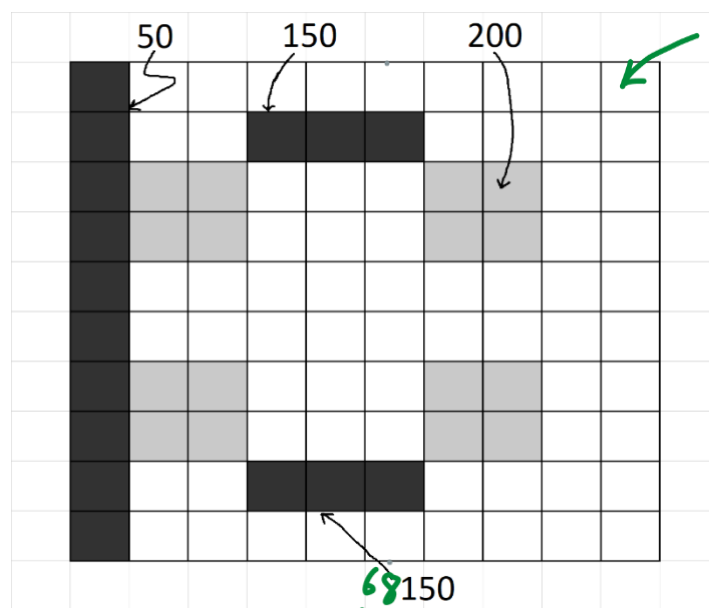


AIG210 – Worksheet 3 – Histograms

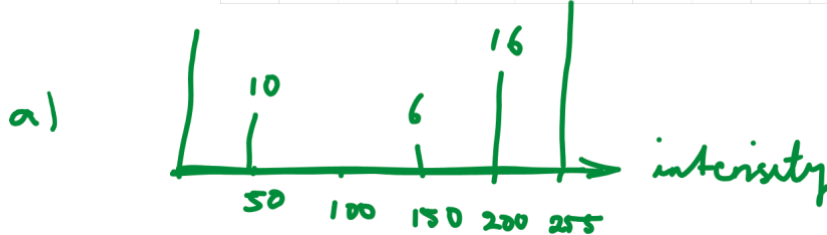
1- Given the following 10x10 grayscale image, plot the histograms (each block is 1 pixel):

- Assuming 256 bins
- Assuming four bins



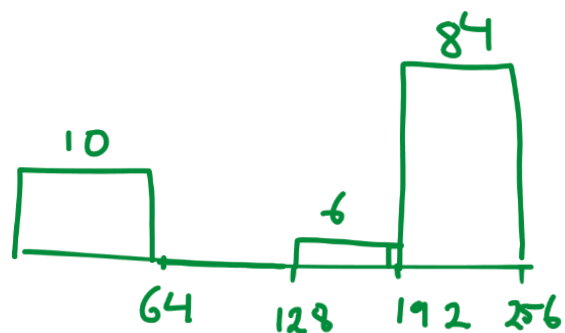
	#
50	10
150	6
200	16
255	68

$$100 - 32 = 68$$



$$\frac{256}{4} = 64$$

0 ~ 63	10
64 ~ 127	0
128 ~ 191	6
192 ~ 255	84



RGB

2- Given the following 100x100 image, plot the color histograms (each block is 10 pixels wide):

(a) Assuming 256 bins per color

(b) Assuming two bins per color

R

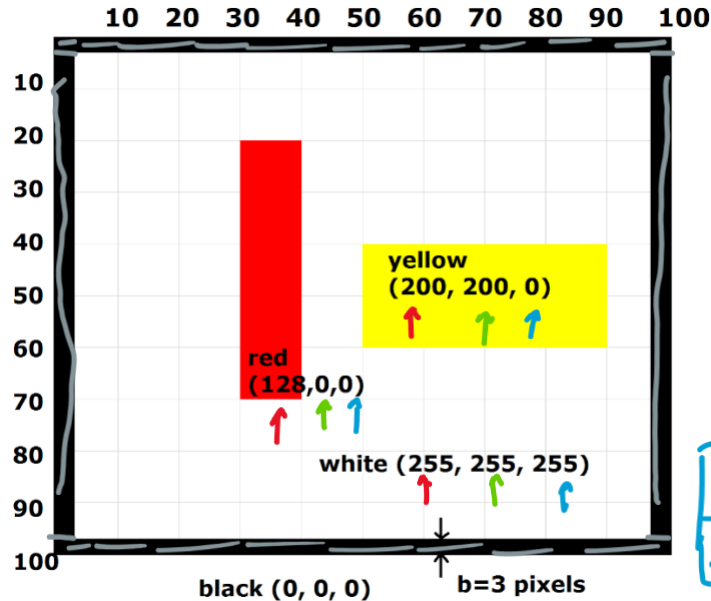
0	1164
128	500
200	800
255	7536

G

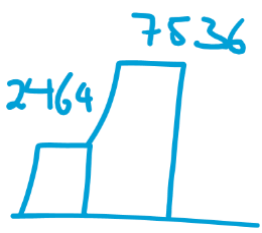
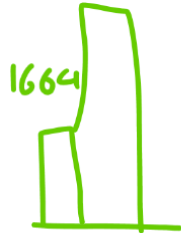
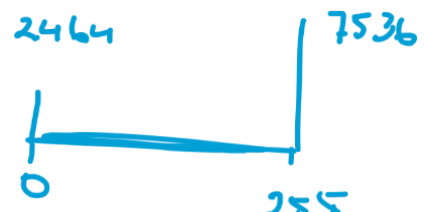
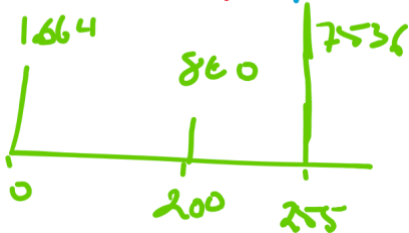
0	1664
200	800
255	7536

B

0	2464
255	7536



$$(3 \times 100) \times 2 + (3 \times 94) \times 2 = 1164$$



$$\frac{255}{2} = 128$$

$$0 \sim 127$$

$$128 \sim 255$$