Which of the following rearrangement make strictly diagonal dominant the system of linear equation; x-3y+z=-2 -6x+4y+11z=1 5x-2y-2z=9?

5x-2y-2z=9 x-3y+z=-2 -6x+4y+11z=1

Gaussian…upper triangular form?

0

0 0

Which of the following system of linear equations has a strictly diagonally dominant coefficient matrix?

9x1+5x2-3x3=12

-x1+12x2+5x3=8

2x1-4x2+7x3=-15

Which of the following system of linear equations has a strictly diagonally dominant coefficient matrix?

6x1-3x2+3x3=1

-2x1+7x2+2x3=5

x1+x2-5x3=-13

If the Relaxation method is applied on the system ,2x+3y=1,3x+2y=-4, then the largest residual in the 1st iteration will reduce to

Zero

First row…linear equations is

2,0 1 und 4

under iterative methods, the initial approximate solution is assumed to be _____

known

If the determinant of a matrix A is not equal to zero then the system of equation will have

a unique solution

While solving the system…upproximute solution?

No need to reorder

The 3rd row of the augmented matrix of the system of linear equation is: 2x+z=4

Solved by Heeru

0,-1,1 and -5

When the condition of diagonal dominance becomes true in Jacobi's Method. Then its means that the method is …….

Convergent

Which of the following is equivalent form of the system of equations in matrix form; AX=B ?

X = B(Inverse of A)

[2 0 0

3 2 3

1 4 9] using Gaussian elimination method

-2

½ 0 0

5/6

Is diagonally dominant?

8x+y-z=5

7

3

The linear equation: 2x+0y-2=0 has -------- solution

Unique

The linear equation: x+y=1 has_____solution

Nosolution

Value of AA-1 will be

[1 0 0

0 1 0

0 0 1]

Necessary to be taken as [0 0 0]

True

Solved by Heeru

If the point element happens to be a zero then the i-th column elements are searched for the numerically _ element

Largest

Which using the relaxation method for finding the solution of the following system

11x1 + x2 –x3 =8

9

7

ith the initial vector (0, 0, 0), the residuals would be

R1=8,R2=9,R3=7

While using Relaxation method, which of the following is the Residuals for 1st iteration on the system; 2x+3y = 1, 3x +2y =4

(1,4)

While using the relaxation method for finding the solution if the belt given system which of the following increment will be introduce

$$dx_3 = \frac{R_3}{a_{33}}$$

The basic idea of relaxation method is to reduce the largest residual to …….

Zero

In full pivoting we interchange rows and columns such that the ___ elements in the matrix of the variable also get changed

Largest

Back substitution procedure is used in …….

Gaussian Elimination Method

of equation is diagonally dominant

11z + y – z = 4

2

3

Solved by Heeru

Gaussian elimination method

[1 2 1]

1

0

0

If the Relaxation method is applied on the system ,2x+3y=1,3x+2y=-4, then the largest residual in the 1st iteration will reduce to

-4

Cholesky‟s reduction method is also called

Crout’s reduction

In …… method, a system is reduced to an equivalent diagonal form using elementary transformations.

Gaussian elimination

While solving a system of linear equations by Gauss Jordon Method in which case of the following the partial pivoting is essential?

When pivots are zero

In …… method, matrix [A] of the system of equations is decomposed into the product of two matrices [L] and [U], where [L] is a lower-triangular matrix and [U] is an upper-triangular matrix with 1’s on its main diagonal

Crout’s Reduction

In …… method, the elements above and below the diagonal are simultaneously made zero.

Gauss–Jordon Elimination

0.5535 the orthogonal matrix s1

[cos0.5535 0 -sin0.5535

0 1 0

]

For a system of linear equations, the corresponding coefficient matrix has the value of determinant; |A| = 0, then which of the following is true?

Solved by Heeru

The system has no solution

If the order of coefficient matrix corresponding to system of linear equations is 3*3 then which of the following will be the orders of its decomposed matrices; 'L' and 'U'?

Order of 'L' = 3*3, Order of 'U' = 3*3

: Under elimination methods, we consider, Gaussian elimination and ……methods. :

Gauss-Jordan elimination

requires three starting points

Muller's Method

If there are three equations in two variables, then which of the following is true?

System may have infinite many solutions

Which of the following method is not an iterative method?

Gauss-Jordan elimination method

Numerical methods for finding the solution of the system of equations are classified as direct and …… methods

Iterative

The Gaussian elimination method fails if any of the pivot elements becomes___

Zero

Which of the following is a reason due to which the LU decomposition of the system of linear equations; x+y = 1, x+y =2 is not possible?

All are equivalent

3x + y+ z =11

16 can be rewritten as

4

X= 1/3(11 – y-z)

Y=1/5(16-2z-z)

If the pivot element happens to be zero, then the i-ith column elements are searched for the numerically____ element

Solved by Heeru

. Largest

For the system; 2x+3y = 1, 3x +2y = - 4, if the iterative solution is (0,0) and ‘dxi = 2’ is the increment in ‘y’ then which of the following will be taken as next iterative solution?

(0,2)

In Jacobi's Method, We assume that the ……elements does not vanish.

Diagonal

The Jacobi iteration converges, if A is strictly diagonally dominant.

TRUE

The Gauss-Seidel method is applicable to strictly diagonally dominant or symmetric _____ definite matrices A.

Positive

While solving the system; x+4y = 4, 2x–y = 1 by Gauss-Seidel method, which of the following ordering will lead more rapidly to the desired order of accuracy?

no need to reordering

Solved by Heeru