

Ans to Q. No 3

Given information,

Image : 64×64

Filters : $7 (5 \times 5)$

Stride : 2

Padding : 0

We know that,

$$\lceil (W + 2P - F) / S \rceil + 1$$

Here \lceil will count ceiling value.

Input $\rightarrow 1 \times 64 \times 64$

Conv $\rightarrow 7 \times 31 \times 31 \rightarrow [(64 + 2 \cdot 0 - 5) / 2] + 1 = 31$

Max pool $\rightarrow 7 \times 16 \times 16$

conv $\rightarrow 7 \times 7 \times 7 \rightarrow [(16 + 2 \cdot 0 - 5) / 2] + 1 = 7$

max pool $\rightarrow 7 \times 4 \times 4$

conv $\rightarrow 7 \times 1 \times 1 \rightarrow [(4 + 2 \cdot 0 - 5) / 2] + 1 = 1$

Max pool $\rightarrow 7 \times 1 \times 1$

Flattened Layer $\rightarrow 7$

\therefore The numbers of nodes will be 7 in the flattening layers.