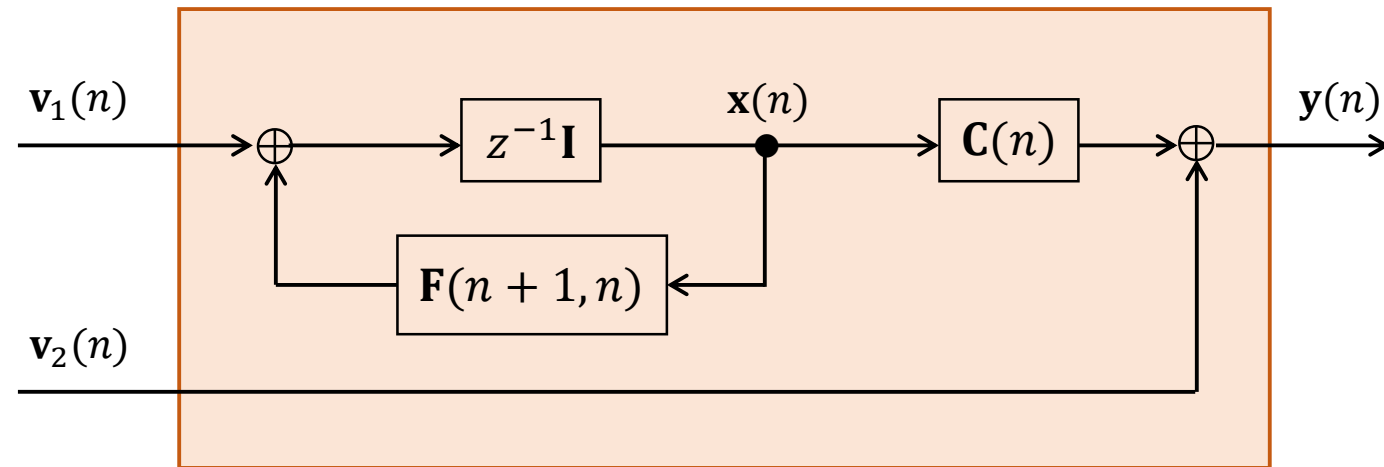


Given the state-space model, the observations, and the initial conditions, estimate the state vectors with respect to time.

- State-Space Model



- Process equation: $\mathbf{x}(n+1) = \mathbf{F}(n+1, n)\mathbf{x}(n) + \mathbf{v}_1(n)$
- Measurement equation: $\mathbf{y}(n) = \mathbf{C}(n)\mathbf{x}(n) + \mathbf{v}_2(n)$

$\mathbf{y}(n)$: The observation
 $\mathbb{E}[\mathbf{v}_1(n)] = \mathbb{E}[\mathbf{v}_2(n)] = \mathbf{0}$
 $\mathbf{v}_1(n)$ and $\mathbf{v}_2(n)$ are uncorrelated

- Kalman filter

