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KUB
                                                                                                      Merade Numerik
1. Dikerahui sistem persamaan linear berikut!
                                                                                                                                                                                                                                                  B= 6
          -2X, +X2+1 =4
                                                                                      , X1-2x2-1 X3=-4, X2+LX3=0
                                            , (2+B)
     dengan x = (0,0,0) t. Selesoikan sittem personaan linear tersebut menggunahan merode
    Treasi Gauss Seidel dengan & Tol = 3% lever applicancy ar making moving to merali dehing
        dalam noim (a).
  \rightarrow -2x_1 + x_2 + \underline{1} x_5 + \underline{1} x_5 + \underline{1} x_1 - \underline{2} x_2 - \underline{1} x_3 = -4, x_2 + z x_3 = 0
            \hat{X} = \begin{pmatrix} X_1 \\ X_2 \\ X_3 \end{pmatrix}, \hat{b} = \begin{pmatrix} Y_1 \\ -Y_1 \\ 0 \end{pmatrix}
        -2x_1 = 4 - x_2 - \frac{1}{8}x_3 \Rightarrow x_1 = \frac{4}{-2} + \frac{x_2}{2} + \frac{x_1}{2}
                                                                                                                                                                                                                      X
         -2X_{1} = -4 - X_{1} + \frac{X_{3}}{8} \Rightarrow X_{2} = \frac{-4}{-1} + \frac{X_{1}(k)}{2^{n}} - \frac{X_{3}(k-1)}{16}
2X_{3} = -X_{2} \Rightarrow X_{3} = -\frac{X_{2}(k)}{2} = \frac{X_{1}(k)}{2^{n}}
      k=1, x_1^{(1)} = \frac{4}{7} + \frac{0}{2} + \frac{0}{16} = \frac{4}{2} = -2
                             X_2^{(1)} = \frac{-4}{2} + \frac{(-2)}{2} - \frac{0}{10} = 2 - 1 = 1
                             X_3^{(1)} = -\frac{1}{2} = -0.5
 V_2 = X_1^{(2)} = \frac{4}{-2} + \frac{2}{10} + \frac{2}{10} = -2 + 0.5 + (-0.0313) = -1.5313
                  X_{2}^{(1)} = \frac{y}{2} + \frac{x_{1}^{(1)}}{2} - \frac{x_{3}^{(1)}}{16} = 2 + (-1) - (-0, 03, 13) = 1,0313
                    X_3^{(2)} = -\frac{X_1(31)}{2} = -0
                       \frac{\mathcal{E}_{a}=||\bar{x}^{(2)}-\bar{x}^{(1)}||}{||\bar{x}^{(2)}||} = \max_{\substack{||\nabla| \leq 1 \leq 1 \leq 3}} ||\nabla_{1}(\nabla_{1}(\nabla_{1}(\nabla_{2})) + \nabla_{1}(\nabla_{2}))||} + ||\nabla_{1}(\nabla_{1}(\nabla_{2}))||} + ||\nabla_{1}(\nabla_{1}(\nabla_{1}(\nabla_{2})) + \nabla_{2}(\nabla_{1}(\nabla_{2}))||} + ||\nabla_{1}(\nabla_{1}(\nabla_{2}))||} + ||\nabla_{1}(\nabla_{1}(\nabla_{1}(\nabla_{1}(\nabla_{1}))) + ||\nabla_{1}(\nabla_{1}(\nabla_{1}(\nabla_{1})) + ||\nabla_{1}(\nabla_{1}(\nabla_{1})) + ||\nabla_{1}(\nabla_{
  k_3 = \chi_1^{(3)} = \frac{4}{-2} + \frac{\chi_2^{(1)}}{2} + \frac{\chi_3^{(1)}}{16} = -2 + 0.5157 - (-0.0313) = -1.4530
\chi_1^{(3)} = \chi_1^{(1)} + \chi_2^{(1)} + \chi_3^{(1)} = -2 + 0.5157 - (-0.0313) = -1.4530
\chi_1^{(2)} = \chi_1^{(2)} + \chi_2^{(1)} + \chi_3^{(2)} = -2 + 0.5157 - (-0.0313) = -1.4530
                 X_{1}^{(3)} = \frac{4}{2} + \frac{x_{1}^{(1)}}{2} - \frac{x_{3}^{(1)}}{16} = 2 + (-0.7657) - (-0.0313) = 1.2656
X_{3}^{(3)} = -\frac{x_{1}^{(2)}}{2} = -0.05157
                    Ea = Max [ 10,0783], |0,2343], |-0,01571 ] = 0,2343 = 16%
                                    MOX 9 1-1,4530), /1,26561, (-0,81571) 1, 4530
    kzy=X, (4) = -2+(-0, $574)+(-0, 0322) = -7243 -1,7743
                                                                                                                                                                                                                                x 19) -1,7743
                      x (4)= 2+ (-0,7265) + (-0,0322) = 1,2413
                        x2(4) = -0,6328
                                                                                                                                                                                                                                              1-0,6328
                  €0 = max[ |0.3213 |, |-0,0243 |, 1-0,0577 |] = 0,3213 100% = (8%)
                                    mux [1-1,7743], [1,2413], 1-0,632817 1,7743
    K5 = X1 (5) = -2 + (0,6207 + (-0,0396) = -1,4189
                                                                                                                                                                                                                     X 15 = /-1,4189
(2,0476)
                         X(16) = 2+ (-0,0072) + (-0,0396) = 2,0476
                          ×3(5) = -0,6207
                       En = mox 2 10, 3554 |, 10,80631, 10,0121)}
                                                                                                                                                                                   0,8063,1006 = 39%
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mox { [-1,41891, 1 2,0476], 1-0,6207] 2,0476

No.

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X,	-2	-1,5313	-1,4530	-1,7743		- 182 - X PS L + X1 X5
XL	ı	1,0313	112656	1, 2413	2,0476	(403)
X	-015	-0,5	-015157	-0,6318	-0,6207	and the second
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