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1 # Python - Program for matrix-inversion using Gauss-seidel Method.
2
3 #-----Imports-----
4 import numpy as np
5 from scipy.linalg import solve
6
7 #-----Inputs-----
8 A = eval(input("Enter the matrix A : "))          # As np.array([[a11, a12],
9 [a21, a22]])                                     # As [b1, b2]
10 B = eval(input("Enter the matrix B : "))          # As [x1, x2]
11 X = eval(input("Enter initial guess X : "))       # Integer input.
12 n = eval(input("Enter the number of iteration : "))
13 #-----Calculation-----
14 L = np.tril(A)
15 U = A-L
16
17 for i in range(n):
18     X = np.dot(np.linalg.inv(L), B-np.dot(U,X))
19
20 #-----Output-----
21 print()
22 print("Solution using Gauss-Seidel Method : ", X)
23 print()
24 print("Solution using Solve Syntax : ", solve(A,B))

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