

$$\text{Let } A = \begin{bmatrix} 75/100 & 15/100 & 5/100 \\ 15/100 & 80/100 & 10/100 \\ 10/100 & 5/100 & 85/100 \end{bmatrix} \text{ and } P = \begin{bmatrix} 1 & -1 & -1 \\ -1 & 1 & 0 \\ 1 & 0 & 1 \end{bmatrix}$$

1. For A , find
 - (a) The characteristic polynomial
 - (b) The eigenvalues
 - (c) The corresponding eigenvectors
2. Repeat for $\text{ref}(A)$
3. Repeat for $B = P^{-1}AP$