

# MUNCHING SQUARES: 4 by 4 Master Templates

Each of the two pages allows a student to calculate the value of two of 4 columns in a 4 by 4 grid. Each page has 8 values to calculate. The threshold value is blank. All 4 columns need to be calculated for each threshold value, so 8 sheets in total are required.

Each set of 4 columns for a particular threshold value then need to be copied to a ‘master template’ shown below. The four Master Templates display the pattern for each of 4 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. The template below will allow for two cycles of the animation.

+

Threshold

+

11

10

01

00


00 01 10 11

Threshold

+

11

10

01

00


00 01 10 11

+

Threshold

+

11

10

01

00


00 01 10 11

+

Threshold

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11

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01

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00 01 10 11

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Threshold

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00 01 10 11

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Threshold

+

11

10

01

00


00 01 10 11

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Threshold

+

11

10

01

00


00 01 10 11

+

Threshold

+

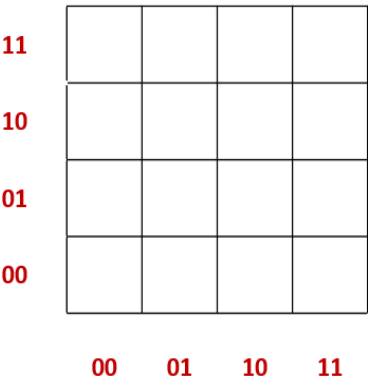
# MUNCHING SQUARES: 4 by 4 Template—Columns 00 and 01

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

00 XOR  
00

Threshold

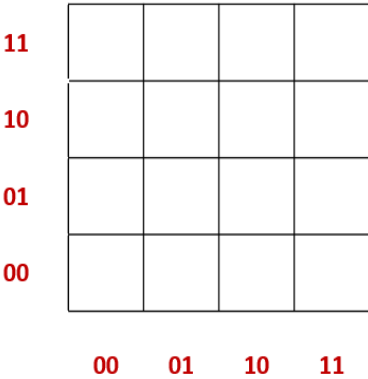
1 of 4



00 XOR  
01

Threshold

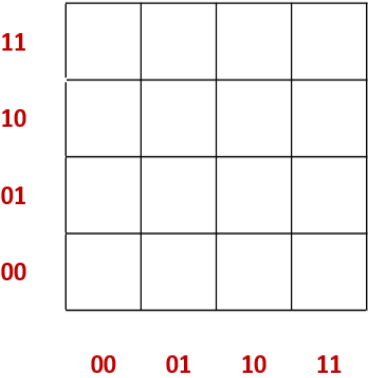
2 of 4



00 XOR  
10

Threshold

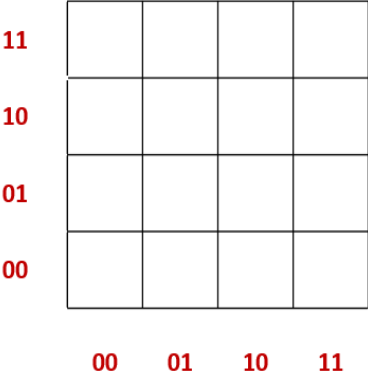
3 of 4



00 XOR  
11

Threshold

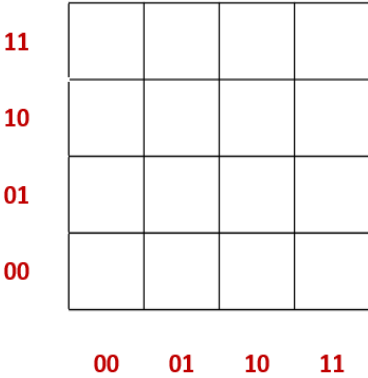
4 of 4



01 XOR  
00

Threshold

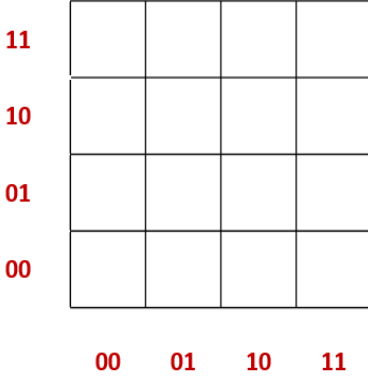
1 of 4



01 XOR  
01

Threshold

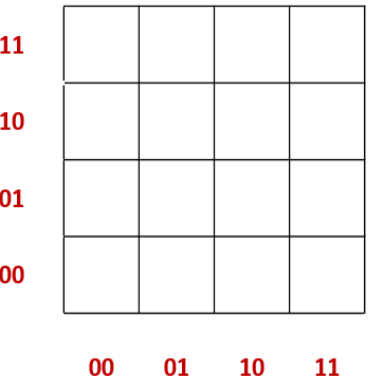
2 of 4



01 XOR  
10

Threshold

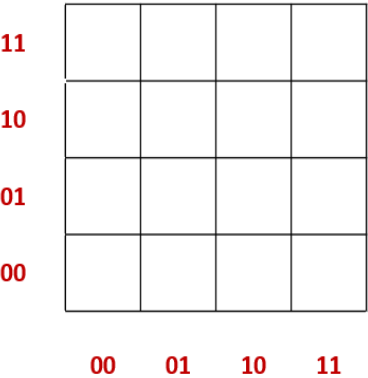
3 of 4



01 XOR  
11

Threshold

4 of 4



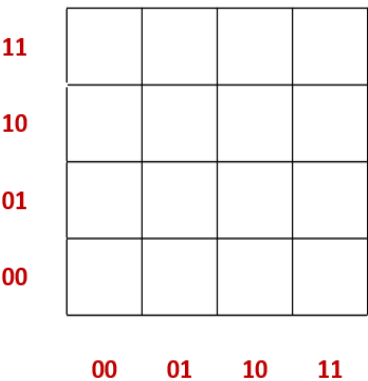
# MUNCHING SQUARES: 4 by 4 Template—Columns 10 and 11

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

10 XOR  
00

Threshold

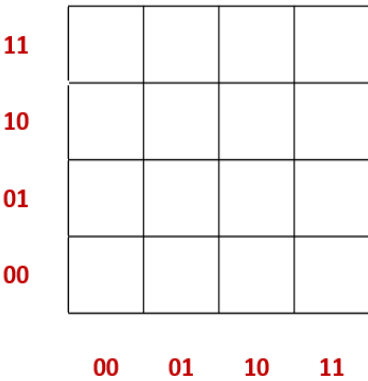
1 of 4



10 XOR  
01

Threshold

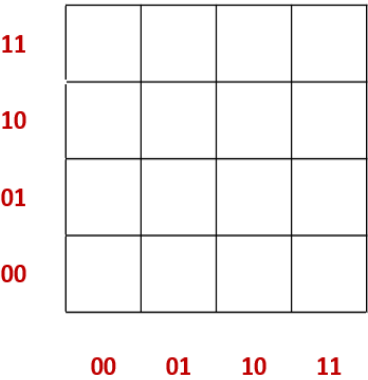
2 of 4



10 XOR  
10

Threshold

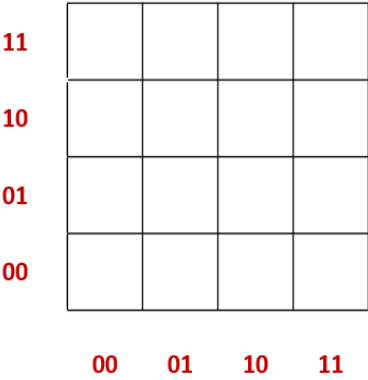
3 of 4



10 XOR  
11

Threshold

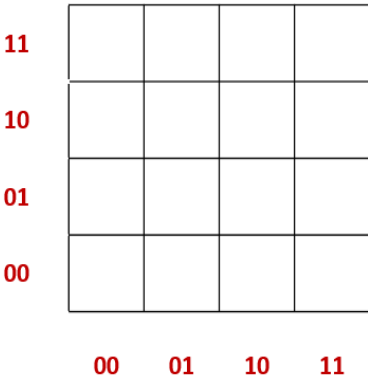
4 of 4



11 XOR  
00

Threshold

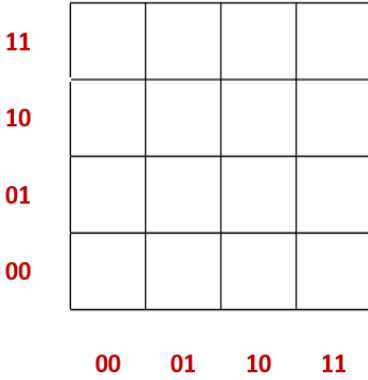
1 of 4



11 XOR  
01

Threshold

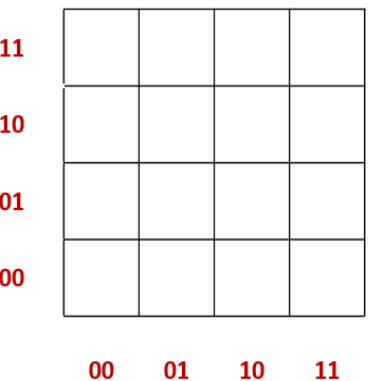
2 of 4



11 XOR  
10

Threshold

3 of 4



11 XOR  
11

Threshold

4 of 4

