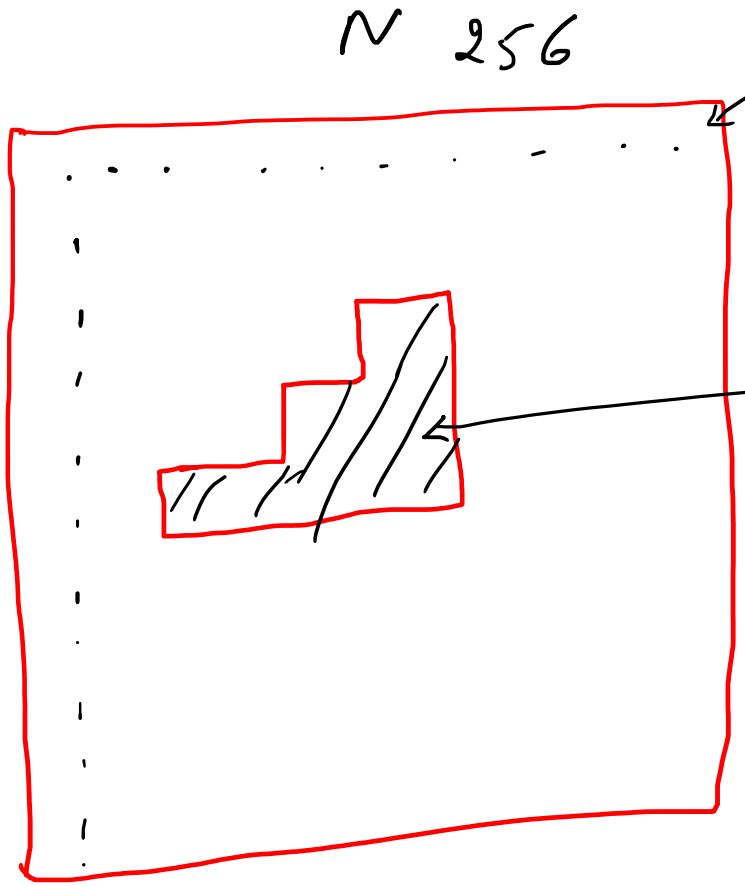
Image Compression

Run Length coding & Bit Plane coding

Run Length Coding



Background pixels (0's)

Foreground pixels (1's)

How many pixels — 1st byte

what intensity — 2nd byte

$$C = \frac{1 \times 256 \times 8}{2 \times 8}$$

11111111 — 256

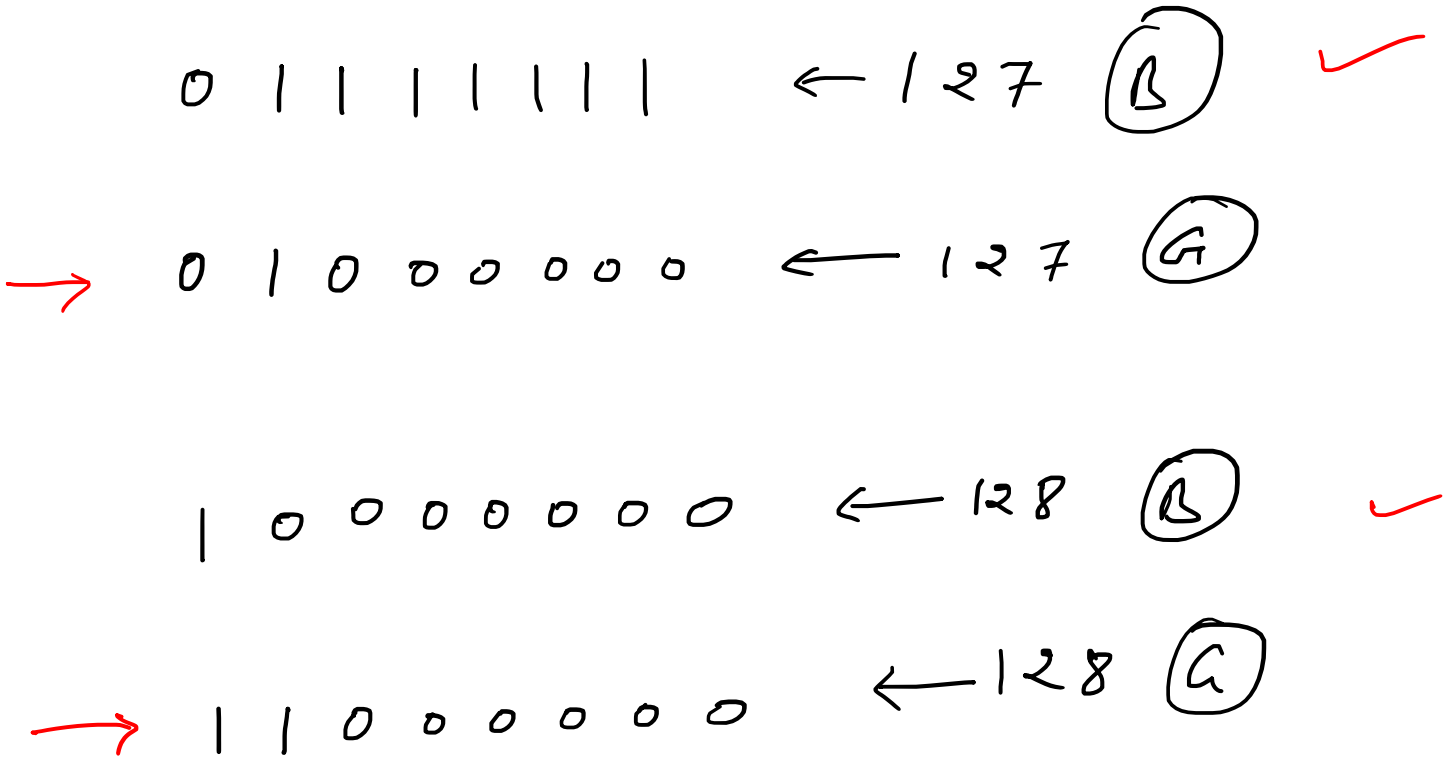
00000000 — 0

Bit Plane Coding

$$m_7 \times 2^7 + m_6 \times 2^6 + m_5 \times 2^5 + \cdots + m_0 \times 2^0$$

$$127 = 0 \times 2^7 + 1 \times 2^6 + \cdots + 1 \times 2^0$$

$$128 = 1 \times 2^7 + 0 \times 2^6 + \cdots + 0 \times 2^0$$


0 1 1 1 1 1 1 1 ← 127 B
0 1 0 0 0 0 0 0 ← 127 G
1 0 0 0 0 0 0 0 ← 128 B
1 1 0 0 0 0 0 0 ← 128 G