Image Processing
Home work 08

Aqeel Labash
Lecturer: Gholamreza Anbarjafari

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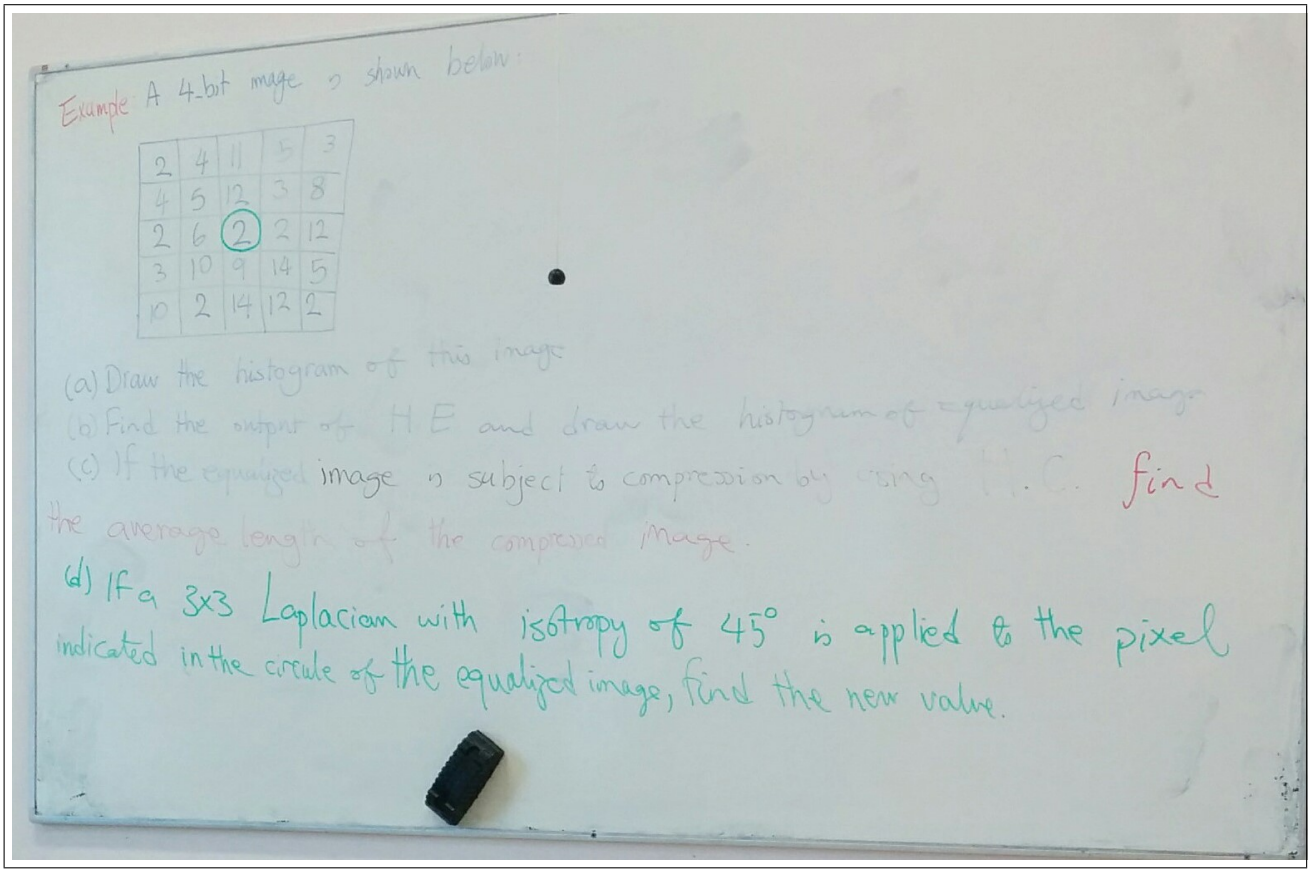

A

The histogram is just the frequency vs Value. The values as in the following table :

Value	Count
2	6
3	3
4	2
5	3
6	1
8	1
9	1
10	2
11	1
12	3
14	2

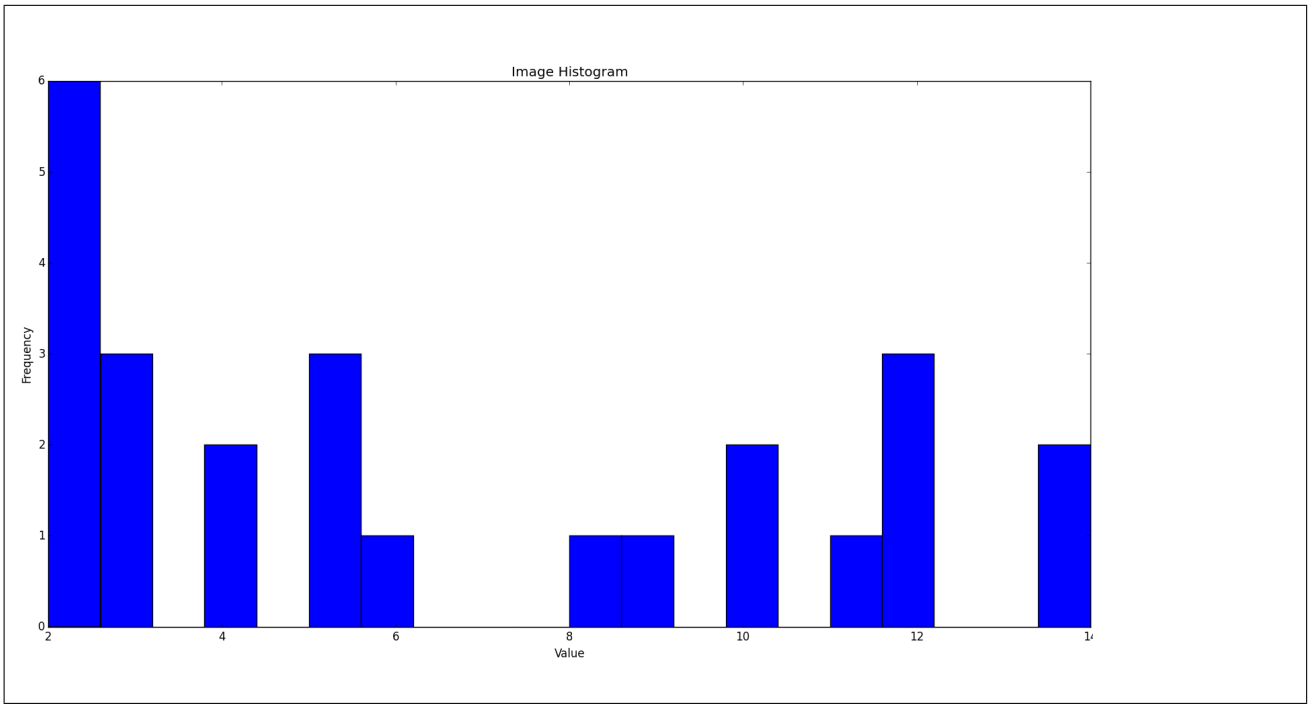

Fig. 1: Histogram of the image

B

First here is the values :

value	Count	Probablitiy	CDF	HE
2	6	0.24	0.24	0
3	3	0.12	0.36	2
4	2	0.08	0.44	4
5	3	0.12	0.56	6
6	1	0.04	0.60	7
8	1	0.04	0.64	8
9	1	0.04	0.68	9
10	2	0.08	0.76	10
11	1	0.04	0.80	11
12	3	0.12	0.92	13
14	2	0.08	1.00	15

And here is the historam of the equalized image :

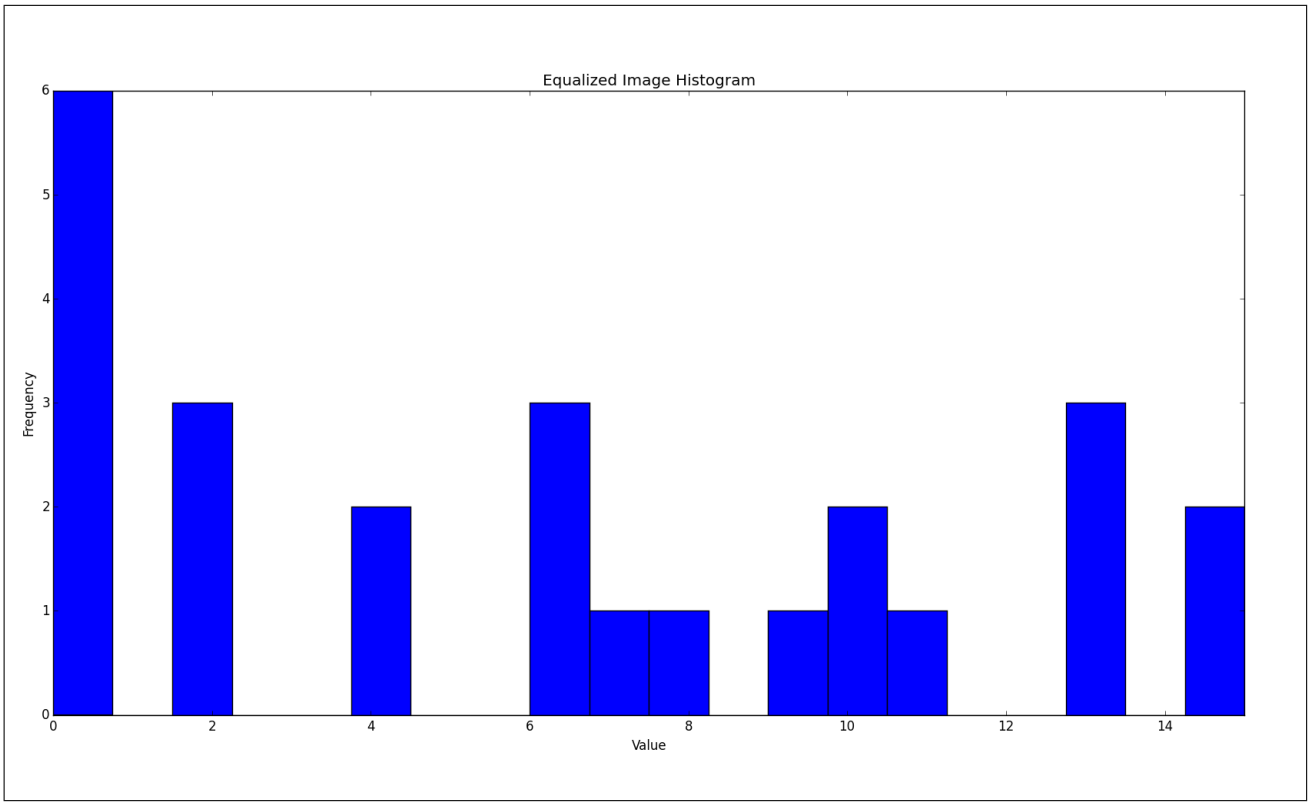

Fig. 2: Histogram of the equalized image

C

For Huffman coding I found a way with numbers (same as probabilities but just with counts). I made the draw on the board here is the image :

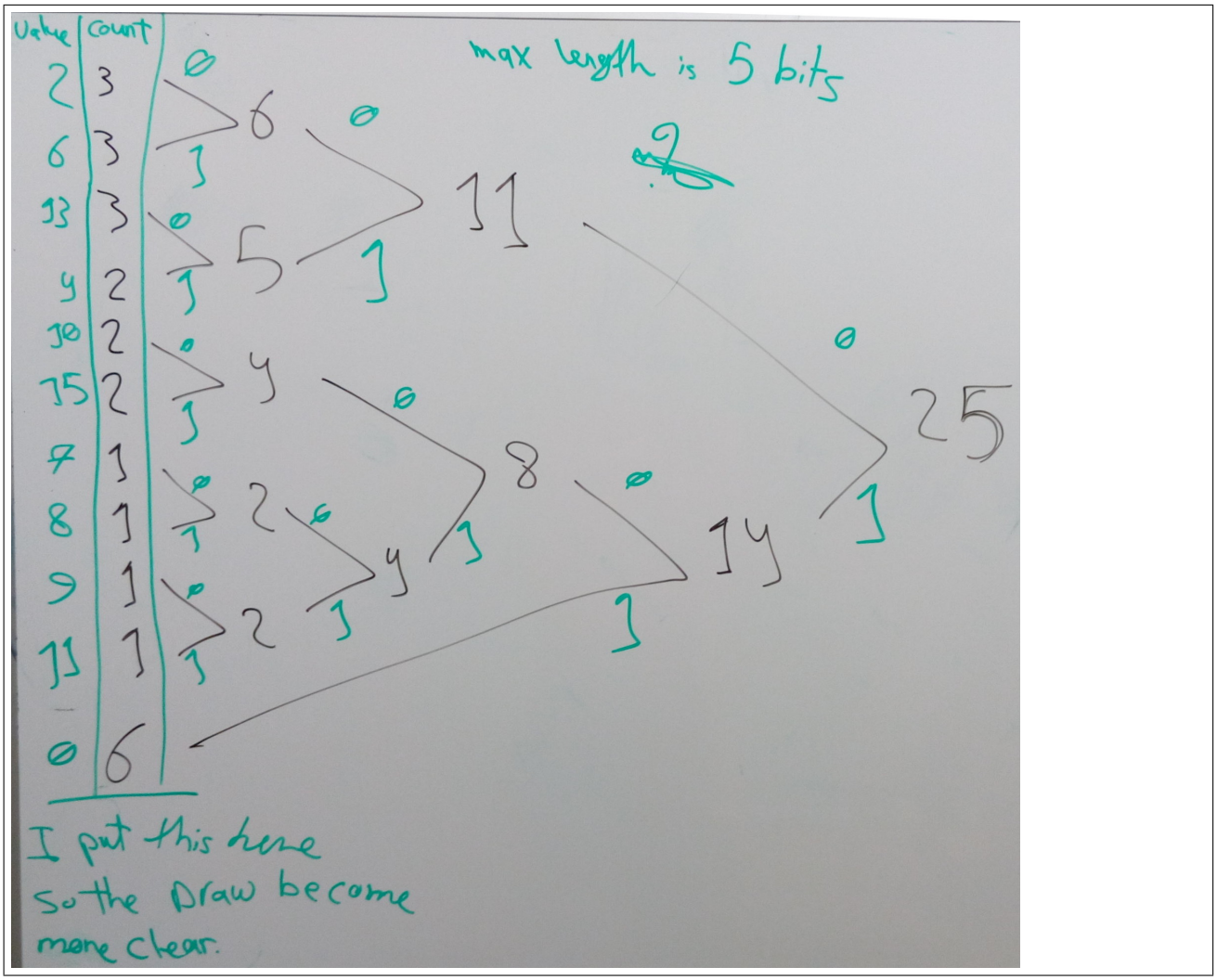

Fig. 3: The process of building Huffman Code

Here is the values:

value	Count	Pr	Code_Length
0	6	0.24	2
2	3	0.12	3
6	3	0.12	3
13	3	0.12	5
4	2	0.08	3
10	2	0.08	5
15	2	0.08	5
7	1	0.04	3
8	1	0.04	4
9	1	0.04	4
11	1	0.04	5