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% Function to calculate the dominant eigenvalue and eigenvectors.
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```

```
% Input:
```

```
% A = the projection matrix (n by n matrix)
```

```
%
```

```
% Output:
```

```
% lambda = dominant eigenvalue (scalar)
```

```
% w = dominant right eigenvector (n by 1 vector)
```

```
% v = dominant left eigenvector (n by 1 vector)
```

```
%
```

```
function [lambda, w, v] = domeig(A)
```

```
[W,d] = eig(A);
```

```
d = diag(d);
```

```
imax = find(d==max(d));
```

```
lambda = d(imax); % dominant eigenvalue
```

```
w = W(:,imax); % right eigenvector
```

```
V = conj(inv(W));
```

```
v = real(V(imax,:)).'; % left eigenvector
```

```
end
```