Linear dependency of a set of vectors

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🌐 English ⌄

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1. In the lecture videos you saw that vectors are linearly dependent if it is possible   **1 / 1 point**
    to write one vector as a linear combination of the others. For example, the vectors
    $\mathbf{a}$, $\mathbf{b}$ and $\mathbf{c}$ are linearly dependent if $\mathbf{a} = q_1\mathbf{b} + q_2\mathbf{c}$ where q_1 and q_2 are
    scalars.

    Are the following vectors linearly dependent?

    $$\mathbf{a} = \begin{bmatrix} 1 \\ 1 \end{bmatrix} \text{ and } \mathbf{b} = \begin{bmatrix} 2 \\ 2 \end{bmatrix}.$$

    ⦿ Yes

    ◯ No

    ⊘ **Correct**
       When there are two vectors we only need to check if one can be written as
       a scalar multiple of the other. We can see that the vectors are linearly
       dependent because $\mathbf{a} = \frac{1}{2}\mathbf{b}$.

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2. We say that two vectors are linearly independent if they are *not* linearly   **1 / 1 point**
    dependent, that is, we cannot write one of the vectors as a linear combination of
    the others. Be careful not to mix the two definitions up!

    Are the following vectors linearly independent?

    $$\mathbf{a} = \begin{bmatrix} 1 \\ 1 \end{bmatrix} \text{ and } \mathbf{b} = \begin{bmatrix} 2 \\ 1 \end{bmatrix}.$$