Aerospace Computing

Assignment 3

Due: 2/2/24

1. Use the text's codes for gaussSeidel and conjGrad to write Python scripts for each. Make them functions that you can apply later. You can add them to your module for ease of use later.
2. For text Problem Set 2.3 problem 16,
   a. Solve with your 3 direct methods and your 2 iterative solvers.
   b. Verify solution accuracy by computing the solution residual.
   c. Compare the performance of each method (make a table).
3. Text Problem Set 2.3 problem 17
   a. Run for n=10, 100, and 1000
   b. Present the number of iterations and the computing time required.
4. Text Problem Set 2.3 problem 18
   a. Run for n=10, 100, and 1000
   b. Present the number of iterations and computing time required.
5. Contrast the results of Problems 3 and 4.