

YOU FIND ... USING THE GENERAL FORM FOR A PARTICULAR METHOD ... THE CORRESPONDING ITERATIVE MATRIX

NEXT, ALL THAT IS DONE; SUBSTITUTE INITIAL GUESS VALUES, ITERATE UNTIL 'CHANGE TOLERANCE' IS MET  $\rightarrow$  THE ITERATIVE MATRIX IS NOW YOUR APPROXIMATE SOLUTION

SO, THE GENERAL FORM FOR GAUSS-SEIDEL w/ AN ACCELERATION PARAMETER IS,

$$D x_{k+1} = D x_k - w (L x_{k+1} + (D + U) x_k - b)$$

THE CORRESPONDING ITERATIVE MATRIX IS

$$B_w = (wL + D)^{-1} ((1-w)D - wU)$$

(NOTE, WHEN  $w = 1$ , THE GAUSS-SEIDEL FORMS ARE RESTORED;

THESE FORMS ARE:

$$D x_{k+1} = D x_k - (L x_{k+1} + (D + U) x_k - b)$$

$$\& B_w = (L + D)^{-1} \cdot (-U)$$