

CONVOLUTION

Input

$$\begin{bmatrix} 1 & 2 & 0 & 1 & 3 \\ 4 & 1 & 0 & 2 & 1 \\ 2 & 3 & 1 & 0 & 1 \\ 1 & 2 & 0 & 1 & 3 \\ 3 & 1 & 2 & 3 & 0 \end{bmatrix}$$

Kernal

$$\begin{bmatrix} 1 & 0 & -1 \\ 1 & 0 & -1 \\ 1 & 0 & -1 \end{bmatrix}$$

Output

$$\begin{bmatrix} 6 & 3 & 2 \\ 5 & 2 & 1 \\ 4 & 1 & 0 \end{bmatrix}$$

$$\begin{aligned} \text{Output}(1,2) &= (2 \times 1) + (0 \times 0) + (1 \times -1) + (1 \times 1) + (0 \times 0) + (2 \times -1) + (3 \times 1) + (1 \times 0) + (0 \times -1) \\ &= 2 + 0 - 1 + 1 + 0 - 2 + 3 + 0 - 0 \\ &= 3 \end{aligned}$$

CODES & DATA ARE AVAILBLE AT

WWW.AISCIENCES.ACADEMY/COURSE-PYTORGH

WWW.AISCIENCES.IO

AI SCIENCES

Odemy

MAX POOLING

Input

$$\begin{bmatrix} 6 & 3 & 2 \\ 5 & 2 & 1 \\ 4 & 1 & 0 \end{bmatrix}$$

Pooling matrix
2x2

Output

$$\begin{bmatrix} 6 \end{bmatrix}$$

MAX POOLING

Input

$$\begin{bmatrix} 6 & 3 & 2 \\ 5 & 2 & 1 \\ 4 & 1 & 0 \end{bmatrix}$$

Pooling matrix
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Output

$$\begin{bmatrix} 6 \end{bmatrix}$$

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Input

$$\begin{bmatrix} 6 & 3 & 2 \\ 5 & 2 & 1 \\ 4 & 1 & 0 \end{bmatrix}$$

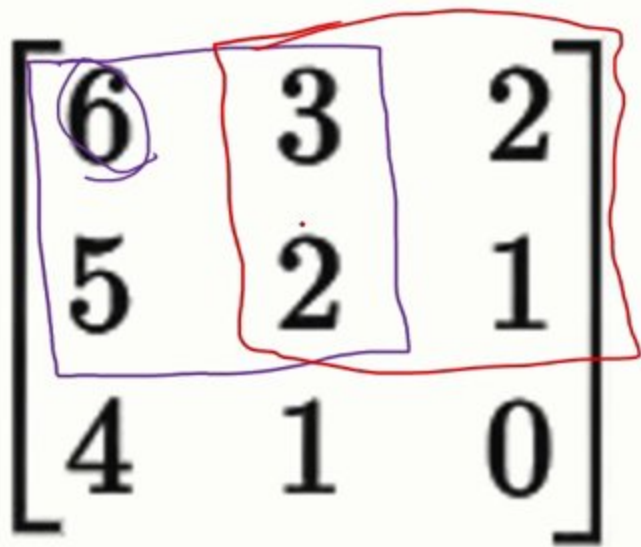
Pooling matrix
2x2

Output

$$\begin{bmatrix} \underline{6} \end{bmatrix}$$

MAX POOLING

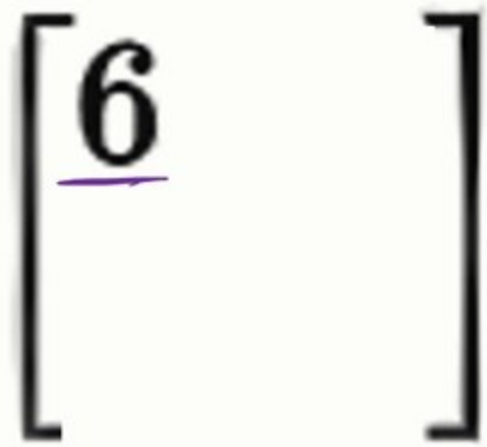
Input



6	3	2
5	2	1
4	1	0

Pooling matrix
2x2

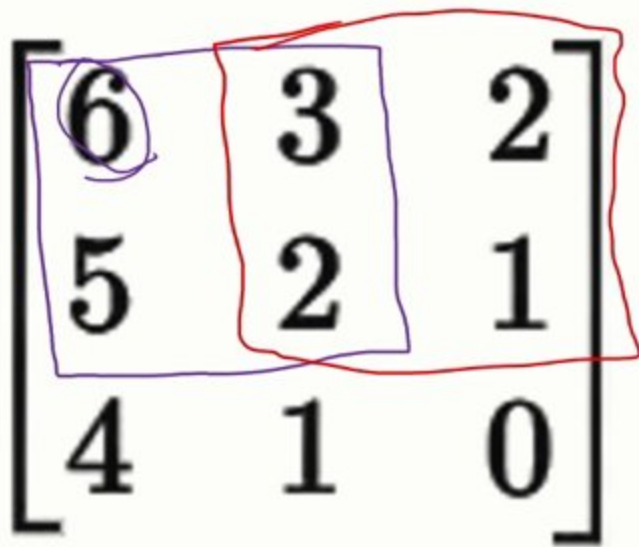
Output



6

MAX POOLING

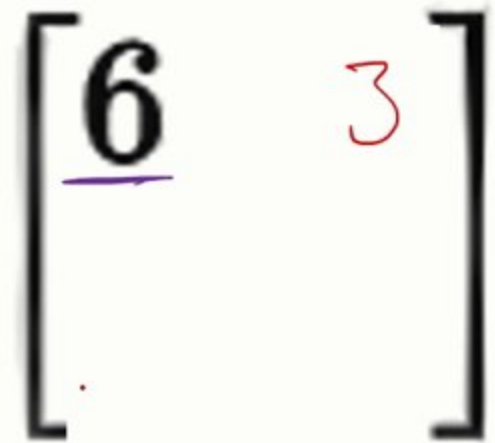
Input



6	3	2
5	2	1
4	1	0

Pooling matrix
2x2

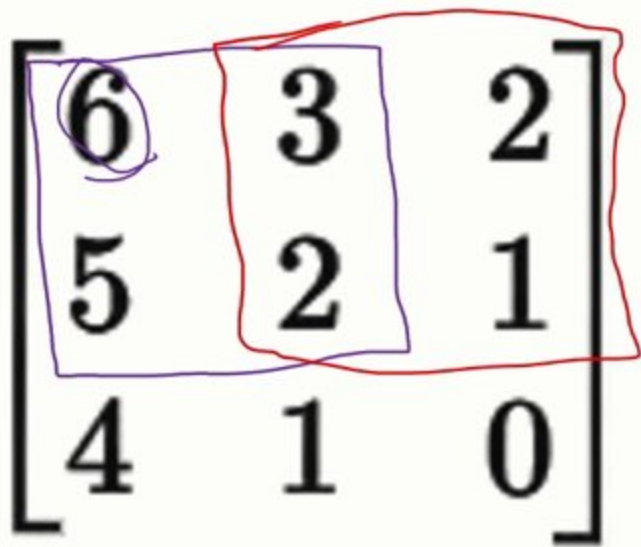
Output



<u>6</u>	3

MAX POOLING

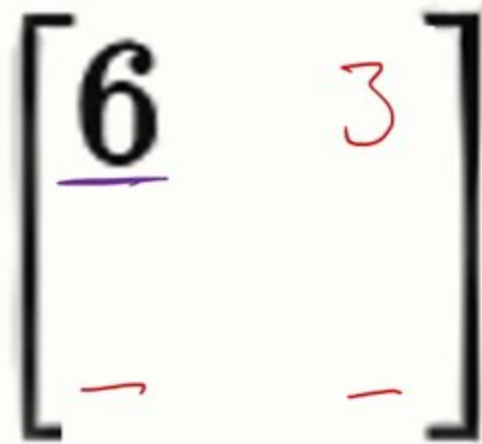
Input



6	3	2
5	2	1
4	1	0

Pooling matrix
2x2

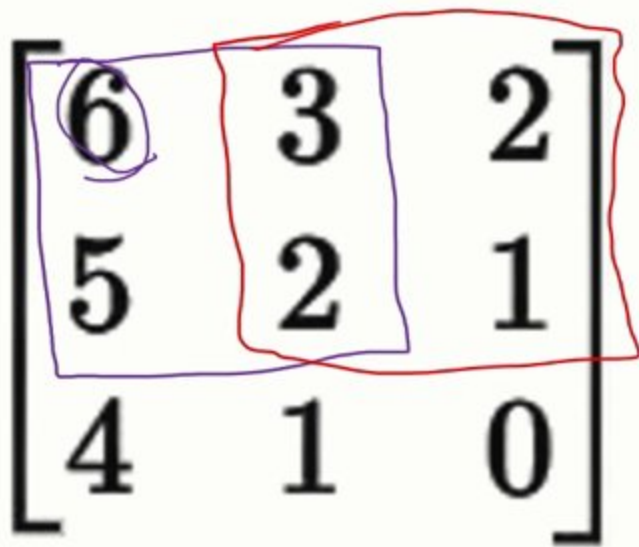
Output



<u>6</u>	3
-	-

MAX POOLING

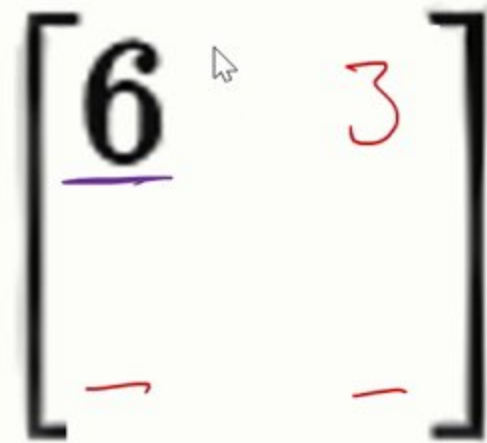
Input



6	3	2
5	2	1
4	1	0

Pooling matrix
2x2

Output



<u>6</u>	3
-	-