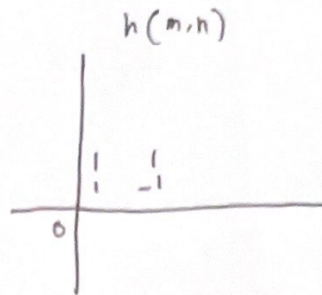
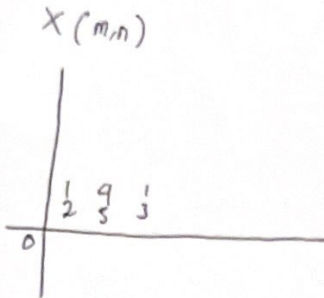


Wendy Anugerah Putra Wibowo

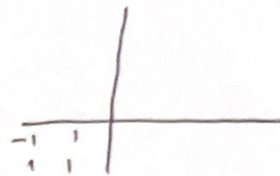
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Pemrosesan Sinyal Convulasi 2-D



konvolusikan  $g(m,n) = \sum_{k_1=-\infty}^{\infty} \sum_{k_2=-\infty}^{\infty} x(k_1, k_2) h(m-k_1, n-k_2)$

langkah Pertama, Cerminkan  $h(m,n)$



Selanjutnya.

$$\left[ \begin{array}{l} \bullet \begin{array}{ccc} & 1 & 4 & 1 \\ -1 & (1 \cdot 2) & 5 & 3 \\ & 1 & & \end{array} \Rightarrow -1(0) + 2 = 2 \\ \bullet \begin{array}{ccc} & 1 & 4 & 1 \\ (-1 \cdot 2) & (1 \cdot 5) & 3 & \\ & 1 & & \end{array} \Rightarrow -1(2) + 5 = 3 \\ \bullet \begin{array}{ccc} 1 & 4 & 1 \\ 2 & (-1 \cdot 5) & (1 \cdot 3) \\ & 1 & 1 \end{array} \Rightarrow -5 + 3 = -2 \\ \bullet \begin{array}{ccc} 1 & 4 & 1 \\ 2 & 5 & (-1 \cdot 3) & 1 \\ & 1 & 1 \end{array} \Rightarrow -3 + 1(0) = -3 \end{array} \right]$$

$$= \begin{bmatrix} 2 \\ 3 \\ -2 \\ -3 \end{bmatrix}$$

$$\left[ \begin{array}{l} \bullet \begin{array}{ccc} & 1 & 4 & 1 \\ 1 & (1 \cdot 2) & 5 & 3 \\ & 1 & & \end{array} \Rightarrow 1(1) + 1(2) = 3 \\ \bullet \begin{array}{ccc} & 1 & 4 & 1 \\ (-1 \cdot 1) & (1 \cdot 4) & 1 & \\ (1 \cdot 2) & (1 \cdot 5) & 3 & \end{array} \Rightarrow -1 + 4 + 2 + 5 = 10 \\ \bullet \begin{array}{ccc} 1 & 4 & 1 \\ 2 & (-1 \cdot 4) & (1 \cdot 1) \\ & 1 & 1 \end{array} \Rightarrow -4 + 1 + 5 + 3 = 5 \\ \bullet \begin{array}{ccc} 1 & 4 & 1 \\ 2 & 5 & (-1 \cdot 1) & 1 \\ & 1 & 1 \end{array} \Rightarrow -1 + 3 + 6 + 6 = 2 \end{array} \right]$$

$$= \begin{bmatrix} 3 \\ 10 \\ 5 \\ 2 \end{bmatrix}$$

$$\left. \begin{array}{l}
 \cdot \begin{array}{ccc} -1 & 1 & \\ 1 & (1.1) & 4 \quad 1 \quad (=) \quad 1 \\ 2 & 5 & 3 \end{array} \\
 \cdot \begin{array}{ccc} -1 & 1 & \\ (1.1) & (4.1) & 1 \quad (=) \quad 1+4 = 5 \\ 2 & 5 & 3 \end{array} \\
 \cdot \begin{array}{ccc} -1 & 1 & \\ 1 & (1.4) & (1.1) \quad (=) \quad 4+1 = 5 \end{array} \\
 \cdot \begin{array}{ccc} -1 & 1 & \\ 1 & 4 & (1.4) \quad (=) \quad 1+4 \\ 2 & 5 & 3 \end{array} \end{array} \right\} \begin{bmatrix} 1 \\ 5 \\ 5 \\ 1 \end{bmatrix}$$

Sehingga

$$g(m,n) = \begin{array}{c|cccc} & 1 & 5 & 5 & 1 \\ & 3 & 10 & 5 & 2 \\ & 2 & 3 & -2 & -3 \\ \hline \end{array}$$