

Quiz-1 Solutions

Question 1

You are given the following image:

2	2	2	2	2
2	2	2	3	3
4	4	4	4	4

1. What is the image histogram?

Answer:

i	$h(i)$
0	0
1	0
2	8
3	2
4	5
5	0
\vdots	\vdots
255	0

2. What would be the result of applying linear scaling to the original image for stretching the gray levels to the 0-255 range? Solve this problem using a lookup table.

Answer:

$$x \rightarrow \frac{x - 2}{4 - 2} \cdot 255$$

0	0	0	0	0
0	0	0	128	128
255	255	255	255	255

The lookup table I used is:

0	0
1	0
2	0
3	128
4	128
5	255
\vdots	\vdots
255	255