$$x(n) = 2 \quad 3 \quad -1 \quad 1$$

$$= 2 \quad 0 \quad 0 \quad 0 \quad \Rightarrow \quad 2\,x_i(n)$$

$$+ \; 0 \quad 3 \quad 0 \quad 0 \quad \Rightarrow \quad 3\,x_i(n-1)$$

$$+ \; 0 \quad 0 \quad -1 \quad 0 \quad \Rightarrow \quad -1\,x_i(n-2)$$

$$+ \; 0 \quad 0 \quad 0 \quad 1 \quad \Rightarrow \quad 1\,x_i(n-3)$$

$x(n) \rightarrow [H] \rightarrow y(n) = 2\,y_i(n) + 3\,y_i(n-1) + (-1)\,y_i(n-2) + 1\,y_i(n-3)$

If we know impulse response to a LIIS, we know everything.