PRAKTIKUM

METODE NUMERIK

UAS

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FAKULTAS MATEMATIKA DAN ILMU PENGETAHUAN ALAM

S1 TEKNIK INFORMATIKA

2019

SCILAB SECTION

$$\begin{vmatrix} a & b & c \\ d & e & f \\ g & h & i \end{vmatrix} \begin{matrix} x \\ = y \\ z \end{matrix}$$

$$\begin{vmatrix} 9 & 4 & 2 \\ 1 & 1 & 1 \\ 0 & 0 & 0 \end{vmatrix} \begin{matrix} 15 \\ = 08 \\ 00 \end{matrix}$$

Source code:

```
/*
Nama        :  Fauzan Akmal Hariz
NPM         :  140810180005
Kelas       :  A
Praktikum   :  Metode Numerik
*/

function nilai_x=LU(A, b)
    M=[A b];
    [baris,kolom]=size(M)

    c=zeros(A);

    for i = 1:baris
        for j = i+1 : baris
            M(j,:)=-M(j,i)/M(i,i)*M(i,:)+M(j,:);
            L(j,i)=A(j,i)/A(i,i);
        end
    end

    A=M(:,1:baris);
    b=M(:,kolom)

    [n,n]=size(A);

    k=0;
    while(k<n)
        L(k+1,k+1)=1;
        k=k+1
    end

    y(n)=b(n)/L(n,n);
    for i = n-1:-1:1
        jum=0;
        for j = i+1:n
            jum=jum+L(i,j)*y(j);
        end
        y(i)=(b(i)-jum)/L(i,i);
    end

    x(n)=y(n)/A(n,n);
    for i = n-1:-1:1
        jum=0;
        for j = i+1:n
            jum=jum+A(i,j)*x(j);
```

```
        end
      x(i)=(y(i)-jum)/A(i,i);
    end

    nilai_x=x;

endfunction
```

Screenshot:

```
--> exec('D:\Data Laptop Fauzan 1\Data Fauzan 1\Data Kuliah Semester

--> A = [9, 4, 2; 1, 1, 1; 0, 0, 5]
 A  =

    9.    4.    2.
    1.    1.    1.
    0.    0.    5.


--> b = [15; 08; 00]
 b  =

    15.
    8.
    0.


--> LU(A, b)
 ans  =

   -3.4
    11.4
     0.
```