In previous section — Multi Image Operation

Gray level of one I/P Image — is mapped — to another o/p image.

But in multi Image operation Gray level of two or more I/P images mapped to a single o/p image

$$g(x,y) = op[f_1(x,y), f_2(x,y)]$$

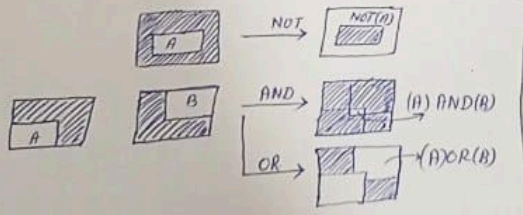
Make double exposure image or composite image

operations (op) —
① Addition → $g(x,y) = \lambda_1 f(x,y) + \lambda_2 h(x,y)$ → $g(x,y) = f(x,y) + h(x,y)$
② Subtraction → $g(x,y) = |f(x,y) - h(x,y)|$ → Motion detection, Background - Illumination, Calculating error
③ Multiplication → $g(x,y) = \lambda f(x,y)$
④ Logical AND
⑤ Logical OR
⑥ Logical XOR
$= f_1(x,y) * f_2(x,y)$ } ⇒ Binary Image (Mean Square error)

⑦ Image Averaging ⇒ $\bar{g}(x,y) = \frac{1}{n}\sum_{i=1}^{n} f_i(x,y)$ $f_1, f_2, \ldots f_n$ are n images

$\bar{g}(x,y)$ → Average image

Boolean Operations → used when dealing with binary image
- foreground (1-valued) set of pixels
- background (0-valued) set of pixels

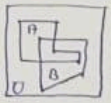


(A) AND [NOT (B)] ⇒

(A) XOR (B) ⇒

Basic Set operations

Let two sets of coordinates A & B in 2-D space



then A ∪ B ⇒

A ∩ B ⇒

A^c ⇒ ≠ A − B ⇒