1.4

```
A = [1,2;3,4]
L = [1,0;3,1]
U = [1,2;0,-2]
L*U
```

```
A = [2,3,3;0,5,7;6,9,8]
E31 = [1,0,0;0,1,0;-3,0,1]
L = E31^-1
U = E31*A
c = L^-1*[2;2;5]
```

P27

```
clear
A = [1,0,0;2,1,0;-1,-3,1]*[2,1,1;0,-1,-2;0,0,-4]
L = [1,0,0;2,1,0;-1,-3,1]
U = [1,1/2,1/2;0,1,2;0,0,1]
D = [2,0,0;0,-1,0;0,0,-4]
L*D*U
```

1.4.5

```
clear
A = [2,-1,0;-1,2,-1;0,-1,2]
b = [6;2;-6]
E21 = [1,0,0;1/2,1,0;0,0,1]
U = E21*A
E32 = [1,0,0;0,1,0;0,2/3,1]
U = E32 * U
L = E21^-1 * E32^-1
c = L^-1 * b
% 要 Symbolic Math Toolbox
syms x y z;
eqn = U * [x;y;z] == c;
solx = solve(eqn, x,y,z);
Answer = [solx.x;solx.y;solx.z]
```

1.4.7

```
clear
L = [1,0,0;-1,1,0;0,-1,1]
U = [1,-1,0;0,1,-1;0,0,1]
b = [2;-3;4]
c = L^-1 * b
% 要 Symbolic Math Toolbox
syms x y z;
eqn = U * [x;y;z] == c;
solx = solve(eqn, x,y,z);
Answer = [solx.x;solx.y;solx.z]
```