

There have been many questions regarding clearing free space in the C part of assignment 4. Hopefully the following images will answer these questions.

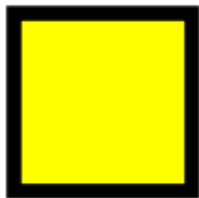
First of an image showing what each individual figure in the following images represents:



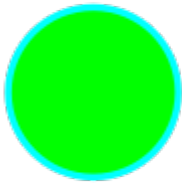
Unknown space



Free space



Occupied space



Robot



Real world obstacle

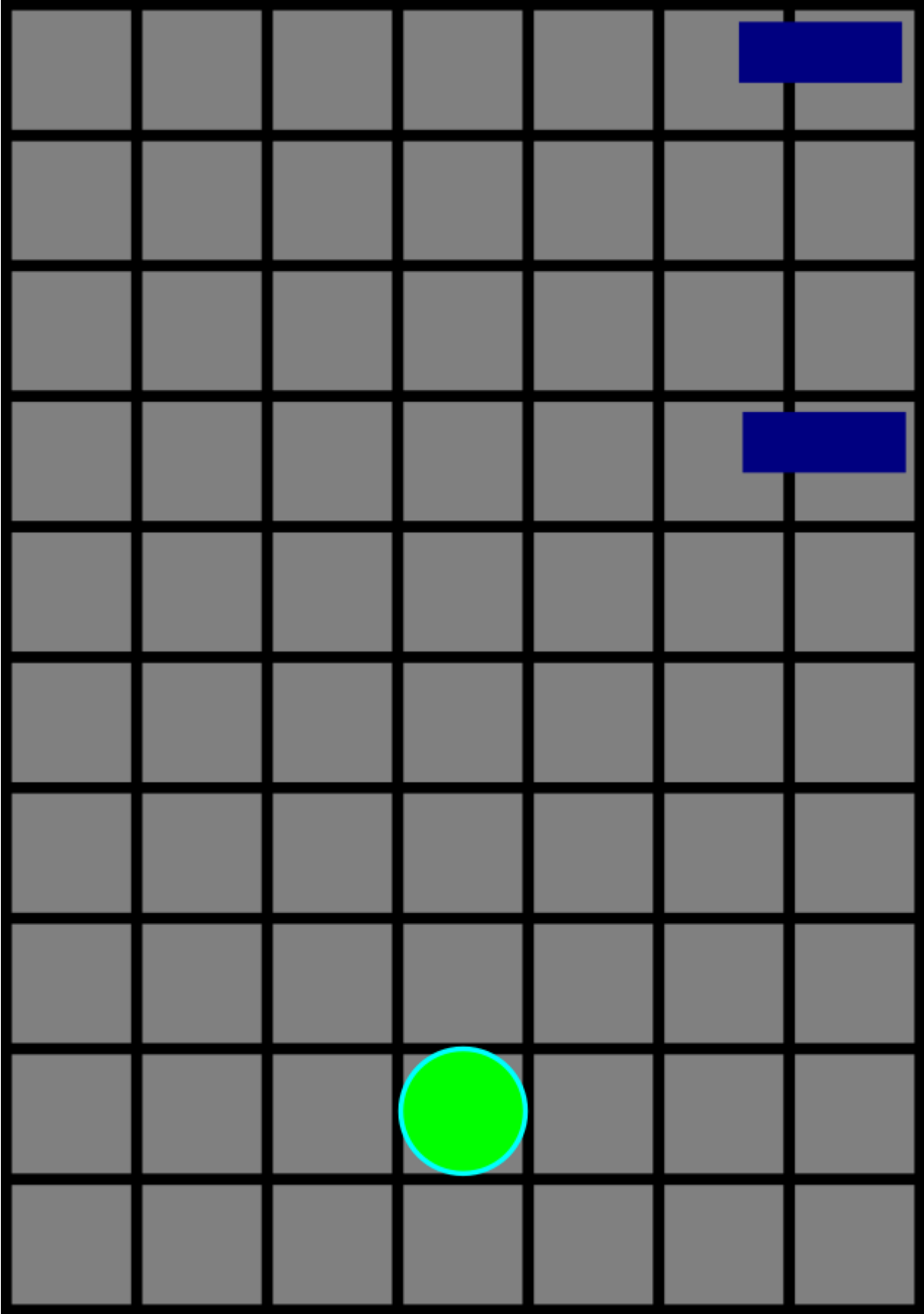


Laser beam 1

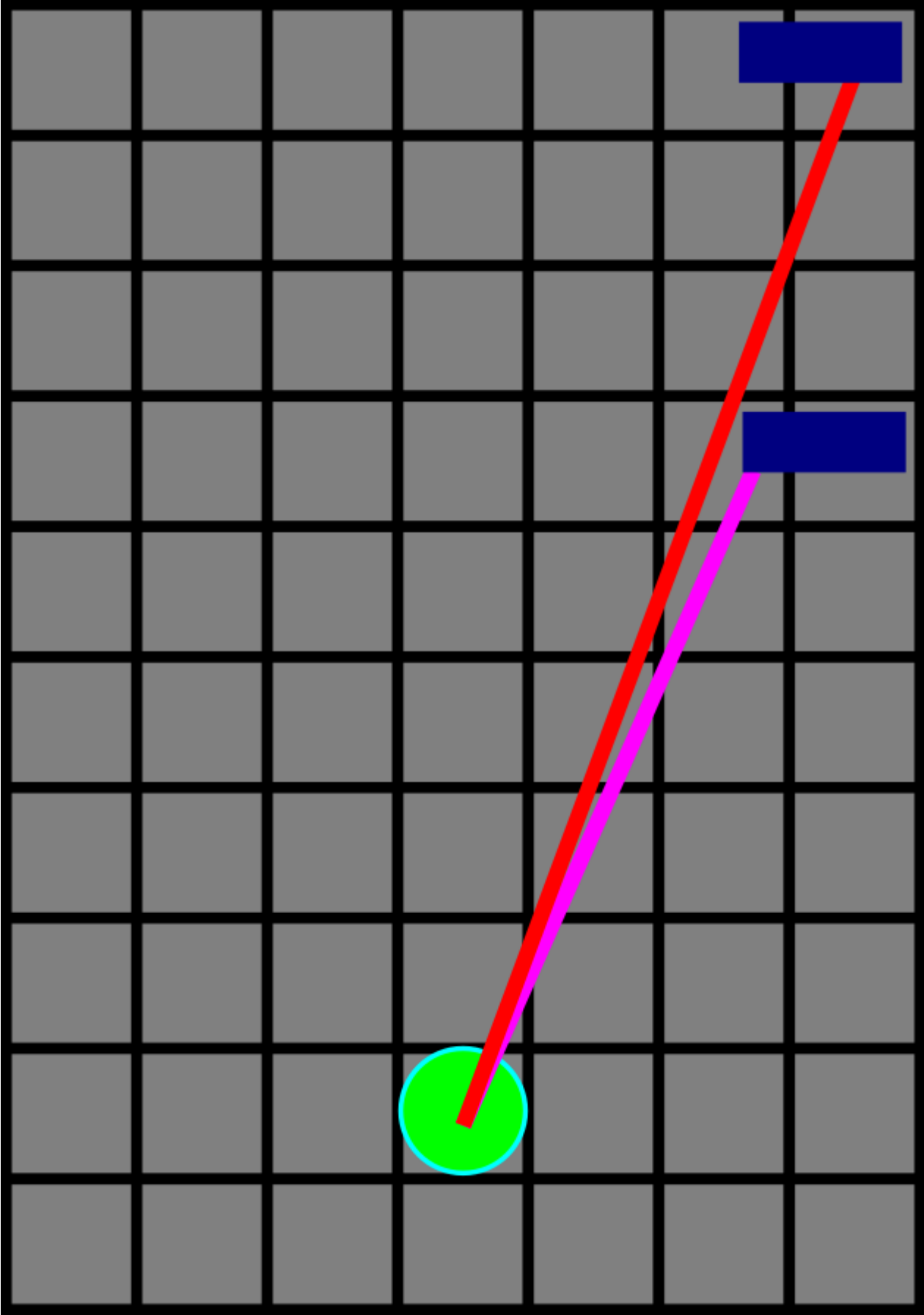


Laser beam 2

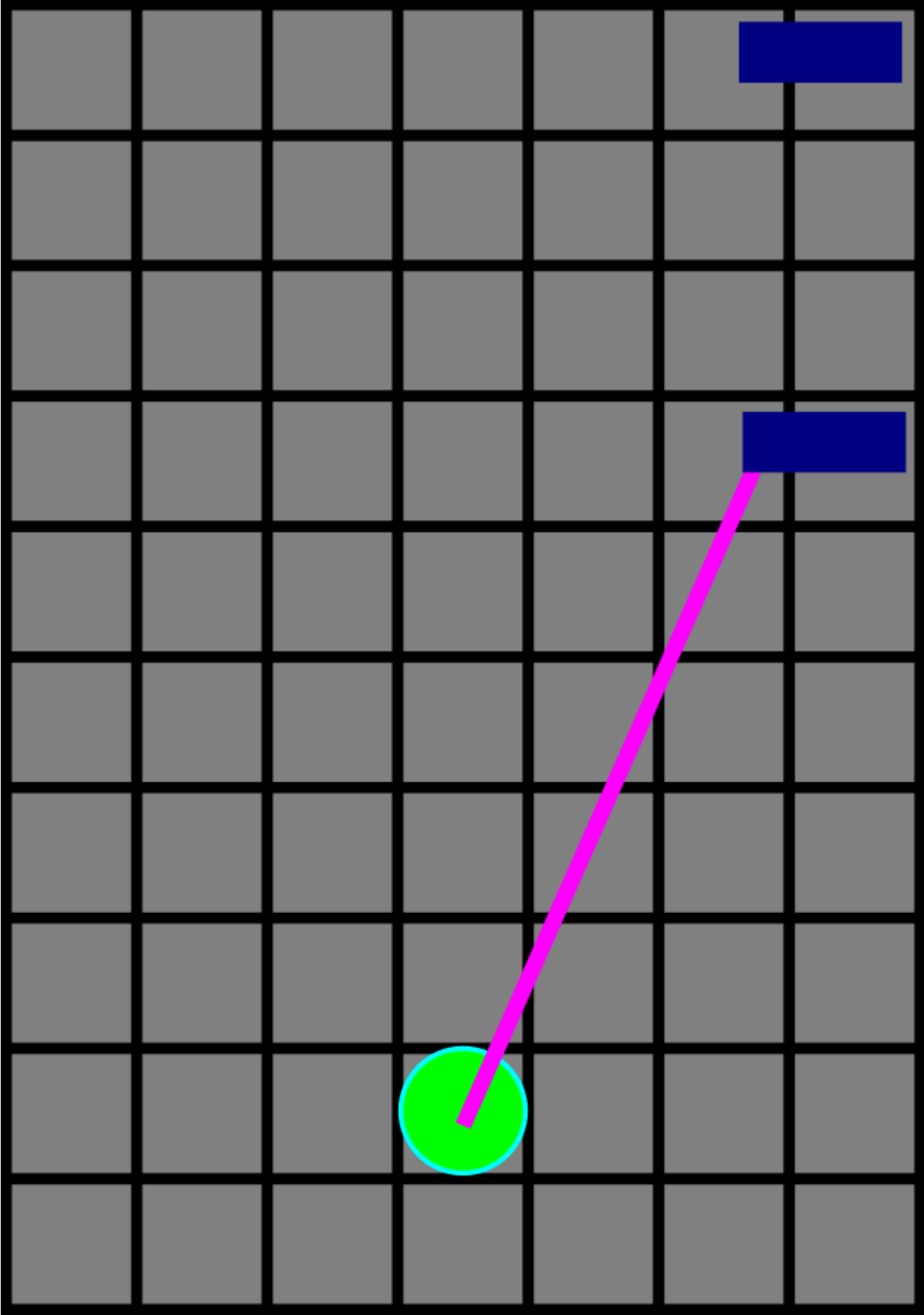
We have a world that looks like this:



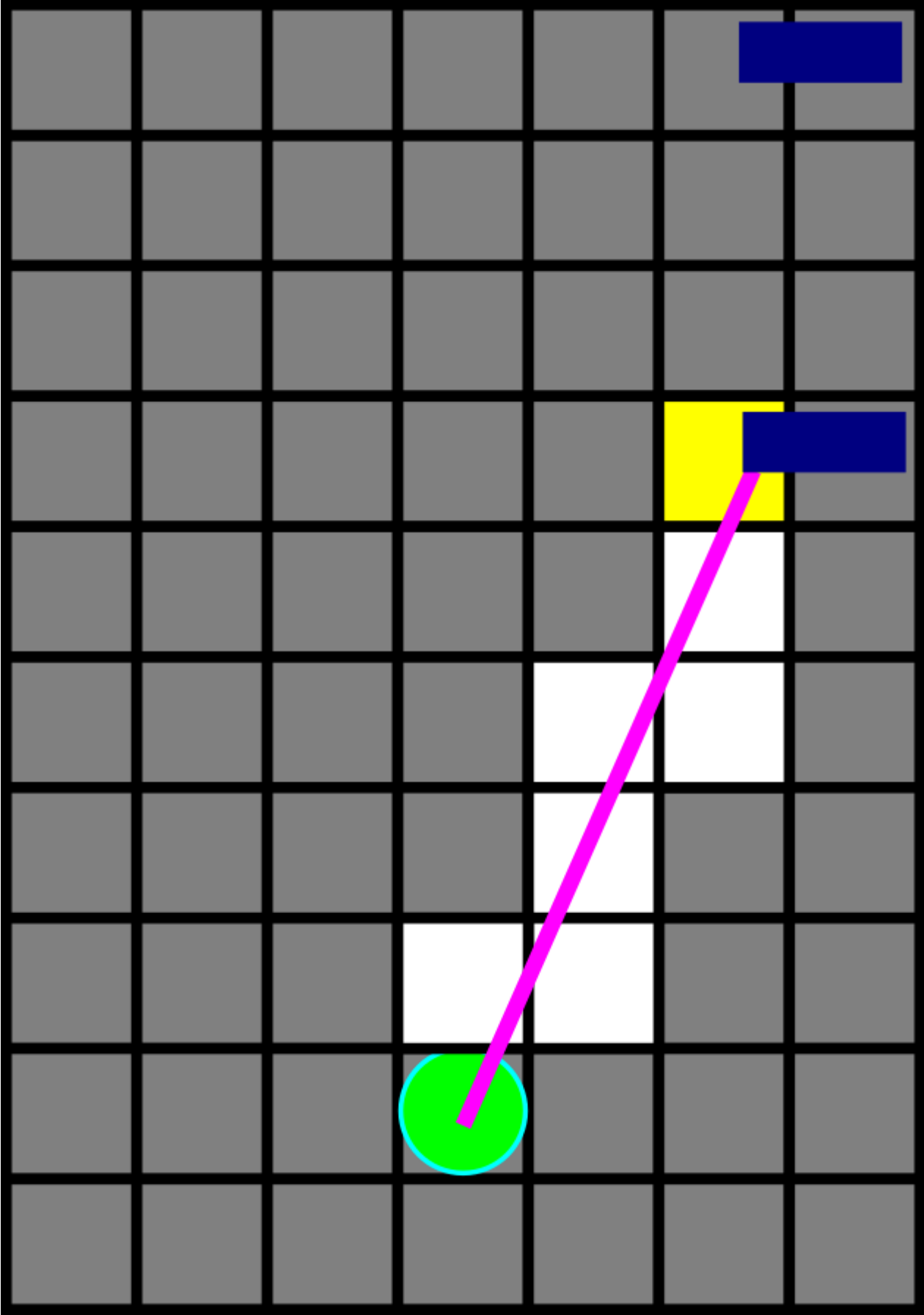
We get a LaserScan message that we visualize in the image under:



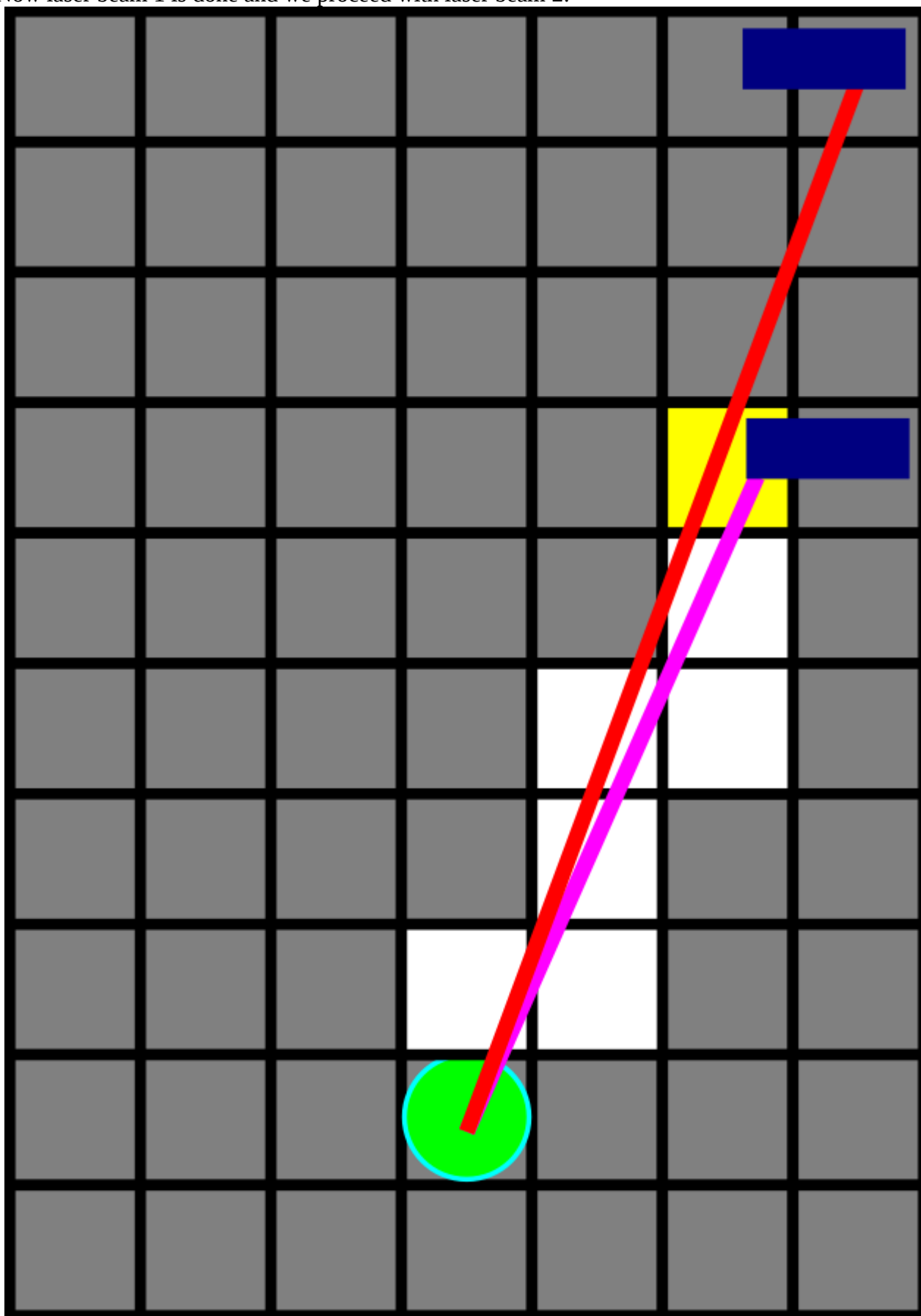
We iterate through these beams, starting of with laser beam 1:



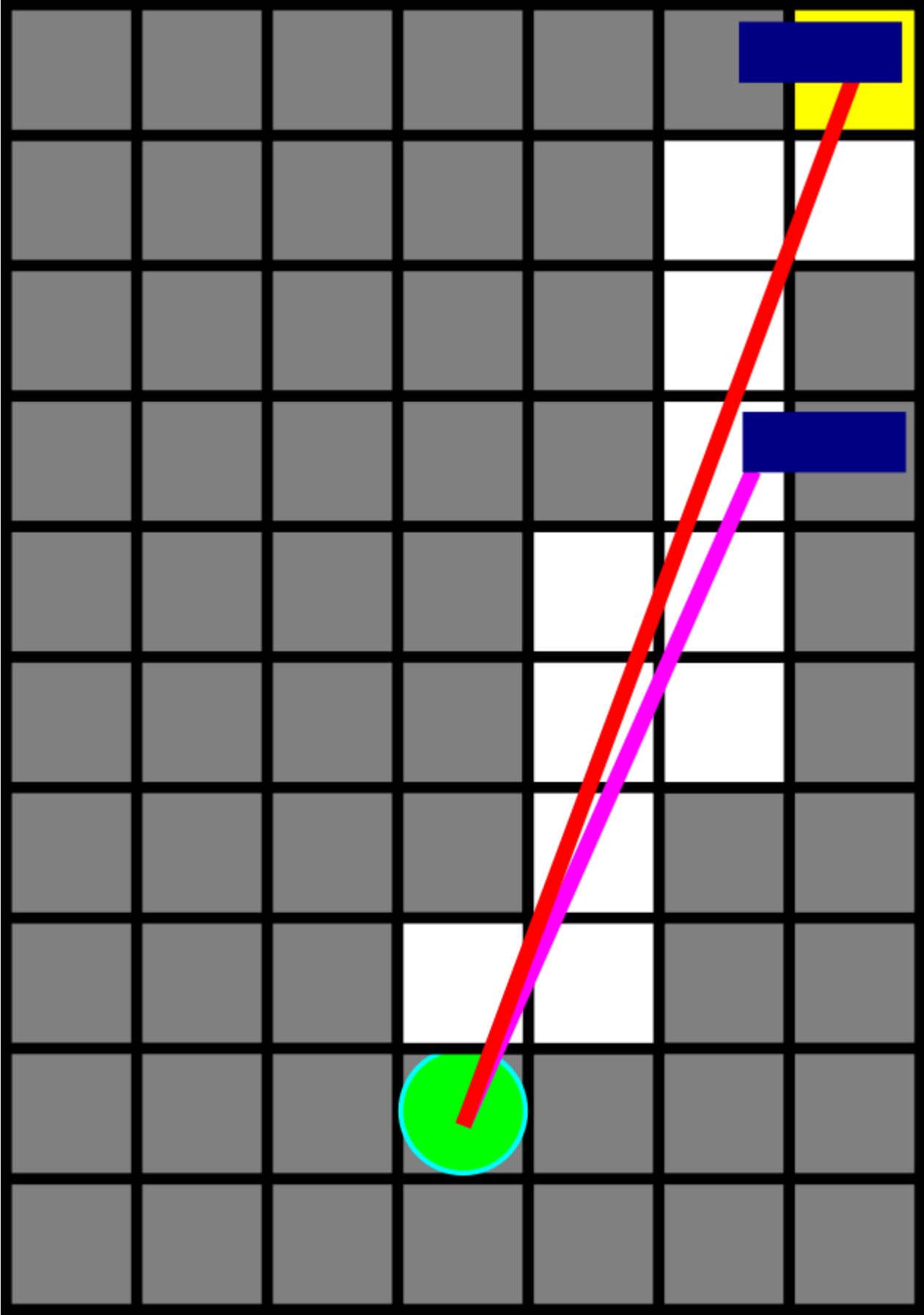
We clear free space along this beam and put occupied space at the end:



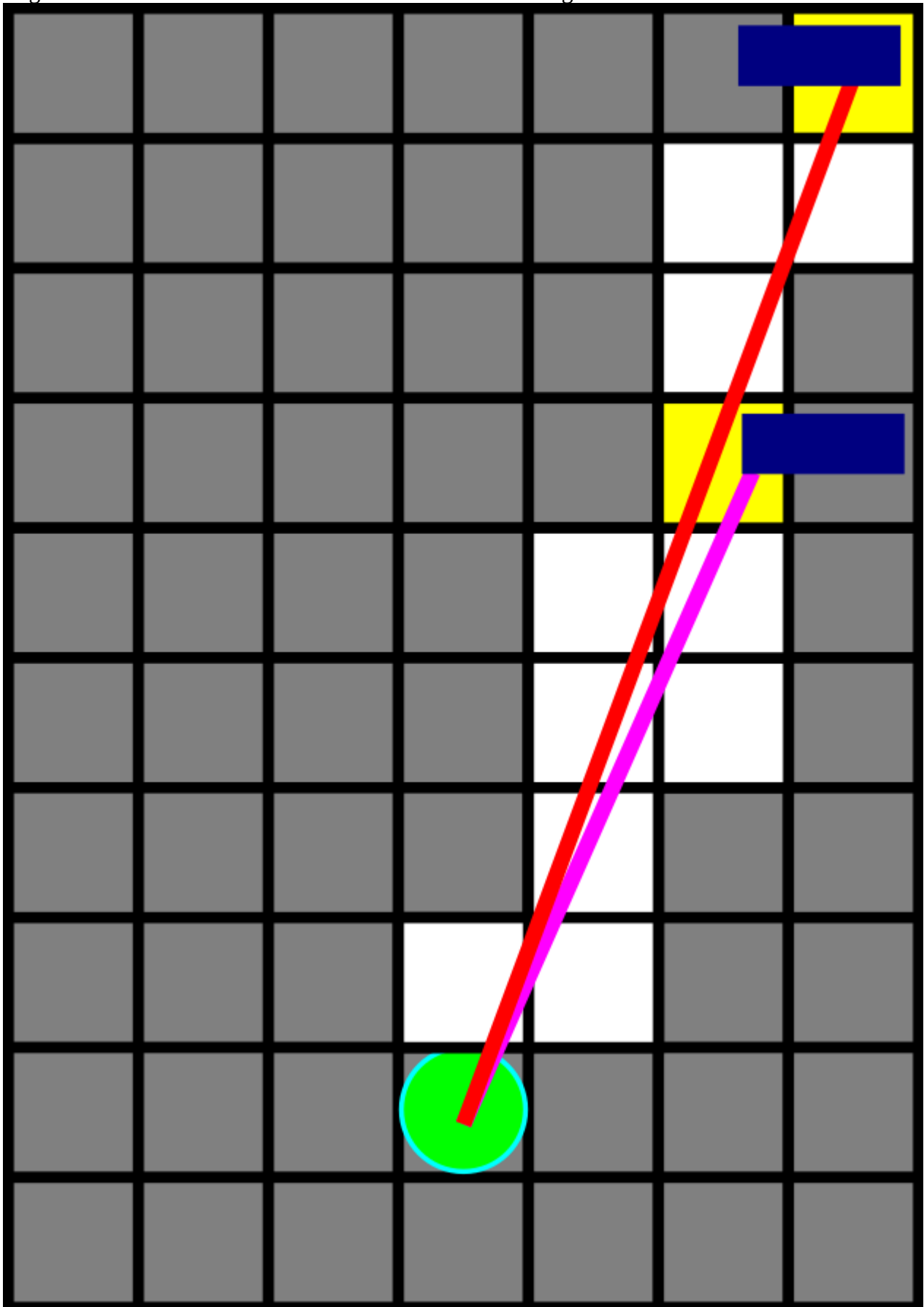
Now laser beam 1 is done and we proceed with laser beam 2:



We clear free space along this beam and put occupied space at the end also:



Now you can see in the image above that we cleared the occupied space that we put for the first beam. This is the problem for most of you who have asked questions about this part of the assignment. If we would have done it correct instead the image would look like this:





You can see that we know have two occupied cells.

I hope this will answer most of your questions regarding this part of the assignment.