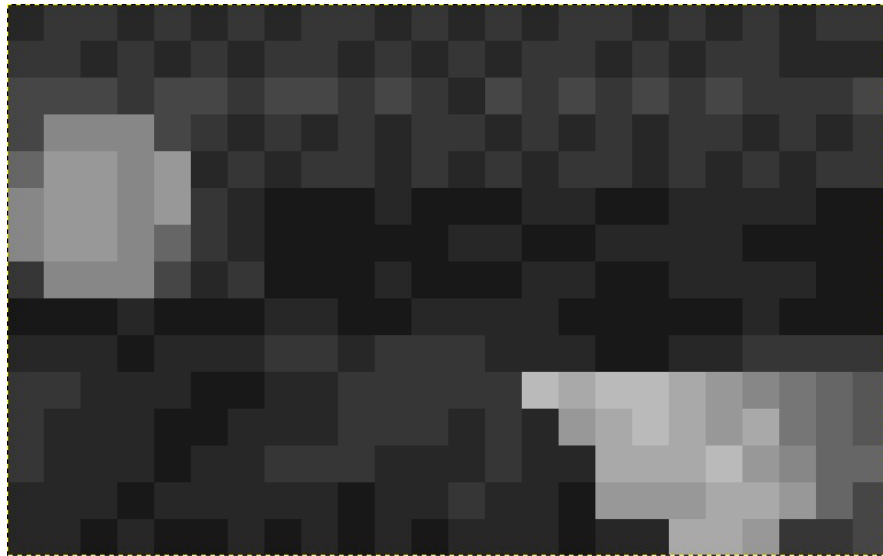


Reference Image:

```
2 3 3 2 3 2 3 2 3 3 2 3 2 3 2 3 2 3 2 3 2 3 3
3 3 2 3 2 3 2 3 3 2 3 2 3 2 3 3 2 3 2 3 3 2 2 2
4 4 4 3 4 4 3 4 4 3 4 3 2 4 3 4 3 4 3 4 3 3 3 4
4 8 8 8 4 3 2 3 2 3 2 3 2 3 2 3 2 3 2 3 2 3 2 3
6 9 9 8 9 2 3 2 3 3 2 3 2 3 2 3 3 2 3 2 3 2 3 3
8 9 9 8 9 3 2 1 1 1 2 1 1 1 2 2 1 1 2 2 2 2 1 1
8 9 9 8 6 3 2 1 1 1 1 1 2 2 1 1 2 2 2 2 2 1 1 1
3 8 8 8 4 2 3 1 1 1 2 1 1 1 2 2 1 1 2 2 2 2 1 1
1 1 1 2 1 1 1 2 2 1 1 2 2 2 2 1 1 1 1 1 2 1 1 1
2 2 2 1 2 2 2 3 3 2 3 3 3 2 2 2 1 1 2 2 3 3 3 3
3 3 2 2 2 1 1 2 2 3 3 3 3 3 11 10 11 11 10 9 8 7 6 5
3 2 2 2 1 1 2 2 2 3 3 3 2 3 2 9 10 11 10 9 10 7 6 5
3 2 2 2 1 2 2 3 3 3 2 2 2 3 2 2 10 10 10 11 9 8 6 6
2 2 2 1 2 2 2 2 2 1 2 2 3 2 2 1 9 9 9 10 10 9 6 4
2 2 1 2 1 1 2 1 2 1 2 1 2 2 2 1 2 2 10 10 9 3 3 4
```

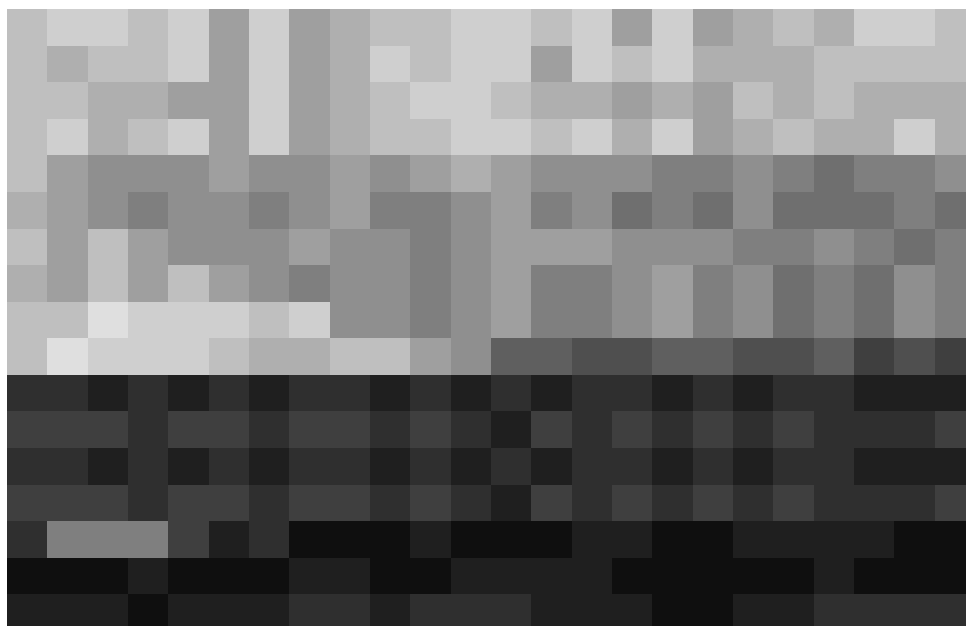


cumulative histogram of reference image:

```
0: 0.0
1: 0.18055
2: 0.53333
3: 0.78888
4: 0.83888
5: 0.84444
6: 0.86388
7: 0.86944
8: 0.90555
9: 0.95277
10: 0.98611
11: 1.0
12: 1.0
13: 1.0
14: 1.0
15: 1.0
```

Second image:

```
12 13 13 12 13 10 13 10 11 12 12 13 13 12 13 10 13 10 11 12 11 13 13 12
12 11 12 12 13 10 13 10 11 13 12 13 13 10 13 12 13 11 11 12 12 12 12 12
12 12 11 11 10 10 13 10 11 12 13 13 12 11 11 10 11 10 12 11 12 11 11 11
12 13 11 12 13 10 13 10 11 12 12 13 13 12 13 11 13 10 11 12 11 11 13 11
12 10 9 9 9 10 9 9 10 9 10 11 10 9 9 9 8 8 9 8 7 8 8 9
11 10 9 8 9 9 8 9 10 8 8 9 10 8 9 7 8 7 9 7 7 7 8 7
12 10 12 10 9 9 9 10 9 9 8 9 10 10 10 9 9 9 8 8 9 8 7 8
11 10 12 10 12 10 9 8 9 9 8 9 10 8 8 9 10 8 9 7 8 7 9 8
12 12 14 13 13 13 12 13 9 9 8 9 10 8 8 9 10 8 9 7 8 7 9 8
12 14 13 13 13 12 11 11 12 12 10 9 6 6 5 5 6 6 5 5 6 4 5 4
3 3 2 3 2 3 2 3 3 2 3 2 3 2 3 3 2 3 2 3 3 2 2 2
4 4 4 3 4 4 3 4 4 3 4 3 2 4 3 4 3 4 3 4 3 3 3 4
3 3 2 3 2 3 2 3 3 2 3 2 3 2 3 3 2 3 2 3 3 2 2 2
4 4 4 3 4 4 3 4 4 3 4 3 2 4 3 4 3 4 3 4 3 3 3 4
3 8 8 8 4 2 3 1 1 1 2 1 1 1 2 2 1 1 2 2 2 2 1 1
1 1 1 2 1 1 1 2 2 1 1 2 2 2 2 2 1 1 1 1 1 2 1 1
2 2 2 1 2 2 2 3 3 2 3 3 3 2 2 2 1 1 2 2 3 3 3 3
```



cumulative histogram of Second image:

```
0: 0.0
1: 0.07107
2: 0.19852
3: 0.33823
4: 0.40931
5: 0.42156
6: 0.43382
7: 0.46323
8: 0.54411
9: 0.64705
10: 0.73774
11: 0.81127
12: 0.90931
13: 0.99509
14: 1.0
15: 1.0
```

Determine the matching function --- map values in the second image to an output image. The domain and range are 0 .. 15.

Create the first row of the output image (using that matching function)