## Definition: Linear Independence

*A set of vectors* $\{v_1, v_2, \ldots, v_{n-1}, v_n\}$ *is called linearly independent if the only choice of* $a_1, a_2, \ldots, a_n \in \mathbb{F}$, *that makes*

$$a_1\vec{v}_1 + a_2\vec{v}_2 + \cdots + a_n\vec{v}_n = \vec{0}$$

*hold, is* $a_1 = a_2 = \cdots = a_n = 0$. *We define the empty set to be linearly independent*