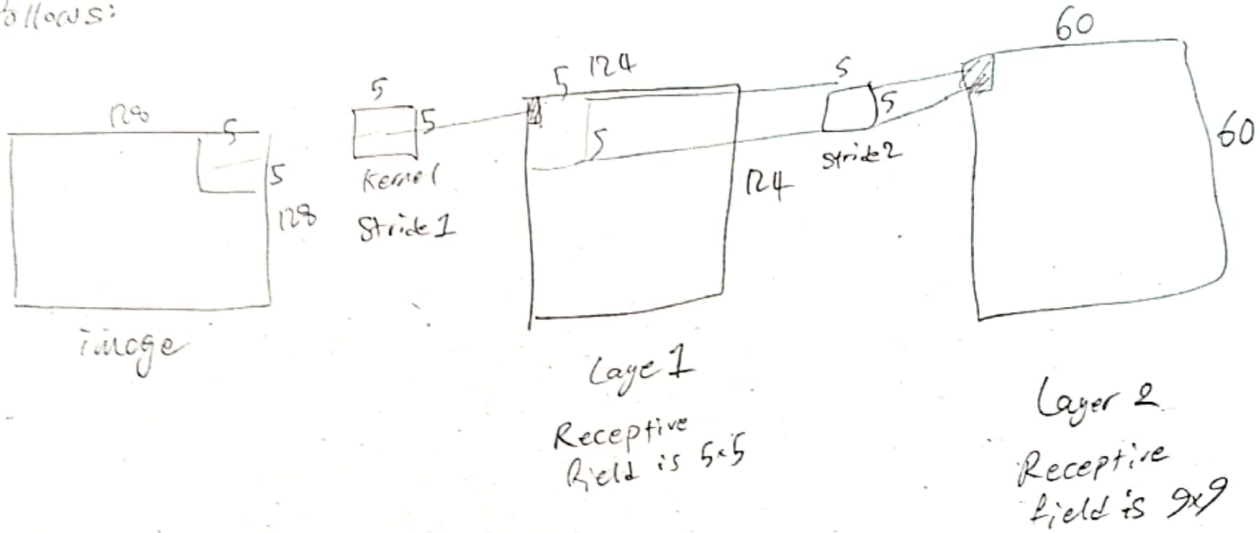
Task III)

For the first layer for example, the reseptive field is as follows:



Hence, the Receptive field of layer M is calculated by:

$$RF_m = RF_{m-1} + (k_m - 1) \times \prod_{i=1}^{m-1} S_i$$

- RF_{m-1}: Receptive field of Previous Layer
- k_m: Kernel Size of the Layer
- $\prod_{i=1}^{m-1} S_i$: Product of Strides of the previous Layers

The validation for formula is done using the print outputs in the Previous task's Python notebook.

$RF_1 = 5$

$RF_2 = 5 + (5-1) \times 1 = 9$

$RF_3 = 9 + (3-1) \times 2 = 13$

$RF_4 = 13 + (3-1) \times 1 = 17$

$RF_5 = 17 + (3-1) \times 4 = 25$

$RF_6 = 25 + (3-1) \times 4 = 33$

→ based on python outputs are true