)apertureSamples);
```





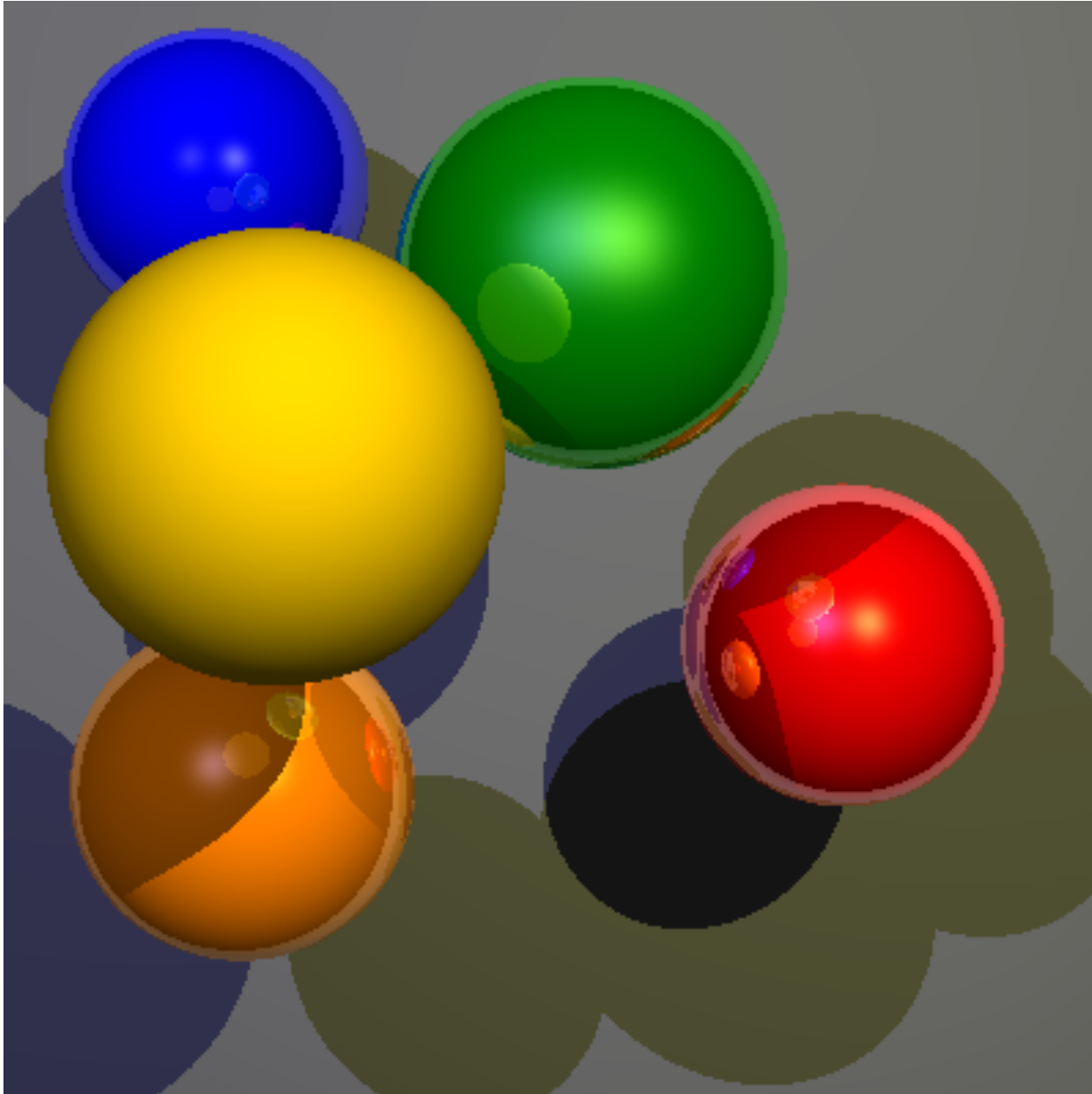
Weird rings with some settings...



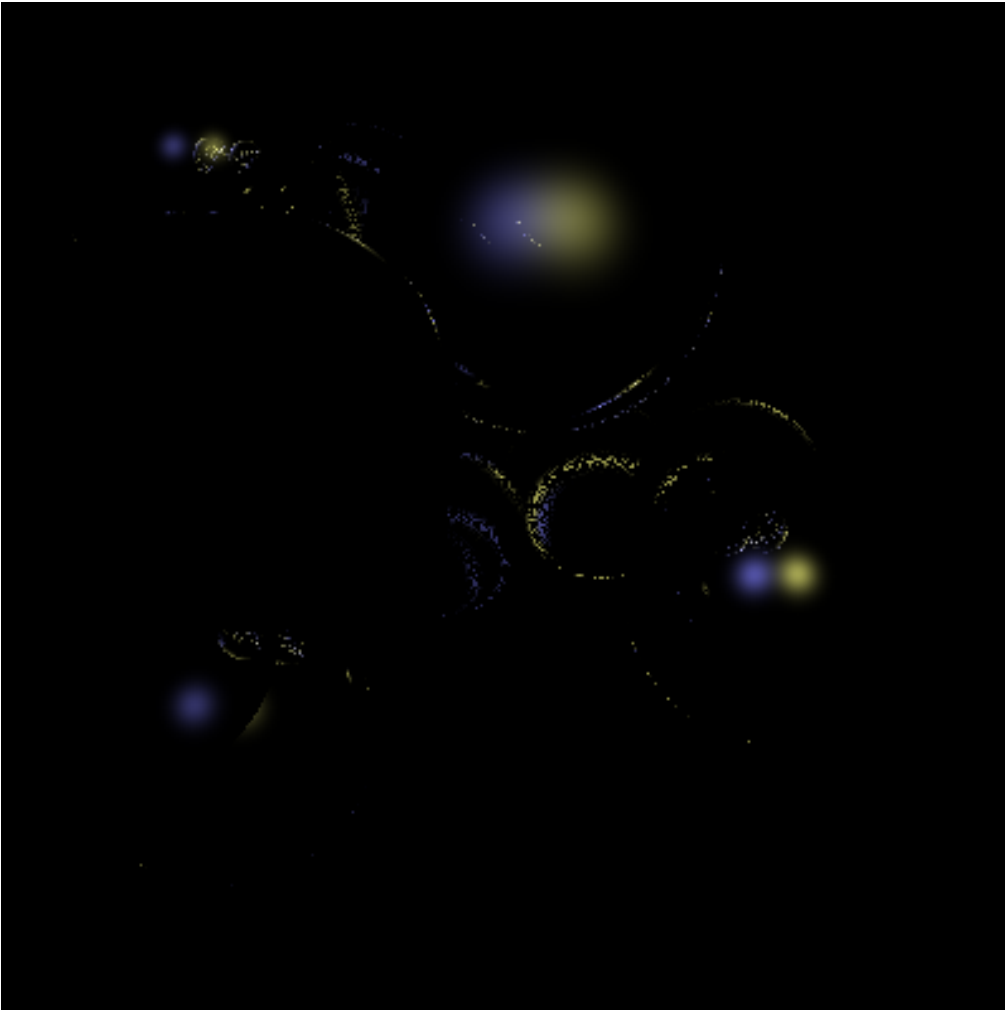
Better perspective
matrix using glFrustum

See
[http://www.opengl.org/
resources/faq/technical
/transformations.htm](http://www.opengl.org/resources/faq/technical/transformations.htm)

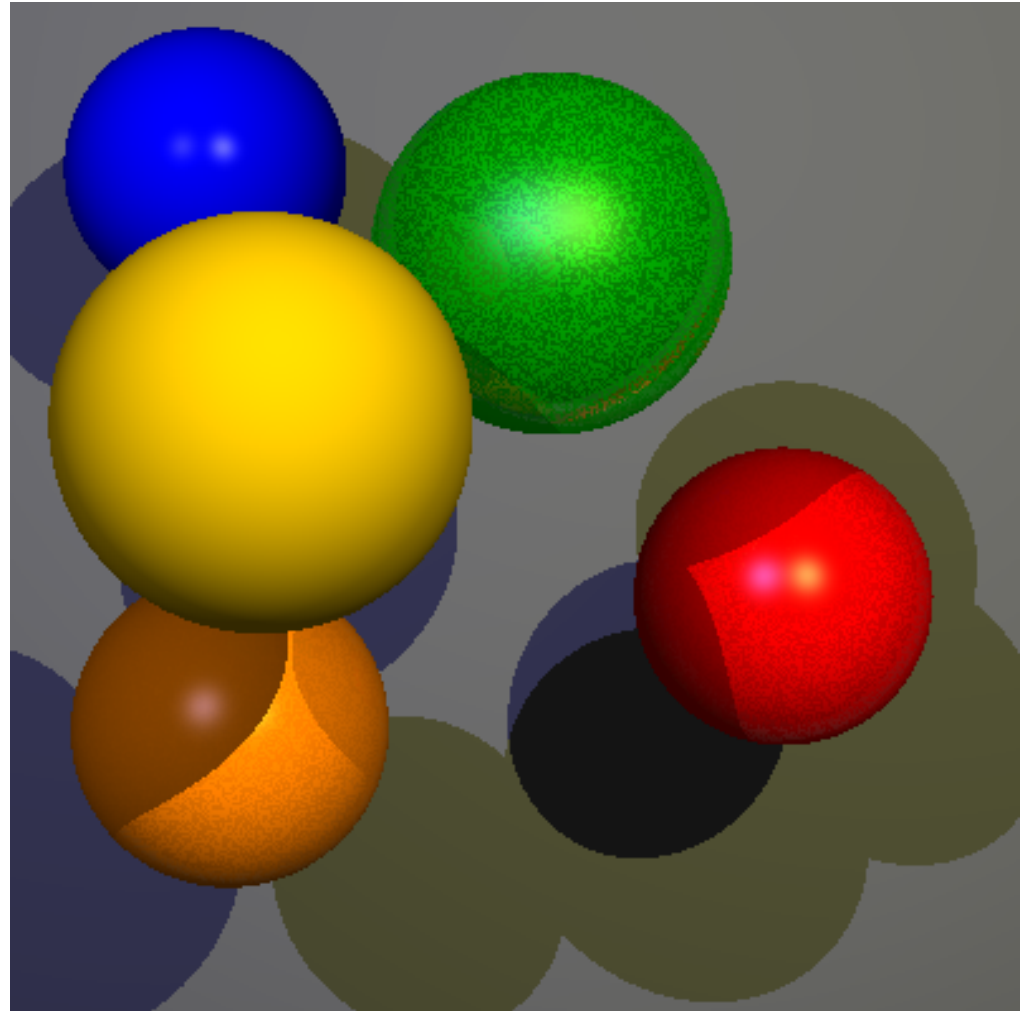
Reflection



Trivial coding mistakes

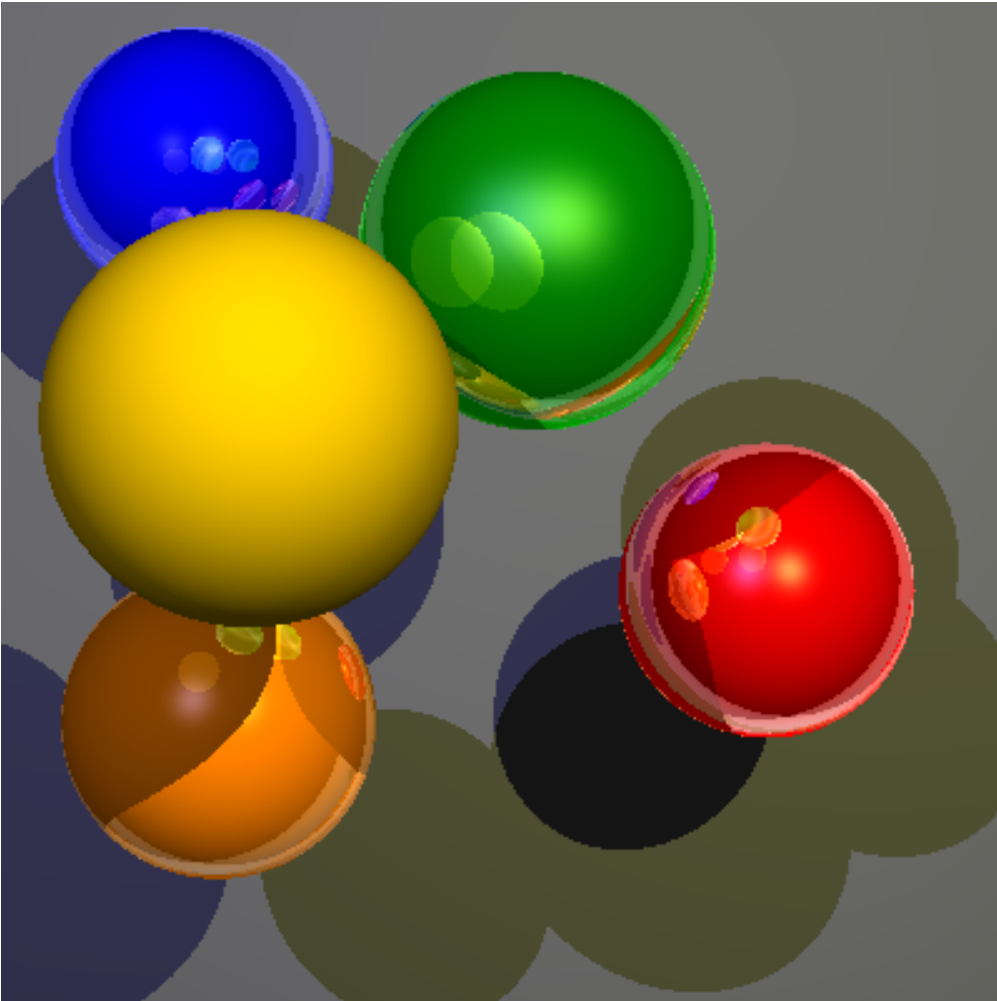


```
if (maxRecursionDepth == 0) {  
  if (recursionDepth == 0) {
```

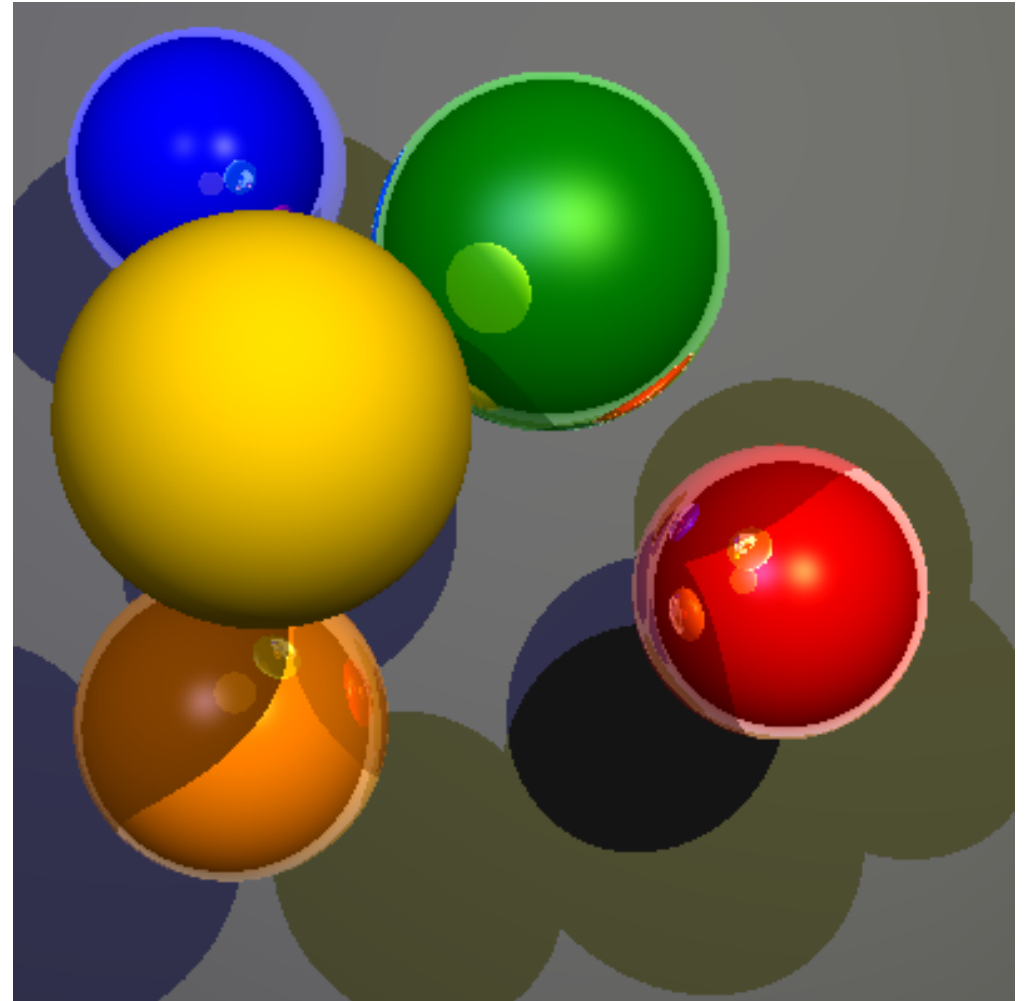


```
    Ray reflected(*hit, R);  
    Ray reflected(*hit + 0.01*R, R);
```

Not-so-trivial coding mistakes

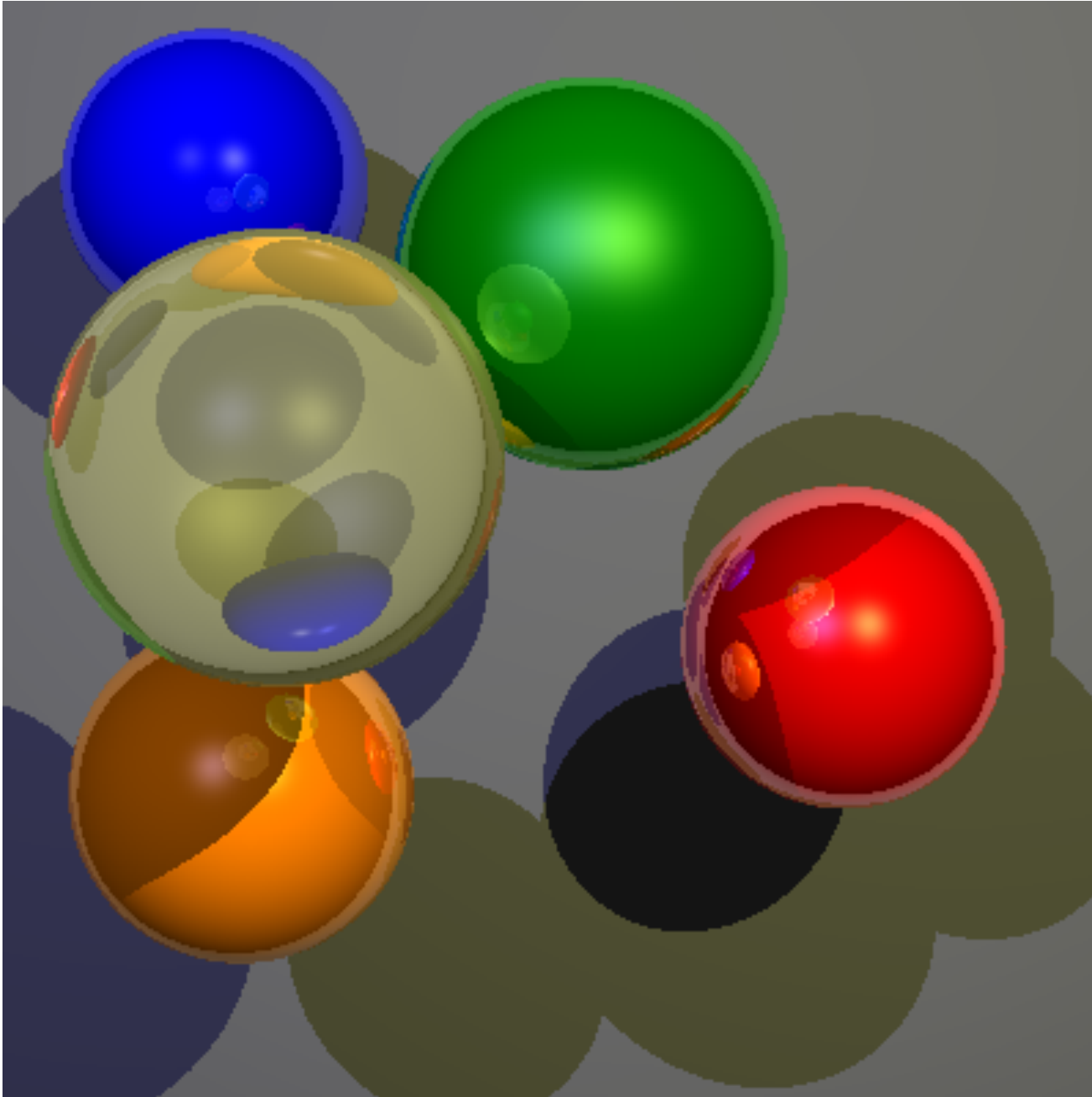


Reflected along light vector (L)
instead of view vector (V)

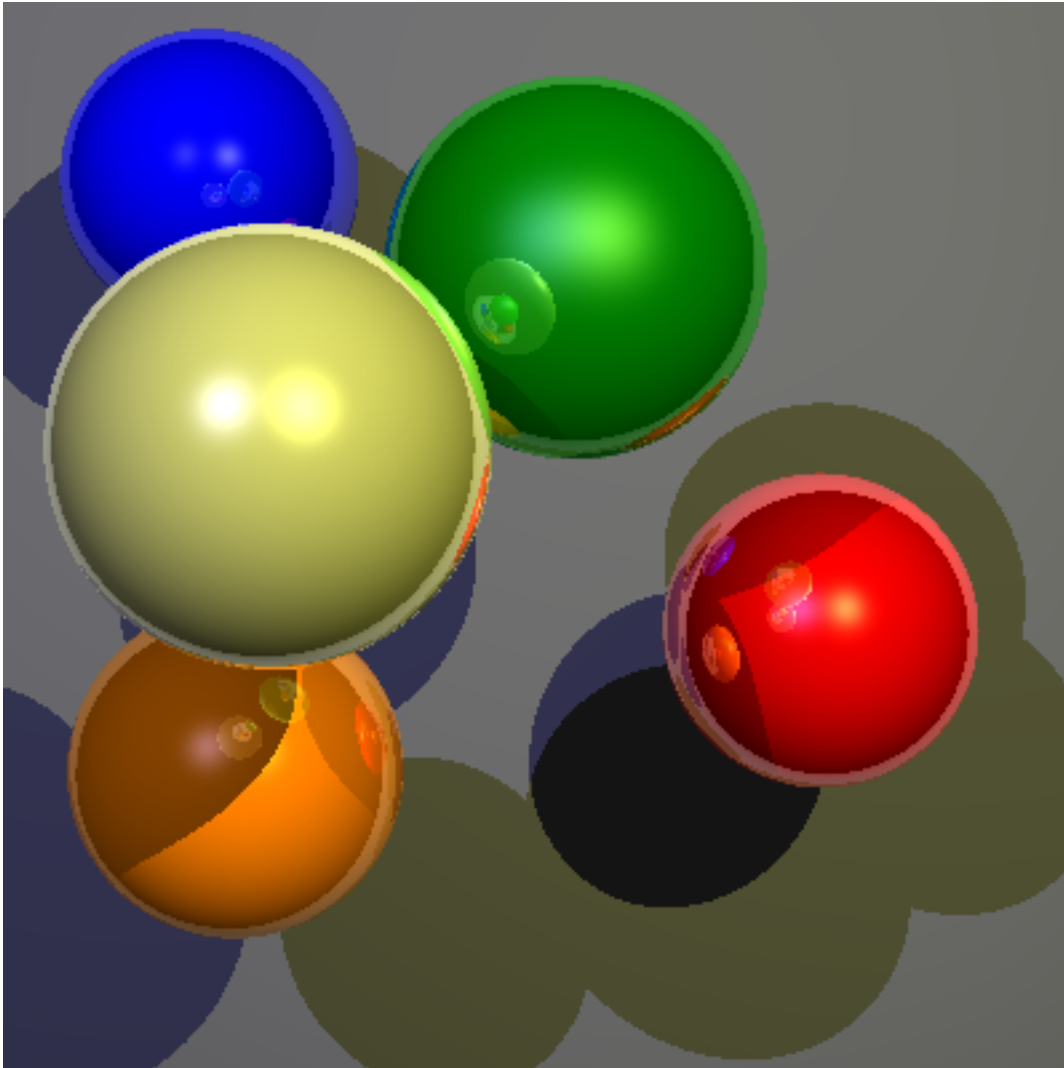


Computed and added
reflections for each light
source

Refraction



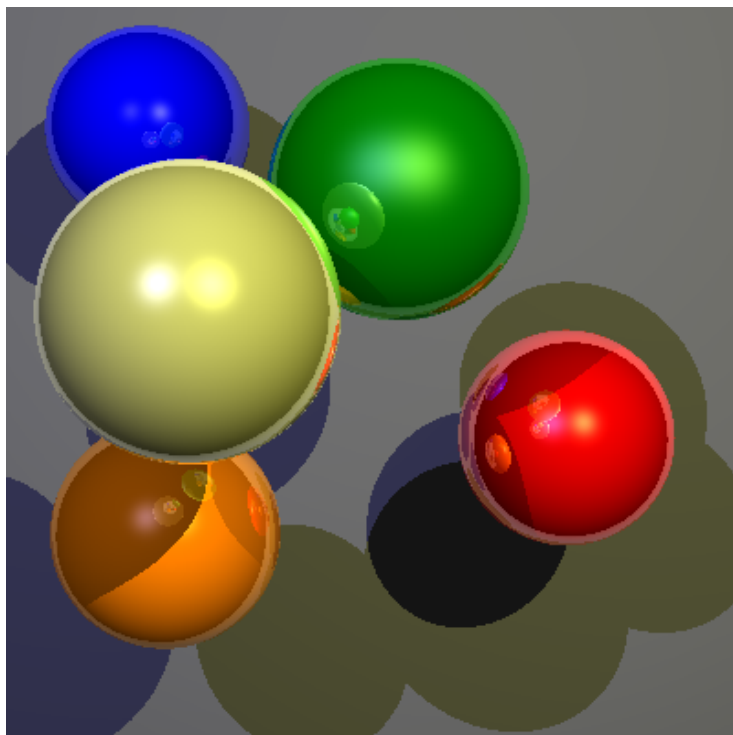
Scene modifications



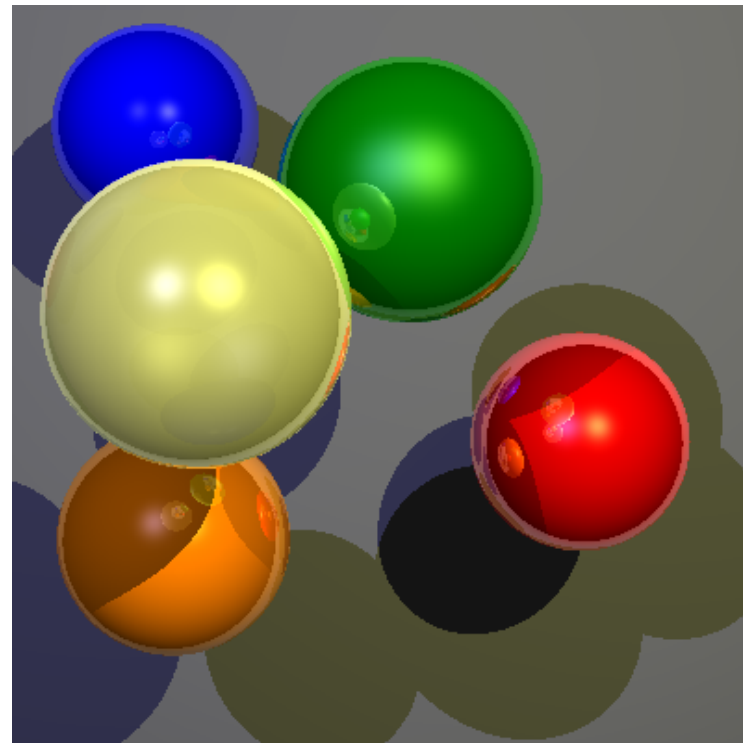
Tweaks to the yellow sphere: change color to that of the yellowish light, add shininess (ks and n). These tweaks make for nicer refractions.

```
material: # yellowish  
  color: [0.8, 0.8, 0.4]  
  ka: 0.2  
  kd: 0.8  
  ks: 0.8  
  n: 32  
  refract: 0.75  
  eta: 1.33
```

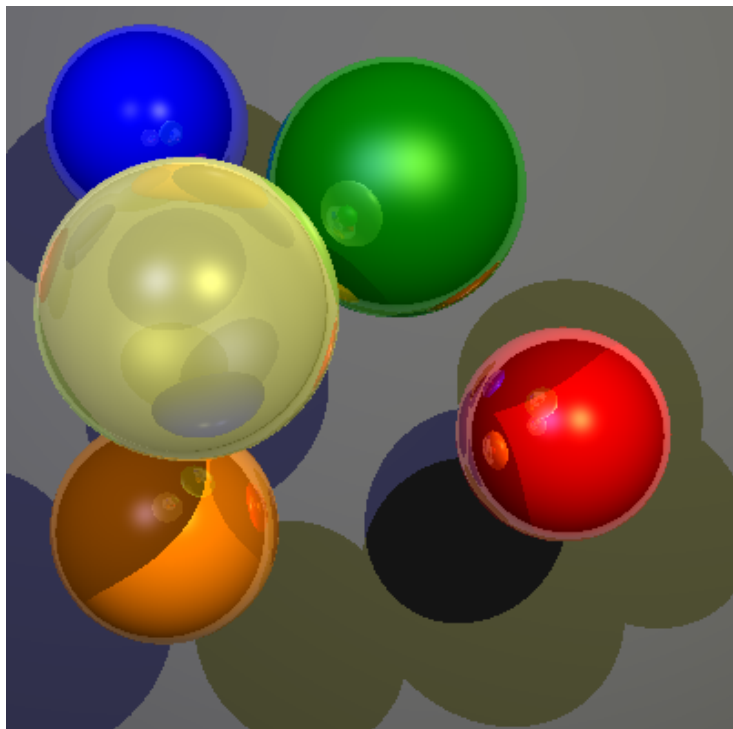
0%



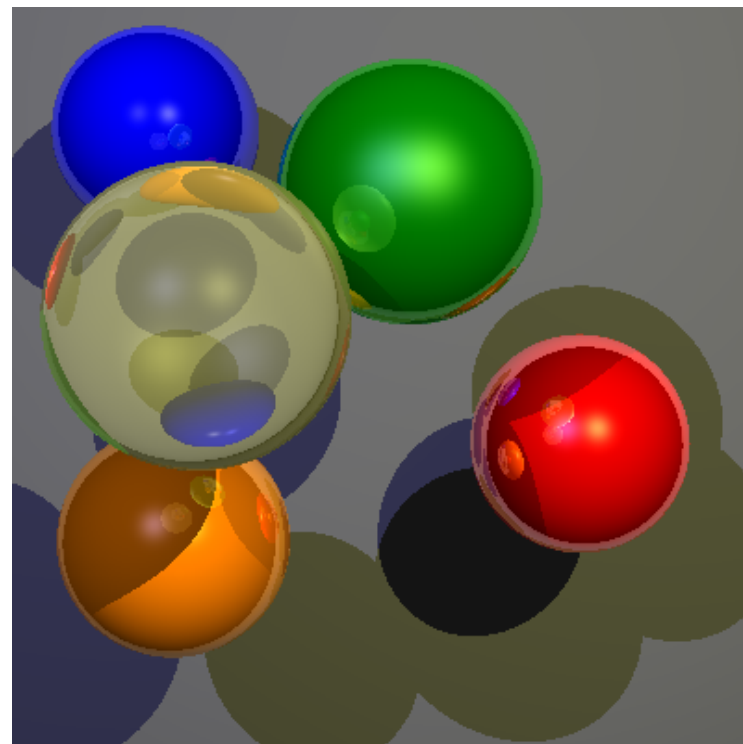
25%



50%



75%



Updated bonus scene :)

