

```

commandwindow
clear
clc
close all
A = [1 1 -2 1 3 -1
     2 -1 1 2 1 -3
     1 3 -3 -1 2 1
     5 2 -1 -1 2 1
     -3 -1 2 3 1 3
     4 3 1 -6 -3 -2]
% T = [T1;T2;T3;T4;T5;T6;]
B = [4;20;-15;-3;16;-27]
f1 = A(2,1)/A(1,1)
f2 = A(3,1)/A(1,1)
f3 = A(4,1)/A(1,1)
f4 = A(5,1)/A(1,1)
f5 = A(6,1)/A(1,1)
C = [ 1 1 -2 1 3 -1
     2-f1*A(1,1) -1-f1*A(1,2) 1-f1*A(1,3) 2-f1*A(1,4) 1-f1*A(1,5) -3-f1*A(1,6)
     1-f2*A(1,1) 3-f2*A(1,2) -3-f2*A(1,3) -1-f2*A(1,4) 2-f2*A(1,5) 1-f2*A(1,6)
     5-f3*A(1,1) 2-f3*A(1,2) -1-f3*A(1,3) -1-f3*A(1,4) 2-f3*A(1,5) 1-f3*A(1,6)
     -3-f4*A(1,1) -1-f4*A(1,2) 2-f4*A(1,3) 3-f4*A(1,4) 1-f4*A(1,5) 3-f4*A(1,6)
     4-f5*A(1,1) 3-f5*A(1,2) 1-f5*A(1,3) -6-f5*A(1,4) -3-f5*A(1,5) -2-
     f5*A(1,6)]
f6 = C(3,2)/C(2,2)
f7 = C(4,2)/C(2,2)
f8 = C(5,2)/C(2,2)
f9 = C(6,2)/C(2,2)
D = [1 1 -2 1 3 -1
     C(2,1) C(2,2) C(2,3) C(2,4) C(2,5) C(2,6)
     C(3,1) 2-f6*C(2,2) -1-f6*C(2,3) -2-f6*C(2,4) -1-f6*C(2,5) 2-f6*C(2,6)
     C(4,1) -3-f7*C(2,2) 9-f7*C(2,3) -6-f7*C(2,4) -13-f7*C(2,5) 6-f7*C(2,6)
     C(5,1) 2-f8*C(2,2) -4-f8*C(2,3) 6-f8*C(2,4) 10-f8*C(2,5) 0-f8*C(2,6)
     C(6,1) -1-f9*C(2,2) 9-f9*C(2,3) -10-f9*C(2,4) -15-f9*C(2,5) 2-f9*C(2,6)]
f10 = D(4,3)/D(3,3)
f11 = D(5,3)/D(3,3)
f12 = D(6,3)/D(3,3)
E = [1 1 -2 1 3 -1
     C(2,1) C(2,2) C(2,3) C(2,4) C(2,5) C(2,6)
     D(3,1) D(3,2) D(3,3) D(3,4) D(3,5) D(3,6)
     D(4,1) D(4,2) 4-f10*D(3,3) -6-f10*D(3,4) -8-f10*D(3,5) 7-f10*D(3,6)
     D(5,1) D(5,2) D(5,3)-f11*D(3,3) D(5,4)-f11*D(3,4) D(5,5)-f11*D(3,5)
     D(5,6)-f11*D(3,6)
     D(6,1) D(6,2) D(6,3)-f12*D(3,3) D(6,4)-f12*D(3,4) D(6,5)-f12*D(3,5)
     D(6,6)-f12*D(3,6)]
f13 = E(5,4)/E(4,4)
f14 = E(6,4)/E(4,4)
F = [1 1 -2 1 3 -1
     E(2,1) E(2,2) E(2,3) E(2,4) E(2,5) E(2,6)
     E(3,1) E(3,2) E(3,3) E(3,4) E(3,5) E(3,6)
     E(4,1) E(4,2) E(4,3) E(4,4) E(4,5) E(4,6)
     E(5,1) E(5,2) E(5,3) E(5,4)-f13*E(4,4) E(5,5)-f13*E(4,5) E(5,6)-
     f13*E(4,6)
     E(6,1) E(6,2) E(6,3) E(6,4)-f14*E(4,4) E(6,5)-f14*E(4,5) E(6,6)-
     f14*E(4,6)]
f15 = F(6,5)/F(5,5)
G = [1 1 -2 1 3 -1

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F(2,1) F(2,2) F(2,3) F(2,4) F(2,5) F(2,6)
F(3,1) F(3,2) F(3,3) F(3,4) F(3,5) F(3,6)
F(4,1) F(4,2) F(4,3) F(4,4) F(4,5) F(4,6)
F(5,1) F(5,2) F(5,3) F(5,4) F(5,5) F(5,6)
F(6,1) F(6,2) F(6,3) F(6,4) F(6,5)-f15*F(5,5) F(6,6)-f15*F(5,6)]
C1 = [4; 20-f1*B(1,1); -15-f2*B(1,1); -3-f3*B(1,1); 16-f4*B(1,1); -27-
f5*B(1,1)]
D1 = [4; 12; -19-f6*C1(2,1); -23-f7*C1(2,1); 28-f8*C1(2,1); -43-f9*C1(2,1)]
E1 = [4; 12; -11; -35-f10*D1(3,1); 36-f11*D1(3,1); -47-f12*D1(3,1)]
F1 = [4; 12; -11; E1(4,1); E1(5,1)-f13*E1(4,1); E1(6,1)-f14*E1(4,1)]
G1 = [4; 12; -11; F1(4,1); F1(5,1); F1(6,1)-f15*F1(5,1)]
T6 = G1(6,1)/G(6,6)
T5 = (G1(5,1)-(G(5,6)*T6))/G(5,5)
T4 = (G1(4,1)-(G(4,6)*T6+G(4,5)*T5))/G(4,4)
T3 = (G1(3,1)-(G(3,6)*T6+G(3,5)*T5+G(3,4)*T4))/G(3,3)
T2 = (G1(2,1)-(G(2,6)*T6+G(2,5)*T5+G(2,4)*T4+G(2,3)*T3))/G(2,2)
T1 = (G1(1,1)-(G(1,6)*T6+G(1,5)*T5+G(1,4)*T4+G(1,3)*T3+G(1,2)*T2))/G(1,1)

```

Answers

A =

```

1  1  -2  1  3  -1
2  -1  1  2  1  -3
1  3  -3  -1  2  1
5  2  -1  -1  2  1
-3 -1  2  3  1  3
4  3  1  -6  -3  -2

```

B =

```

4
20
-15
-3
16
-27

```

$$f_1 =$$

$$2$$

$$f_2 =$$

$$1$$

$$f_3 =$$

$$5$$

$$f_4 =$$

$$-3$$

$$f_5 =$$

$$4$$

$$C =$$

1	1	-2	1	3	-1
0	-3	5	0	-5	-1
0	2	-1	-2	-1	2
0	-3	9	-6	-13	6
0	2	-4	6	10	0
0	-1	9	-10	-15	2

f6 =

-0.6667

f7 =

1

f8 =

-0.6667

f9 =

0.3333

D =

1.0000	1.0000	-2.0000	1.0000	3.0000	-1.0000
0	-3.0000	5.0000	0	-5.0000	-1.0000
0	0	2.3333	-2.0000	-4.3333	1.3333
0	0	4.0000	-6.0000	-8.0000	7.0000
0	0	-0.6667	6.0000	6.6667	-0.6667
0	0	7.3333	-10.0000	-13.3333	2.3333

f10 =

1.7143

f11 =

-0.2857

f12 =

3.1429

E =

1.0000	1.0000	-2.0000	1.0000	3.0000	-1.0000
0	-3.0000	5.0000	0	-5.0000	-1.0000
0	0	2.3333	-2.0000	-4.3333	1.3333

0	0	0	-2.5714	-0.5714	4.7143
0	0	0	5.4286	5.4286	-0.2857
0	0	0	-3.7143	0.2857	-1.8571

f13 =

-2.1111

f14 =

1.4444

F =

1.0000	1.0000	-2.0000	1.0000	3.0000	-1.0000
0	-3.0000	5.0000	0	-5.0000	-1.0000
0	0	2.3333	-2.0000	-4.3333	1.3333
0	0	0	-2.5714	-0.5714	4.7143
0	0	0	0	4.2222	9.6667
0	0	0	0	1.1111	-8.6667

f15 =

0.2632

G =

1.0000	1.0000	-2.0000	1.0000	3.0000	-1.0000
0	-3.0000	5.0000	0	-5.0000	-1.0000
0	0	2.3333	-2.0000	-4.3333	1.3333
0	0	0	-2.5714	-0.5714	4.7143
0	0	0	0	4.2222	9.6667
0	0	0	0	0	-11.2105

C1 =

4
12
-19
-23
28
-43

D1 =

4
12
-11
-35
36
-47

E1 =

4.0000

12.0000

-11.0000

-16.1429

32.8571

-12.4286

F1 =

4.0000

12.0000

-11.0000

-16.1429

-1.2222

10.8889

G1 =

4.0000

12.0000

-11.0000

-16.1429

-1.2222

11.2105

T6 =

-1.0000

T5 =

2.0000

T4 =

4.0000

T3 =

3.0000

T2 =

-2.0000

T1 =

1

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