

$$I'(x,y)=\sum_{i=\lfloor \frac{-k}{2}\rfloor}^{\lfloor \frac{k-1}{2}\rfloor}\sum_{j=\lfloor \frac{-k}{2}\rfloor}^{\lfloor \frac{k-1}{2}\rfloor}I(x+i,y+j)$$