

METODE NUMERIK

(Tugas 5.1)



Disusun Oleh:

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```

// deklarasi matrix awal
a = [4 -1 1;
      4 -8 1;
      -2 1 5];
b = [7; -21; 15];
L = [1 0 0; 0 1 0; 0 0 1];

// dekomposisi a menjadi L dan U
// cari 3 komponen buat matrix L
L21 = (-1 * a(2,1))/(a(1,1));
i = 1;
while(i < 4)
    a(2,i) = (a(1,i) * L21) + a(2,i);
    i = i + 1;
end

L31 = (-1 * a(3,1))/(a(1,1));
i = 1;
while(i < 4)
    a(3,i) = (a(1,i) * L31) + a(3,i);
    i = i + 1;
end

L32 = (-1 * a(3,2))/(a(2,2));
i = 1;
while(i < 4)
    a(3,i) = (a(2,i) * L32) + a(3,i);
    i = i + 1;
end

L(2,1) = -1 * L21;
L(3,1) = -1 * L31;
L(3,2) = -1 * L32;

// cari y
Y = [0;0;0];
Y(1,1) = b(1,1)/L(1,1);
Y(2,1) = (b(2,1) - Y(1,1) * L(2,1)) / L(2,2);
Y(3,1) = (b(3,1) - Y(1,1) * L(3,1) - Y(2,1) * L(3,2)) / L(3,3);

// cari x
X = [0;0;0];
X(3,1) = Y(3,1) / a(3,3);
X(2,1) = (Y(2,1) - X(3,1) * a(2,3)) / a(2,2);
X(1,1) = (Y(1,1) - X(3,1) * a(1,3) - X(2,1) * a(1,2)) / a(1,1);

```

Scilab 6.1.1 Console

File Edit Control Applications ?

Scilab 6.1.1 Console

```
a =  
  
4. -1. 1.  
0. -7. 0.  
0. 0. 5.5  
  
--> b  
b =  
  
7.  
-21.  
15.  
  
--> L21  
L21 =  
  
-1.  
  
--> L31  
L31 =  
  
0.5  
  
--> L32  
L32 =  
  
0.0714286  
  
--> Y  
Y =  
  
7.  
-28.  
16.5  
  
--> X  
X =  
  
2.  
4.  
3.
```

Variable Browser

	Name	Value	Type	Visibility	Memory
+	L		3x3	Double	local 280 B
+	L21	-1	Double	local 216 B	
+	L31	0.5	Double	local 216 B	
+	L32	0.0714	Double	local 216 B	
+	X	[2; 4; 3]	Double	local 232 B	
+	Y	[7; -28; 16.5]	Double	local 232 B	
+	a	3x3	Double	local 280 B	
+	ans	4	Double	local 216 B	
+	b	[7; -21; 15]	Double	local 232 B	
+	j	4	Double	local 216 B	

News feed

Scilab 6.1.1 has been released!!!

Scilab 6.1.1 has been released!!!

Dear fellow users,

We have the pleasure to announce the release of the new version of Scilab. Check [here](#) to download and find more details about Scilab 6.1.1.

Wishing you a great journey in Scilab!

Scilab Team

<https://www.scilab.org/news/scilab-6.1.1-has-been-released>