Some information about this section:
Section 8 meets in McCullough 126, TuTh 10:00-10:50AM
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The instructor for the class is Mark Lucianovic (mark.lucianovic@stanford.edu).
The administrative TA for the whole Math 51 course is Khoa Nguyen (klnguyen@stanford.edu).
Most administrative questions should either go to him or to me.
All information about this class (including policies, homework, homework solutions etc.) is posted on the course website: math51.stanford.edu

**Problem 1** Write the vector $\begin{bmatrix} 5 \\ 4 \end{bmatrix}$ as a linear combination of the vectors $\begin{bmatrix} 1 \\ 0 \end{bmatrix}$ and $\begin{bmatrix} 0 \\ 1 \end{bmatrix}$.

**Problem 2** Write the vector $\begin{bmatrix} 5 \\ 4 \end{bmatrix}$ as a linear combination of the vectors $\begin{bmatrix} 2 \\ 1 \end{bmatrix}$ and $\begin{bmatrix} 1 \\ 2 \end{bmatrix}$.

**Problem 3** Write the vector $\begin{bmatrix} x \\ y \end{bmatrix}$ as a linear combination of the vectors $\begin{bmatrix} 2 \\ 1 \end{bmatrix}$ and $\begin{bmatrix} 1 \\ 2 \end{bmatrix}$.

**Problem 4** What is the span of the vectors $\begin{bmatrix} 2 \\ 1 \end{bmatrix}$ and $\begin{bmatrix} 1 \\ 2 \end{bmatrix}$?

**Problem 5** Can you write the vector $\begin{bmatrix} 5 \\ 2 \end{bmatrix}$ as a linear combination of the vectors
Problem 6: What is the span of the vectors \( \begin{bmatrix} 2 \\ 1 \end{bmatrix} \) and \( \begin{bmatrix} 4 \\ 2 \end{bmatrix} \)?

Problem 7 (LA 2.13): Find a parametric representation of the line containing the points \( \begin{bmatrix} 1 \\ 2 \\ 3 \end{bmatrix} \) and \( \begin{bmatrix} -2 \\ 1 \\ 2 \end{bmatrix} \).