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$$\begin{bmatrix} 1 & 4 & 1 \\ 2 & 5 & 3 \end{bmatrix} ** \begin{bmatrix} 1 & 1 \\ 1 & -1 \end{bmatrix}$$

Konvolusikan

$$g(n_1, n_2) = \sum_{k_1=-\infty}^{\infty} \sum_{k_2=-\infty}^{\infty} x(k_1 . k_2)\, h\,(n_1 - k_1 . n_2 - k_2)$$

```
        1   4  1
-> -1 (1.2) 5  3      <==>  -1(0)+(2) = 2
    1  1

      1      4    1
-> (-1.2) (1.5) 3     <==>  -1(2)+5 = 3
      1      1

-> 1    4     1
   2 (-1.5) (1.3)     <==>  -5+3 = -2
        1     1

-> 1  4    1
   2  5  (-3) 1       <==>  -3+1(0) = -3
              1  1
```

- $-1\ (1.1)\ 4\ 1$
  $1\ (1.2)\ 5\ 3$ $\Leftrightarrow$ $1(1)+1(2) \equiv 3$

- $(-1.1)\ (1.4)\ 1$
  $(1.2)\ (1.5)\ 3$ $\Leftrightarrow$ $-1+4+2+5 \equiv 10$

- $1\ (-1.4)\ (1.1)$
  $2\ (1.5)\ (1.3)$ $\Leftrightarrow$ $-4+1+5+3 \equiv 5$

- $1\ 4\ (-1.1)\ 1$
  $2\ 5\ (1.3)\ 1$ $\Leftrightarrow$ $-1+3+0+0 \equiv 2$

- $-1 \quad 1$
  $1\ (1.1)\ 4\ 1$ $\Leftrightarrow$ 1
  $2\ 5\ 3$

- $-1 \quad 1$
  $(1.1)\ (4.1)\ 1$ $\Leftrightarrow$ $1+4 \equiv 5$
  $2 \quad 5 \quad 3$

- $-1 \quad 1$
  $1\ (1.4)\ (1.1)$ $\Leftrightarrow$ $4+1 = 5$
  $2 \quad 5 \quad 3$

- $-1 \quad 1$
  $1 \quad 4 \quad (1.4)\ 1$ $\Leftrightarrow$ 4
  $2 \quad 5 \quad 3$

Sehingga, hasil konvolusi adalah

$$g(n_1, n_2) = \begin{bmatrix} 1 & 5 & 5 & 4 \\ 3 & 10 & 5 & 2 \\ 2 & 3 & -2 & -3 \end{bmatrix}$$

3 x 4