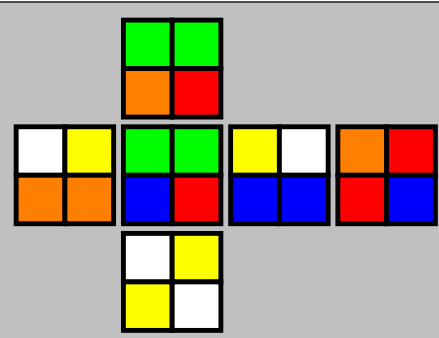
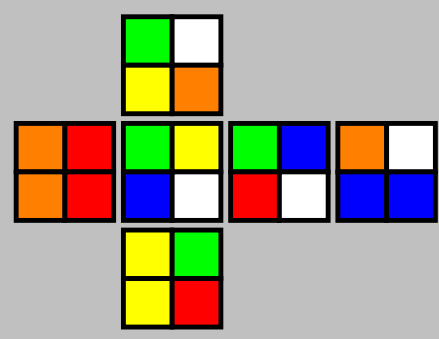
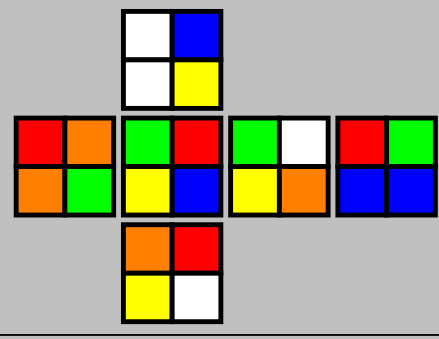
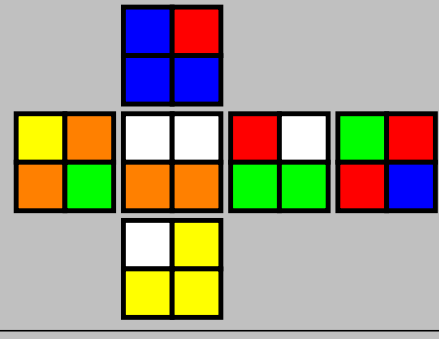
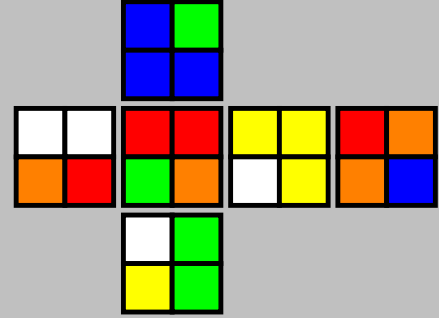
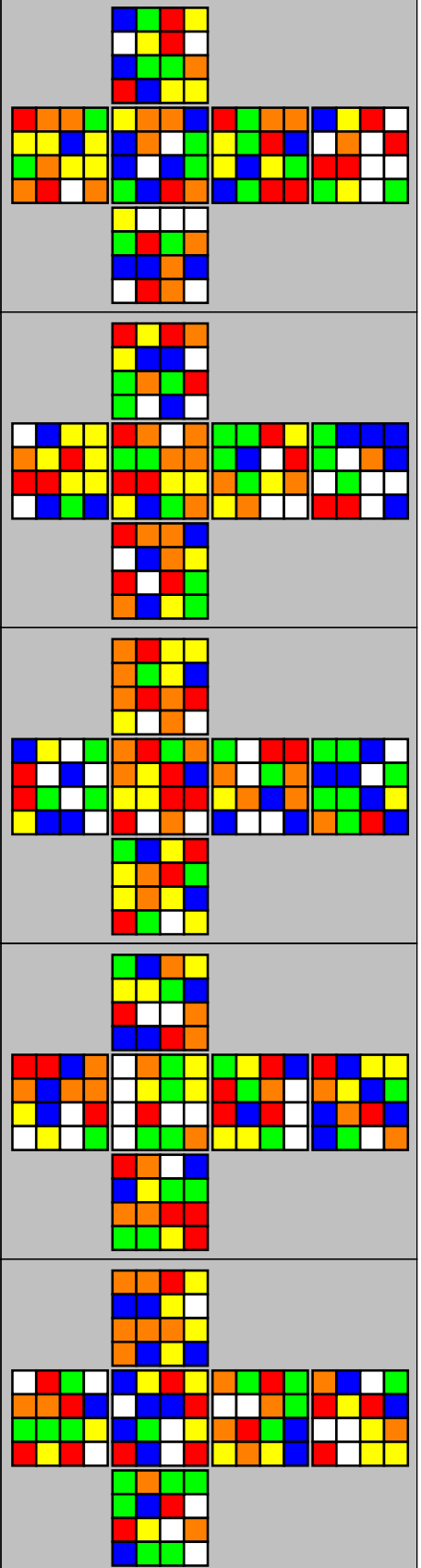
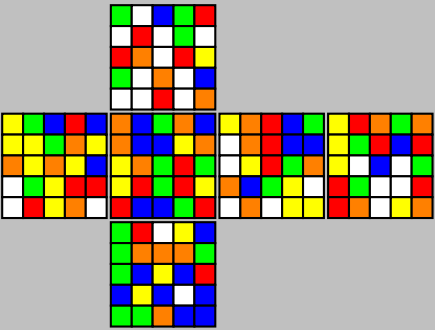
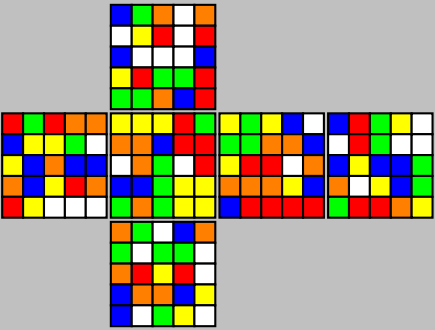
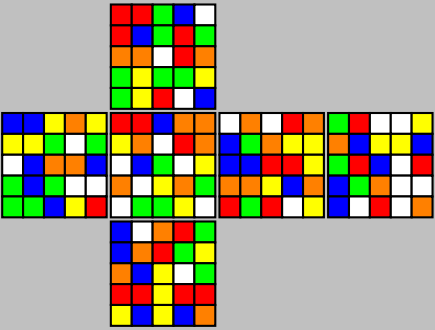
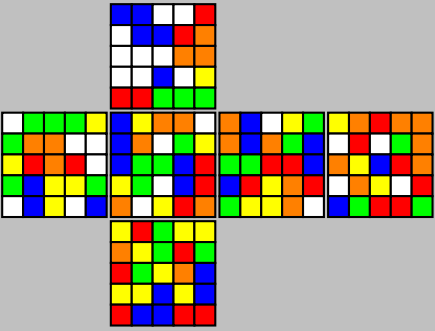
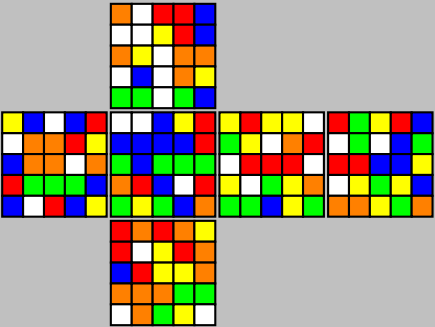


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2.	F R' U R2 B' L F' U D2 R D B2 U2 R2 L2 F2 U R2 D2 F2	
3.	L2 U2 L2 D2 L' F2 D2 L' F2 U' F2 D B' U2 F L' B2 L F2	
4.	L' B2 R B R B' U' D' R L2 U' R2 U' F2 B2 U F2 R2 B2 D'	
5.	F' B2 D2 F' U L' B' R F' B2 L2 F2 R2 D R2 D' F2 B2 D	

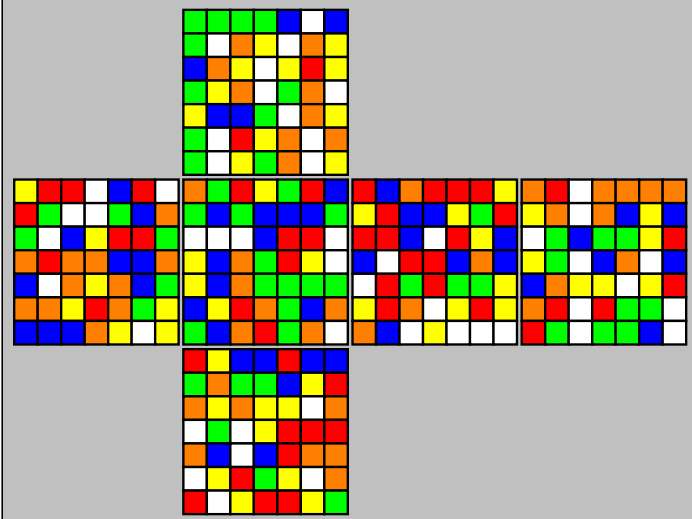
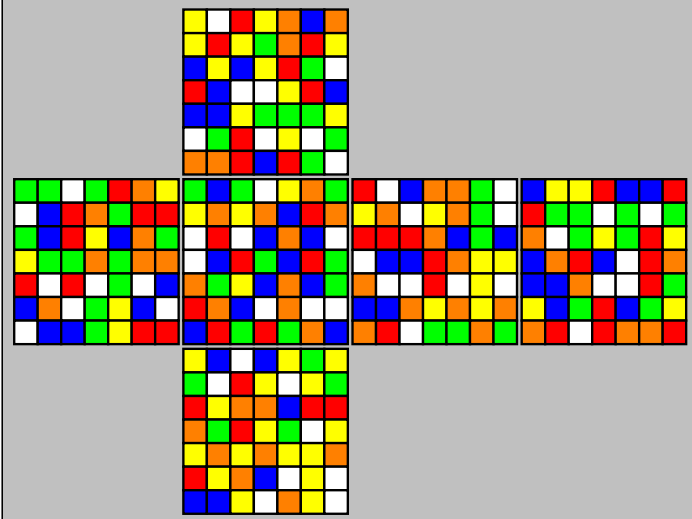
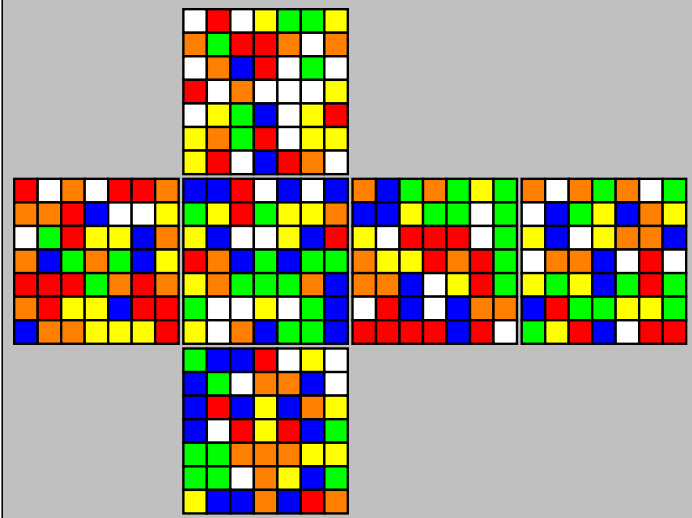
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2.	$R' F R^2 U' R^2 U F' U' F^2 U^2 R^2$	
3.	$R' F' R U^2 R' U' R^2 F' R^2 U^2 R'$	
4.	$R U' R' F' U' R^2 F U' R U^2 R'$	
5.	$U' R' U' F R' U^2 F R^2 U^2 R' F$	

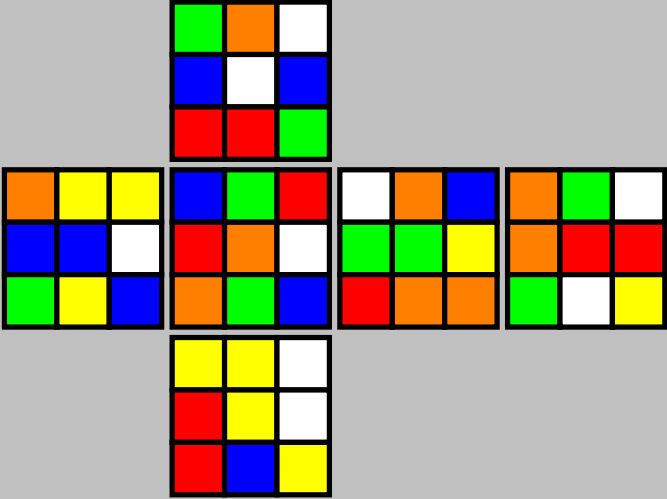
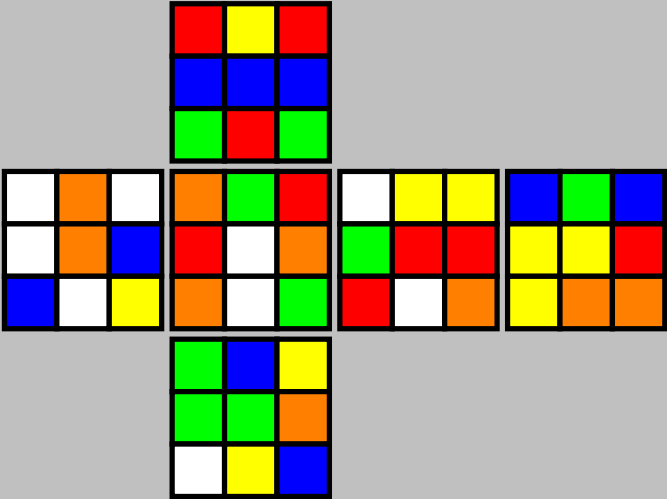
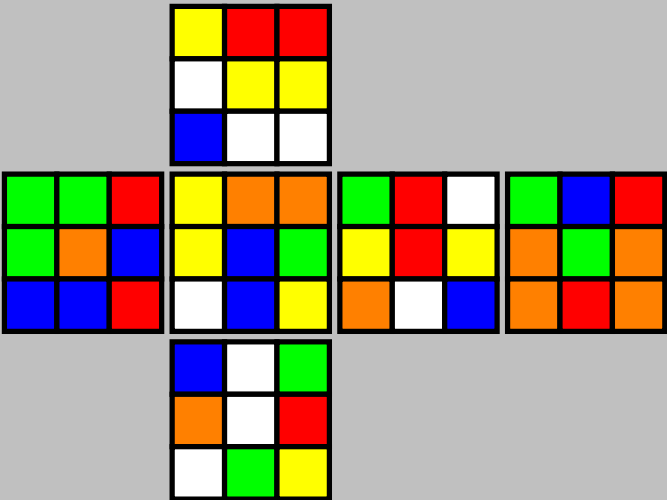
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	L	F'	Fw'	Uw2	Rw	L	U2
	B2	F'	D	L'	B'	D2	Rw2
	Fw'	Rw	R	F	U'	Fw2	F
	D2	F2	R'	D	Uw	Fw2	U
	Fw2	Uw	U2	B'	U'		
2.	Rw'	U2	Fw2	F'	R2	U	B
	D	Fw'	D'	Uw2	Rw	F	Fw'
	L2	Rw'	U	L'	D2	B2	F2
	L'	B'	L'	F'	Uw2	D2	F'
	U'	Rw2	Uw	Rw	Fw	U'	Fw'
	L	Fw	D'	U'	Uw		
3.	Rw'	L2	Fw'	L2	Uw2	L2	B2
	U	D	Rw	L	U2	R	L'
	Fw	B'	Rw'	D'	L	Fw2	R'
	Fw	R'	U	Rw'	D2	Fw	Rw'
	B2	R'	F	Uw'	Fw'	R	L2
	B	D'	Uw'	Rw'	Fw'		
4.	R2	D'	L'	Uw	U2	F	Rw2
	R	Fw'	R2	B2	D2	R2	Rw2
	Uw	B'	F2	Rw'	L'	F'	R'
	Fw2	F	U	F2	R'	U	B
	L	Rw	Uw	D2	L2	U2	R
	L	Uw'	F	Rw'	R2		
5.	B'	D'	L2	Uw2	Rw	B2	Uw2
	Rw'	L'	B'	U'	F'	L'	U2
	L'	Fw2	Uw	L2	F'	Rw'	L2
	B2	U	Rw	Fw	Rw	F2	D2
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	D2	L	R'	Rw'	U		

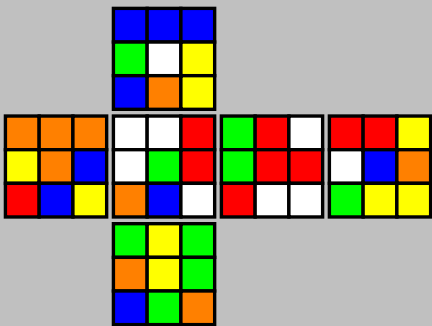
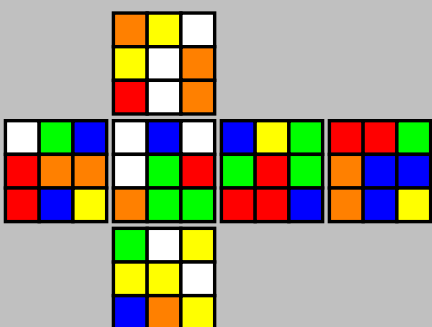
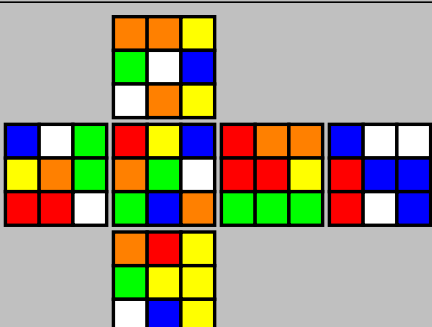
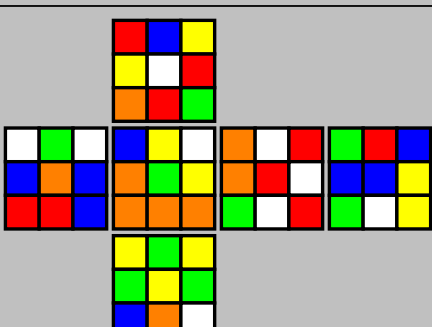
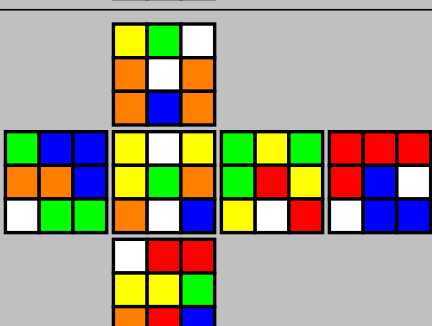


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2.	Fw2 D Fw' D Dw' B Bw Fw' Dw2 F U F Rw Fw B L Rw' B' D Lw2 D F' Fw' U' D2 Rw2 Fw' R D' Lw' L Uw2 Lw' Fw Rw' Uw L Fw' B Lw' F2 Rw2 L2 Bw' Fw R U' B2 Rw' B L2 Rw Dw Bw2 R2 Fw L Uw Rw' R'	
3.	Bw Rw2 B' U' D2 Uw B2 Uw' Dw2 F2 Dw2 Rw' D2 Dw Bw2 R Dw2 Rw D' U' F2 Fw Uw' Dw Rw R B U Fw U2 D2 B2 Lw' Fw2 L' Bw' Fw' F' L Fw R L2 Lw2 Fw' Rw2 Lw' F2 Rw' Bw2 Dw2 U2 D2 Uw' F2 D Uw2 Fw D' L Uw2	
4.	R2 D2 R U' Lw F Dw' Rw' Lw2 D2 Bw Dw' F Lw2 Uw R2 D' Dw2 R L2 U' Dw Uw B2 U D' R D' B2 Fw R2 Uw' D Lw Uw D Bw2 Fw Rw U' R D' L R' Dw2 F2 Lw2 L D2 Lw' Bw2 Dw Fw U2 F' L2 Fw' Dw' Lw' Bw2	
5.	F2 Rw R2 Bw' Dw' F2 L' Lw Bw2 L Lw' R' Bw2 R Fw2 L2 Lw Rw2 Fw2 Rw Uw Dw2 L' Bw' Fw B D2 Fw' Dw2 Rw' Bw L F2 Fw U Lw R' U' B Lw' D' Rw Lw B2 L F2 Fw' Bw Dw2 Bw2 Rw' Fw' Lw' Uw2 U2 B' R2 U2 Rw2 D'	

1.	Fw'	3Rw2	B2	Uw'	3Rw2	R'
	L'	Rw2	Fw'	B2	3Rw'	Lw'
	Fw	F'	D	F'	3Uw	3Rw
	Dw'	Bw	3Fw'	Dw2	R	L'
	Fw2	F2	R	Dw	Fw	B
	L'	F'	3Uw2	Uw2	Bw'	F'
	B	Fw2	Rw2	B'	Lw	F'
	Lw2	3Rw	Rw	D	3Rw	Lw
	Dw'	3Rw	L2	3Uw2	Rw	B2
	Lw	F'	Lw'	D	F'	B'
	Lw2	D	R	D'	U	Rw
	3Rw2	F2	Dw'	D'	3Rw	Bw'
	B'	D2	3Uw	Rw'	Dw	3Uw2
	Uw2	3Fw'				
2.	B'	D2	Lw2	Fw	L'	B
	Uw	L2	Bw	D	R2	F2
	Uw	B	Lw2	3Uw'	L	Dw'
	U2	Rw	R2	3Uw	F	3Rw
	3Uw	D'	Lw'	U'	Uw'	B
	Rw'	B'	Fw	Dw'	B2	Rw
	Fw2	3Fw'	Uw	F2	B'	Bw2
	D'	B2	Dw2	L	Rw'	R
	U	D'	3Uw2	3Fw'	Fw'	U
	Bw	Lw'	F2	Rw2	Dw2	D
	3Uw'	3Rw2	Lw'	Bw2	D2	3Rw'
	3Fw'	3Uw'	Uw'	Fw2	L'	Uw'
	L'	3Uw	D2	Rw	B'	Fw2
	Bw2	F'				
3.	D	U'	3Uw2	R	3Rw	3Fw'
	Uw2	3Fw	F	3Uw'	Bw	B
	3Fw2	Lw2	Rw2	F'	Fw2	D
	3Uw'	Fw	Dw'	U2	Rw	B2
	L'	Rw	3Uw'	B2	R'	Lw2
	3Fw	Fw	D2	3Rw	3Fw	3Rw'
	3Uw	D	L	Lw'	R'	3Uw2
	L	3Uw2	B'	D2	3Uw	B2
	F	L'	Fw2	Dw'	Fw2	3Fw2
	R2	F2	3Rw	U'	3Fw	B
	L	3Uw2	F2	3Uw'	Lw2	3Uw'
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	Bw	Rw2	L'	F2	R	Uw'
	L'	F2				

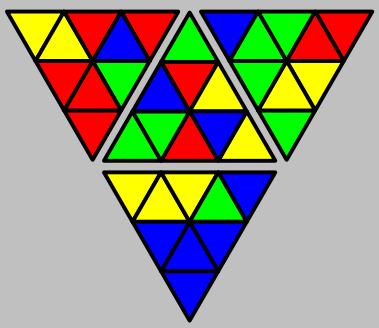
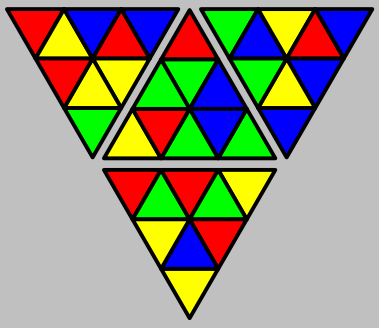
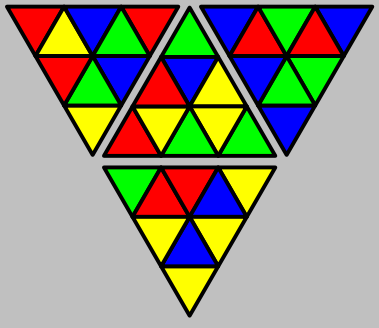
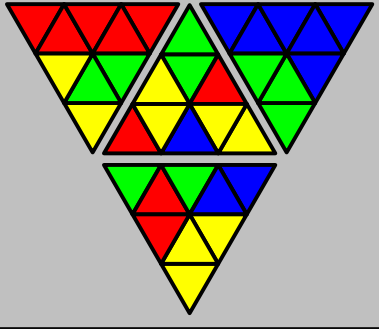
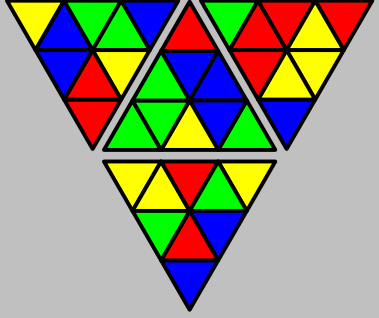
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2.	<div>3Bw2 U' 3Rw Dw2 Rw Bw 3Lw'</div> <div>Lw B2 Uw' 3Bw' B2 D B</div> <div>Bw2 3Lw Lw2 R2 3Bw2 U2 3Rw'</div> <div>3Uw 3Dw Lw' Rw' 3Rw2 3Lw Uw2</div> <div>3Bw R2 3Lw2 Uw' 3Fw' L U2</div> <div>R' Uw' L Lw 3Uw 3Rw2 U2</div> <div>3Lw Bw' Rw R' 3Fw2 3Bw' Fw2</div> <div>Uw2 3Rw Dw L' Lw Bw2 L2</div> <div>3Dw Fw2 D' 3Lw' 3Rw2 U' Dw</div> <div>Bw' D2 Fw2 3Lw R Lw2 U</div> <div>Fw Bw2 Dw 3Uw Bw 3Bw R2</div> <div>F2 Bw Lw' Dw' B2 Bw 3Lw'</div> <div>Fw' 3Bw' 3Dw2 Bw2 Dw' Uw' 3Lw</div> <div>Dw2 U2 R2 Dw' 3Dw' Uw2 U'</div> <div>R2 Uw</div>	
3.	<div>Dw 3Fw Lw' Fw U2 3Dw' B</div> <div>3Uw2 L Dw' L' U2 Rw' Dw</div> <div>B2 Uw' Lw 3Rw2 F2 3Rw R2</div> <div>B 3Uw' F2 Fw 3Lw2 B' 3Lw'</div> <div>Dw' Fw2 Rw2 D' U Uw Dw</div> <div>3Bw' L 3Lw Fw U' Fw 3Dw</div> <div>3Fw Rw 3Fw Uw2 Rw' 3Fw F2</div> <div>Uw Dw' Lw R' F' L' U2</div> <div>3Dw D 3Lw' D2 R2 Fw2 B2</div> <div>R' Lw D' Dw2 3Uw' 3Bw' F2</div> <div>Dw2 3Bw B Dw2 3Bw2 U2 3Lw2</div> <div>Dw2 B' Uw2 3Rw' 3Lw2 U R2</div> <div>L Fw 3Lw' 3Fw2 D 3Rw2 3Uw'</div> <div>3Dw2 3Fw2 Dw' D2 Uw' Rw Dw2</div> <div>R 3Fw'</div>	

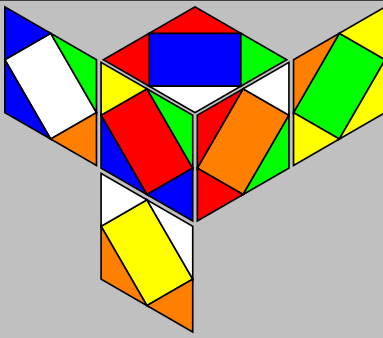
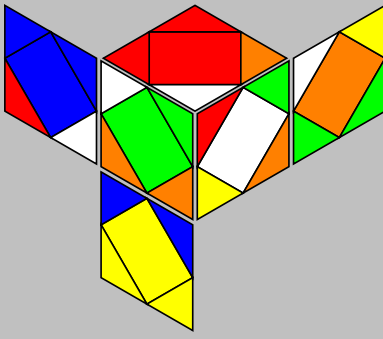
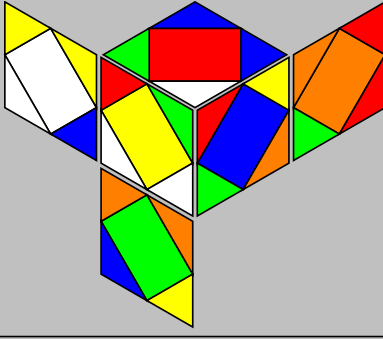
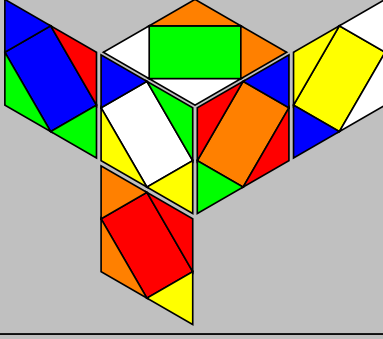
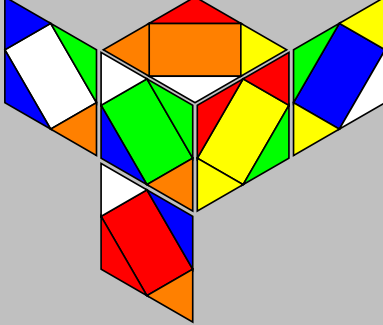
1.	<div> <div>F2</div> <div>R2</div> <div>D2</div> <div>L2</div> </div> <div> <div>F2</div> <div>U</div> <div>B2</div> <div>F2</div> </div> <div> <div>R2</div> <div>U2</div> <div>B</div> <div>L2</div> </div> <div> <div>F</div> <div>D2</div> <div>L'</div> <div>B2</div> </div> <div> <div>L2</div> <div>F2</div> <div>R</div> <div>U'</div> </div> <div> <div>B</div> <div>Uw'</div> </div>	 <p>A 3x3x3 cube in a scrambled state. The top face (white) has a cross of green, orange, and white. The front face (blue) has a cross of blue, green, and red. The right face (orange) has a cross of orange, green, and white. The bottom face (yellow) has a cross of yellow, red, and white. The left face (blue) has a cross of blue, yellow, and blue. The back face (red) has a cross of red, orange, and orange.</p>
2.	<div> <div>D2</div> <div>R2</div> <div>B2</div> <div>R2</div> </div> <div> <div>U</div> <div>F2</div> <div>D'</div> <div>R2</div> </div> <div> <div>D'</div> <div>L'</div> <div>B</div> <div>F'</div> </div> <div> <div>L2</div> <div>R'</div> <div>F2</div> <div>D'</div> </div> <div> <div>U2</div> <div>B2</div> <div>L'</div> <div>D2</div> </div> <div> <div>U'</div> <div>Rw'</div> </div>	 <p>A 3x3x3 cube in a scrambled state. The top face (white) has a cross of red, yellow, and red. The front face (blue) has a cross of blue, blue, and green. The right face (orange) has a cross of orange, green, and white. The bottom face (yellow) has a cross of yellow, red, and white. The left face (blue) has a cross of blue, orange, and blue. The back face (red) has a cross of red, orange, and orange.</p>
3.	<div> <div>R2</div> <div>F</div> <div>U2</div> <div>B</div> </div> <div> <div>U2</div> <div>R2</div> <div>F2</div> <div>R2</div> </div> <div> <div>F2</div> <div>D2</div> <div>F'</div> <div>U</div> </div> <div> <div>L'</div> <div>D</div> <div>F2</div> <div>D2</div> </div> <div> <div>F'</div> <div>U'</div> <div>L2</div> <div>D'</div> </div> <div> <div>Rw2</div> </div>	 <p>A 3x3x3 cube in a scrambled state. The top face (white) has a cross of yellow, red, and red. The front face (blue) has a cross of blue, yellow, and white. The right face (orange) has a cross of orange, red, and white. The bottom face (yellow) has a cross of yellow, red, and white. The left face (blue) has a cross of blue, orange, and blue. The back face (red) has a cross of red, orange, and orange.</p>

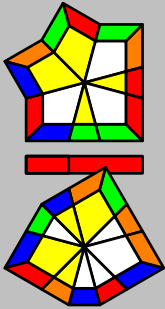
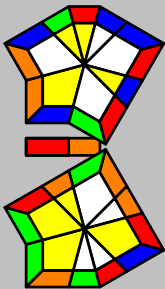
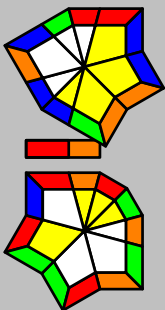
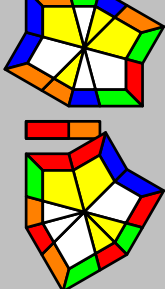
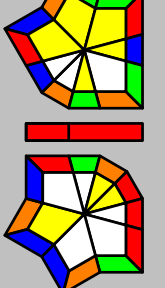
1.	<p>D2 L2 R2 F U2 F2 D2 B'</p> <p>L2 D' B2 F L U R B'</p> <p>L2 B2 U' L'</p>	
2.	<p>L2 F2 L' B' D' F2 B' U</p> <p>L2 D B R2 D' L2 F2 U'</p> <p>B2 U2 D L2</p>	
3.	<p>U2 B2 D' R2 U L2 U F2</p> <p>L F U R' B U2 L2 U</p> <p>R' U</p>	
4.	<p>U2 D2 R' D L D' F2 U2</p> <p>F' U' L D2 L2 D2 F U2</p> <p>F' R2 U2 D2</p>	
5.	<p>D' L2 U2 B' U' R' F' L</p> <p>D2 B2 D L2 D R2 F2 L2</p> <p>U' F2</p>	

2019-05-21

pyram
Scrambles for 2019-05-21

1.	$U R' U R' B R' B L R L' R u r'$	
2.	$L' B U L B' U R' B' U' L U' u' l r b$	
3.	$B L' B L' U' B' U' B R' L R' u' l' r' b$	
4.	$R L' B U' B' R B R U B' R l'$	
5.	$R' U R' B L U' B' R U L' B u r b$	

1.	$L U L B' U L R' B' L' U' L'$	
2.	$L R B R U L' R B U L B'$	
3.	$B U B L' B' L' U R L' U L'$	
4.	$L B L' B' U L B U B' R' U'$	
5.	$U L U R' B' R' L B L B R$	

1.	$(-5, 0) / (0, -3) / (0, 3) /$ $(2, -1) / (3, -3) / (3, 0) /$ $(6, -2) / (0, -3) / (-2, -3) /$ $(3, -2) / (-4, 0) / (2, 0) /$	
2.	$(4, 0) / (-4, 5) / (0, 6) /$ $(-3, 0) / (0, -3) / (0, -2) /$ $(0, -3) / (4, 0) / (0, -1) /$ $(4, 0) / (-4, -2) / (4, -3)$	
3.	$(1, 0) / (2, -1) / (-5, -2) /$ $(2, -1) / (-2, -5) / (5, -3) /$ $(-3, -3) / (0, -1) / (0, -2) /$ $(-2, 0) / (0, -2) / (0, -4)$	
4.	$(-3, 5) / (-3, 0) / (-2, -2) /$ $(3, 0) / (5, -1) / (0, -3) /$ $(-2, 0) / (-3, -3) / (1, 0) /$ $(0, -2) / (2, 0) / (-3, -2)$	
5.	$(4, 3) / (5, 2) / (-2, -5) /$ $(6, -3) / (0, -3) / (2, 0) /$ $(-3, 0) / (0, -1) / (-4, 0) /$ $(0, -2) / (-4, -5) / (2, -4) /$	

2019-05-21

minx
Scrambles for 2019-05-21

1.	R-- D-- R++ D-- R++ D-- R-- D++ R-- D++ U R-- D++ R++ D-- R-- D-- R-- D-- R++ D++ U R++ D++ R-- D-- R-- D++ R-- D++ R++ D-- U' R-- D-- R-- D-- R-- D++ R-- D-- R-- D-- U' R-- D-- R-- D-- R++ D++ R++ D++ R++ D++ U R-- D++ R++ D-- R-- D++ R-- D-- R++ D++ U R++ D-- R-- D++ R++ D-- R++ D-- R++ D-- U'	
2.	R++ D-- R++ D++ R++ D++ R-- D-- R-- D++ U R-- D++ R++ D++ R++ D-- R-- D++ R-- D-- U' R-- D-- R-- D-- R++ D++ R-- D-- R++ D-- U' R-- D-- R-- D-- R-- D++ R++ D-- R++ D++ U R-- D++ R++ D++ R-- D++ R++ D-- R-- D-- U' R-- D-- R-- D++ R++ D++ R++ D-- R-- D++ U R++ D++ R-- D-- R++ D-- R++ D++ R-- D-- U'	
3.	R++ D-- R-- D-- R-- D-- R-- D++ R-- D-- U' R-- D-- R++ D-- R-- D++ R++ D-- R++ D++ U R-- D-- R-- D++ R++ D++ R++ D-- R-- D-- U' R++ D++ R++ D-- R++ D-- R++ D++ R++ D++ U R-- D-- R++ D-- R-- D++ R-- D++ R++ D++ U R++ D++ R-- D-- R++ D++ R-- D-- R++ D-- U' R-- D++ R++ D-- R-- D++ R-- D++ R++ D-- U'	
4.	R++ D++ R-- D++ R-- D++ R-- D-- R-- D++ U R++ D-- R++ D-- R++ D++ R-- D++ R++ D-- U' R-- D++ R++ D++ R++ D-- R++ D-- R-- D++ U R++ D-- R++ D-- R++ D-- R-- D-- R++ D++ U R-- D-- R-- D++ R++ D++ R-- D++ R-- D-- U' R-- D-- R-- D-- R-- D++ R-- D++ R-- D++ U R-- D++ R-- D++ R++ D-- R++ D++ R++ D++ U	
5.	R-- D-- R++ D++ R++ D-- R++ D-- R-- D++ U R-- D++ R++ D-- R++ D-- R-- D-- R-- D-- U' R++ D-- R++ D-- R++ D-- R++ D++ R++ D-- U' R-- D++ R++ D-- R++ D-- R++ D++ R++ D++ U R++ D-- R-- D++ R++ D-- R++ D++ R++ D-- U' R++ D-- R-- D++ R++ D++ R++ D++ R-- D-- U' R++ D-- R-- D++ R++ D++ R-- D-- R-- D-- U'	

2019-05-21

 clock
 Scrambles for 2019-05-21

1.	UR1- DR1- DL4+ UL4- U4- R1+ D1- L0+ ALL1+ y2 U3- R3- D2+ L5+ ALL0+ UR DR	
2.	UR5- DR3- DL3- UL3- U0+ R5- D4+ L2+ ALL0+ y2 U0+ R5+ D3+ L4+ ALL4- UL	
3.	UR5- DR4+ DL5- UL2+ U6+ R5- D0+ L6+ ALL3- y2 U5- R2- D4+ L3- ALL5+ DR UL	
4.	UR5- DR5- DL5- UL5- U4- R2+ D0+ L1- ALL3- y2 U2+ R6+ D5+ L5+ ALL0+ UR DR	
5.	UR5- DR5+ DL3- UL2+ U5+ R2+ D3+ L1+ ALL3+ y2 U3+ R0+ D2+ L1- ALL2- DR	

Fewest Moves

- > You have 60 minutes to find and write a solution.
- > Write 1 move per bar. To delete a move, clearly blacken it.
- > Your solution must not be directly derived from any part of the scrambling algorithm.
- > Your solution must be at most 80 moves, including rotations.
- > Your result will be counted in OBTM.
- > Only use notation from Article 12 of the WCA Regulations. If you are uncertain, use only the exact moves listed here:

Face Moves

Clockwise	F	R	U	B	L	D
Counter-clockwise	F'	R'	U'	B'	L'	D'
Double	F2	R2	U2	B2	L2	D2

Rotations

Clockwise	[f]	[r]	[u]	[b]	[l]	[d]
Counter-clockwise	[f']	[r']	[u']	[b']	[l']	[d']
Double	[f2]	[r2]	[u2]	[b2]	[l2]	[d2]

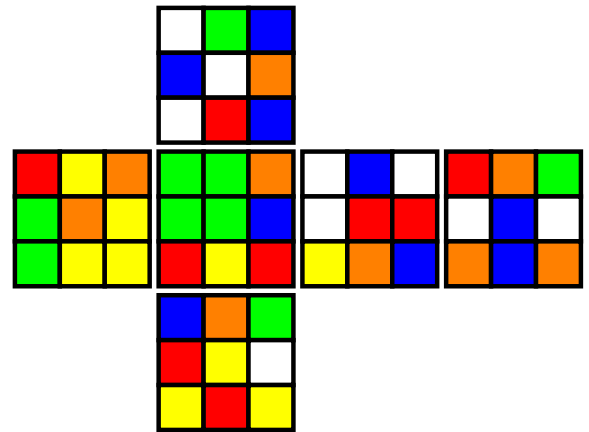
Scrambles for 2019-05-21
333fm

Competitor: _____

WCA ID: _____

DO NOT FILL IF YOU ARE THE COMPETITOR.

Graded by: _____ Result: ____



Scramble: R' U' F U2 B2 U' B2 U' F' U B2 U2 B2 R' B2 L' U' B L' U2 R' U' F

[illegible]

Fewest Moves

- > You have 60 minutes to find and write a solution.
- > Write 1 move per bar. To delete a move, clearly blacken it.
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Rotations

Clockwise	[f]	[r]	[u]	[b]	[l]	[d]
Counter-clockwise	[f']	[r']	[u']	[b']	[l']	[d']
Double	[f2]	[r2]	[u2]	[b2]	[l2]	[d2]

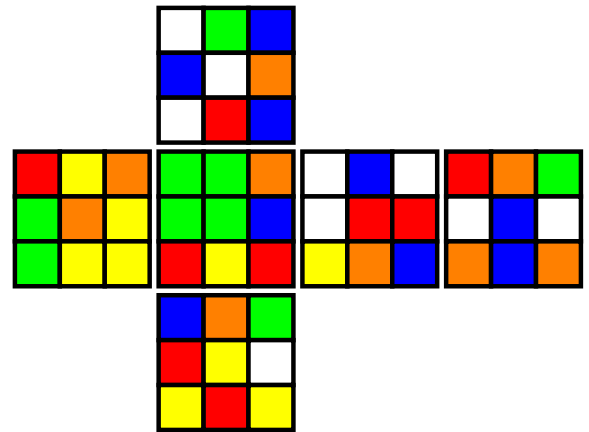
Scrambles for 2019-05-21
333fm

Competitor: _____

WCA ID: _____

DO NOT FILL IF YOU ARE THE COMPETITOR.

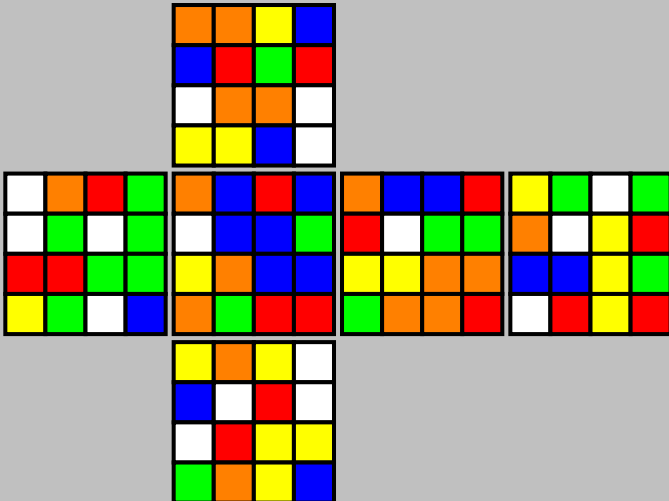
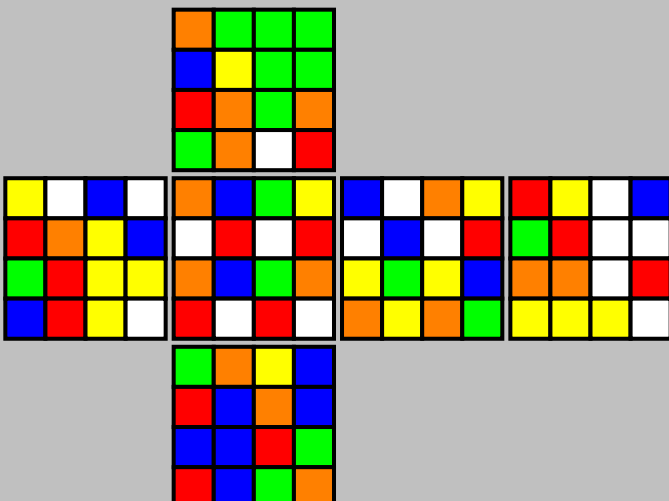
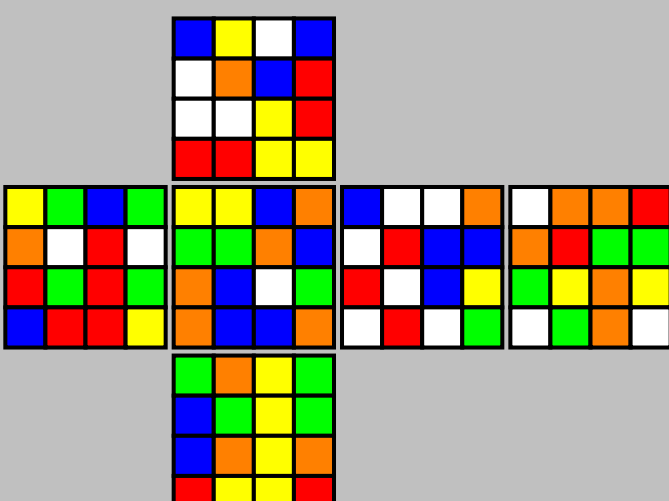
Graded by: _____ Result: ____

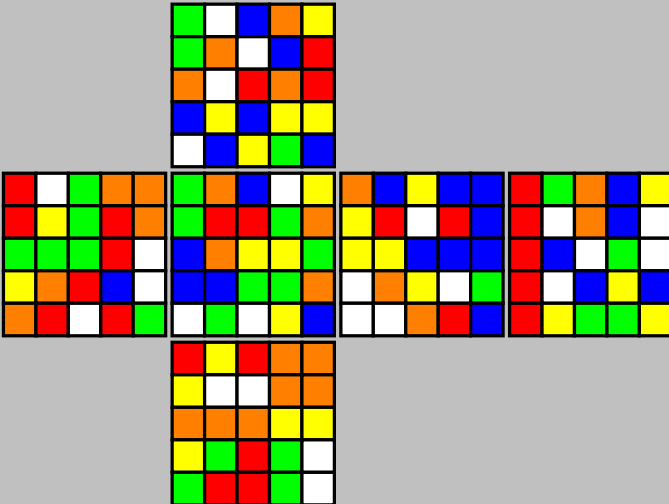
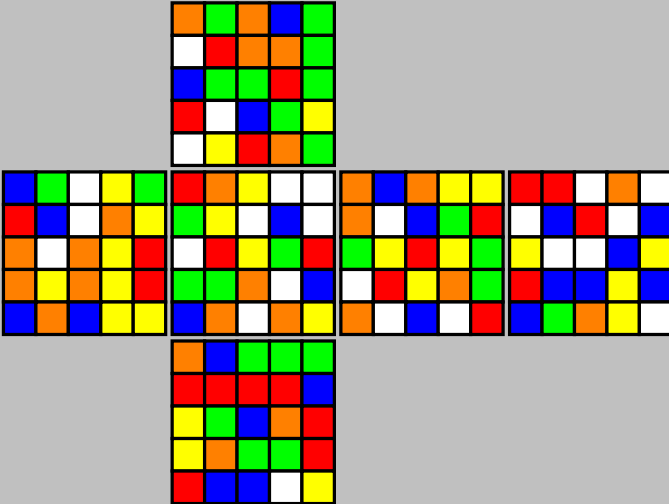
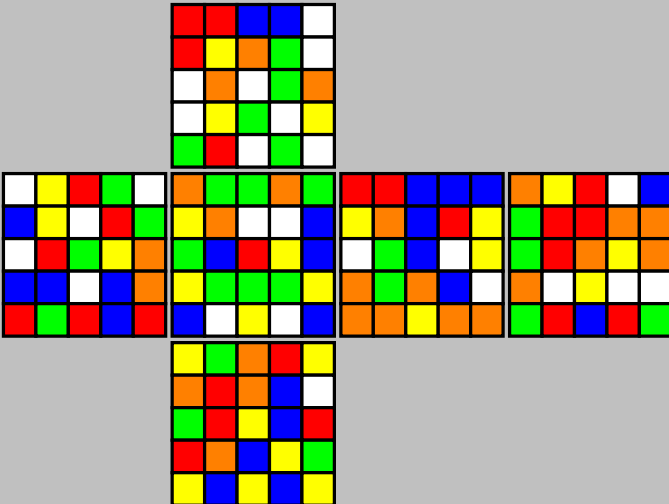


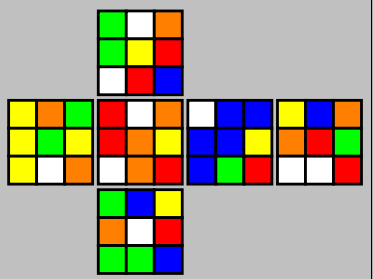
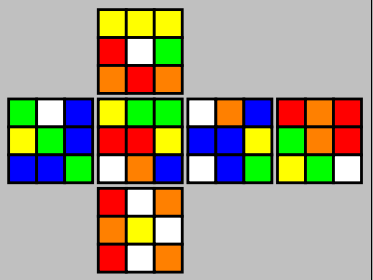
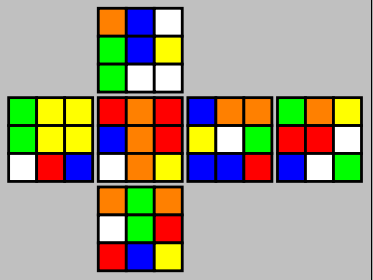
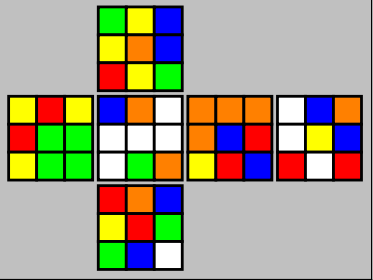
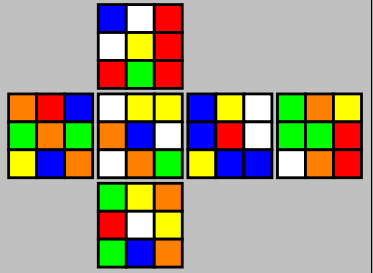
Scramble: R' U' F U2 B2 U' B2 U' F' U B2 U2 B2 R' B2 L' U' B L' U2 R' U' F

[illegible]

1.	R2 L2 F2 R2 U D2 F L' D' B U2 F2 R2 U2 R L2 U2 L' U2 F2	
2.	U' D' L2 F' U B L2 D' R' U2 F2 U2 B D2 L2 F' R2 L2 F' D2	
3.	U2 B2 U L2 R2 B2 U B2 U L R2 U2 L B R2 B L F U' F	
4.	U' F' R2 F' R' B R2 D F2 U2 R U2 F2 D L2 U2 F2 R2 B2	
5.	L2 R2 B2 L2 B R2 D2 B2 D2 L' F' R2 U R' U' F' D' U' F'	

1.	<table><tr><td>F2</td><td>U2</td><td>L2</td><td>F2</td><td>R2</td></tr><tr><td>U'</td><td>B2</td><td>D</td><td>R'</td><td>B</td></tr><tr><td>R</td><td>D2</td><td>F2</td><td>U'</td><td>R</td></tr><tr><td>B'</td><td>F2</td><td>L</td><td>U'</td><td>Uw2</td></tr><tr><td>Fw2</td><td>D'</td><td>L</td><td>R2</td><td>F2</td></tr><tr><td>U'</td><td>Rw2</td><td>L'</td><td>U</td><td>Fw2</td></tr><tr><td>L</td><td>Uw2</td><td>Fw</td><td>B'</td><td>U</td></tr><tr><td>Rw</td><td>Fw</td><td>Rw2</td><td>F</td><td>U'</td></tr><tr><td>R2</td><td>Fw</td><td>z</td><td>y2</td><td></td></tr></table>	F2	U2	L2	F2	R2	U'	B2	D	R'	B	R	D2	F2	U'	R	B'	F2	L	U'	Uw2	Fw2	D'	L	R2	F2	U'	Rw2	L'	U	Fw2	L	Uw2	Fw	B'	U	Rw	Fw	Rw2	F	U'	R2	Fw	z	y2							
F2	U2	L2	F2	R2																																																
U'	B2	D	R'	B																																																
R	D2	F2	U'	R																																																
B'	F2	L	U'	Uw2																																																
Fw2	D'	L	R2	F2																																																
U'	Rw2	L'	U	Fw2																																																
L	Uw2	Fw	B'	U																																																
Rw	Fw	Rw2	F	U'																																																
R2	Fw	z	y2																																																	
2.	<table><tr><td>R2</td><td>D2</td><td>F</td><td>R2</td><td>F2</td></tr><tr><td>L2</td><td>F'</td><td>D2</td><td>B</td><td>U2</td></tr><tr><td>F'</td><td>L'</td><td>D</td><td>L</td><td>U</td></tr><tr><td>L</td><td>B</td><td>D</td><td>U2</td><td>R'</td></tr><tr><td>Uw2</td><td>Rw2</td><td>L2</td><td>B'</td><td>Uw2</td></tr><tr><td>L</td><td>F2</td><td>Uw2</td><td>F'</td><td>L</td></tr><tr><td>D2</td><td>B'</td><td>Uw'</td><td>Rw2</td><td>R'</td></tr><tr><td>Uw2</td><td>R</td><td>Fw'</td><td>B2</td><td>D'</td></tr><tr><td>Rw'</td><td>R'</td><td>D</td><td>B2</td><td></td></tr></table>	R2	D2	F	R2	F2	L2	F'	D2	B	U2	F'	L'	D	L	U	L	B	D	U2	R'	Uw2	Rw2	L2	B'	Uw2	L	F2	Uw2	F'	L	D2	B'	Uw'	Rw2	R'	Uw2	R	Fw'	B2	D'	Rw'	R'	D	B2							
R2	D2	F	R2	F2																																																
L2	F'	D2	B	U2																																																
F'	L'	D	L	U																																																
L	B	D	U2	R'																																																
Uw2	Rw2	L2	B'	Uw2																																																
L	F2	Uw2	F'	L																																																
D2	B'	Uw'	Rw2	R'																																																
Uw2	R	Fw'	B2	D'																																																
Rw'	R'	D	B2																																																	
3.	<table><tr><td>B</td><td>D2</td><td>R2</td><td>U2</td><td>F2</td></tr><tr><td>R2</td><td>U2</td><td>F</td><td>U2</td><td>R'</td></tr><tr><td>D'</td><td>R2</td><td>U'</td><td>B</td><td>F2</td></tr><tr><td>L2</td><td>B'</td><td>U2</td><td>L'</td><td>B</td></tr><tr><td>Fw2</td><td>R'</td><td>Uw2</td><td>Fw2</td><td>D2</td></tr><tr><td>U2</td><td>F2</td><td>Rw2</td><td>R</td><td>B'</td></tr><tr><td>Rw2</td><td>R</td><td>U2</td><td>Uw</td><td>Rw2</td></tr><tr><td>Uw2</td><td>B2</td><td>Uw'</td><td>Fw'</td><td>L2</td></tr><tr><td>F2</td><td>Rw</td><td>R2</td><td>D'</td><td>U'</td></tr><tr><td>z</td><td>y2</td><td></td><td></td><td></td></tr></table>	B	D2	R2	U2	F2	R2	U2	F	U2	R'	D'	R2	U'	B	F2	L2	B'	U2	L'	B	Fw2	R'	Uw2	Fw2	D2	U2	F2	Rw2	R	B'	Rw2	R	U2	Uw	Rw2	Uw2	B2	Uw'	Fw'	L2	F2	Rw	R2	D'	U'	z	y2				
B	D2	R2	U2	F2																																																
R2	U2	F	U2	R'																																																
D'	R2	U'	B	F2																																																
L2	B'	U2	L'	B																																																
Fw2	R'	Uw2	Fw2	D2																																																
U2	F2	Rw2	R	B'																																																
Rw2	R	U2	Uw	Rw2																																																
Uw2	B2	Uw'	Fw'	L2																																																
F2	Rw	R2	D'	U'																																																
z	y2																																																			

1.	<table><tr><td>F</td><td>Bw</td><td>Lw2</td><td>B2</td><td>Fw2</td></tr><tr><td>Lw</td><td>Uw2</td><td>L'</td><td>B'</td><td>U'</td></tr><tr><td>B</td><td>U</td><td>F</td><td>U</td><td>Fw2</td></tr><tr><td>Uw</td><td>Rw2</td><td>R'</td><td>Lw'</td><td>Bw2</td></tr><tr><td>B'</td><td>Fw</td><td>D2</td><td>L2</td><td>Rw</td></tr><tr><td>B2</td><td>Fw'</td><td>L2</td><td>D</td><td>Bw2</td></tr><tr><td>B</td><td>Uw2</td><td>Rw2</td><td>B</td><td>D</td></tr><tr><td>Rw'</td><td>Lw2</td><td>U'</td><td>D'</td><td>Fw</td></tr><tr><td>Lw2</td><td>L</td><td>Rw'</td><td>Bw</td><td>R2</td></tr><tr><td>U'</td><td>Uw2</td><td>Fw</td><td>Lw2</td><td>D</td></tr><tr><td>Dw2</td><td>Rw'</td><td>Bw2</td><td>Lw2</td><td>Rw'</td></tr><tr><td>Fw'</td><td>L</td><td>U</td><td>B2</td><td>Rw2</td></tr><tr><td>3Fw'</td><td>3Uw</td><td></td><td></td><td></td></tr></table>	F	Bw	Lw2	B2	Fw2	Lw	Uw2	L'	B'	U'	B	U	F	U	Fw2	Uw	Rw2	R'	Lw'	Bw2	B'	Fw	D2	L2	Rw	B2	Fw'	L2	D	Bw2	B	Uw2	Rw2	B	D	Rw'	Lw2	U'	D'	Fw	Lw2	L	Rw'	Bw	R2	U'	Uw2	Fw	Lw2	D	Dw2	Rw'	Bw2	Lw2	Rw'	Fw'	L	U	B2	Rw2	3Fw'	3Uw					
F	Bw	Lw2	B2	Fw2																																																																
Lw	Uw2	L'	B'	U'																																																																
B	U	F	U	Fw2																																																																
Uw	Rw2	R'	Lw'	Bw2																																																																
B'	Fw	D2	L2	Rw																																																																
B2	Fw'	L2	D	Bw2																																																																
B	Uw2	Rw2	B	D																																																																
Rw'	Lw2	U'	D'	Fw																																																																
Lw2	L	Rw'	Bw	R2																																																																
U'	Uw2	Fw	Lw2	D																																																																
Dw2	Rw'	Bw2	Lw2	Rw'																																																																
Fw'	L	U	B2	Rw2																																																																
3Fw'	3Uw																																																																			
2.	<table><tr><td>L'</td><td>Rw</td><td>B</td><td>L'</td><td>F2</td><td>Fw'</td></tr><tr><td>Lw2</td><td>F</td><td>Lw2</td><td>R</td><td>F'</td><td>Fw'</td></tr><tr><td>Bw'</td><td>Lw2</td><td>R</td><td>Uw2</td><td>R2</td><td>F2</td></tr><tr><td>Fw'</td><td>Bw'</td><td>Uw2</td><td>Lw'</td><td>R</td><td>U2</td></tr><tr><td>Lw2</td><td>R</td><td>Fw</td><td>F'</td><td>Bw2</td><td>Lw2</td></tr><tr><td>Uw</td><td>Dw'</td><td>F'</td><td>R'</td><td>Lw2</td><td>Rw2</td></tr><tr><td>Uw</td><td>R</td><td>Bw'</td><td>R'</td><td>Bw</td><td>D2</td></tr><tr><td>L2</td><td>Uw'</td><td>R2</td><td>L'</td><td>U'</td><td>Uw2</td></tr><tr><td>F</td><td>Fw2</td><td>Uw'</td><td>Fw</td><td>Uw'</td><td>Bw</td></tr><tr><td>Rw'</td><td>Fw'</td><td>Lw'</td><td>Dw</td><td>Rw'</td><td>B'</td></tr><tr><td>3Rw</td><td></td><td></td><td></td><td></td><td></td></tr></table>	L'	Rw	B	L'	F2	Fw'	Lw2	F	Lw2	R	F'	Fw'	Bw'	Lw2	R	Uw2	R2	F2	Fw'	Bw'	Uw2	Lw'	R	U2	Lw2	R	Fw	F'	Bw2	Lw2	Uw	Dw'	F'	R'	Lw2	Rw2	Uw	R	Bw'	R'	Bw	D2	L2	Uw'	R2	L'	U'	Uw2	F	Fw2	Uw'	Fw	Uw'	Bw	Rw'	Fw'	Lw'	Dw	Rw'	B'	3Rw						
L'	Rw	B	L'	F2	Fw'																																																															
Lw2	F	Lw2	R	F'	Fw'																																																															
Bw'	Lw2	R	Uw2	R2	F2																																																															
Fw'	Bw'	Uw2	Lw'	R	U2																																																															
Lw2	R	Fw	F'	Bw2	Lw2																																																															
Uw	Dw'	F'	R'	Lw2	Rw2																																																															
Uw	R	Bw'	R'	Bw	D2																																																															
L2	Uw'	R2	L'	U'	Uw2																																																															
F	Fw2	Uw'	Fw	Uw'	Bw																																																															
Rw'	Fw'	Lw'	Dw	Rw'	B'																																																															
3Rw																																																																				
3.	<table><tr><td>R</td><td>Rw2</td><td>B</td><td>Lw'</td><td>R2</td><td>U2</td></tr><tr><td>Rw2</td><td>B2</td><td>R'</td><td>Uw'</td><td>Lw2</td><td>Fw'</td></tr><tr><td>D</td><td>Lw</td><td>B</td><td>D'</td><td>Bw'</td><td>F'</td></tr><tr><td>Fw2</td><td>Lw2</td><td>B</td><td>Lw'</td><td>Dw'</td><td>Lw</td></tr><tr><td>L'</td><td>B</td><td>D'</td><td>F</td><td>Fw2</td><td>Lw</td></tr><tr><td>Fw'</td><td>U'</td><td>Bw2</td><td>Dw2</td><td>Fw2</td><td>Bw2</td></tr><tr><td>Lw'</td><td>Fw'</td><td>F'</td><td>R'</td><td>F'</td><td>Dw</td></tr><tr><td>Lw2</td><td>B</td><td>Fw2</td><td>Lw</td><td>F</td><td>Lw</td></tr><tr><td>Uw2</td><td>R'</td><td>L2</td><td>U</td><td>D2</td><td>Dw2</td></tr><tr><td>Fw</td><td>L'</td><td>B</td><td>U'</td><td>R2</td><td>B</td></tr><tr><td>3Uw</td><td></td><td></td><td></td><td></td><td></td></tr></table>	R	Rw2	B	Lw'	R2	U2	Rw2	B2	R'	Uw'	Lw2	Fw'	D	Lw	B	D'	Bw'	F'	Fw2	Lw2	B	Lw'	Dw'	Lw	L'	B	D'	F	Fw2	Lw	Fw'	U'	Bw2	Dw2	Fw2	Bw2	Lw'	Fw'	F'	R'	F'	Dw	Lw2	B	Fw2	Lw	F	Lw	Uw2	R'	L2	U	D2	Dw2	Fw	L'	B	U'	R2	B	3Uw						
R	Rw2	B	Lw'	R2	U2																																																															
Rw2	B2	R'	Uw'	Lw2	Fw'																																																															
D	Lw	B	D'	Bw'	F'																																																															
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Lw'	Fw'	F'	R'	F'	Dw																																																															
Lw2	B	Fw2	Lw	F	Lw																																																															
Uw2	R'	L2	U	D2	Dw2																																																															
Fw	L'	B	U'	R2	B																																																															
3Uw																																																																				

1.	L2 U2 F' L2 B2 U2 B' D2 U2 L' U2 R' B L2 D2 R' D F' D2 U' Rw2 Uw'	
2.	L2 F2 U' F2 L2 R2 U L2 D2 U R2 F' L D2 R2 D U' R2 U2 R2 Uw	
3.	F2 D2 L' F2 D2 L2 D2 F2 U2 R' B D R2 D B' L2 R B2 R2 F2 Rw' Uw'	
4.	D U F2 U' R2 U2 L2 D' R U L' F2 D F' D' B U L' R Fw Uw	
5.	U2 R' U2 L D2 L U2 L U2 R' F' R2 D L U B L' R F' U F' Rw2	

6.

F2 U2 B' U2 R2 U2 F

D2 B2 L' R F U' L2

B2 L2 D2 L' D U' Fw

Uw2