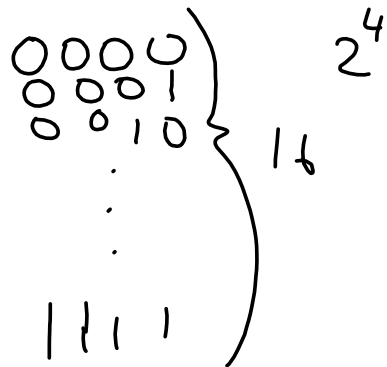


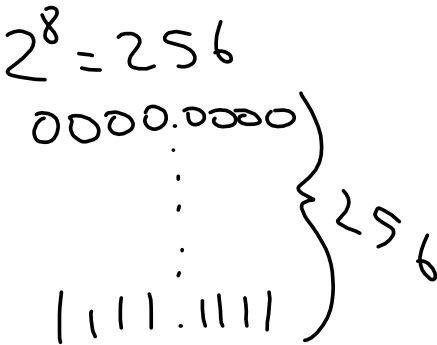
$200 \times 100 = 20.000 \text{ pixel}$   
20K

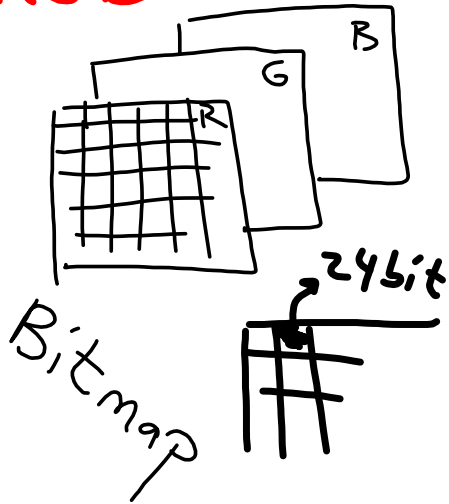
$\frac{24 \times 200 \times 100}{8} = 60 \text{ KB}$

4 Bit Gray level



8 Bit



**RGB**

$$R = 8 \text{ bit} \quad 2^8 = 256$$

$$G = \text{ " " " }$$

$$B = \text{ " " " }$$

$$2^8 \cdot 2^8 \cdot 2^8 = 2^{24}$$

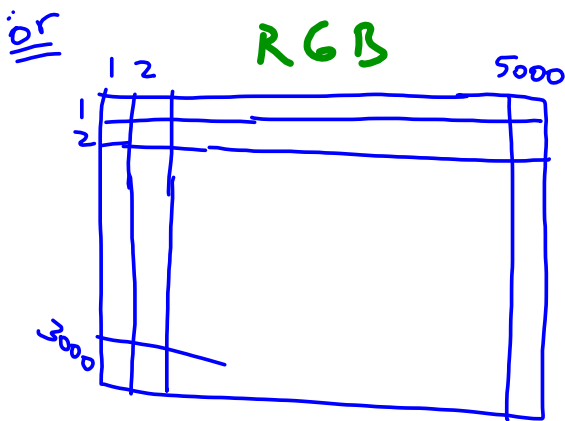
$$2^{10} \cdot 2^{10} \cdot 2^4 \approx 16 \text{ Milyon}$$

TRUE COLORS

$$\begin{array}{c} \text{bin} \quad \text{dec} \\ 0000.0000 - 0 \end{array}$$

...

$$1111.1111 - 255$$



Kaç pixel?  $3000 \times 5000 = 15 \text{ milyon}$

$$\frac{3000 \times 5000 \times 3}{8 \cdot 10^3 \cdot 10^3} = 45 \text{ mb}$$

$$\text{or } \text{FPS} = 60$$

$3840 \times 2160$  : 4K film

Resolution

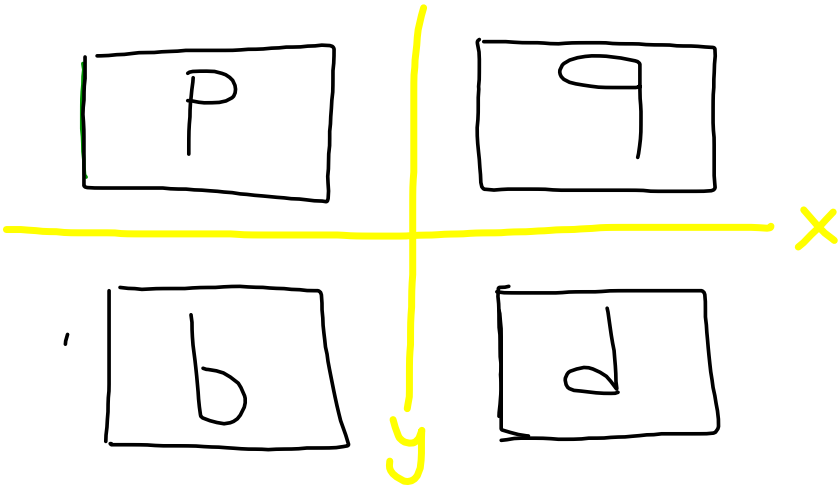
8m pike /

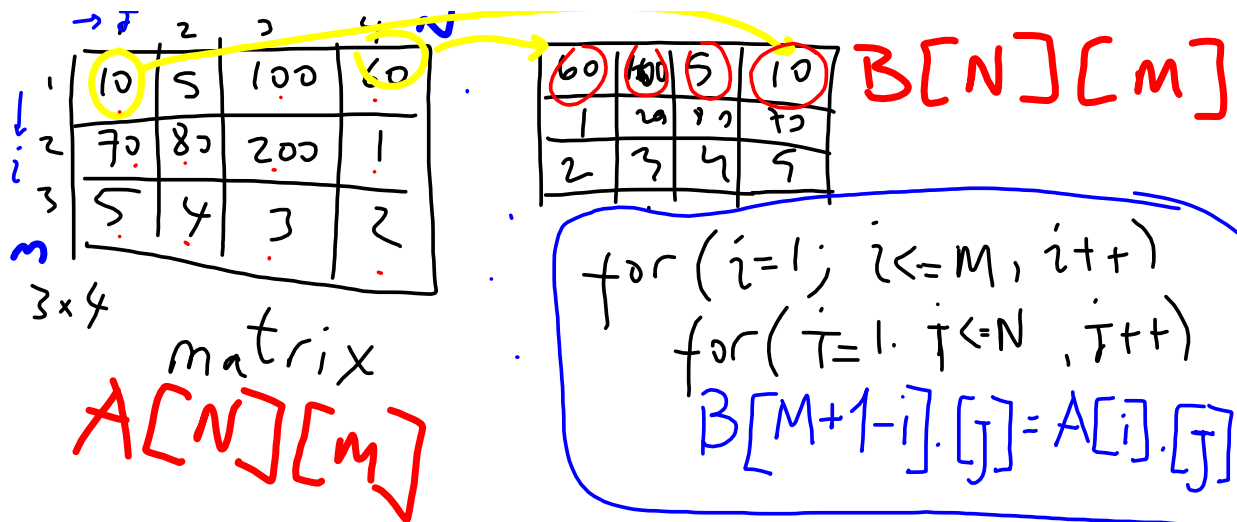
120 min.

RGB

$$\begin{array}{c} \text{4K} \quad \text{RGB} \quad \text{f} \quad \text{sn} \\ \cancel{3840} \times \cancel{2160} \times \cancel{24} \times \cancel{60} \times \cancel{120} \times \cancel{60} \\ \hline 8 \times 3 \times 6 \times 12 \times 6 = \text{GB} \\ 10.368 \text{ GB} = 10 \text{ TB} \end{array}$$

Cmyk  
Cyan  
Magenta  
Yellow  
Black





C syntax --



$90^\circ$  CW : Saat yönünde  
CCW : // yönünün tersinde.

rotate

\*Arbitrary rotate.

	1	2	3	4
1	10	5	100	20
2	70	80	200	1
3	5	4	3	2

3x4

	1	2	3
1	5	70	10
2	4	80	5
3	3	200	100
4	2	1	60

for(i=1; i<=M; i++)  
for(j=1; j<=N; j++)  
B[j][i]=A[i][j]

$B[j][N-i] = A[i][j]$