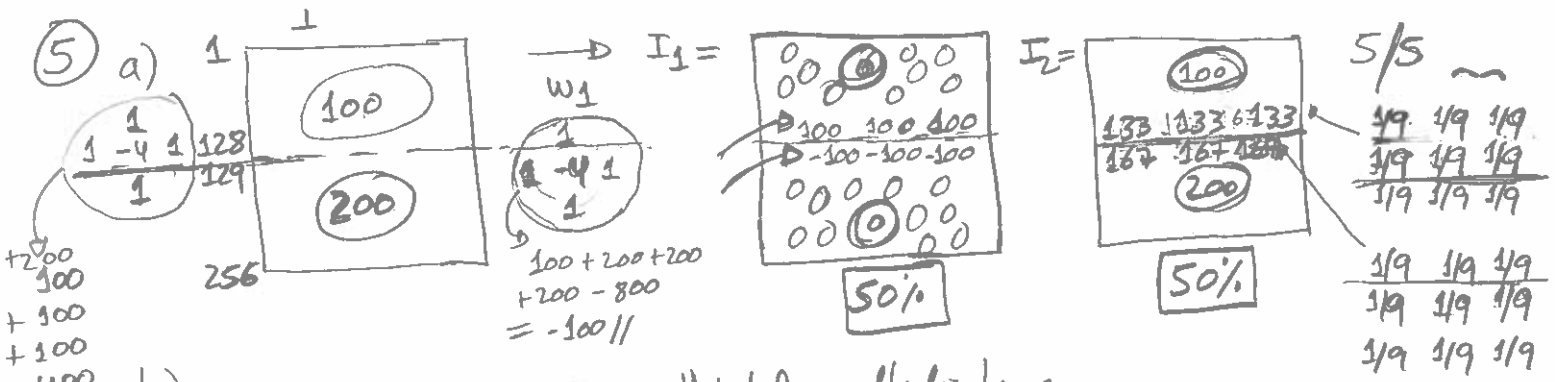
(5) a)



b)

I ↑ 256×256 $\quad$ w_2 ↑ 3×3

#total_multiplications
$= 256 \times 256 \times 3 \times 3 = 589\,824$ 50%

#total_sums
$= 256 \times 256 \times (3 \times 3 - 1) = 524\,288$ 50%

$\frac{100}{9} \times 3 + \frac{200}{9} \times 6 = \frac{300}{9} + \frac{1200}{9} = \frac{1500}{9} = 166{,}6 \rightarrow 167$

$\frac{100 \times 6}{9} + \frac{200}{9} \times 3 = \frac{600}{9} + \frac{600}{9} = \frac{1200}{9} = 133{,}3 \rightarrow 133$

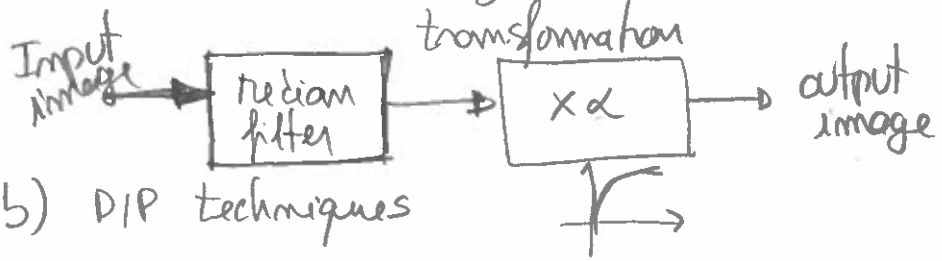
(6) a) DIP techniques

step 1 → Apply median filter to remove the salt & pepper noise 20%

step 2 → Amplify the resulting image, by multiplication with a constant value 80%

or

brightness increase with an intensity transformation



b) DIP techniques

step 1 → Apply median filter to remove the salt & pepper noise 20%

step 2 → Use the HS technique, using a high contrast and high brightness image as the reference image. 80%