

Quiz12

1	3	5	7	9	3	4	4	5	6
1	3	33	7	9	3	4	4	5	6
1	3	5	7	9	3	4	4	5	6
1	3	5	20	25	24	33	5	6	4
1	3	5	22	35	24	32	5	6	4
1	3	5	20	28	34	23	5	6	4
1	3	5	21	25	27	23	5	6	4
1	3	27	7	9	3	4	4	5	6
1	3	5	7	9	3	4	4	5	6
1	3	5	7	9	3	4	4	25	6

What is the new value for the pixel whose value is 33?

Q1: What is a reasonable connectivity output of the following binary image?

Ans

neighborhood of pixel with value 33

$$\begin{bmatrix} 3 & 4 & 4 \\ 24 & 33 & 5 \\ 24 & 32 & 5 \end{bmatrix}$$

convolution

$$\begin{bmatrix} 3 & 4 & 4 \\ 24 & 33 & 5 \\ 24 & 32 & 5 \end{bmatrix} \times \begin{bmatrix} 1 & 2 & 1 \\ 2 & 4 & 2 \\ 1 & 2 & 1 \end{bmatrix}$$

$$\Rightarrow \begin{bmatrix} 3 \times 1 + (4 \times 2) + (4 \times 1) \\ + (24 \times 2) + (33 \times 4) + (5 \times 2) \\ + (24 \times 1) + (32 \times 2) + (5 \times 1) \end{bmatrix}$$

$$\Rightarrow 298$$

new value = convolution

$$\div 6$$

$$\Rightarrow \frac{298}{6} \approx 49$$

