```
%END

function [l,v]=spectral(x)
% Function SPECTRAL returns the nonzero eigenvalues
% and corresponding eigenvectors of the matrix x.
%

% USAGE:
% [l,v]=spectral(x)
%
% Input argument:
% x - matrix
%
% Output arguments:
% l - a matrix with eigenvalues on the main diagonal,
%     sorted in descending order.
% v - a matrix with eigenvectors which correspond to
%     the eigenvalues in matrix l.
%
% In usage in procedure cls_mds.

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% BEGIN

% computing the eigenvalues and eigenvectors
[v1,l1]=eig(x);

% Sorting the eigenvalues
l1=diag(l1); l1=l1*(-1); [l1,I]=sort(l1); l1=l1*(-1); k = find(l1 > 0);
     l1 = l1(k); I = I(k);
% sorting the eigenvectors
Z=zeros(size(x)); for j=1:size(I),
     Z(j,I(j)) = 1;
end v1=v1*Z'; v=v1(:,k);

% the result
l=diag(l1);

% END
```

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