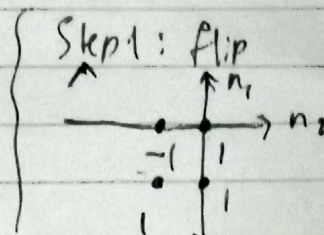
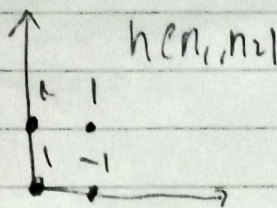
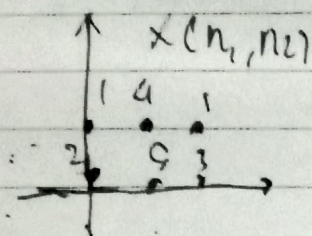


2 b Convolution



Step 2: shift.

$$\begin{array}{ccc} 1 & 4 & 1 \\ \text{A.O.} & (2) & 5 & 3 \\ (1,0) & (1,0) \end{array} \rightarrow (1,2) = 2$$

$$\begin{array}{ccc} 1 & 2 & 1 \\ (-1,2) & (1,5) & 3 \\ (1,0) & (1,0) \end{array} \rightarrow (-1,2) + (1,5) = 3$$

$$\begin{array}{ccc} 1 & 4 & 1 \\ 2 & (-1,5) & (1,3) \\ (1,0) & (1,0) \end{array} \rightarrow (-1,5) + (1,3) = -2$$

$$\begin{array}{ccc} 1 & 4 & 1 \\ 2 & 5 & (-1,3) & (1,0) \\ (1,0) & (1,0) \end{array} \rightarrow (-1,3) = -3$$

$$\begin{array}{ccc} \text{A.O.} & (1,1) & 4 & 1 \\ (1,0) & (1,2) & 5 & 3 \end{array} \rightarrow (1,1) + (1,2) = 3$$

$$\begin{array}{ccc} (-1,1) & (1,4) & 1 \\ (1,2) & (1,5) & 3 \end{array} \rightarrow (-1,1) + (1,4) = 10$$

$$\begin{array}{ccc} 1 & (-1,4) & (1,1) \\ 2 & (1,5) & (1,3) \end{array} \rightarrow (-1,4) + (1,1) = 5$$

$$\begin{array}{ccc} 1 & 4 & (-1,1) & (1,0) \\ 2 & 5 & (1,3) & (1,0) \end{array} \rightarrow (-1,1) + (1,0) = 2$$

$$\begin{array}{ccc} (-1,0) & (1,0) \\ (1,0) & (1,1) & 4 & 1 \\ 2 & 5 & 3 \end{array} \rightarrow (1,1) = 1$$

$$\begin{array}{ccc} (-1,0) & (1,0) \\ (1,1) & (1,4) & 1 \\ 2 & 5 & 3 \end{array} \rightarrow (1,1) + (1,4) = 5$$

$$\begin{array}{ccc} (-1,0) & (1,0) \\ (1,4) & (1,1) \\ 2 & 5 & 3 \end{array} \rightarrow (1,4) + (1,1) = 5$$

$$\begin{array}{ccc} (-1,0) & (1,0) \\ 1 & 4 & (1,1) & (1,0) \\ 2 & 5 & 3 \end{array} \rightarrow (1,1) = 1$$

Hasil =

$$\begin{bmatrix} 1 & 5 & 5 & 1 \\ 3 & 10 & 5 & 2 \\ 2 & 3 & -2 & -3 \end{bmatrix}$$