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1 # Python - Program for matrix inversion using Jacobi Iteration 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]])
10 B = eval(input("Enter the matrix B : "))          # As [b1, b2]
11 X = eval(input("Enter initial guess X : "))       # As [x1, x2]
12 n = eval(input("Enter the number of iteration : ")) # Integer input.
13 #-----Calculation-----
14 D = np.diag(A)
15 R = A - np.diagflat(D)                            # R = L+U = Lower + Upper
16 Triangular matrix
17 for i in range(n):
18     X = (B - np.dot(R,X))/D
19
20 #-----Output-----
21 print()
22 print("Solution using Jacobi's Iteration Method : ", X)
23 print()
24 print("Solution using Solve Syntax : ", solve(A,B))

```