```
L = [1 2;7 8;21 -1];
P = L*L';
Z = [1 -2 3 -2;-1 -1 -1 -1;4 4 5 4;7 8 9 2];
X = Z*Z';

disp('Eigenvalues of P:');
eig(P)

disp('EigenValues of X:');
eig(X)

disp('Orthogonal of L:');
null(L')

disp('Orthogonal of Z:');
null(Z')

disp('Rank of P:');
rank(P)

disp('Rank of X:');
rank(X)

disp('Singular Values of P:');
svd(P)

disp('SIngular Values of X:');
svd(X)
```

```
Eigenvalues of P:

ans =

   -0.0000
   65.7805
  494.2195

EigenValues of X:

ans =

    0.0129
    4.8672
   19.1184
  269.0015

Orthogonal of L:

ans =

   -0.9706
    0.2385
```

```
   -0.0333

Orthogonal of Z:

ans =

  4×0 empty double matrix

Rank of P:

ans =

     2

Rank of X:

ans =

     4

Singular Values of P:

ans =

  494.2195
   65.7805
    0.0000

SIngular Values of X:

ans =

  269.0015
   19.1184
    4.8672
    0.0129
```

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