HOMEWORK – 7B (Bonus)

NOTE:- Though I am putting screenshots of output image, I am writing it to file using imwrite command. The reason I am putting screenshots because I can put title on image using title() command to distinguish between images. But I am also saving it to file using imwrite().

Logic of hysteresis: -
We chose threshold1 while performing non-maximal suppression. Now we choose threshold2 such that value of threshold 2 should be larger than threshold1.

- We have already discarded values less than threshold1 while performing non-maximal suppression. (E(x,y) < threshold1)
- Accept the edge if edge magnitude at that pixel is greater than threshold2. That is, (E(x,y) > threshold2).
- If edge magnitude is between threshold1 and threshold2, then accept the edge if its surrounding has some edge value and set it to some higher value(threshold1). Else discard it by putting edge value to 0 at that pixel.

By performing the above operation, we are enhancing the edges that came out as the output of non-maximal suppression.

Below are the parameters I chose to get final output:-

Parameter	Value
Color channel	Red
Standard Deviation	20
Size of Gaussian filter matrix	14
Threshold1	0.03
Threshold2	0.2
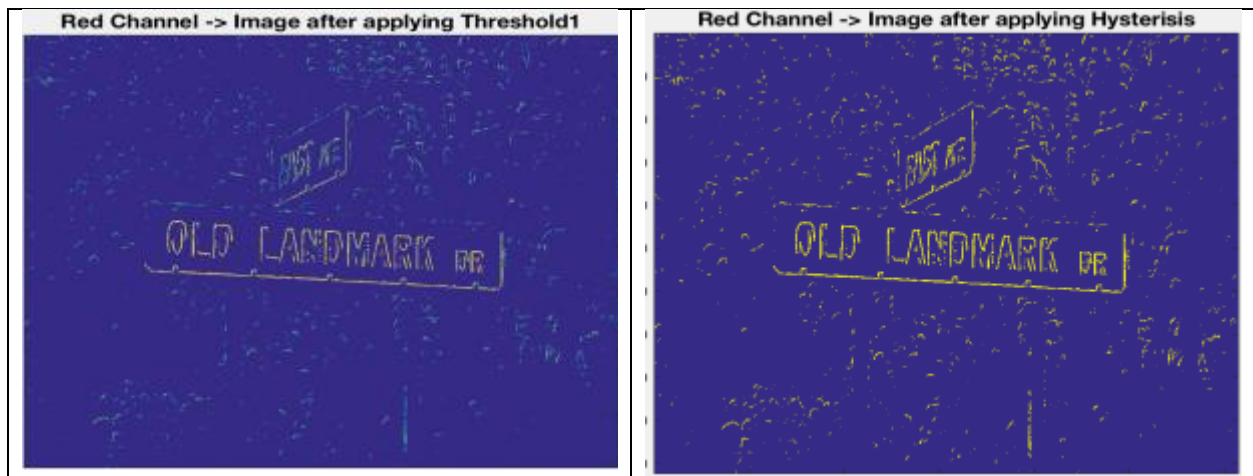
Output after applying non-maximal suppression and hysteresis.