

MUNCHING SQUARES: 8 by 8 Master Templates

Each of the following pages allows a student to calculate the value of **one of 8** columns in an 8 by 8 grid. Each page has 8 values to calculate. The threshold value is blank. All 8 columns need to be calculated for each threshold value, so **64 sheets in total** are required.

Each set of 8 columns, for a particular threshold value then need to be copied to a 'master template' shown below. The eight Master Templates display the pattern for each of 8 threshold values. By reproducing these on card, cutting them out and arranging as a 'flick book' students will be able to appreciate the animation they hope to achieve.

+ Threshold +	+ 111 110 101 100 011 010 001 000 <table border="1"><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table> 000 001 010 011 100 101 110 111 Threshold +																																																																	+ 111 110 101 100 011 010 001 000 <table border="1"><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table> 000 001 010 011 100 101 110 111 Threshold +																																																																
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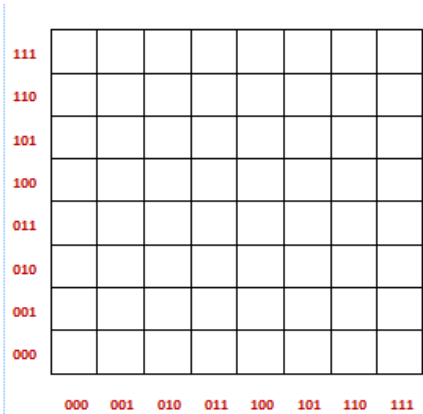
MUNCHING SQUARES: 8 by 8 Template—Column 000

Fill in the threshold value you are using. Then shade in the square for each bitwise XOR operation.

000 XOR
000

Threshold

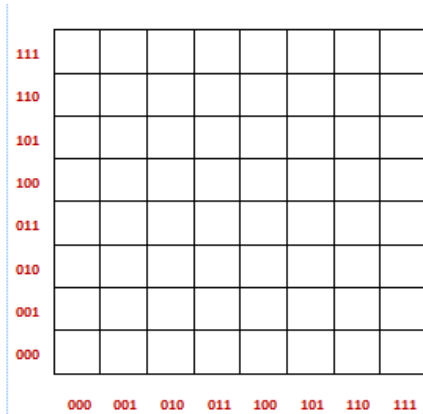
1 of 8



000 XOR
001

Threshold

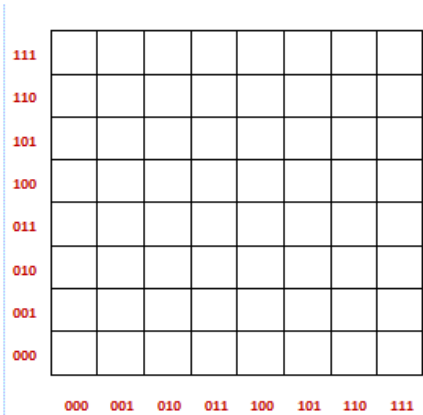
2 of 8



000 XOR
010

Threshold

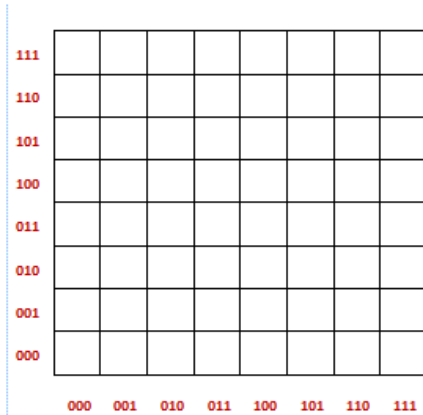
3 of 8



000 XOR
011

Threshold

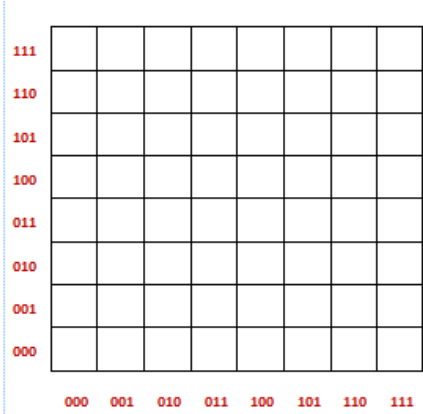
4 of 8



000 XOR
100

Threshold

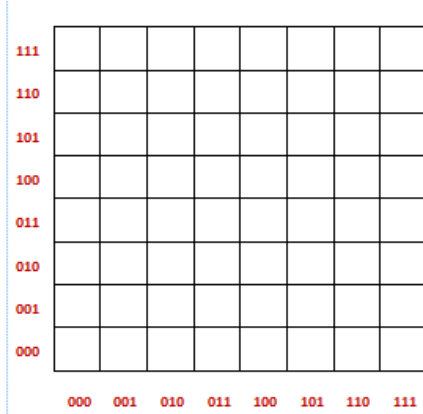
5 of 8



000 XOR
101

Threshold

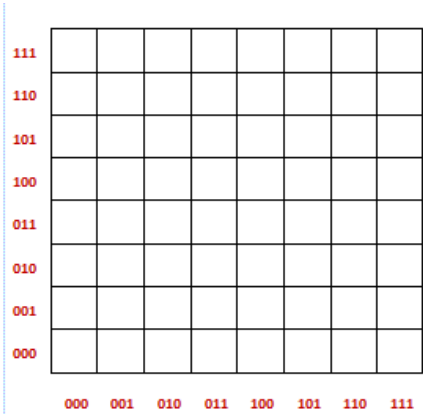
6 of 8



000 XOR
110

Threshold

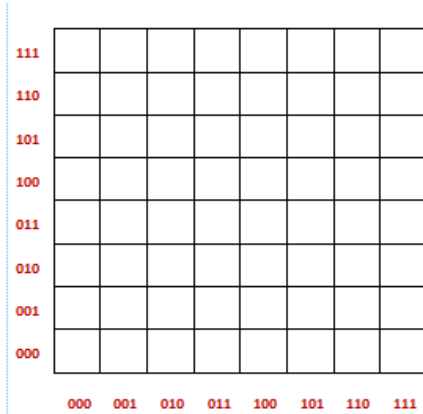
7 of 8



000 XOR
111

Threshold

8 of 8



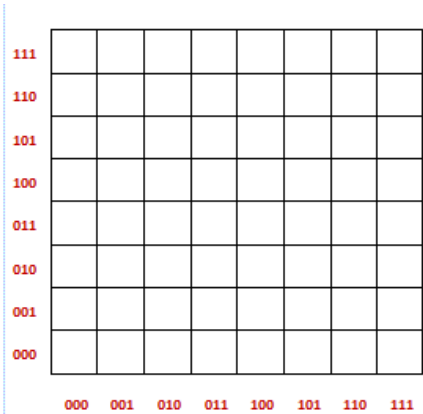
MUNCHING SQUARES: 8 by 8 Template—Column 010

Fill in the threshold value you are using. Then shade in the square for each bitwise XOR operation.

010 XOR
000

Threshold

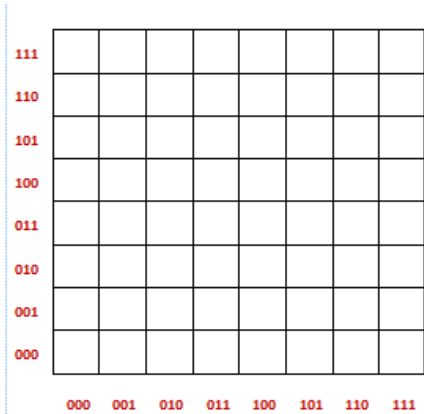
1 of 8



010 XOR
001

Threshold

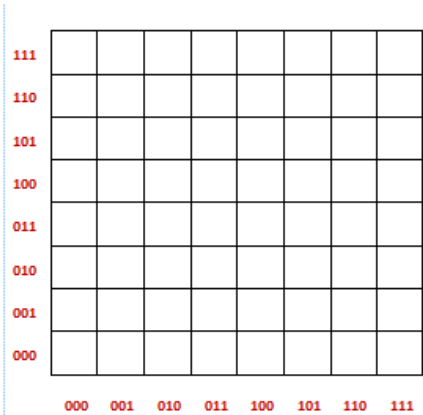
2 of 8



010 XOR
010

Threshold

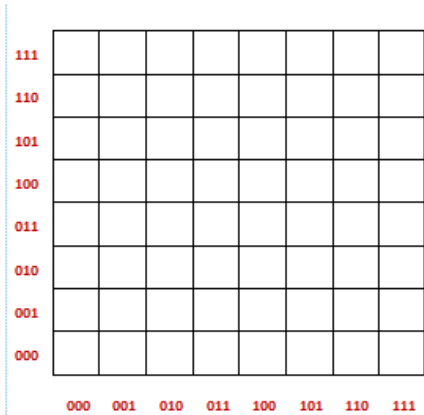
3 of 8



010 XOR
011

Threshold

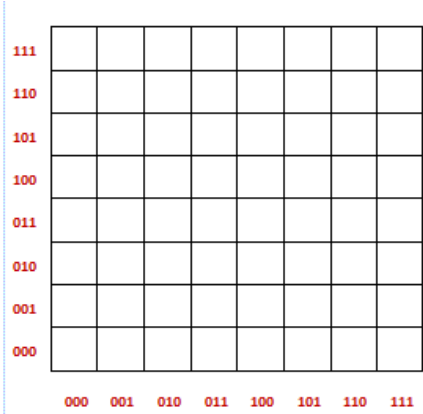
4 of 8



010 XOR
100

Threshold

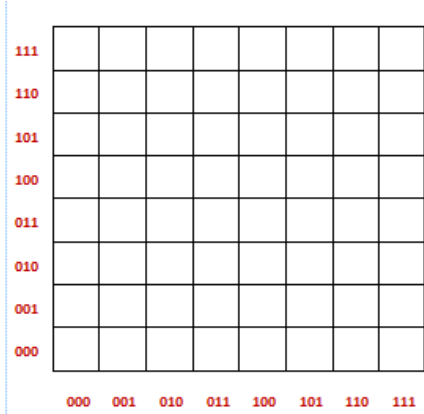
5 of 8



010 XOR
101

Threshold

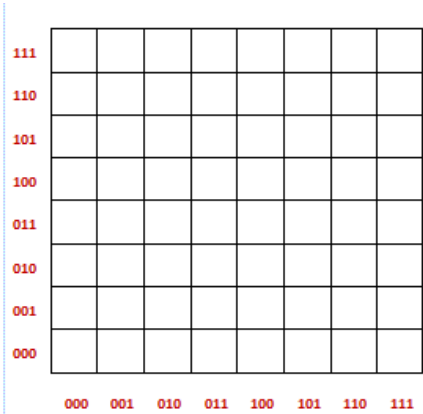
6 of 8



010 XOR
110

Threshold

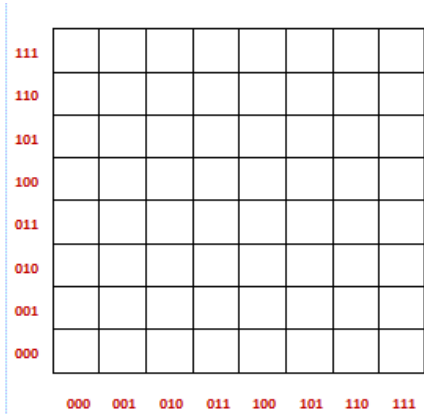
7 of 8



010 XOR
111

Threshold

8 of 8



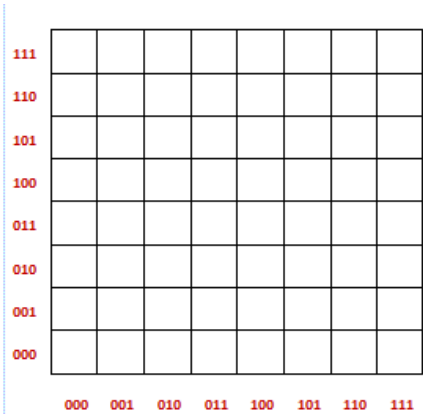
MUNCHING SQUARES: 8 by 8 Template—Column 011

Fill in the threshold value you are using. Then shade in the square for each bitwise XOR operation.

011 XOR
000

Threshold

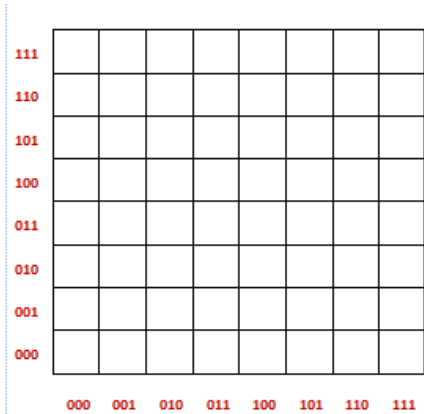
1 of 8



011 XOR
001

Threshold

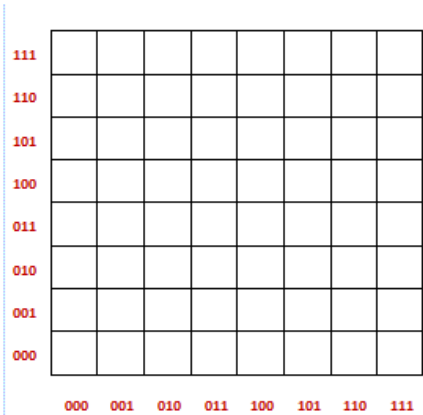
2 of 8



011 XOR
010

Threshold

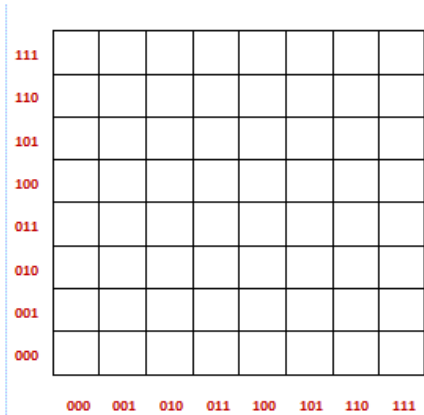
3 of 8



011 XOR
011

Threshold

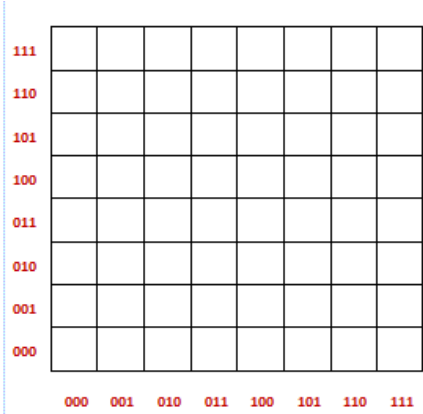
4 of 8



011 XOR
100

Threshold

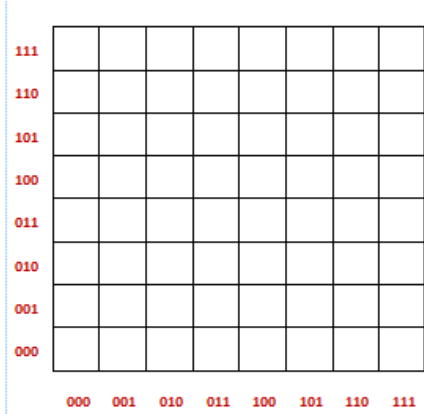
5 of 8



011 XOR
101

Threshold

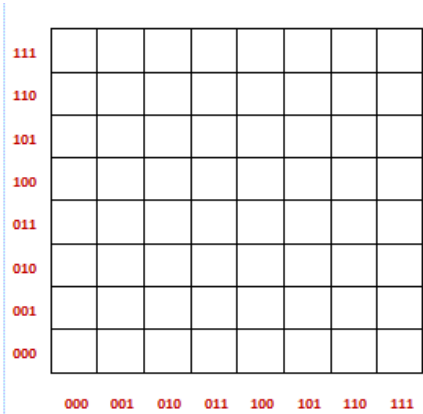
6 of 8



011 XOR
110

Threshold

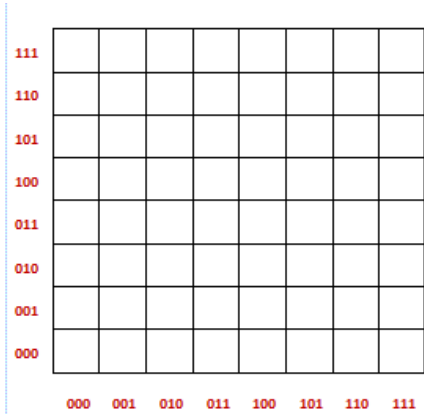
7 of 8



011 XOR
111

Threshold

8 of 8



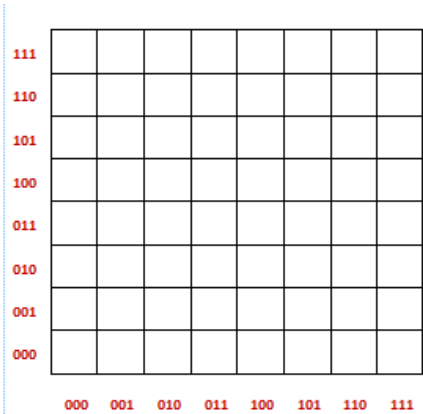
MUNCHING SQUARES: 8 by 8 Template—Column 100

Fill in the threshold value you are using. Then shade in the square for each bitwise XOR operation.

100 XOR
000

Threshold

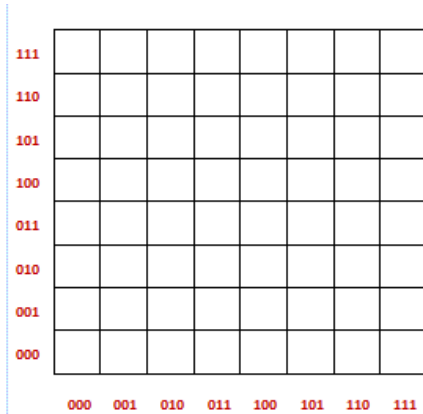
1 of 8



100 XOR
001

Threshold

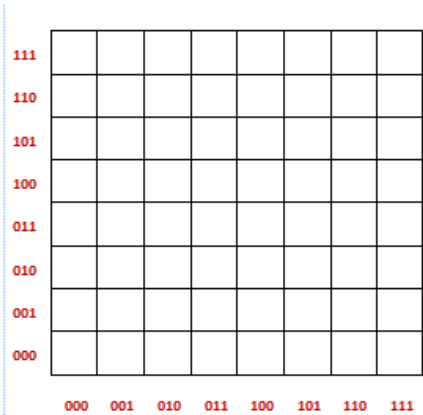
2 of 8



100 XOR
010

Threshold

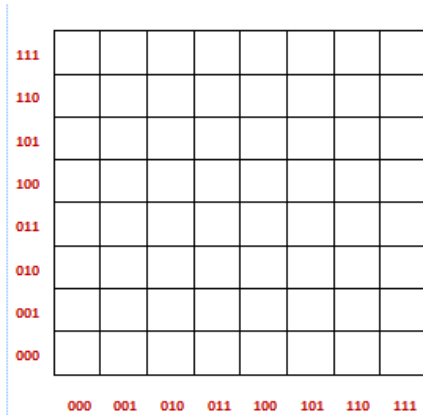
3 of 8



100 XOR
011

Threshold

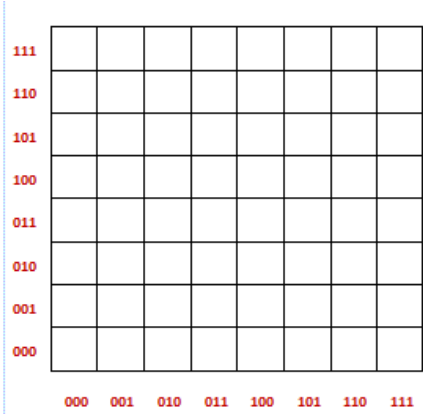
4 of 8



100 XOR
100

Threshold

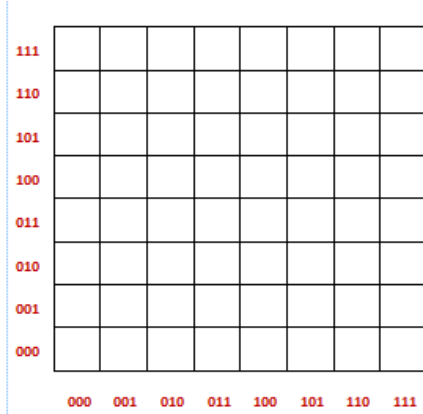
5 of 8



100 XOR
101

Threshold

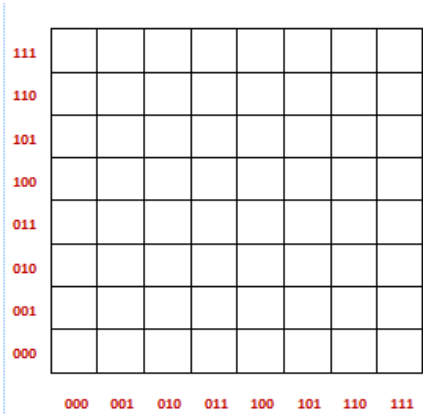
6 of 8



100 XOR
110

Threshold

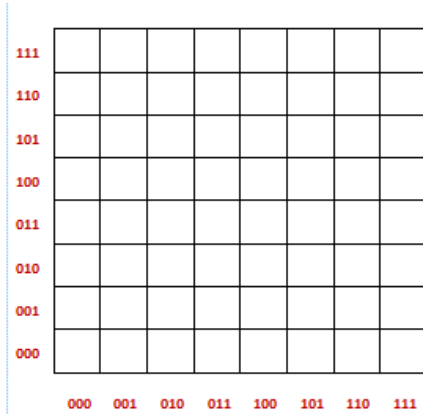
7 of 8



100 XOR
111

Threshold

8 of 8



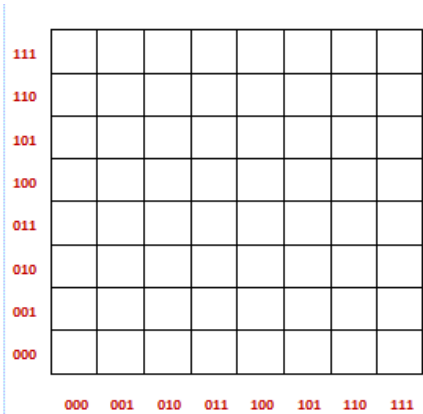
MUNCHING SQUARES: 8 by 8 Template—Column 101

Fill in the threshold value you are using. Then shade in the square for each bitwise XOR operation.

101 XOR
000

Threshold

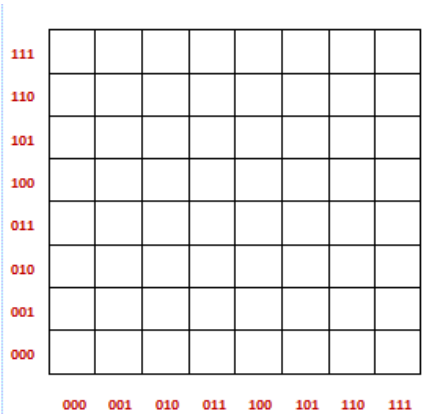
1 of 8



101 XOR
001

Threshold

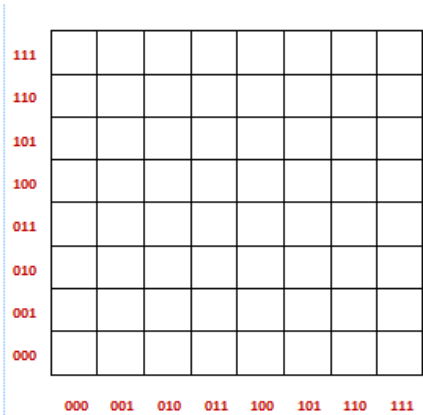
2 of 8



101 XOR
010

Threshold

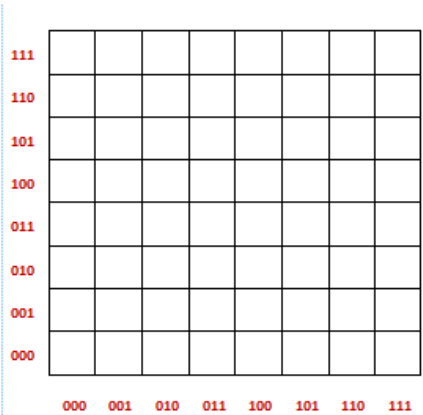
3 of 8



101 XOR
011

Threshold

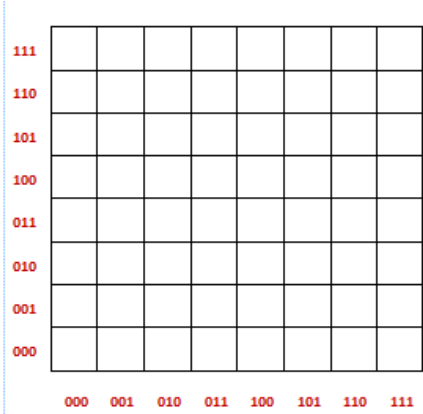
4 of 8



101 XOR
100

Threshold

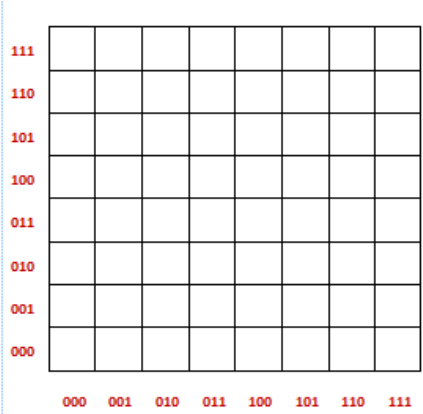
5 of 8



101 XOR
101

Threshold

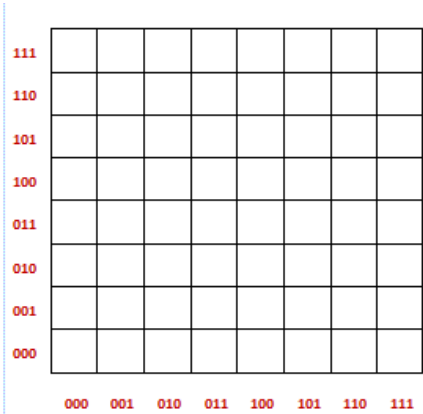
6 of 8



101 XOR
110

Threshold

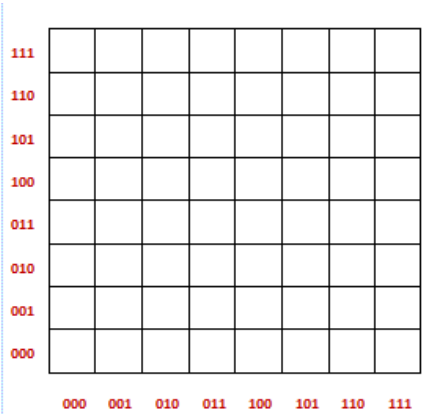
7 of 8



101 XOR
111

Threshold

8 of 8



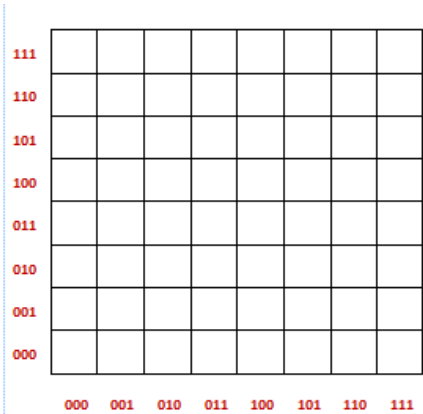
MUNCHING SQUARES: 8 by 8 Template—Column 110

Fill in the threshold value you are using. Then shade in the square for each bitwise XOR operation.

110 XOR
000

Threshold

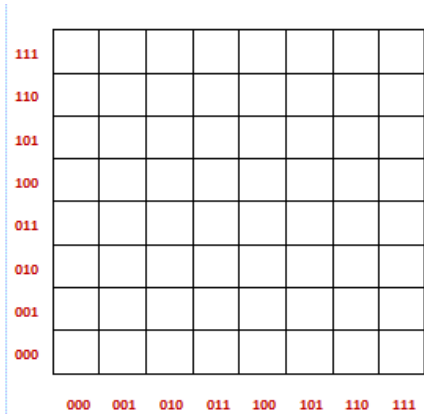
1 of 8



110 XOR
001

Threshold

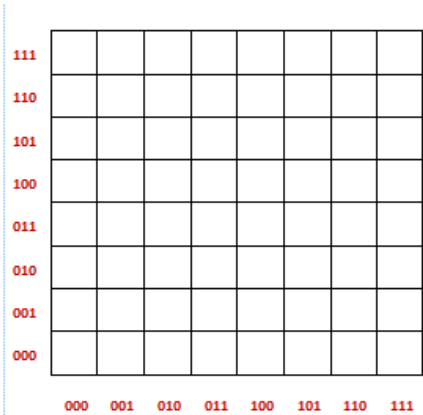
2 of 8



110 XOR
010

Threshold

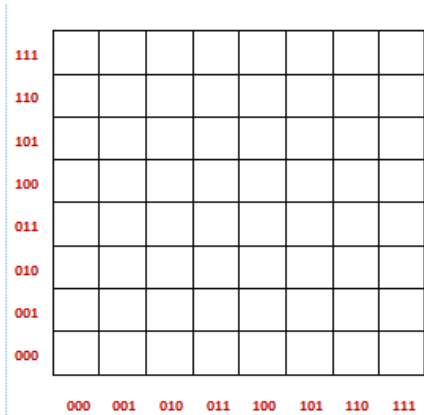
3 of 8



110 XOR
011

Threshold

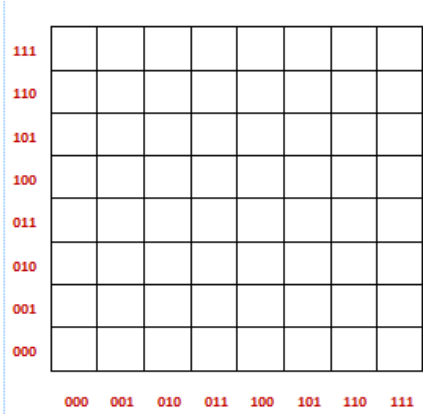
4 of 8



110 XOR
100

Threshold

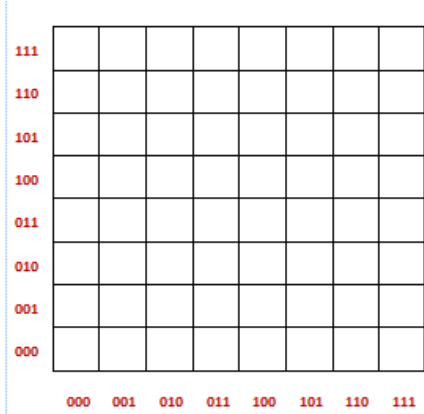
5 of 8



110 XOR
101

Threshold

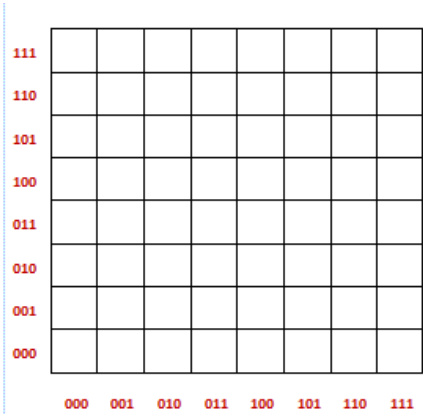
6 of 8



110 XOR
110

Threshold

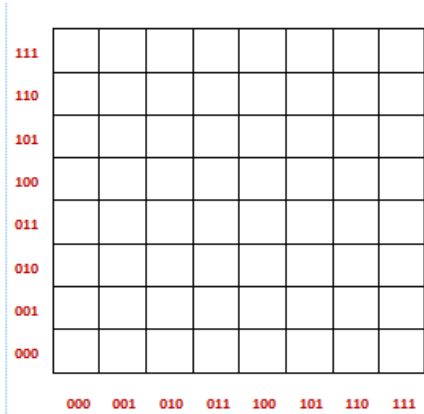
7 of 8



110 XOR
111

Threshold

8 of 8



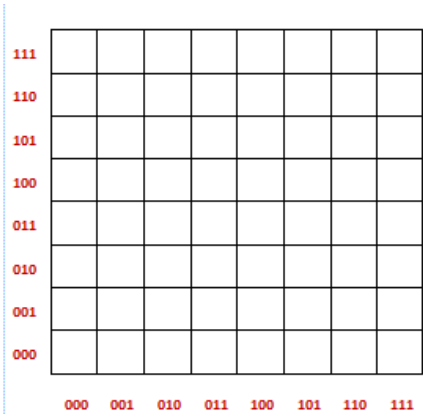
MUNCHING SQUARES: 8 by 8 Template—Column 111

Fill in the threshold value you are using. Then shade in the square for each bitwise XOR operation.

111 XOR
000

Threshold

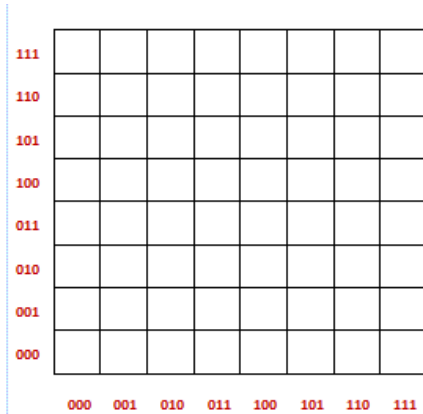
1 of 8



111 XOR
001

Threshold

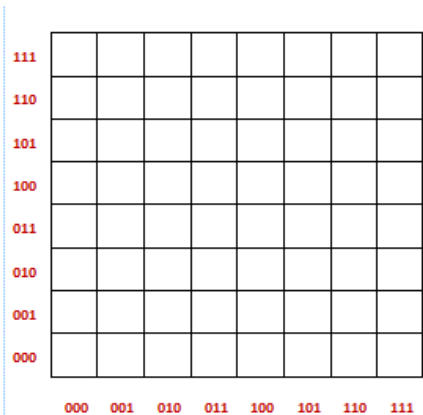
2 of 8



111 XOR
010

Threshold

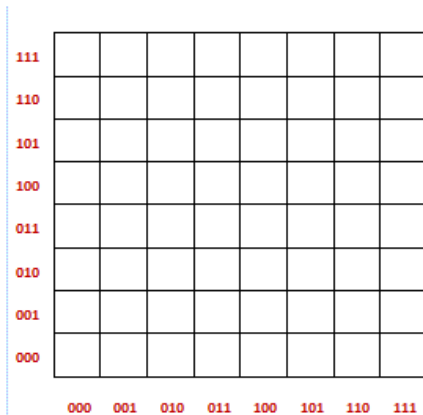
3 of 8



111 XOR
011

Threshold

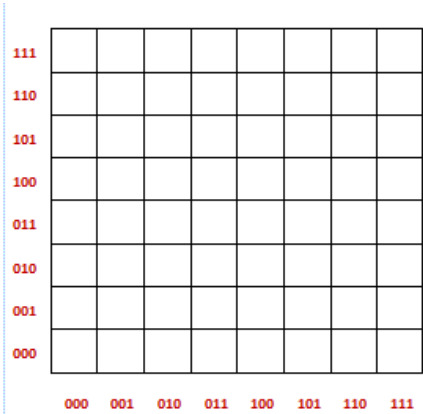
4 of 8



111 XOR
100

Threshold

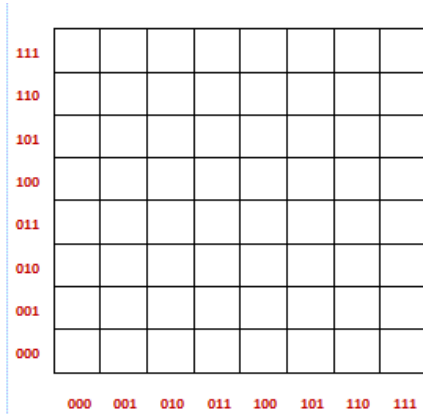
5 of 8



111 XOR
101

Threshold

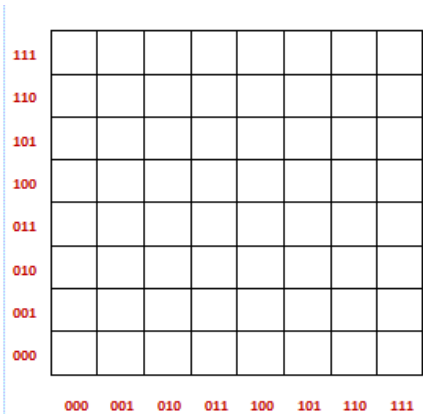
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111 XOR
110

Threshold

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111 XOR
111

Threshold

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