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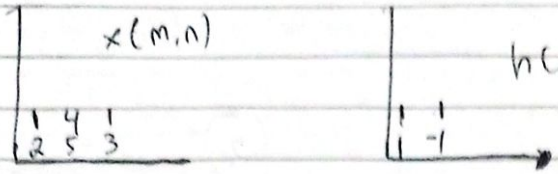
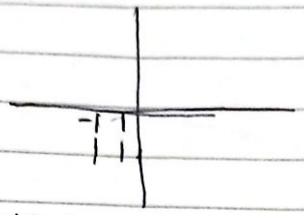
PSO D

Latihan Soal Convolution 2D



$$g(m,n) = \sum_{k_1=-\infty}^{\infty} \sum_{k_2=-\infty}^{\infty} x(k_1,k_2)\cdot h((m-k_1),(m-k_2))$$

h(m,n) dicerminkan terhadap titik pusat.



Konvolusinya :

1 4 1
-1 (1.2) 5 3 → -1(0) + 2.1 = 2
1 1

1 4 1
(1.2) (1.5) 3 ⇒ -1(2) + 5.1 = 3 (1)
1 1

1 4 1
2 (-1.5) (3.1) ⇒ -1.5 + 3.1 = 2
1 1

1 4 1
2 5 (-1.3) 1 ⇒ -3.1 + 1(0) = -3
1 1

(2) -1 (1.1) 4 1 ⇒ 1(1) + 1(2) = 3
1 (1.2) 5 3

(-1.1) (1.4) 1 ⇒ -1.1 + 4.1 + 5.1 + 2.1 = 10 (2)
(1.2) (1.5) 3

1 (-1.4) (1.1) ⇒ -4 + 5 + 1 + 3 = 5
2 (1.5) (1.3)

1 4 (-1.1) 1 ⇒ -1.1 + 3.1 + 1(0) . 1.0 = 2
2 5 (1.3) 1

(3)

- -1 1
  1 (1.1) 4 1 ⇒ 1
  2 5 3

- -1 1
  (1 6 1) (1.4.1) 1 ⇒ 1+4=5
  2 5 3

- -1 1
  1 (1.4) (1.1) ⇒ 4+1=5
  2 5 3

- -1 1
  1 4 (1.1) 1 ⇒ 1
  2 5 3

Hasil akhir: $g(m,n) =$

1	1	5	5	1
3	3	10	5	2
2	2	3	-2	-3