Parameters of the dynamic system:

$$2^{1\times n}$$

 $A \in \mathbb{R}^{n \times n}$, $B \in \mathbb{R}^{n \times 1}$, $C \in \mathbb{R}^{1 \times n}$

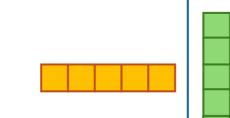
 $\overline{A} = \exp(\Delta A)$ $\overline{B} = \Delta B$ Discretization

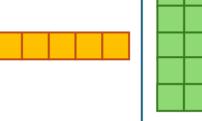
 $\vec{x}(t) = \overline{A}\vec{x}(t-1) + \overline{B}u(t)$

 $v(t) = C\vec{x}(t) + Du(t)$

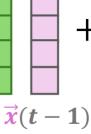
 $\vec{x}'(t) = A\vec{x}(t) + Bu(t)$ $v(t) = C\vec{x}(t) + Du(t)$

(a) Continuous-time form

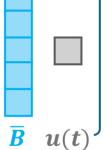




(b) Discrete-time form



state



input