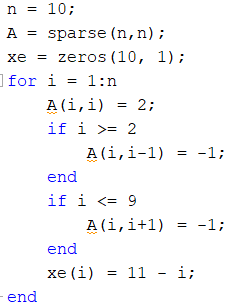
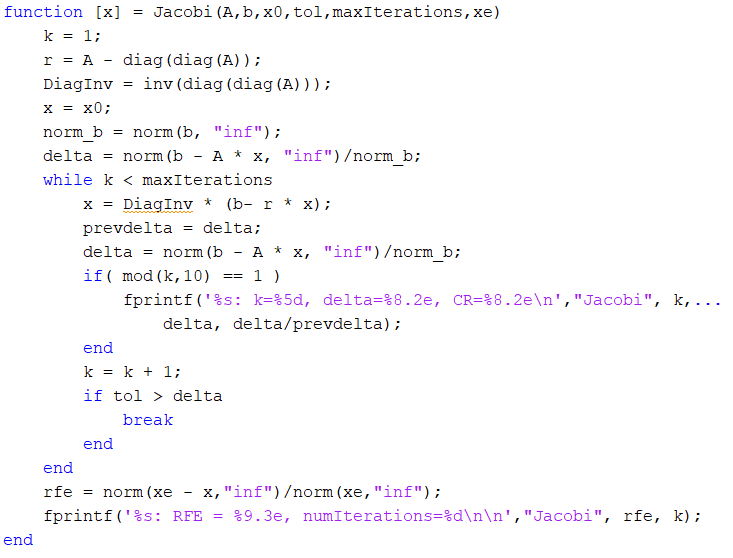
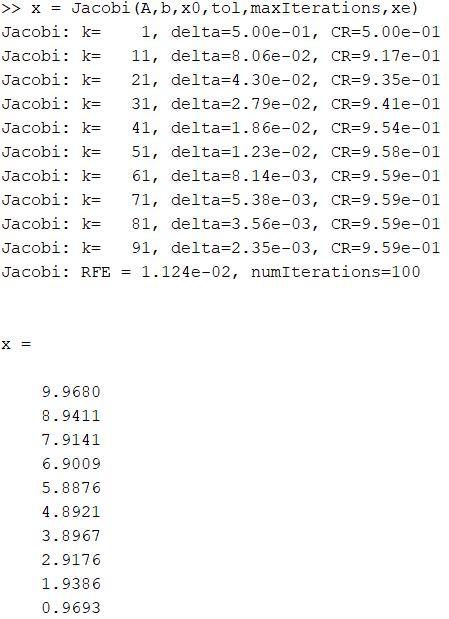
4.

This is the code to generate the matrices.

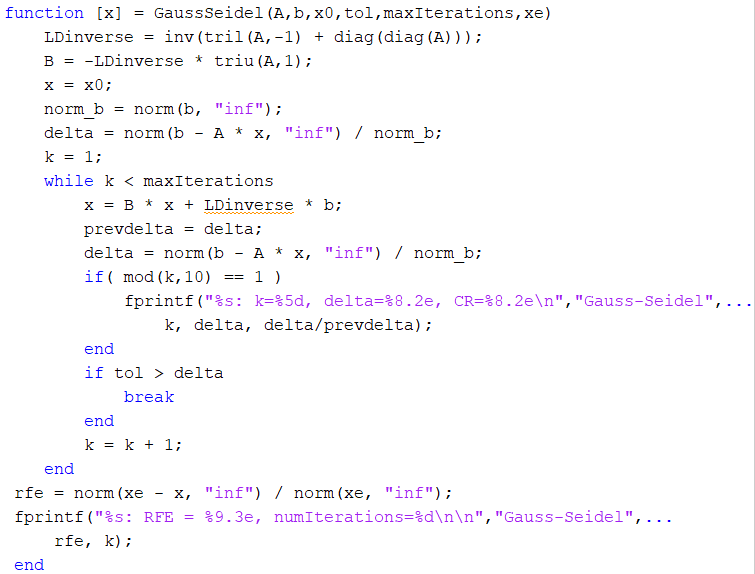


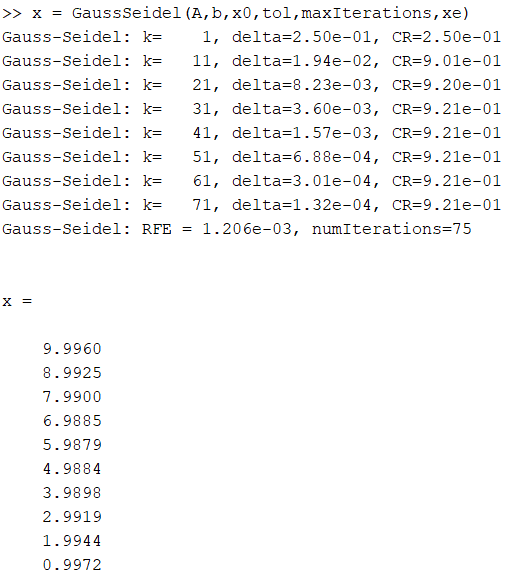
(a) Jacobi method



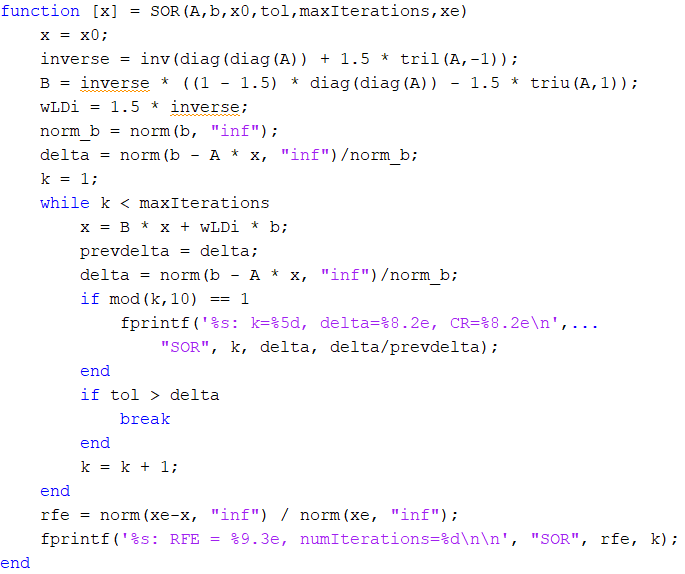


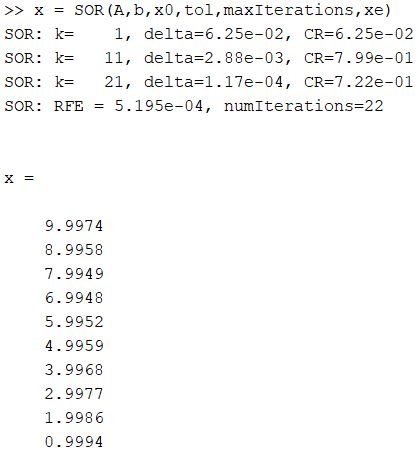
(b) GaussSeidel method





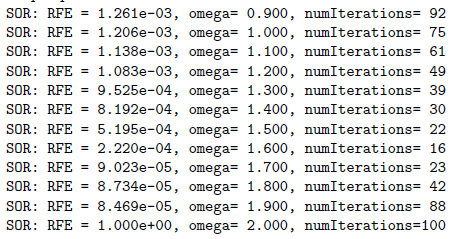
(c) SOR method





(d)

Use SOR solver function to solve for different omega values using loop, we obtain the following results:



As we can see, when omega = 1.6, it has the fastest convergence.