

## Quiz #4

1. Find the determinant  $\begin{vmatrix} 2 & 3 & 0 & 5 \\ 1 & 2 & 1 & 9 \\ 1 & 2 & 0 & 3 \\ 2 & 4 & 0 & 1 \end{vmatrix}.$

2. If  $A$  is an  $n \times n$  matrix with  $|A| = 3$ , find the determinants of the following matrices:

- a.  $B$  is the matrix we get by swapping the first two rows of  $A$ .  $|B| =$
- b.  $C$  is the matrix we get by scaling the first row by 2 and the second row by 3.  $|C| =$
- c.  $D$  is the matrix we get by adding 3 times the second row to the fourth row.  $|D| =$

3. Find the eigenvalues of the matrix  $\begin{bmatrix} 2 & 1 \\ 1 & 2 \end{bmatrix}.$