

Suppose that a 3-bit image ($L=8$) of size 64×64 pixels ($MN = 4096$) has the intensity distribution shown in following table. Get the histogram equalization transformation function and give the p_s for each s_k

r_k	n_k	$P_r(r_k) = n_k / MN$
$r_0 = 0$	700	0.17
$r_1 = 1$	850	0.20
$r_2 = 2$	1023	0.24
$r_3 = 3$	627	0.15
$r_4 = 4$	385	0.09
$r_5 = 5$	250	0.06
$r_6 = 6$	139	0.03
$r_7 = 7$	122	0.02