

Laplace Filtering:

For a 5×5 Laplace filter, you may choose one of two options:

- $F(x, y) = 24P(x, y) + \sum_{for(i,j) \neq (x,y)} -1P(i, j)$. (Here $P(i, j)$ is a pixel for $-2 \leq i, j \leq 2$.)
- Weight (x, y) by 16, weight $(x \pm 1, y)$ and $(x, y \pm 1)$ by -2, weight $(x \pm 1, y \pm 1)$, $(x \pm 2, y)$ and $(x, y \pm 2)$ by -1. Weight all other pixels in the 5×5 region by 0.

Notice that in both cases, the sum of the weights is 0. However, the final result can be either a positive or negative color! Please add 0.5 to the result, so both positive and negative pixel colors will be visible.