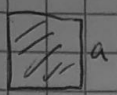
Marija Kolovrat

Digitalni mult. 1

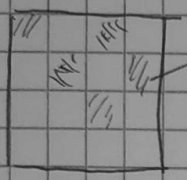
Kapaciteti i histogram slike



1-bit
2-bit
⋮
8 bit

kapaciteti slike - velicina slike v memoriji

"težina slike" (workload)



1p ⇒ 1 B

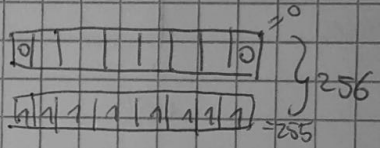
1. slika 400 × 600 [p] = 240 000 p = 240 000 B

↓

8 bit-na slika

= 240 000 B : 1024

= 234,4 kB //



1 B = 1024

= 2^{10}

2. slika 400 × 600 [p] = 240 000 p = 240 000 b : 8 = 30 000 B

↓

1 bit-na

= 30 000 B : 1024 = 29,3 kB //

3. slika 400 × 600 [p]

↓

RGB

8b 8b 8b = 24 b

234,4 kB · 3 = 703,2 kB //

↓

8-bitna slika

4. slika 234,4 kB · 4 = 937,6 kB //

↓

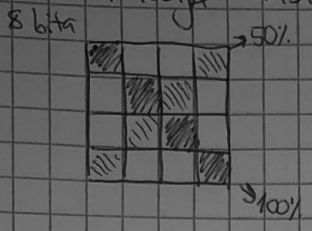
CMYK

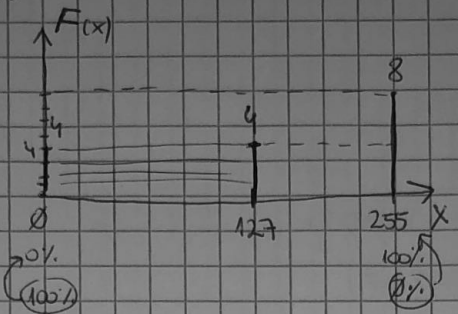
8b 8b 8b 8b

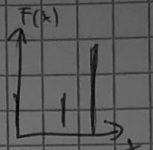
HISTOGRAM SLIKE - normalizirana funkcija distribucije sivih razina slike

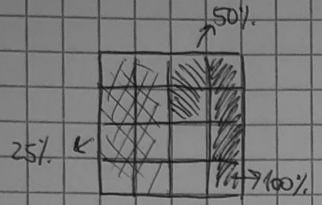
- graf koji prikazuje distribuciju svoje piksela

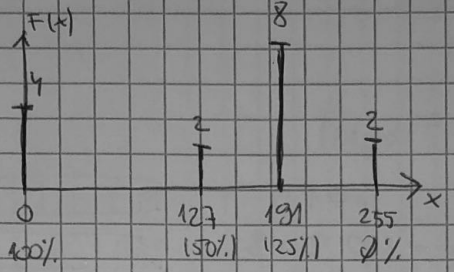
• FUNKCIJA DISTRIBUCIJE SIVIH RAZINA









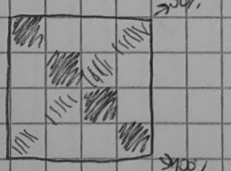


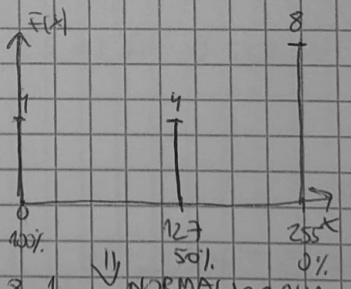
$\sum_{x=0}^{255} F(x)$ = BROJ PIKSELA NA SLICI

4×4=16 / 4+2+2+8=16

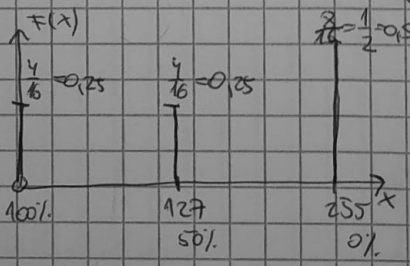
4×4=16 / 4+4+8=16

$f(x) = \frac{F(x)}{\sum_{x=0}^{255} F(x)}$





⇓ NORMALIZACIJA



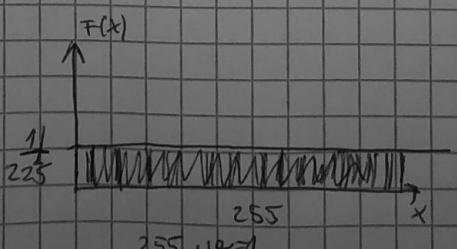
→domena y osi ispod jedinice

$\sum_{x=0}^{255} F(x) = 16$

4:16 = 0,25
4:16 = 0,25
8:16 = 0,5

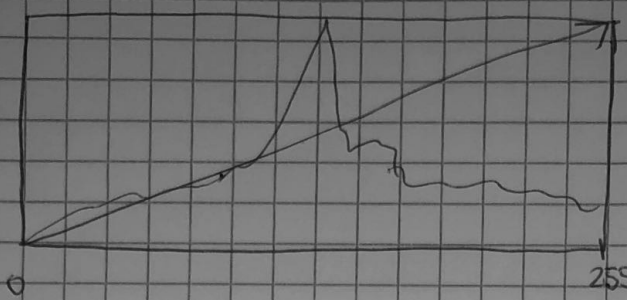
$\sum_{x=0}^{255} f(x) = 1$ //

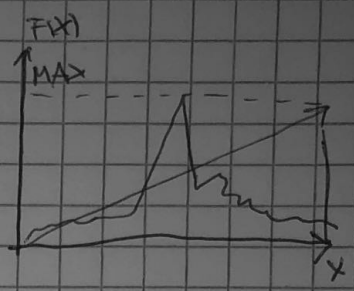
↓ gradacija



255 · 1/255 = 1

$\sum_{x=0}^{255} f(x) = 1$





- histogram slike v Photoshopu - ctrl L - Levels
  - ↳ relativno gledanje distribucije sivode na sliki