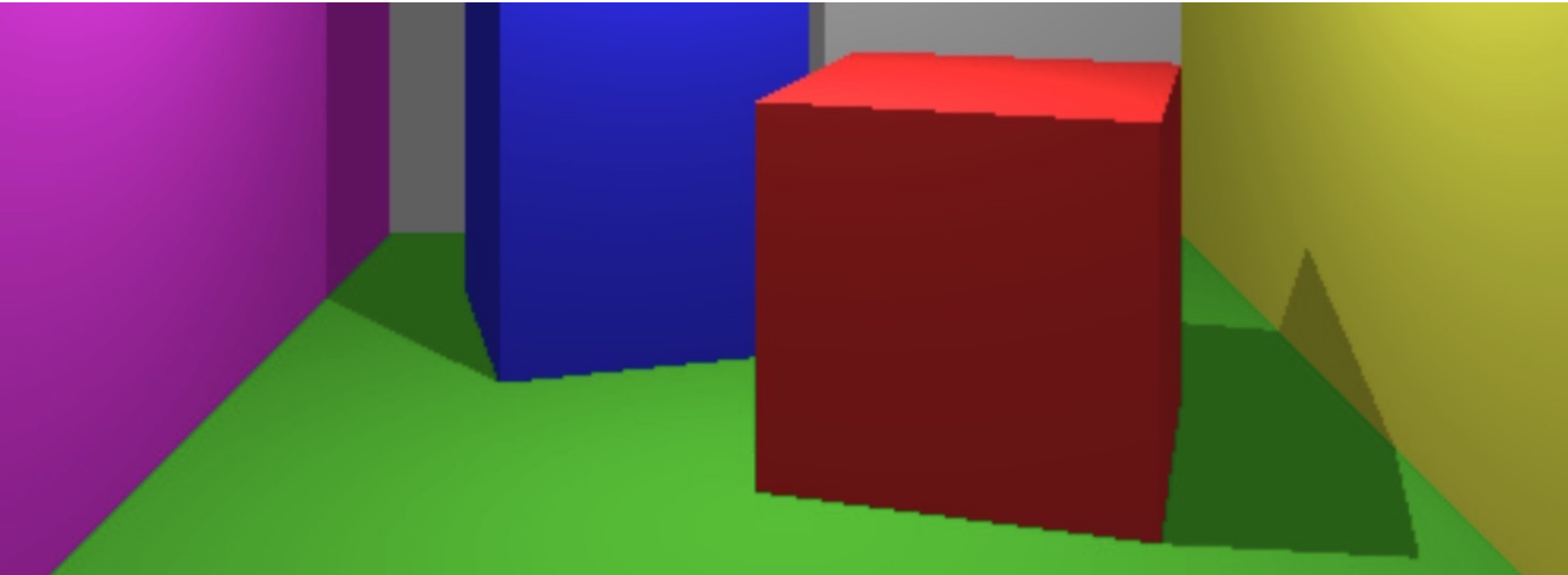


Shadows

With light comes shadow !

But how on earth do we compute this ?



Can the surface see the light ?

We've already used raytracing to determine the visibility of triangles from the camera

We can use the same technique to check if a surface can "see" the light

We fire a "shadow ray" from surface towards light
If it hits a triangle before reaching the light
the surface must be in shadow...



The diagram illustrates the formation of a shadow. At the top center is a yellow sun with rays. Two parallel black arrows represent light rays originating from the sun. The left ray points down to a point on a green horizontal ground line. The right ray points down to a point on the same ground line, passing through a green rectangular object. A grey arrow points from the top-left corner of the green object towards the sun. The text 'in shadow' is positioned to the right of the object.

in shadow

Shadow "Acne"

A problem you might encounter in the practicals !
Occurs when a triangle "sees" a bit of itself
and thinks there is something obscuring the light

SeeingYourselfGIF



Solving Acne Problems

You could check that triangle causing the shadow isn't the same as the triangle being overshadowed !

But you may still get the "diagonal" problem:

Easiest solution:

Just ignore any intersection that is very close to surface

This feels very hacky !

But it is "the done thing"

