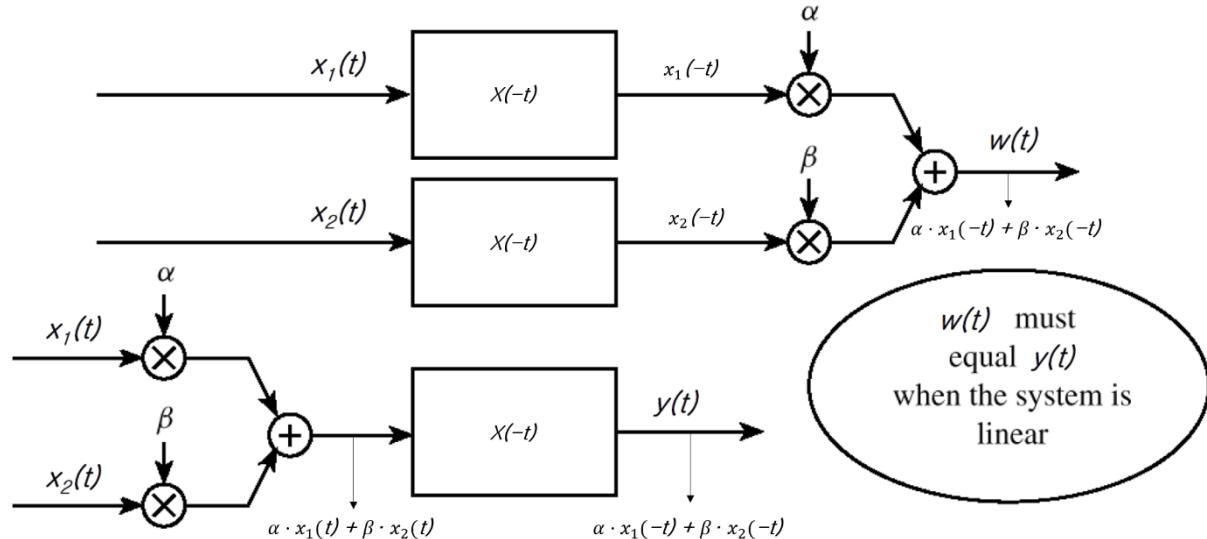


2020 年 신호처리 과제 9 답안

1. 다음 시스템의 LTI 여부를 판별하시오.

- $y(t) = x(-t)$

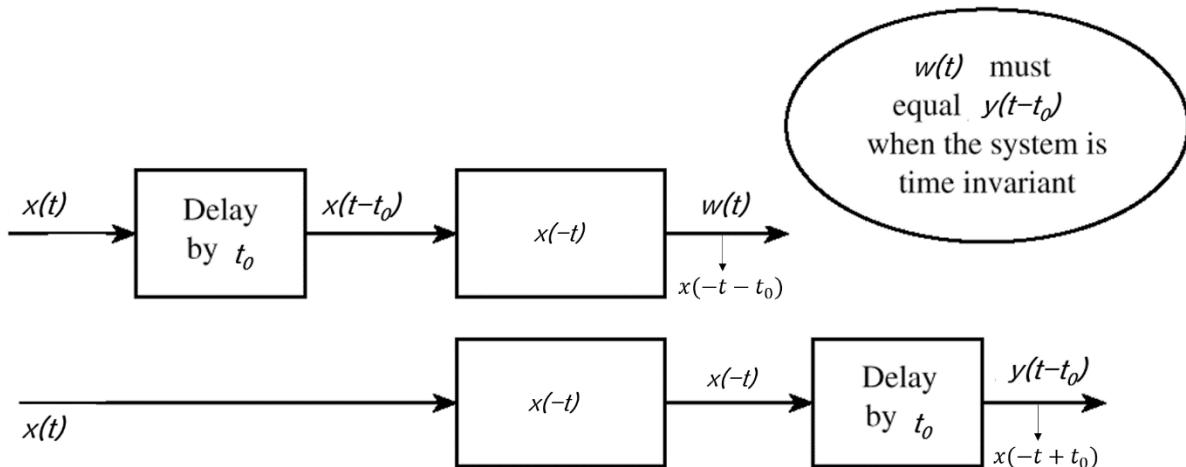
(1) Linear and Nonlinear Systems



$$\therefore w(t) = \alpha \cdot x_1(-t) + \beta \cdot x_2(-t) \text{ and } y(t) = \alpha \cdot x_1(-t) + \beta \cdot x_2(-t) \rightarrow w(t) = y(t)$$

\therefore The system is linear

(2) Time-Varying and Time-Invariant System



$$\therefore w(t) = x(-t - t_0) \text{ and } y(t - t_0) = x(-t + t_0) \rightarrow w(t) \neq y(t - t_0)$$

\therefore The system is Time-Varying

$\therefore y(t) = x(-t)$ is not LTI System