

QUESTION 1

```
commandwindow
clear
clc
```

QUESTION 2

```
commandwindow
clear
clc
A = [2,3,7,9,4; 3,7,9,12,5; 4,8,5,6,9; 5,9,2,4,5; 6,2,3,7,8]
HP = det (A)
GP = transpose (A)
LP = inv (A)
EP = rats (LP)
```

QUESTION 3

```
commandwindow
clear
clc
J = [0 10 4 -2; -3 -17 1 2; 1 1 1 0; 8 -34 16 -10]
LX = inv (J)
L = [-4; 2; 6; 4]
X = K*L
```

SOLUTION

```
% -----
% Generated by MATLAB on 13-Nov-2017 18:34:53
% MATLAB version: 9.2.0.538062 (R2017a)
% -----
```

SOLUTION TO QUESTION 2

```
A = ...
[2 3 7 9 4;
 3 7 9 12 5;
 4 8 5 6 9;
 5 9 2 4 5;
 6 2 3 7 8];
```

```
HP = -765.000000000000193;
```

```
GP = ...
[2 3 4 5 6;
 3 7 8 9 2;
 7 9 5 2 3;
 9 12 6 4 7;
 4 5 9 5 8];
```

```
LP = ...
[1.8915032679738513 -1.4026143790849637 -0.31241830065359477
0.78431372549019474 ...
-0.20784313725490092;
-0.43790849673202487 0.32679738562091409 0.052287581699346351 -
0.039215686274509366 ...
-0.0196078431372552;
2.5725490196078371 -1.8392156862745055 -0.086274509803921637
0.76470588235293957 ...
-0.51764705882352813;
-1.8875816993464005 1.4653594771241796 0.010457516339869247 -
0.60784313725490047 ...
0.39607843137254795;
-0.6222222222222079 0.37777777777777671 0.24444444444444444 -
0.3333333333333287 ...
0.1333333333333297];
```

```
LP = ...
[' 401/212 -108/77 -239/765 40/51 -53/255'
...
' -67/153 50/153 8/153 -2/51 -1/51 '
...
' 656/255 -469/255 -22/255 13/17 -44/85 '
...
' -319/169 148/101 3/287 -31/51 101/255'
...
' -28/45 17/45 11/45 -1/3 2/15 '
...
' ];
```

```
% -----  
% Generated by MATLAB on 13-Nov-2017 03:47:08  
% MATLAB version: 9.2.0.538062 (R2017a)  
% -----
```

SOLUTION TO QYUESTION 3

```
J = ...  
  [0 10 4 -2;  
   -3 -17 1 2;  
    1 1 1 0;  
    8 -34 16 -10];  
  
LX = ...  
  [-0.17857142857142858 -0.10204081632653059 0.57142857142857151  
  0.015306122448979595 ...  
   ;  
   0.035714285714285712 -0.015306122448979597 0.0357142857142857 -  
  0.010204081632653062 ...  
   ;  
   0.14285714285714288 0.1173469387755102 0.39285714285714285 -  
  0.0051020408163265293 ...  
   ;  
   -0.0357142857142857 0.15816326530612243 0.9642857142857143 -  
  0.06122448979591838 ...  
   ];  
  
L = [-4; 2; 6; 4];  
  
X = [4.0000000000000009; -9.71445146547012E-17; 1.9999999999999998; 6];
```