

$$y(n) = \sum_k h(k) x(n-k)$$

$$y(0) = \underbrace{h(0)}_{1 \cdot 1} x(0) + \underbrace{h(1)}_{-1} x(\underbrace{1-0}_{\substack{\uparrow \\ x(0)}})$$

$$\begin{aligned} &x(0) \\ &x(-1) \\ &x(0-1) \end{aligned}$$

$$= 2$$

$$y(1) = h(0)x(1) + h(1)x(0) + h(2)x(2)$$

$$1 \cdot 3 + -1 \cdot 1 + 0$$

$$= 2$$

$$y(2) = 1 \cdot (-1) + (-1) \cdot 3$$

$$= -4$$

$$y(n) = 2 \quad 2 \quad -4 \quad \dots$$