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$$A = \begin{bmatrix} 6 & 1 & -5 \\ 2 & 1 & 1 \\ -2 & -2 & 5 \\ 6 & 8 & -7 \end{bmatrix}$$

$$u_1 = \begin{bmatrix} 6 \\ 2 \\ -2 \\ 6 \end{bmatrix} \quad u_2 = \begin{bmatrix} 1 \\ 1 \\ -2 \\ 8 \end{bmatrix} \quad u_3 = \begin{bmatrix} -5 \\ 1 \\ 5 \\ -7 \end{bmatrix}$$

Apply grams-Schmidth process

$V_1 = u_1 = (6, 2, -2, 6)$

$V_2 = (-7/2, -1/2, -1/2, 7/2)$

$V_3 = (-2/5, 14/5, 14/5, 2/5)$

So, $\{V_1, V_2, V_3\}$ are the orthogonal bases for the column space.

$V_1 = u_1$

$V_2 = u_2 - \dfrac{\langle u_2 V_1 \rangle}{\|V_1\|^2} V_1$

$V_3 = u_3 - \dfrac{\langle u_3 V_1 \rangle}{\|V_1\|^2} V_1 - \dfrac{\langle u_3 V_2 \rangle}{\|V_2\|^2} V_2$