AER 336S: Problem 6

Please use fortran or C for this assignment. As always, submit a thoroughly commented source code. You may use the plotting package of your choice (matlab, if you wish) and must put your name on the figures.

Compute the steady-state solution to the PDE in question 2 using 1) the point-Jacoby method, 2) the Gauss-Seidel method, and 3) the SOR method with the optimum value of ω. Use the same initial condition as in question 2. Plot the logarithm of the L_2-norm of the residual versus the iteration count. Plot the converged solution.