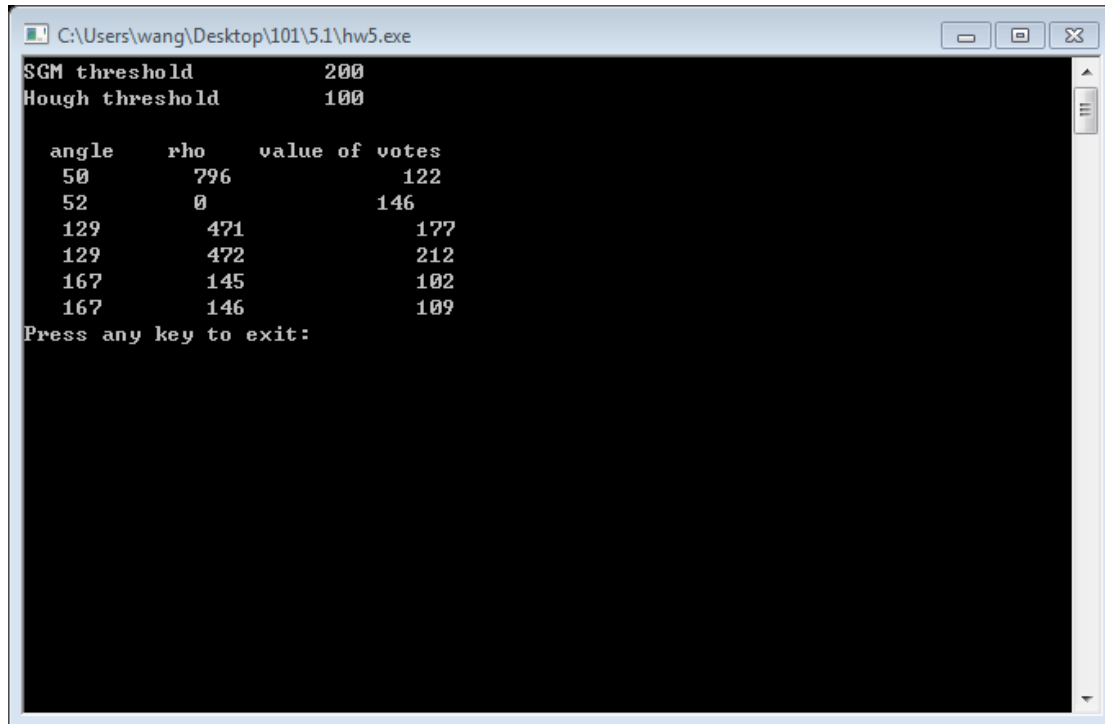


The outcome of the program



```
C:\Users\wang\Desktop\101\5.1\hw5.exe
SGM threshold      200
Hough threshold    100

angle   rho   value of votes
50      796      122
52       0      146
129     471      177
129     472      212
167     145      102
167     146      109
Press any key to exit:
```

Considering there are more than one lines in the image for clearer viewing, so I just pick the hough_threshold 100.

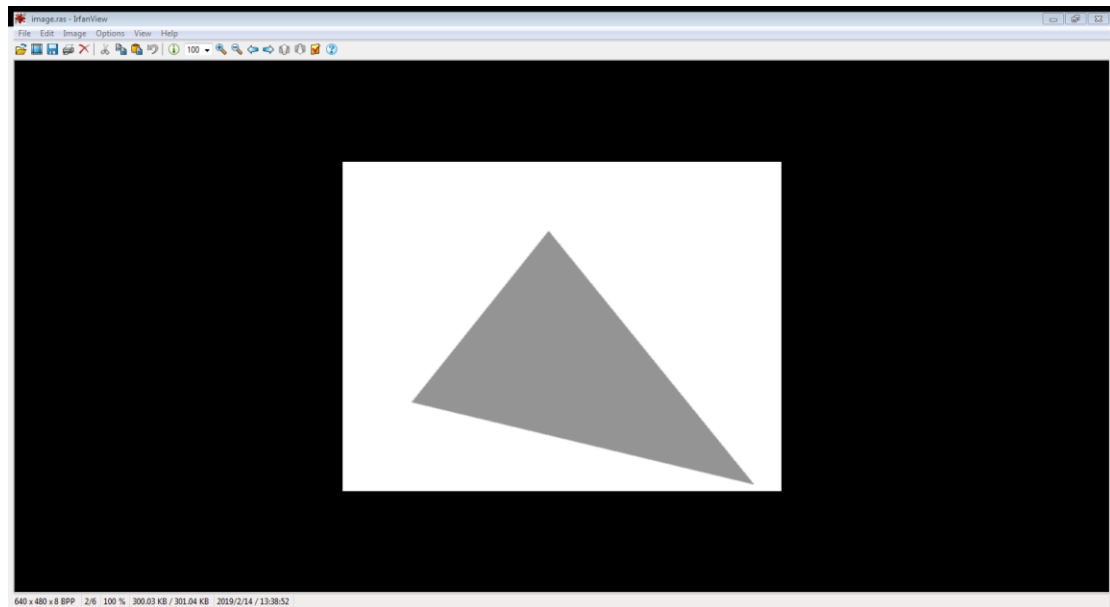
And then we can tell three lines from the outcome.

Number	(theta,rho)	local maximum
1	(52,0)	146
2	(129,472)	212
3	(167,146)	109

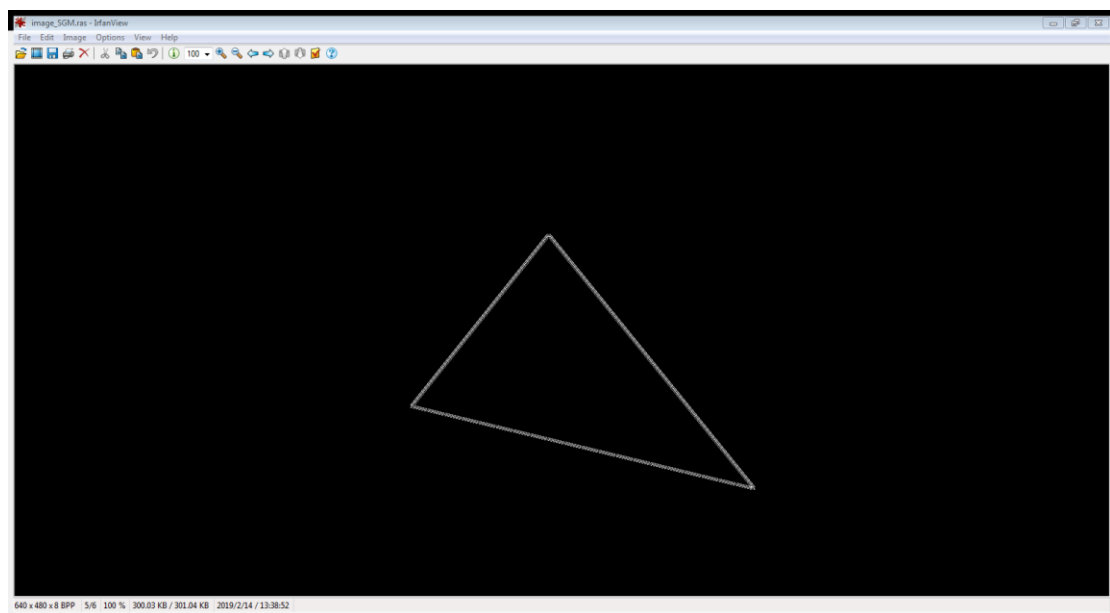
For the problem of possible negative rho, I used the absolute number to ensure that $\text{abs}(\rho)$ has a positive value.

The generated images are shown below.

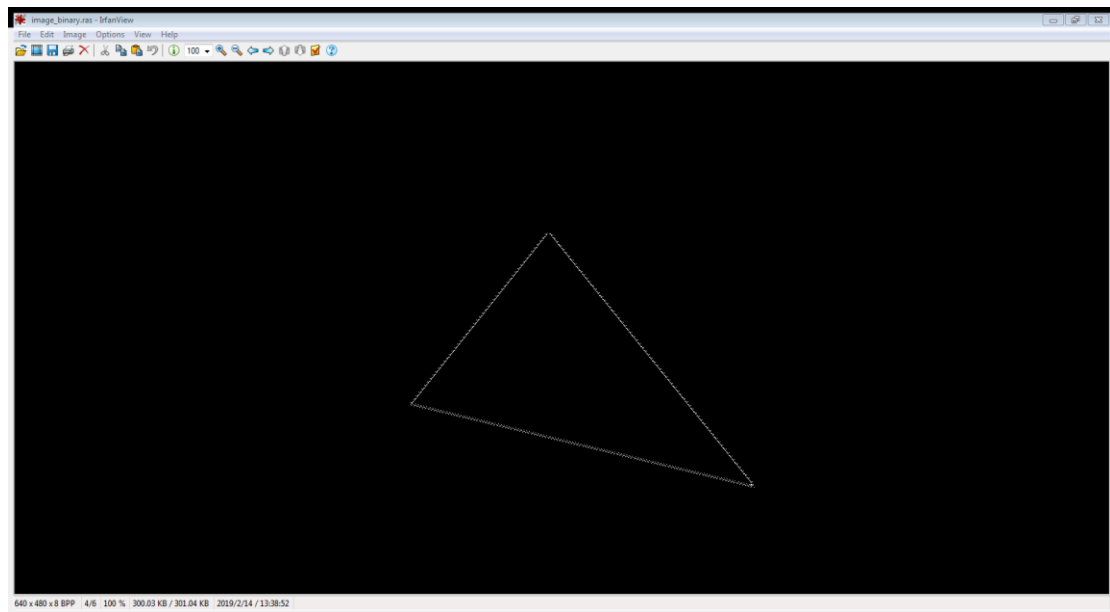
Original image



SGM image



Binary image



Use Hough transfer to plot the image

