## Polynomial represented as a DAG

$$\bar{0} = 0 \cdot \begin{bmatrix} 0 \\ 0 \end{bmatrix} + 0 \cdot \begin{bmatrix} 0 \\ 1 \end{bmatrix} + 0 \cdot \begin{bmatrix} 1 \\ 0 \end{bmatrix} + 0 \cdot \begin{bmatrix} 1 \\ 1 \end{bmatrix}$$

$$J = \left[ \begin{array}{c} 0 \\ 0 \end{array} \right] + \left[ \begin{array}{c} 0 \\ 1 \end{array} \right] + \left[ \begin{array}{c} 1 \\ 0 \end{array} \right] + \left[ \begin{array}{c} 1 \\ 1 \end{array} \right]$$

 $v_0 = |$ 

## Randomly chosen vectors

$$v_1 = \begin{bmatrix} 0 \\ 1 \end{bmatrix} \quad v_2 = \begin{bmatrix} 0 \\ 1 \end{bmatrix} \quad v_3 = \begin{bmatrix} 1 \\ 1 \end{bmatrix}$$
$$v_4 = \begin{bmatrix} 1 \\ 0 \end{bmatrix} \quad v_5 = \begin{bmatrix} 0 \\ 1 \end{bmatrix} \quad v_6 = \begin{bmatrix} 1 \\ 0 \end{bmatrix}$$

 $x_{A}$ 

Substitute for  $x_i \leftarrow v_0 + v_i$ each i: