

Scene	Time	Number of Rays
transparent	42 s	100 million (100 per pixel)
mirror	35.5 s	100 million (100 per pixel)
shadow	125 s	400 million (400 per pixel)

To calculate number of rays, used the following:

Rays per pixel \* image width \* image height

For all scenes, width = height = 1000

For transparent and mirror, rays per pixel is 100 (multi jittering with  $n=10$ ).

For shadow, rays per pixel is 400 (multi jittering with  $n=20$ ). We need more rays here because a ray is unlikely to hit light while randomly scattered.

Written in CPP, rendered on CPU. CPU used: i7-7700HQ.