

Q why  $\bar{x}(0) = 0$

$$\bar{x}(k+1) = A\bar{x}(k) + Bu(k) + L_0(y(k) - c\bar{x}(k))$$

Solution

$$\text{let } k = -1, \quad \bar{x}(0) = A\bar{x}(-1) + Bu(-1) + L_0(y(-1) - c\bar{x}(-1))$$

$$\bar{x}(0) = 0 + 0 + L_0(0 - 0)$$

$$\bar{x}(0) = 0$$