

## HW3 Pt 2

What value of  $a$   
caused  $A$  to become  
singular?

$a = 1$  results in

$\begin{bmatrix} 1 & 1 \\ 1 & 1 \end{bmatrix}$  singular matrix.

Find Eigenvalues

$$A = \begin{bmatrix} 1 & a \\ a & 1 \end{bmatrix} \rightarrow \det \begin{bmatrix} 1-\lambda & a \\ a & 1-\lambda \end{bmatrix} = (1-\lambda)^2 - a^2$$

So,  
when  $(1-\lambda)^2 = a^2$  then  $\det()$   
is 0 &  $A$  is singular.

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What happens when  $A$   
is singular? We get  
no soln.

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