Particle filter

Calculate lineage of $\mathbf{x}_3^{(1)}$.

$$B_1^{(1)} = 3 \qquad \begin{array}{c} \mathbf{x}_1^{(1)} \\ 0/5 \\ \end{array} \qquad \begin{array}{c} \mathbf{x}_1^{(2)} \\ \end{array} \qquad \begin{array}{c} \mathbf{x}_1^{(3)} \\ \end{array} \qquad \begin{array}{c} \mathbf{x}_1^{(4)} \\ \end{array} \qquad \begin{array}{c} \mathbf{x}_1^{(5)} \\ \end{array} \qquad \begin{array}{c} \mathbf{x}_2^{(5)} \\ \end{array} \qquad \begin{array}{c} \mathbf$$

$$\mathbf{B}^{(1)} = (3, 2, 1)$$