Faktorisasi LU dalam Penyelesain Sistem Persamaan Linier (SPL)

Suratun

Abstrak

In general, the problem to be solved at linear equation system is to determine a solution vector x that matched with A.x = b equation. Several solving system method all ready developed by scientist. But in general, the equation solving problem can be separate at two kind matter, those are direct and indirect method. In this topic authar will discuse the first method only, that is using step by step direct method to get the solution vector x that full fill the A.x = b equation. One of direct solving of linear equation system is factorization (decomposition) of A matrix to LU, by which A is non singular orthogonal matrix. L is lower triangular matrix U is Upper triangular matrix.Decompositioning of A matrix to LU, can be done under three method , that are: Direct accounting of LU elements by equation, LU factorization by reduction to row elements form, by path finding of its multipliers. If matrix is symetric, decomposition of A to LDLT is posible.

According to the developing of computer programing in the mean time, the matlab program can be used to solve the most of statistical problem. It is necessary to use for solving of the big orde of A matrix. By matlab, the solving of linear equation system by LU method can be done fastly, eastly and also accuratelly.