Digitalni multimedij 1
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Osvrt na predavanje

Osnovni logički operatori nad slikama

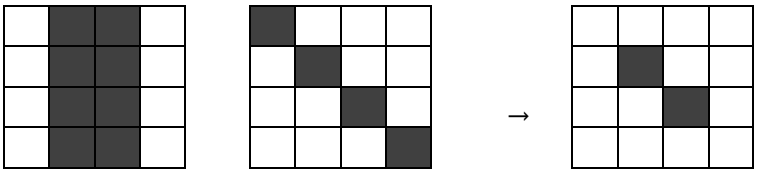

= 1
= 0

1. OPERATOR **PRESJEK – I (A*B)**

Kod operatora I vrijedi

0•0=0
0•1=0
1•0=0
1•1=1

Piksel slike A ulazi u operaciju s pikselom iste pozicije slike B.



A B C

0	1	1	0
0	1	1	0
0	1	1	0
0	1	1	0

1	0	0	0
0	1	0	0
0	0	1	0
0	0	0	1

→

0	0	0	0
0	1	0	0
0	0	1	0
0	0	0	0

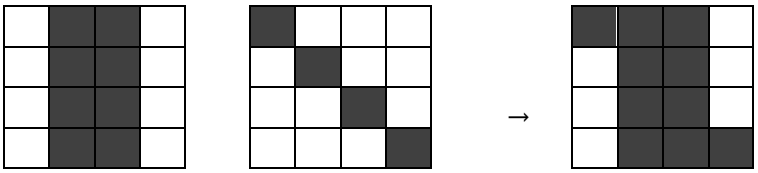
A B C = A • B

2. OPERATOR **ILI – UNIJA (A+B)**

Kod operatora ILI vrijedi:

0+0=0
0+1=1
1+0=1
1+1=1

Piksel slike A ulazi u operaciju s pikselom iste pozicije slike B.



A B C

0	1	1	0
0	1	1	0
0	1	1	0
0	1	1	0

A

1	0	0	0
0	1	0	0
0	0	1	0
0	0	0	1

B

→

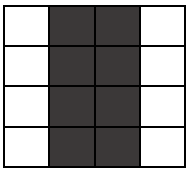
1	1	1	0
0	1	1	0
0	1	1	0
0	1	1	1

C = A + B

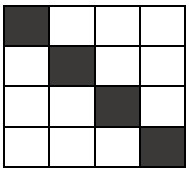
3. OPERATOR **EX-ILI (A⊕B)**

Kod operatora EX-ILI vrijedi:

0+0=0
0+1=1
1+0=1
1+1=0

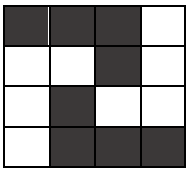


A



B

→



C

0	1	1	0
0	1	1	0
0	1	1	0
0	1	1	0

A

1	0	0	0
0	1	0	0
0	0	1	0
0	0	0	1

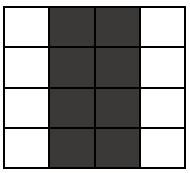
B

→

1	1	1	0
0	0	1	0
0	1	0	0
0	1	1	1

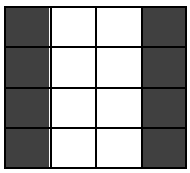
C = A ⊕ B

4. OPERATOR **NE (Ā)**



A

→



Ā

0	1	1	0
0	1	1	0
0	1	1	0
0	1	1	0

A

→

1	0	0	1
1	0	0	1
1	0	0	1
1	0	0	1

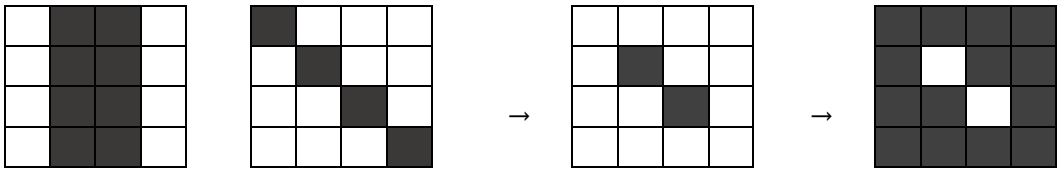
Ā

Kod operatora NE vrijedi:

$$\bar{0} = 1$$

$$\bar{1} = 0$$

5. OPERATOR NI ($\overline{A*B}$)



A B C $\bar{C}$

0	1	1	0
0	1	1	0
0	1	1	0
0	1	1	0

A

1	0	0	0
0	1	0	0
0	0	1	0
0	0	0	1

B

→

0	0	0	0
0	1	0	0
0	0	1	0
0	0	0	0

C = A • B

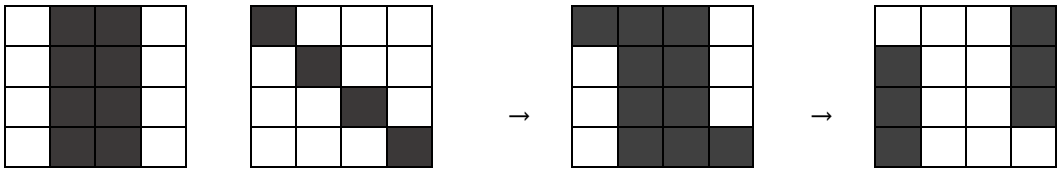
→

1	1	1	1
1	0	1	1
1	1	0	1
1	1	1	1

$\bar{C}$

A	B	A*B	$\overline{A*B}$
0	0	0	1
0	1	0	1
1	0	0	1
1	1	1	0

6. OPERATOR NILI



A B C $\bar{C}$

0	1	1	0
0	1	1	0
0	1	1	0
0	1	1	0

A

1	0	0	0
0	1	0	0
0	0	1	0
0	0	0	1

B

→

1	1	1	0
0	1	1	0
0	1	1	0
0	1	1	1

C = A + B

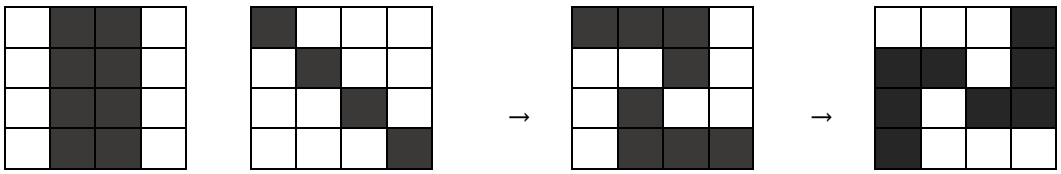
→

0	0	0	1
1	0	0	1
1	0	0	1
1	0	0	0

$\bar{C}$

A	B	A+B	$\overline{A+B}$
0	0	0	1
0	1	1	0
1	0	1	0
1	1	1	0

7. OPERATOR EXNILI



A B C $\bar{C}$

0	1	1	0
0	1	1	0
0	1	1	0
0	1	1	0

A

1	0	0	0
0	1	0	0
0	0	1	0
0	0	0	1

B

→

1	1	1	0
0	1	1	0
0	1	1	0
0	1	1	1

C = A ⊕ B

→

0	0	0	1
1	1	0	1
1	0	1	1
1	0	0	0

$\bar{C}$

A	B	A⊕B	$\overline{A \oplus B}$
0	0	0	1
0	1	1	0
1	0	1	0
1	1	0	1