

OKAFOR MARTINS CHINONSO

16/ENG07/018

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commandwindow
clear
clc
close all
syms t
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 ; 12 ; -11 ; -113/7 ; -11/9 ; 213/19]
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 = [      A(1,1)              A(1,2)              A(1,3)              A(1,4)              A(1,5)              A(1,6)
      A(2,1)-f1*A(1,1)      A(2,2)-f1*A(1,2)      A(2,3)-f1*A(1,3)      A(2,4)-f1*A(1,4)      A(2,5)-f1*A(1,5)      A(2,6)-f1*A(1,6)
      A(3,1)-f2*A(1,1)      A(3,2)-f2*A(1,2)      A(3,3)-f2*A(1,3)      A(3,4)-f2*A(1,4)      A(3,5)-f2*A(1,5)      A(3,6)-f2*A(1,6)
      A(4,1)-f3*A(1,1)      A(4,2)-f3*A(1,2)      A(4,3)-f3*A(1,3)      A(4,4)-f3*A(1,4)      A(4,5)-f3*A(1,5)      A(4,6)-f3*A(1,6)
      A(5,1)-f4*A(1,1)      A(5,2)-f4*A(1,2)      A(5,3)-f4*A(1,3)      A(5,4)-f4*A(1,4)      A(5,5)-f4*A(1,5)      A(5,6)-f4*A(1,6)
      A(6,1)-f5*A(1,1)      A(6,2)-f5*A(1,2)      A(6,3)-f5*A(1,3)      A(6,4)-f5*A(1,4)      A(6,5)-f5*A(1,5)      A(6,6)-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)
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D = [ C(1,1)      C(1,2)      C(1,3)      C(1,4)      C(1,5)      C(1,6)
      C(2,1)      C(2,2)      C(2,3)      C(2,4)      C(2,5)      C(2,6)
      C(3,1)      C(3,2)-f6*C(2,2)  C(3,3)-f6*C(2,3)  C(3,4)-f6*C(2,4)  C(3,5)-f6*C(2,5)  C(3,6)-f6*C(2,6)
      C(4,1)      C(4,2)-f7*C(2,2)  C(4,3)-f7*C(2,3)  C(4,4)-f7*C(2,4)  C(4,5)-f7*C(2,5)  C(4,6)-f7*C(2,6)
      C(5,1)      C(5,2)-f8*C(2,2)  C(5,3)-f8*C(2,3)  C(5,4)-f8*C(2,4)  C(5,5)-f8*C(2,5)  C(5,6)-f8*C(2,6)
      C(6,1)      C(6,2)-f9*C(2,2)  C(6,3)-f9*C(2,3)  C(6,4)-f9*C(2,4)  C(6,5)-f9*C(2,5)  C(6,6)-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 = [ D(1,1)      D(1,2)      D(1,3)      D(1,4)      D(1,5)      D(1,6)
      D(2,1)      D(2,2)      D(2,3)      D(2,4)      D(2,5)      D(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)  D(4,3)-f10*D(3,3)  D(4,4)-f10*D(3,4)  D(4,5)-f10*D(3,5)  D(4,6)-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) ]

f14 = E(5,4)/E(4,4)
f15 = E(6,4)/E(4,4)

F = [ E(1,1)      E(1,2)      E(1,3)      E(1,4)      E(1,5)      E(1,6)
      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)-f14*E(4,4)  E(5,5)-f14*E(4,5)  E(5,6)-f14*E(4,6)
      E(6,1)      E(6,2)      E(6,3)      E(6,4)-f15*E(4,4)  E(6,5)-f15*E(4,5)  E(6,6)-f15*E(4,6) ]

f16 = F(6,5)/F(5,5)
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G = [ F(1,1)    F(1,2)    F(1,3)    F(1,4)    F(1,5)    F(1,6)
      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)-f16*F(5,5)  F(6,6)-f16*F(5,6) ]

T6 = B(6,1)/G(6,6)
T5 = (B(5,1)-(G(5,6)*T6))/G(5,5)
T4 = (B(4,1)-(G(4,5)*T5)-(G(4,6)*T6))/G(4,4)
T3 = (B(3,1)-(G(3,4)*T4)-(G(3,5)*T5)-(G(3,6)*T6))/G(3,3)
T2 = (B(2,1)-(G(2,3)*T3)-(G(2,4)*T4)-(G(2,5)*T5)-(G(2,6)*T6))/G(2,2)
T1 = (B(1,1)-(G(1,2)*T2)-(G(1,3)*T3)-(G(1,4)*T4)-(G(1,5)*T5)-(G(1,6)*T6))/G(1,1)
```

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

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B =

4.0000
12.0000
-11.0000
-16.1429
-1.2222
11.2105

f1 =

2

f2 =

1

f3 =

5

f4 =

-3

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f5 =

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

f14 =

-2.1111

f15 =

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

f16 =

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

T6 =

-1.0000

T5 =

2.0000

T4 =

4.0000

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`T3 =`

`3`

`T2 =`

`-2.0000`

`T1 =`

`1.0000`