$x(t) \rightarrow y(t) = x(t-2) + x(2-t)$

Lineal

$x_1(t) \rightarrow y_1(t) = x_1(t-2) + x_1(2-t)$

$x_2(t) \rightarrow y_2(t) = x_2(t-2) + x_2(2-t)$

$x_3(t) = a x_1(t) + b x_2(t)$

$\hookrightarrow y_3 = a y_1 + b y_2$

$x_3(t) \rightarrow y_3(t) = x_3(t-2) + x_3(2-t)$

$y_3(t) = a x_1(t-2) + b x_2(t-2) +$

$a x_1(2-t) + b x_2(2-t)$

$a y_1 + b y_2$

$$x(t-t_0) \longrightarrow y(t-t_0)$$

$$x_1 \rightarrow y_1 = x_1(t-2) + x_1(2-t)$$

$$x_2 = x_1(t-t_0) \rightarrow y_2 = x_1(t-t_0-2) + x_1(2-t+t_0)$$

$$y(t) = x(t-2-t_0) + x(2-t-t_0)$$

$$y(t) = \cos(t)\, x(t)$$

$$\cos(t-t_0)\, x(t-t_0)$$

$$\neq$$

$$x(t-t_0) \rightarrow \cos(t)\, x(t-t_0)$$

$$x(t-t_0) \rightarrow y(t-t_0)$$

Memoria

$$y(t) = \underbrace{x(t-2)}_{} + x(2-t)$$

t anterior a t actual

Memoria

Causal

$$x(t+2)$$

$\to$ Futuro $\to$ No causal

Stable

$$A \leq x(t) \leq B$$

$$2A \leq x(t-2) + x(2-t) \leq 2B$$

$$2A \leq y(t) \leq 2B$$

$$0 \in [A, B]$$

$$y(t) = \frac{1}{x(t)} \qquad A \leq x(t) \leq B$$

$$y(t) = \infty$$

$$y(t) = \int_{-\infty}^{2t} x(\tau)\, d\tau$$

si $x(t) = 1$

$$\int_{-\infty}^{2t} 1\, d\tau = 2t + \infty$$