Name: Nikita Nandkumar Deshpande

PRN: 2020BTEIT00009

Observations: The image quality is enhanced when image processing is used, and the shades of the image are distributed in a uniform manner.

Calculations:

| Grey Level | No. of Pixels (nk) | PDF = (nk/sum) | CDF = Sk | Sk * 7 | Histogram equal level |
|------------|---------------------|-------------------|----------|--------|-----------------------|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 0 | 0 | 0 |
| 2 | 0 | 0 | 0 | 0 | 0 |
| 3 | 6 | 0.24 | 0.24 | 1.68 | 2 |
| 4 | 14 | 0.56 | 0.8 | 5.6 | 6 |
| 5 | 5 | 0.2 | 1.0 | 7 | 7 |
| 6 | 0 | 0 | 1.0 | 7 | 7 |
| 7 | 0 | 0 | 1.0 | 7 | 7 |

SpeedUp:

Before using MPI: MPI helps to decentralise work and helps for faster execution of files.

Without using MPI, the execution time is slow.

After using MPI: MPI helps to execute faster as compared to previous observation.