

Span \Rightarrow Set of all linear combinations

Span $\left(\begin{bmatrix} 1\\0\\1\end{bmatrix},\begin{bmatrix} 2\\1\\0\end{bmatrix}\right) = \left\{\begin{bmatrix} 1\\0\\1\end{bmatrix},\begin{bmatrix} 2\\1\\0\end{bmatrix},\begin{bmatrix} 3\\1\\1\end{bmatrix},\begin{bmatrix} -1\\1\\1\end{bmatrix},\begin{bmatrix} 4\\4\\3\end{bmatrix},\dots,\frac{3}{3}\right\}$ inv $\times 3 \times 4$ all combinations

Q. A = rref(A)

 $Q \cdot \begin{bmatrix} 1 & 1 & 1 & 2 & 3 \\ 0 & 1 & -1 & 0 & 2 \\ 0 & 0 & 0 & 0 & 1 \\ 1 & 2 & 0 & 2 & 1 & 6 \end{bmatrix} = \begin{bmatrix} 1 & 0 & 0 & 2 & 0 & 3 \\ 0 & 1 & -1 & 0 & 0 & 2 \\ 0 & 0 & 0 & 0 & 0 & 0 \end{bmatrix}$

rref(A)

ALL DEPENDENCIES ARE
MAINTAINED, AND EQUAL
BETWEEN A AND MET (A)

A SPAN IS ALSO A VECTOR SPACE

BASIS: B = { b_1 ... b_n }

A

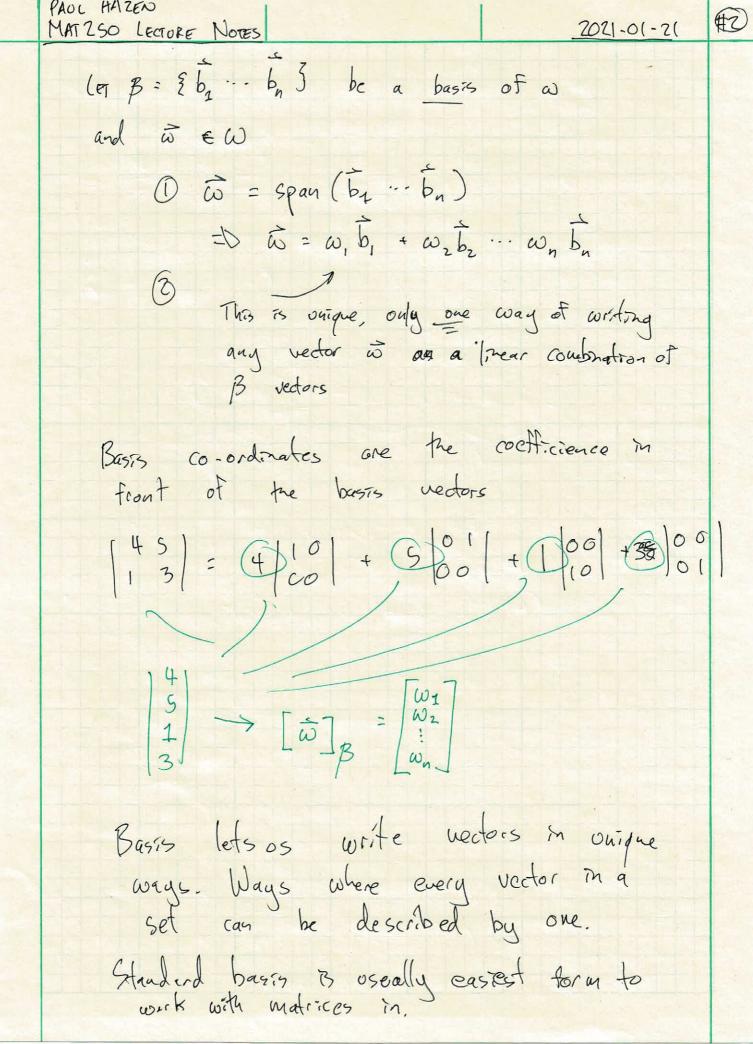
properties of basis i

* They have order

* B is linearly independent

* 1 w = span (b_1 ... bn)

"OFFERED (THEARLY TRREPENDENT SPANNEDOS SET"



PAUL HAZEN 2021-01-21 (#3) MAT 250 LECTURE NOTES (cordinates of vector to Unique way to describe uector space STANDARD BASIS ARE IMPORTANT