**Universidade Federal do Tocantins**

**Disciplina: Processamento de Imagens**

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## Atividade Equalização Histograma

Imagem Original

| 2 | 2 | 1 | 1 |
|---|---|---|---|
| 2 | 2 | 1 | 1 |
| 2 | 1 | 4 | 3 |
| 4 | 4 | 2 | 0 |

| Rk | Nk | Pr(rk) | Freq. | Eq. | Rk |
|---|---|---|---|---|---|
| 0 | 1 | 0.0625 | 0.0625 | 0.4375 | 0 |
| 1 | 5 | 0.3125 | 0.375 | 2.625 | 3 |
| 2 | 6 | 0.375 | 0.75 | 5.25 | 5 |
| 3 | 1 | 0.0625 | 0,8125 | 5.6875 | 6 |
| 4 | 3 | 0.1875 | 1.00 | 7.00 | 7 |
| 5 | 0 | 0 | 1.00 | 7.00 | 7 |
| 6 | 0 | 0 | 1.00 | 7.00 | 7 |
| 7 | 0 | 0 | 1.00 | 7.00 | 7 |
| Total: | 16 | 1 | - | - | - |

| Rk | Nk | Pr(rk) |
|---|---|---|
| 0 | 1 | 1/16 = 0.0625 |
| 1 | 5 | 5/16 = 0.3125 |
| 2 | 6 | 6/16 = 0.375 |
| 3 | 1 | 1/16 = 0.0625 |
| 4 | 3 | 3/16 = 0.1875 |
| 5 | 0 | 0 |
| 6 | 0 | 0 |
| 7 | 0 | 0 |
| Total: | 16 | 1 |

| 2 | 2 | 1 | 1 |
|---|---|---|---|
| 2 | 2 | 1 | 1 |
| 2 | 1 | 4 | 3 |
| 4 | 4 | 2 | 0 |

**Imagem de Entrada**

| rk | rk |
|---|---|
| 0 | 0 |
| 1 | 3 |
| 2 | 5 |
| 3 | 6 |
| 4 | 7 |
| 5 | 7 |
| 6 | 7 |
| 7 | 7 |

| 5 | 5 | 3 | 3 |
|---|---|---|---|
| 5 | 5 | 3 | 3 |
| 5 | 3 | 7 | 6 |
| 7 | 7 | 5 | 0 |

**Imagem de Saída**

$$P_r(r_k) = \frac{n_k}{\text{Total de Pixels}} = \frac{n_k}{J6}$$

$$S_K = T(r_k) = \sum_{J=0}^{K} \frac{m_j}{m} = \sum_{J=0}^{k} P_r(r_j)$$

$$S_K = T(r_k) = (L-J) \sum_{J=0}^{K} P_r(r_j)$$