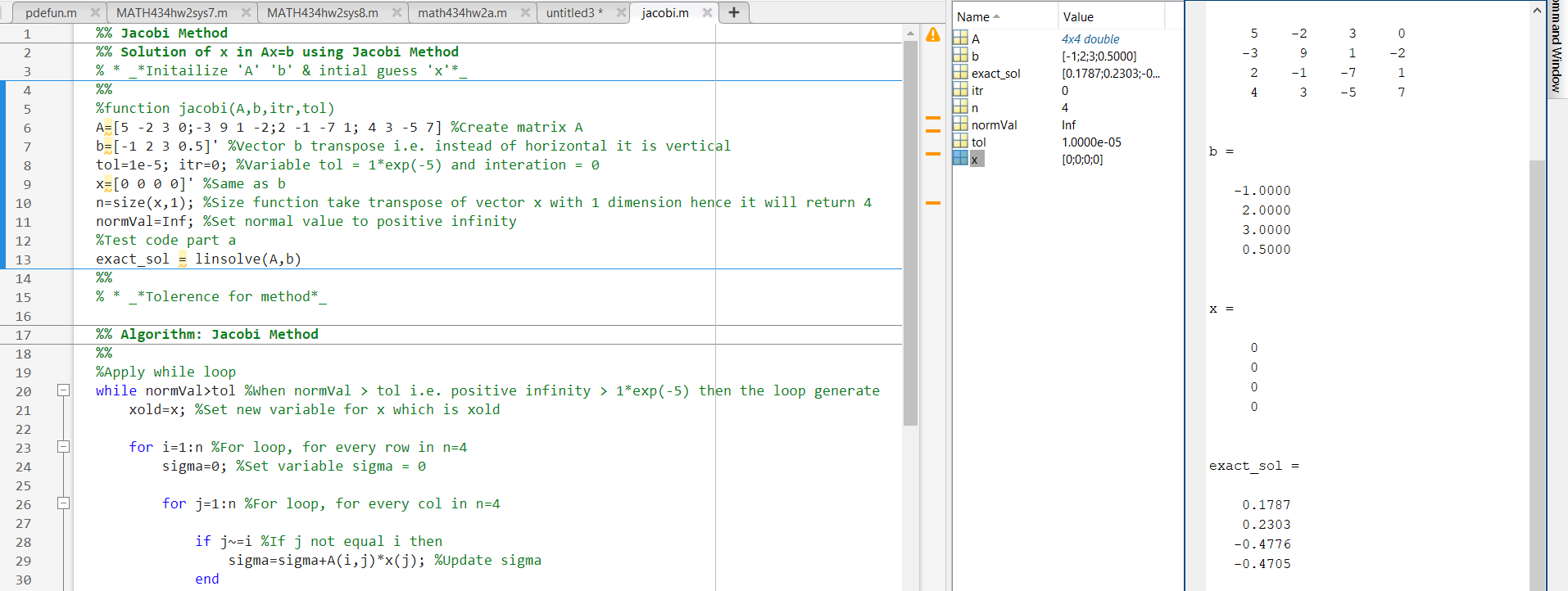
Michael Dang – 16257750

Math434

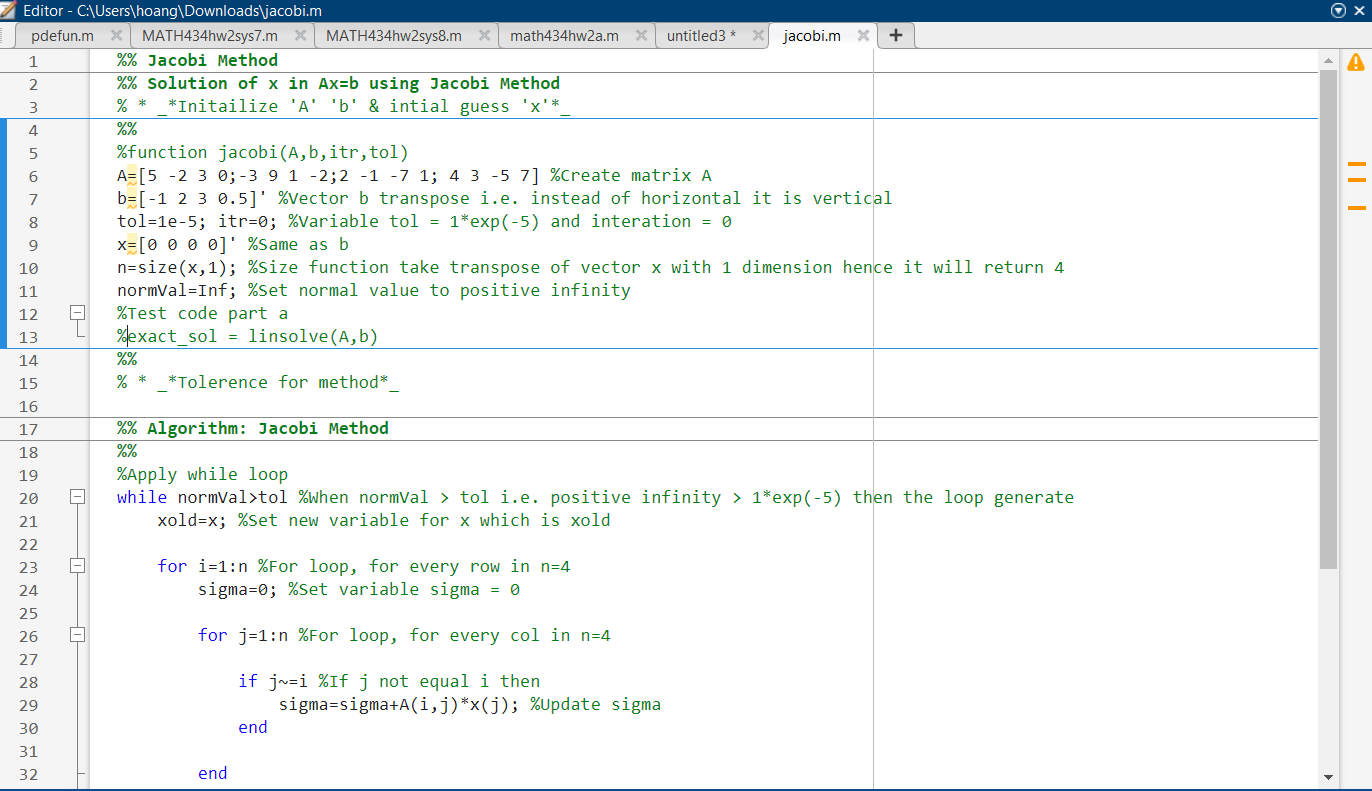
Lab3

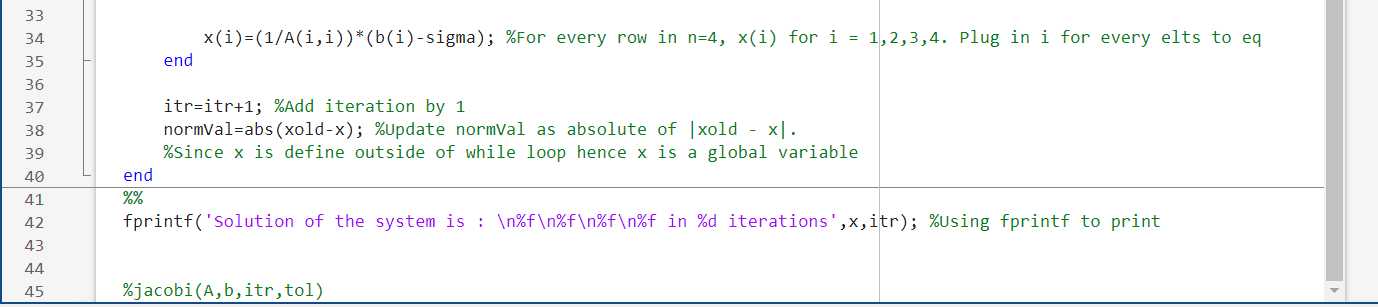
1.

a.

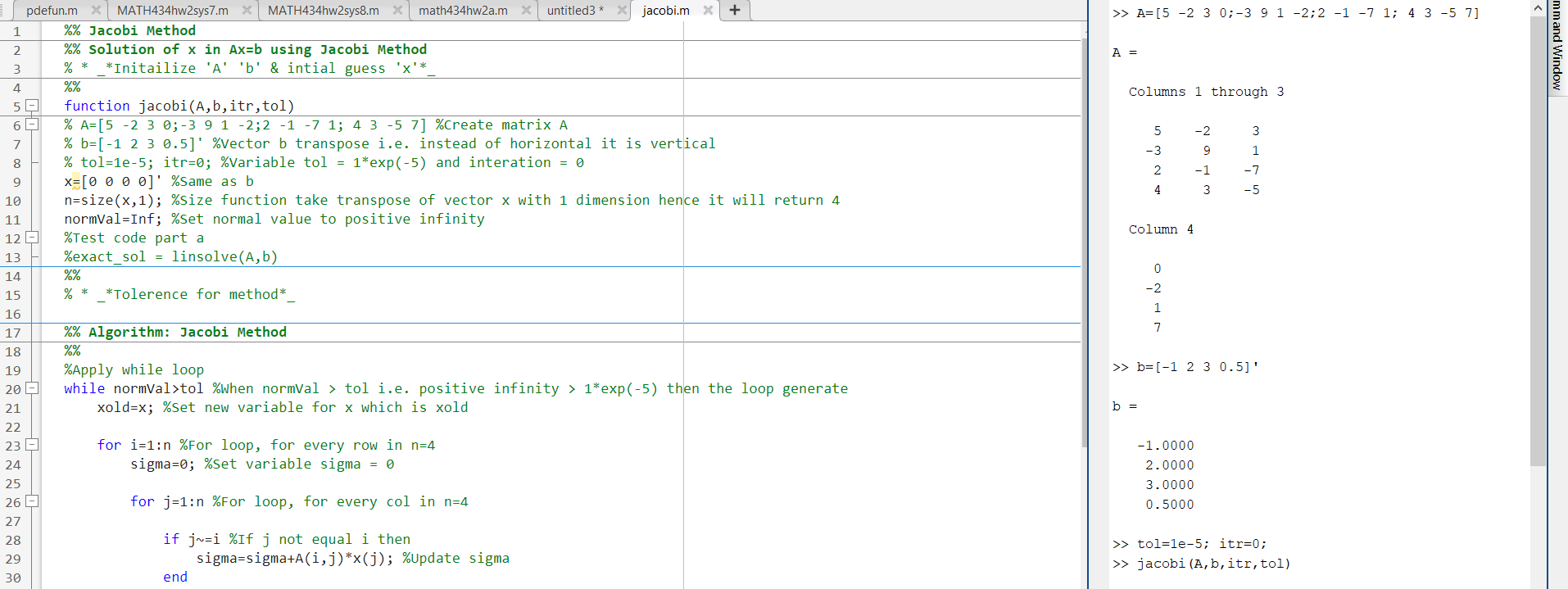


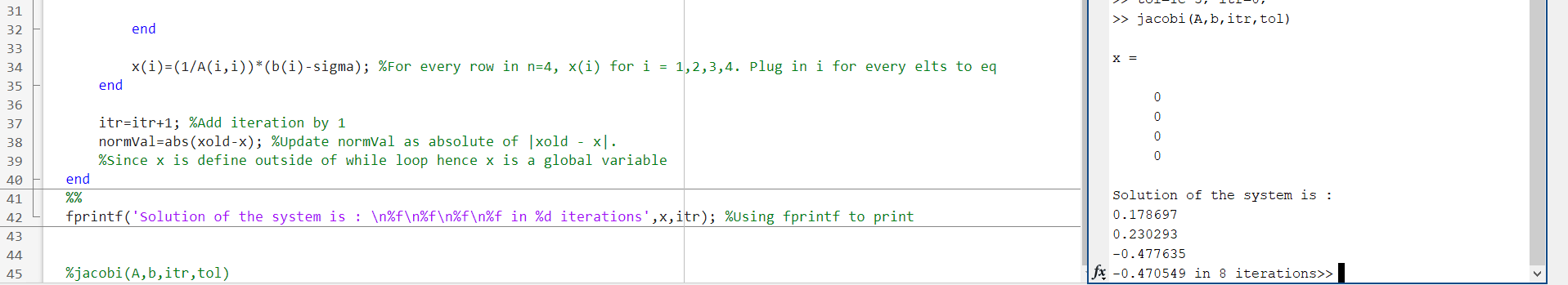
b.



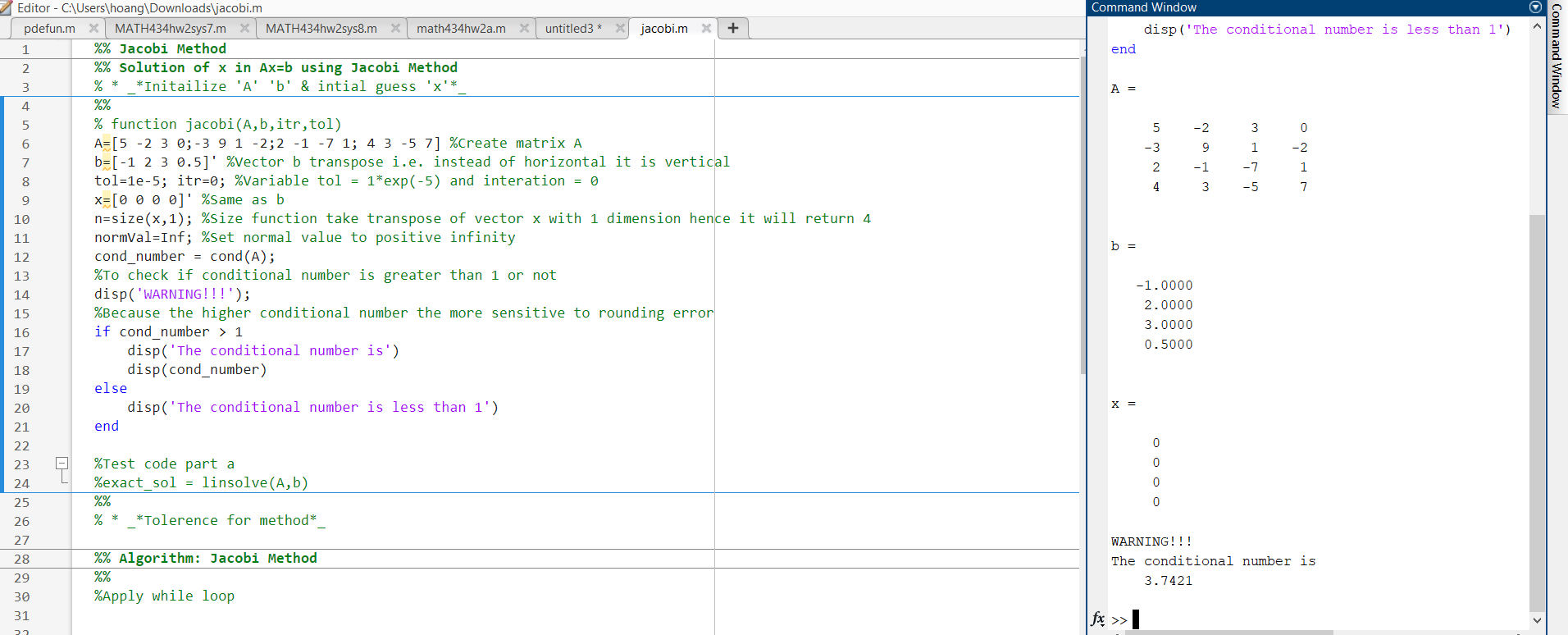


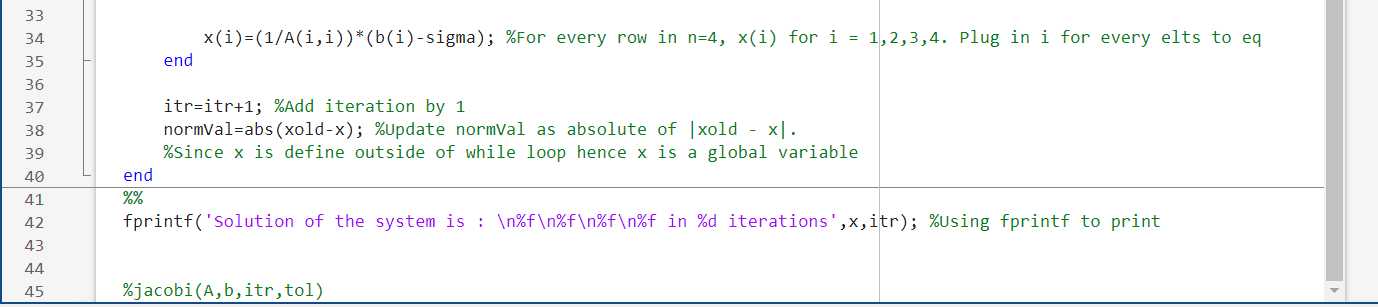
c.





d.



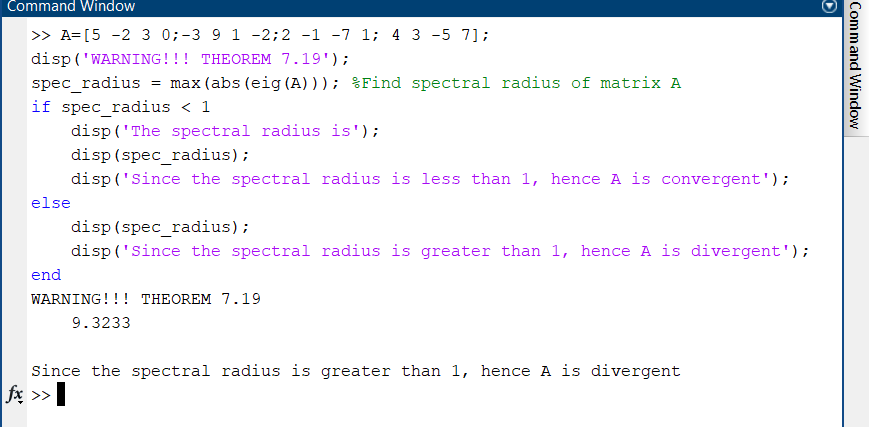
e.

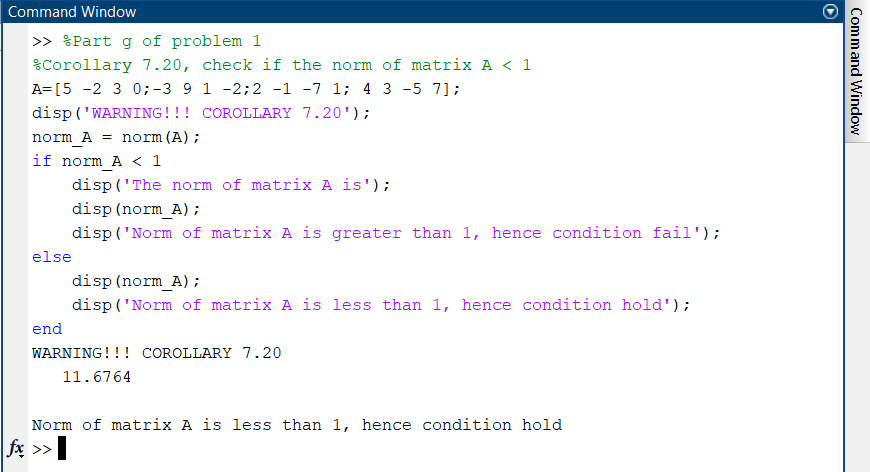
I tried to code this but it not working. This is what I have from matworks

<https://www.mathworks.com/matlabcentral/answers/511902-making-a-matrix-strictly-diagonally-dominant>

Graphical user interface, application, Word

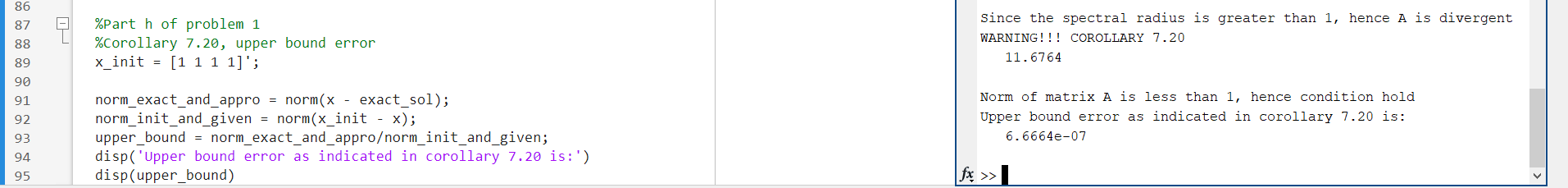
Description automatically generated

f.



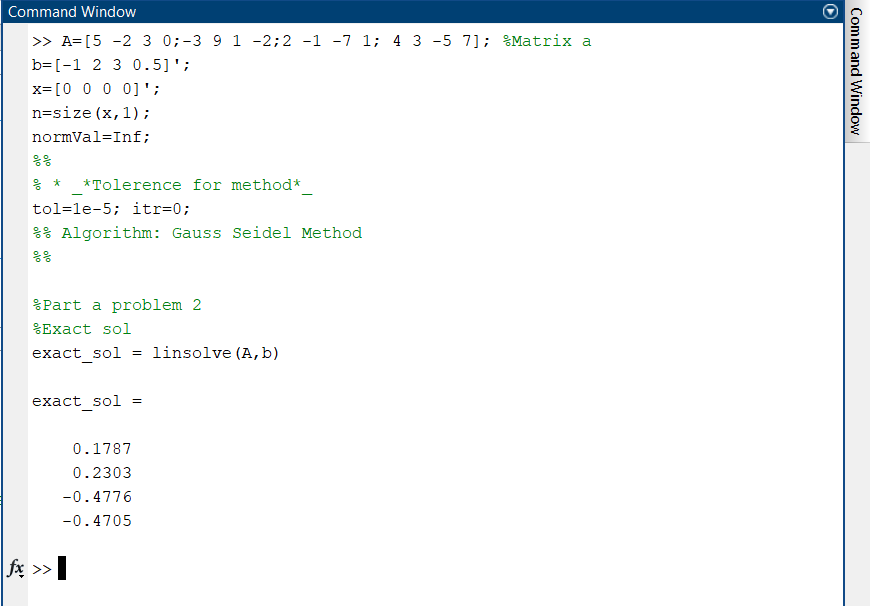
g.

f.

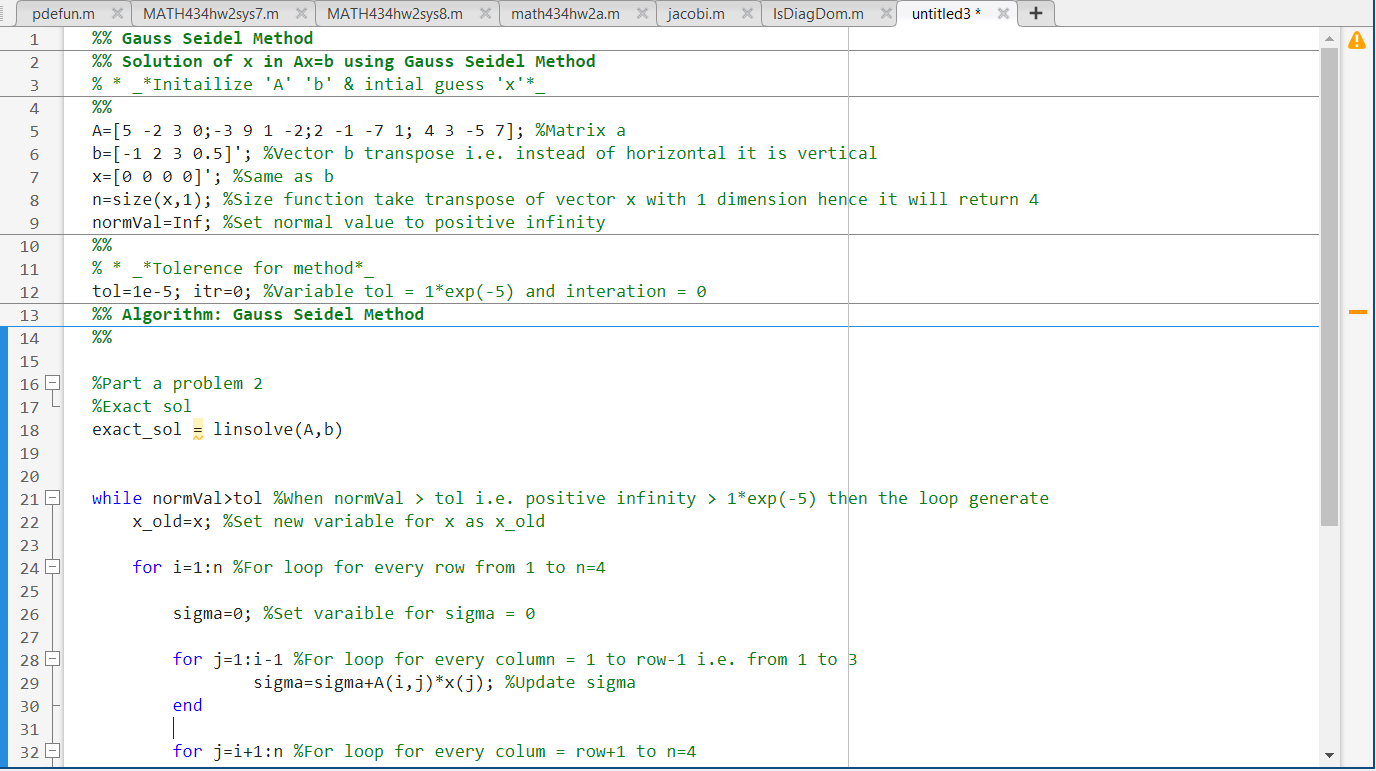


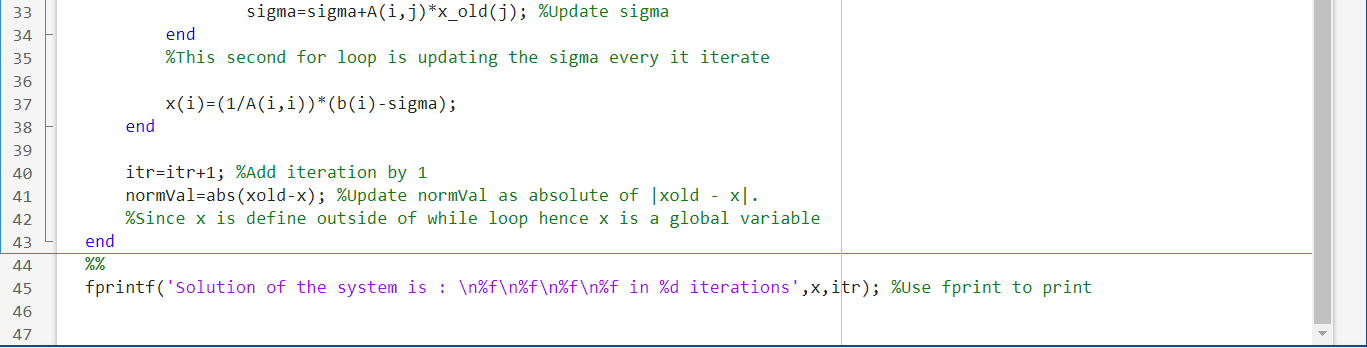
2.

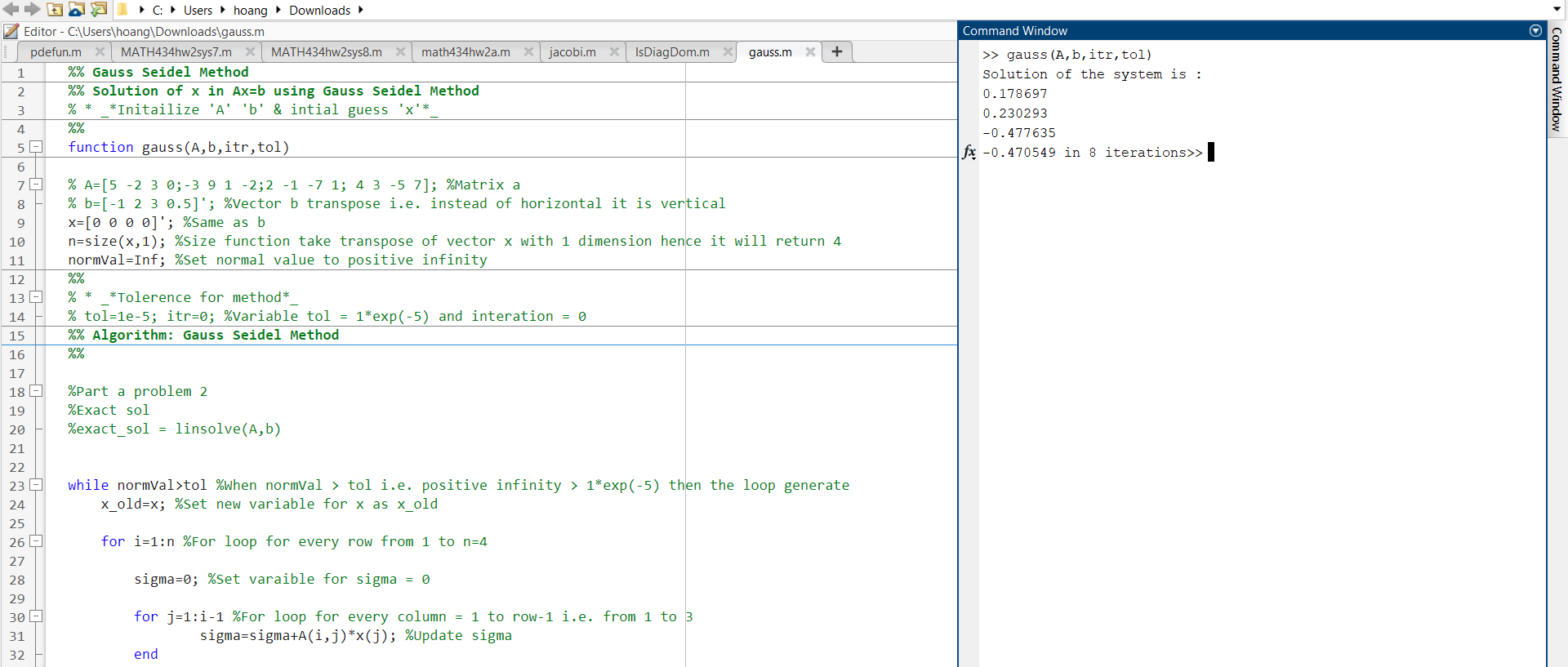
a.

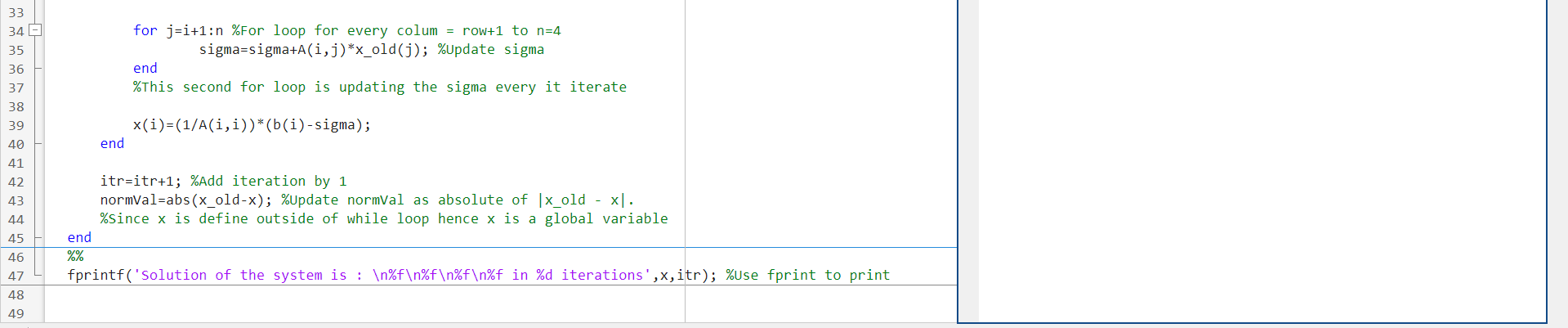


b.





c.



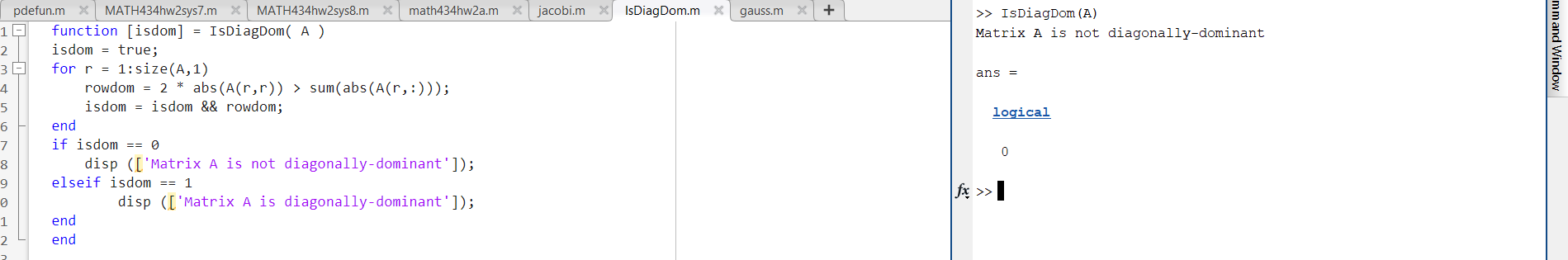
d.



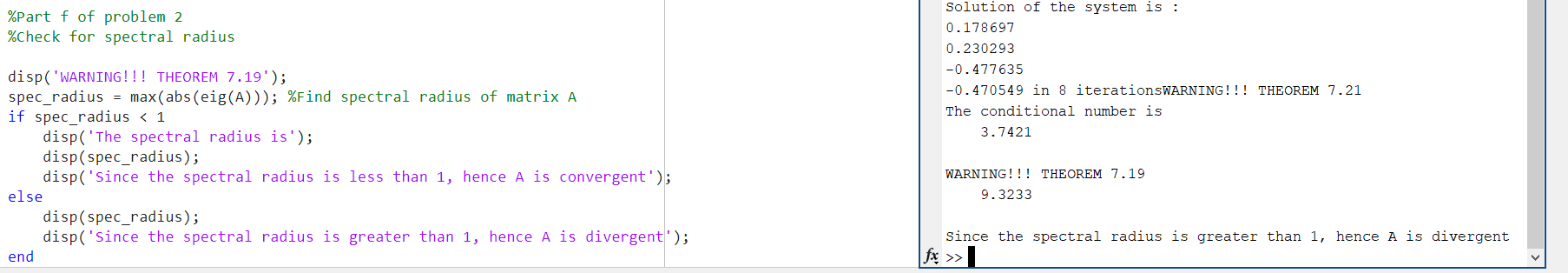
e.

I tried to code this but it not working. This is what I have from matworks

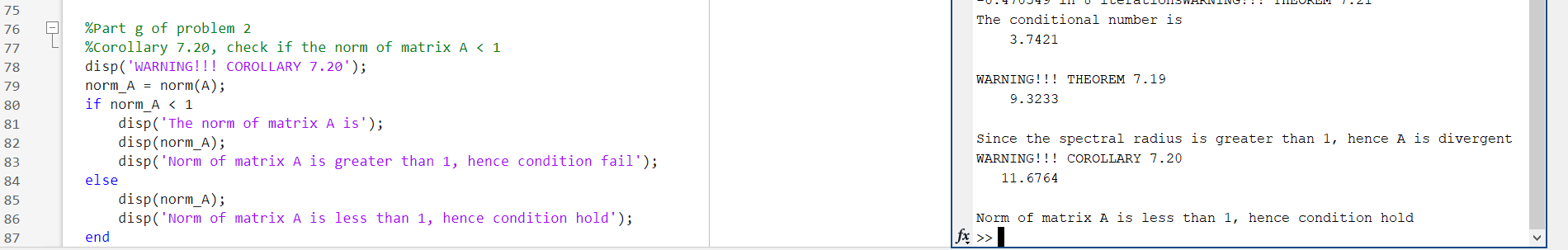
<https://www.mathworks.com/matlabcentral/answers/511902-making-a-matrix-strictly-diagonally-dominant>



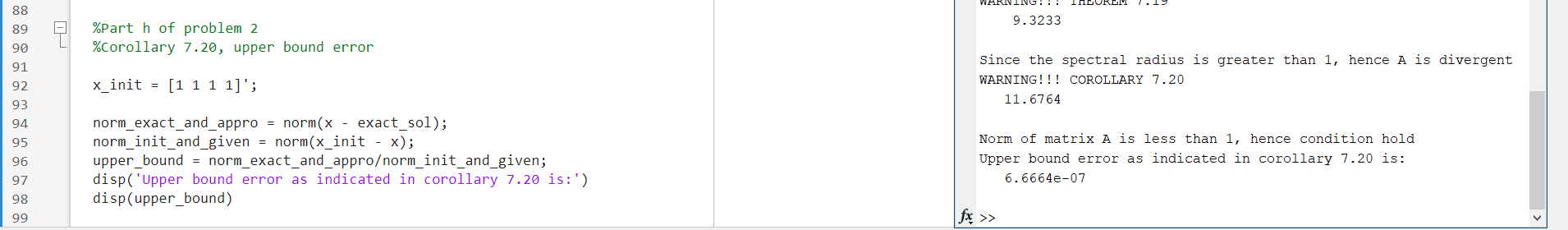
h.



g.



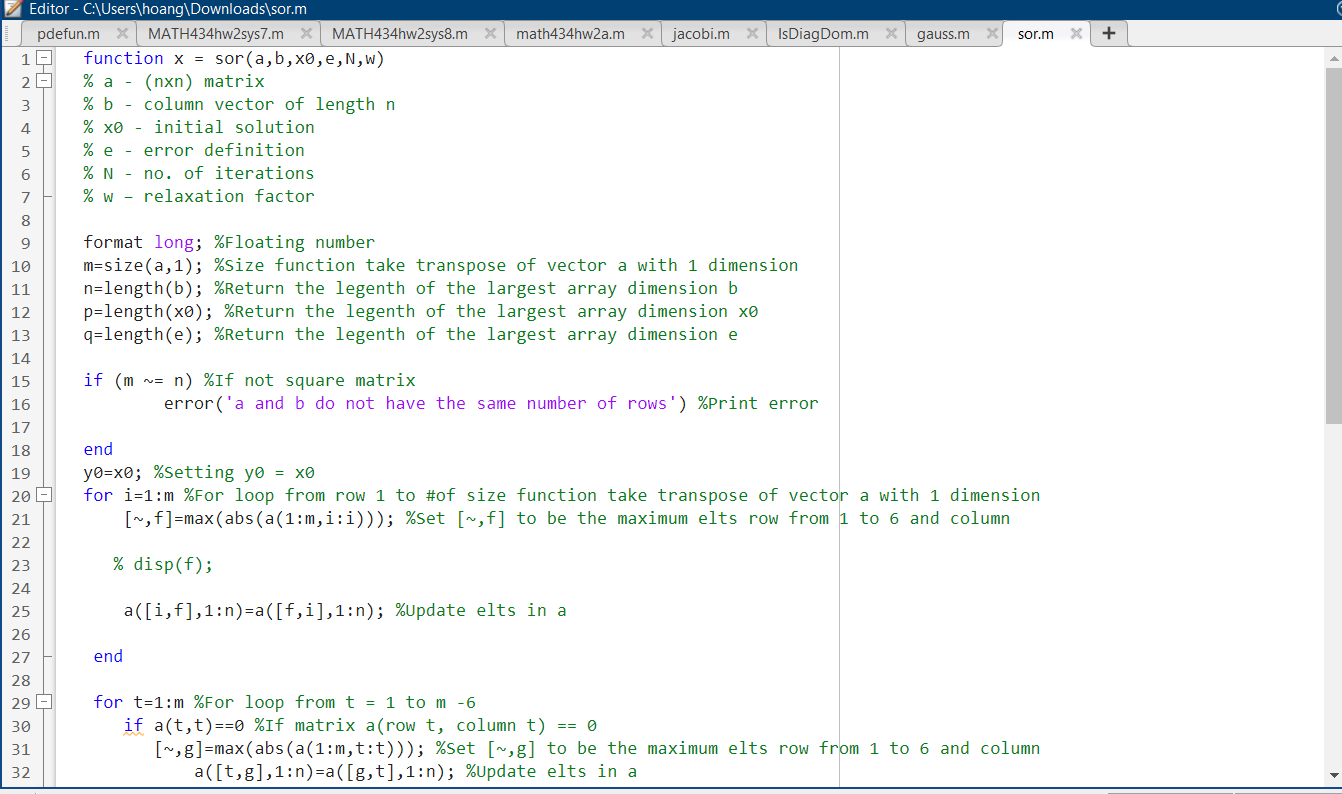
f.

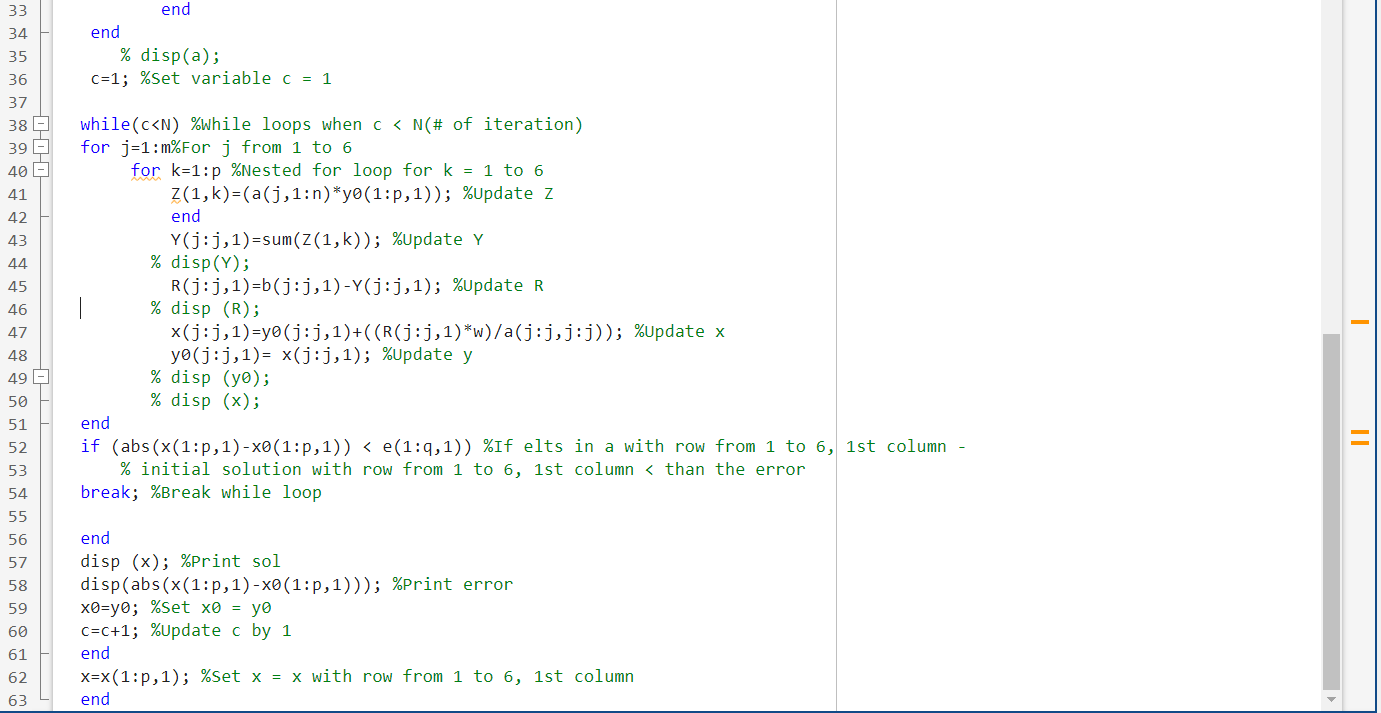


3.

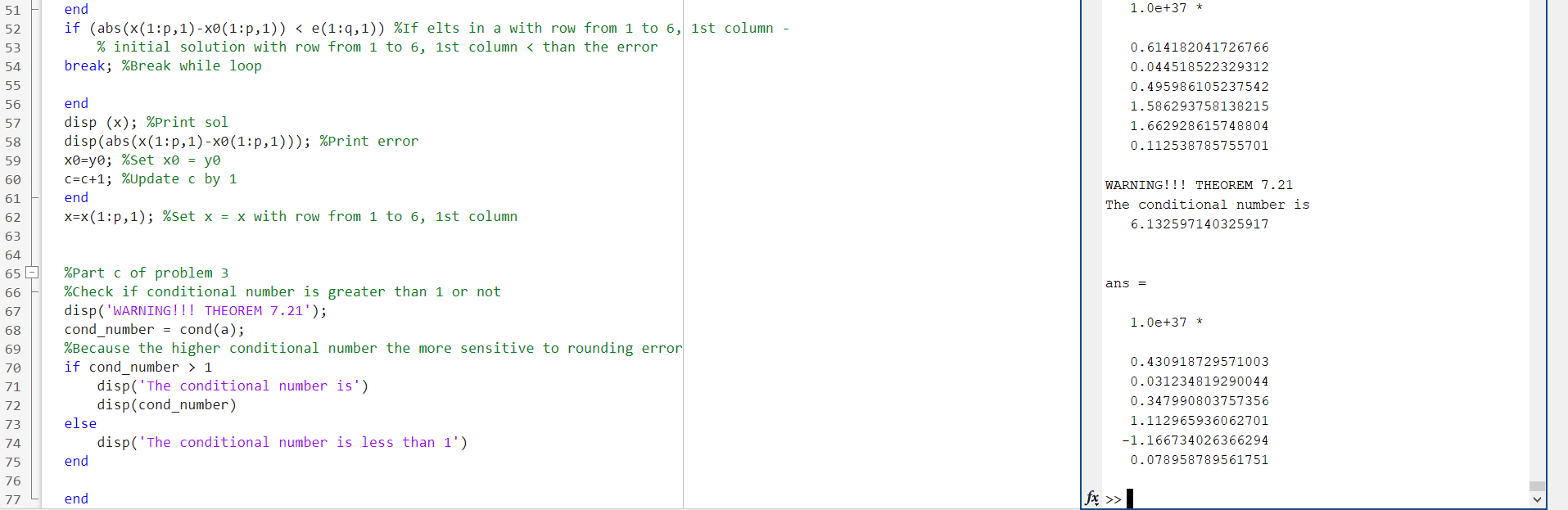
a. Based on the observations, as long as w increase the answer become smaller and larger to infinity. When w = 1.2, it is 10^36 and when w = 1.8, it is 10^93.

b.

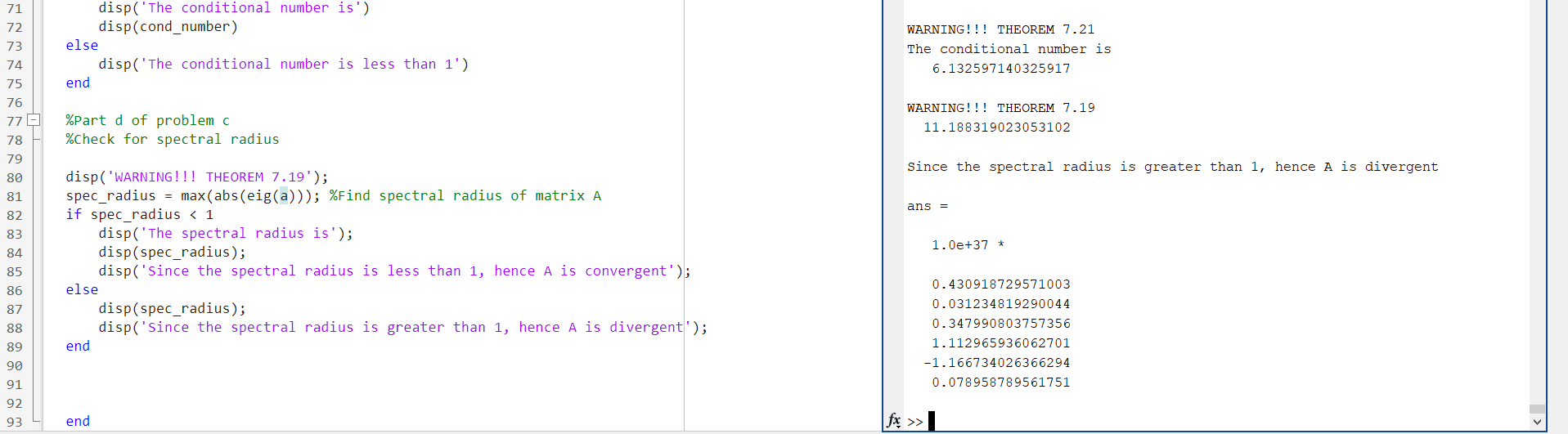




c.



d.



e.

The smaller the spectral radius implies that the |relaxation factor – 1|. Relaxation factor larger which accelerate the speed of convergence (Based on Stein-Rosenberg theorem i).

g.

