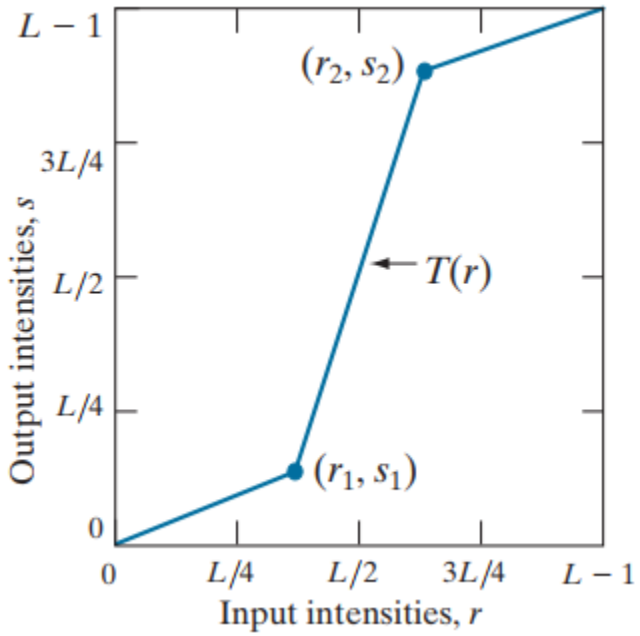
Contrast Stretching

What does it do?

- Contrast stretching expands the range of intensity levels in an image so that it spans the ideal full intensity range of the recording medium or display device.

How do we do it?



Here,

r1 = min intensity of input image

r2 = max intensity of input image

We set s1 = 0 and s2 = 255 to stretch the contrast from r2 - r1 to 255.

All the intensity values of the input image lies in between [r1, r2]
To calculate any output intensity value **s** against an input value **r**, we will follow the two point equation of straight line.

$$\frac{s - s1}{s2 - s1} = \frac{r - r1}{r2 - r1}$$

$$=> \; s = \frac{(s2 - s1) * (r - r1)}{r2 - r1} + s1$$