

MA 473 (Lab 5)

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Question-1

Step 1: Generated a random square matrix **A** of size 5x5.

Step 2: Create a random vector **b** of size n .

Step 3: Implemented each of the three iterative methods (Jacobi, Gauss-Seidel and Successive Over-Relaxation).

Jacobi Method:

Solution:

0.6217
0.1685
0.3273
-0.1840
-0.0476

Number of Iterations: 65

Gauss-Seidel Method:

Solution:

0.6217
0.1685
0.3273
-0.1840
-0.0476

Number of Iterations: 7

SOR Method:

Solution:

0.6217
0.1685
0.3273
-0.1840
-0.0476

Number of Iterations: 13

Question-2





