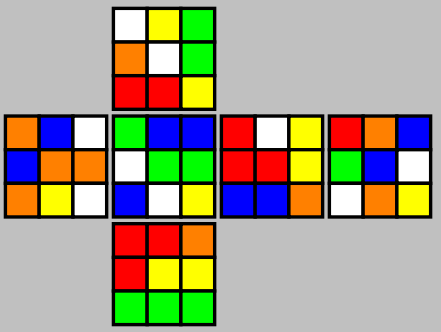
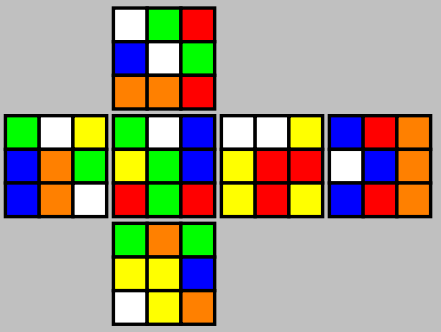
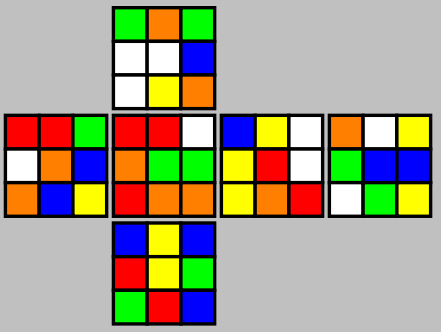
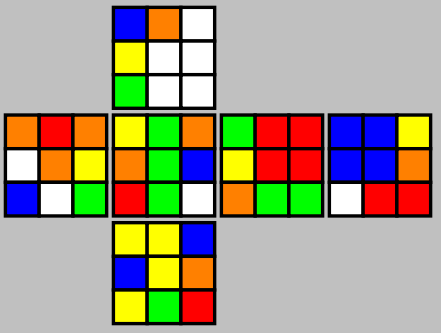
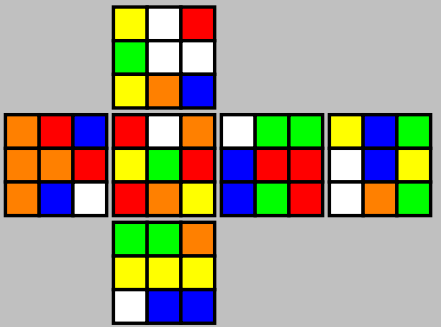
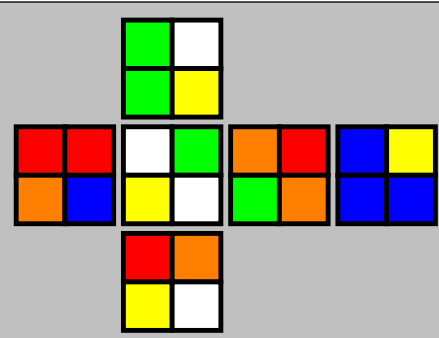
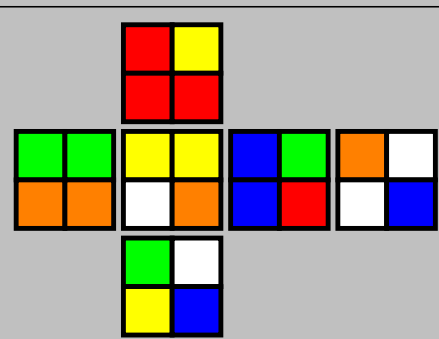
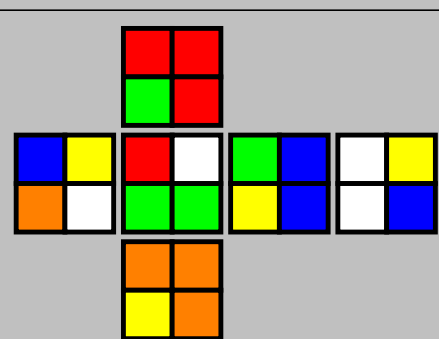
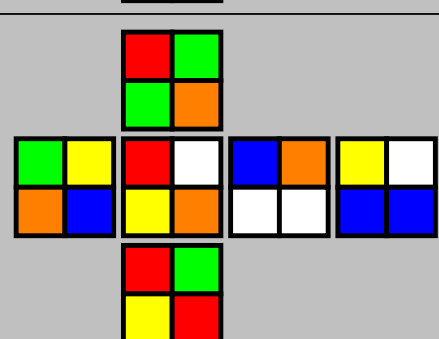
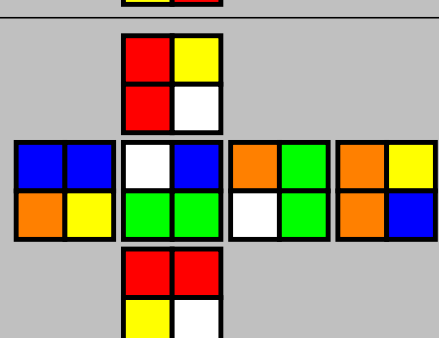
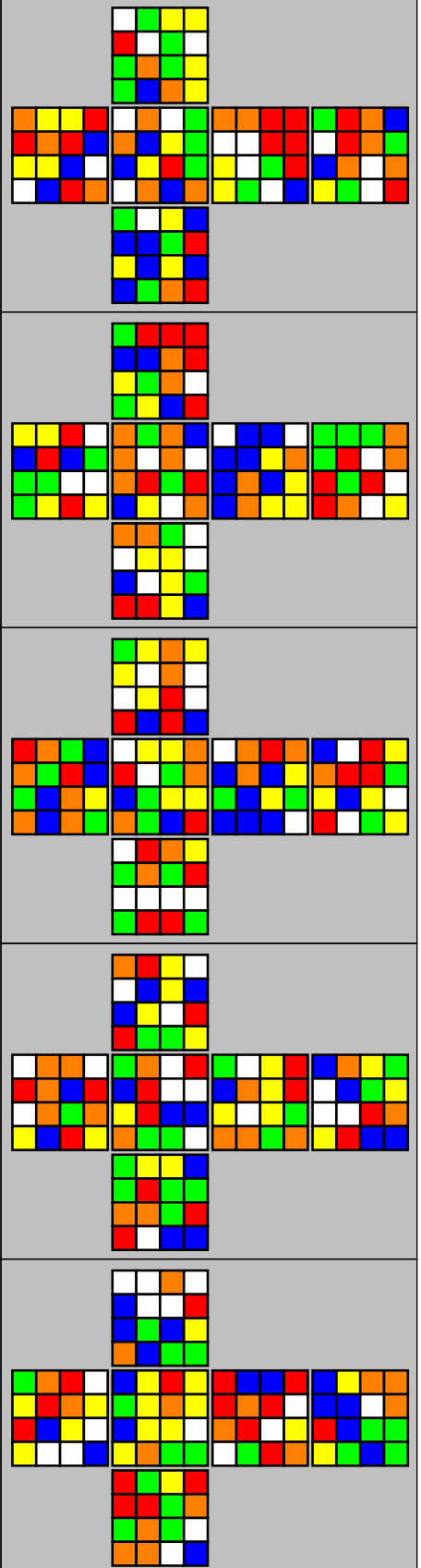
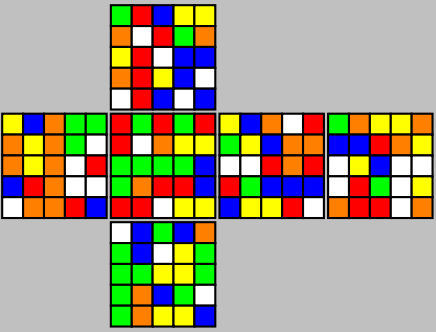
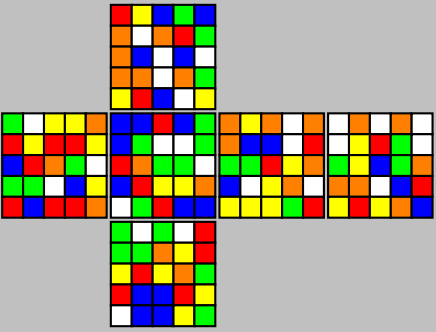
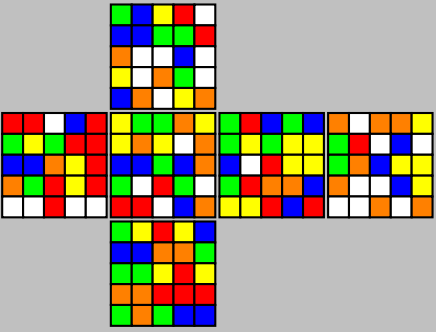
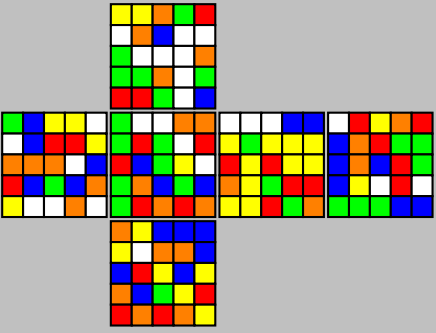
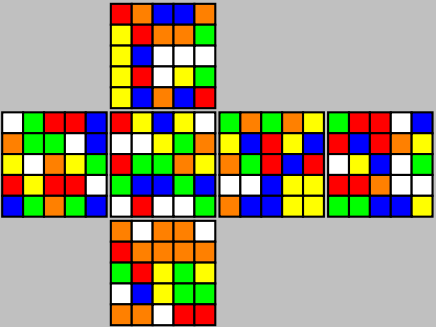


1.	<p>B2 L B2 R2 F2 D2 L' D2 L2 B2 R F D' F' R2 F' L2 R B2 F2 D'</p>	
2.	<p>U B2 U2 F2 D2 U' R2 D R' F' D' U2 L B' F L2 R D2 F2</p>	
3.	<p>L2 U R2 D2 L2 R2 B2 L2 R2 U2 F' U2 R' B2 D' R U2 F2 U' B'</p>	
4.	<p>F D2 F2 D2 R2 F' U2 F2 R2 F' D B' F2 L D2 L' F' D2</p>	
5.	<p>R' U' R2 U L' U L2 U' F U F U D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

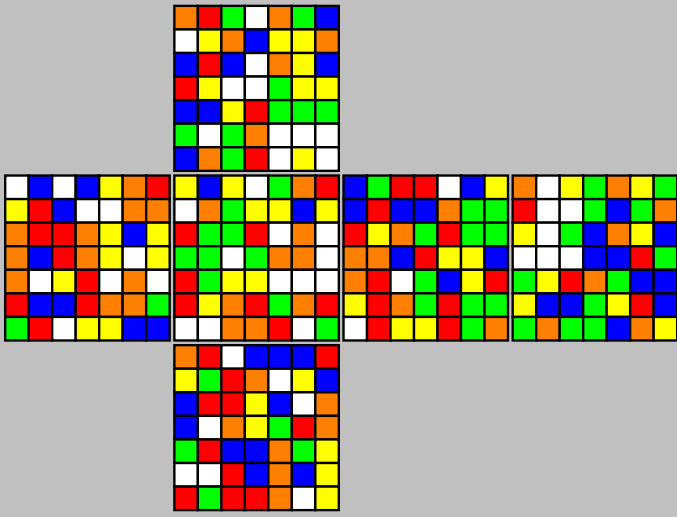
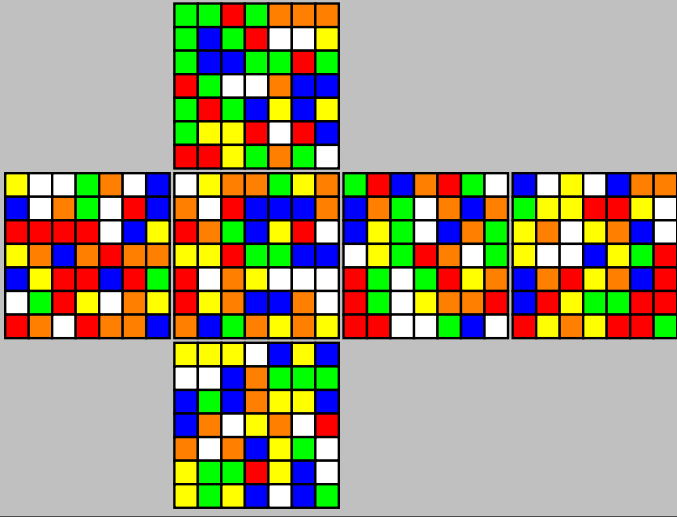
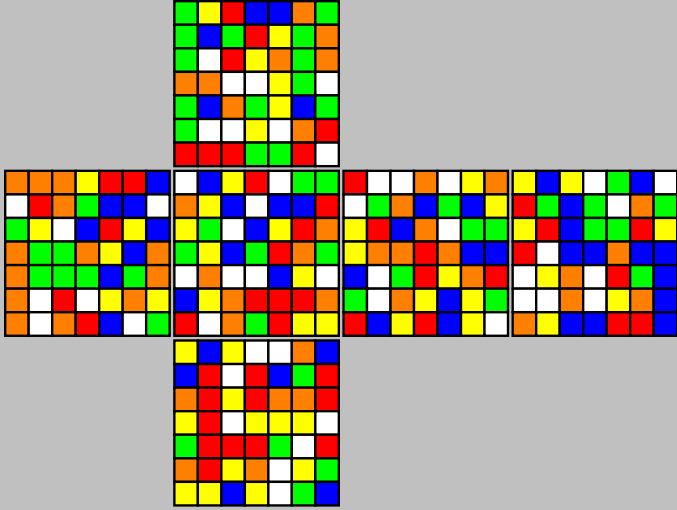
1.	$U R U^2 R' U R' F^2 U^2 F' R U^2$	
2.	$F U^2 F R U' R F' U' R^2 U' R^2$	
3.	$R' F R^2 U' R^2 F' U R U' F' R'$	
4.	$U' R' U' R F U' R' F' U^2 R U$	
5.	$R U R U' R^2 U R U' F U' R$	

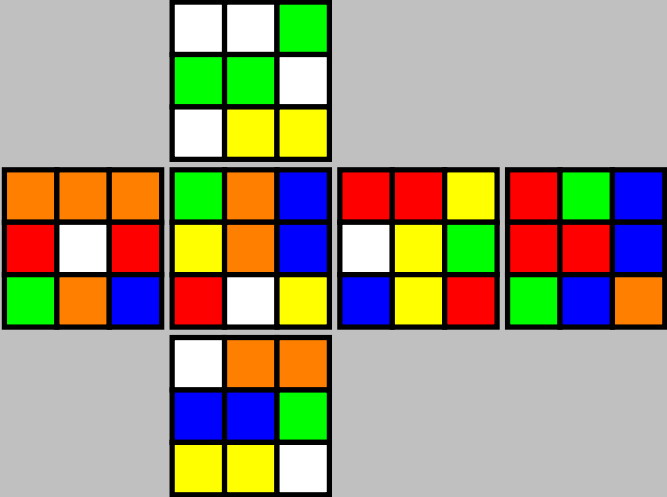
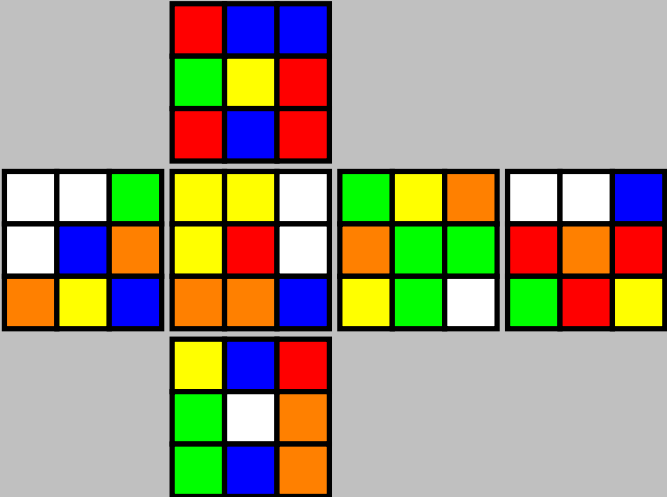
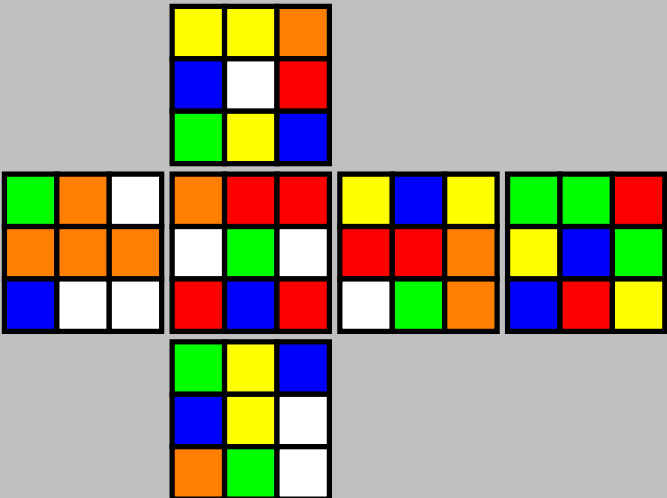
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	R'	Fw	D2	F'	Rw	R'	Uw
	D'	F'	Rw'	L'	R'	F2	Uw'
	F2	R2	F	R	L2	U	D'
	Uw2	B	Uw2	R	U'		
2.	D'	Fw'	R2	Fw'	L2	Rw	B2
	Uw'	U	Fw	D2	L2	B'	U2
	L2	F'	U'	B	Uw2	F2	Rw'
	Fw2	D2	Rw	R'	U	B'	Fw'
	L	B2	L	Rw'	R'	Uw	Rw2
	B	L2	Rw'	F	Fw		
3.	D	Rw	D	R'	Rw'	D2	R
	U	B	Uw	L'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

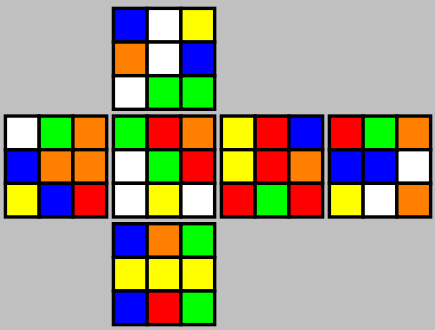
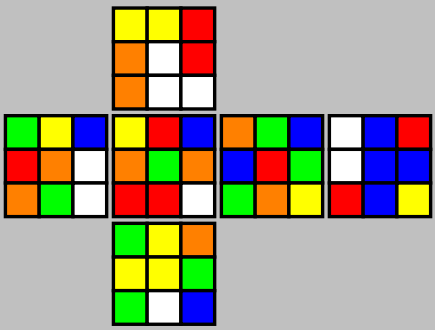
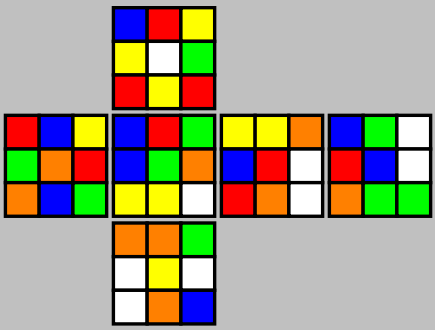
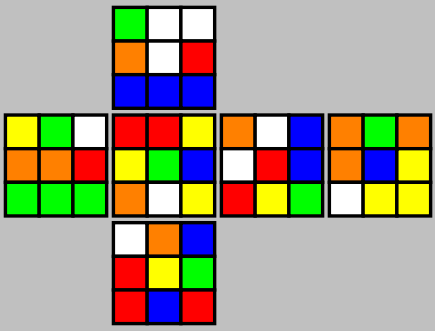
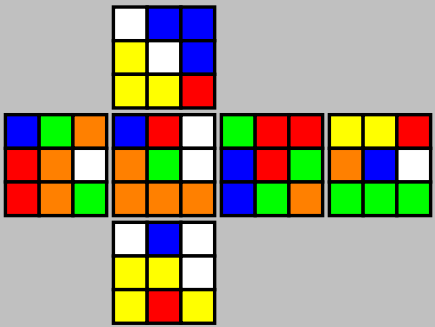


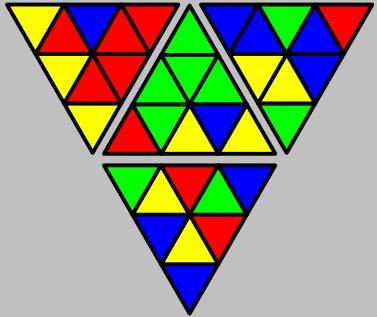
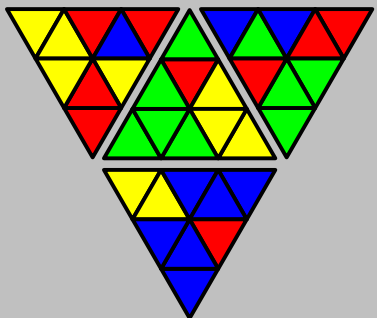
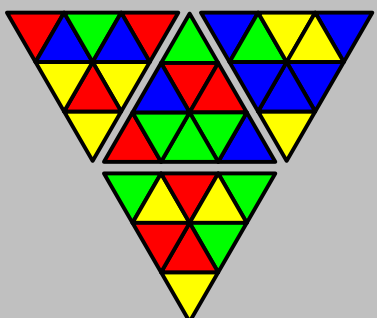
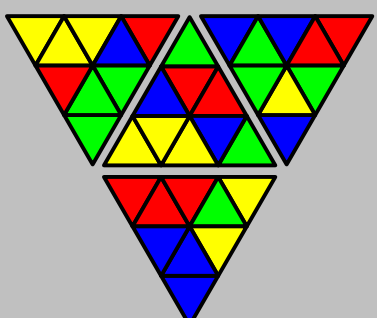
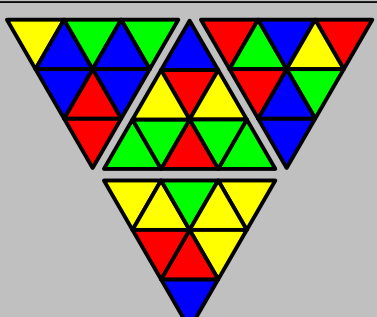
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	B2 Dw2 Rw' D Dw' Bw2 Rw2 Dw D	
	L2 Bw Uw' B2 R' L2 Dw' Fw' Uw2	
	Lw' R Fw F2 L2 D2 Fw' L F'	
	Fw' D' U' Dw' B2 L Lw2 B2 R'	
	Uw2 Dw2 Fw F2 Rw2 R2 D' Dw' Lw'	
	Rw' Dw Lw' D2 Bw2 Fw2	
2.	Fw' R B' R' L' Lw Rw D' Bw2	
	Fw R2 D' F' Bw Uw' Fw' Uw Fw2	
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

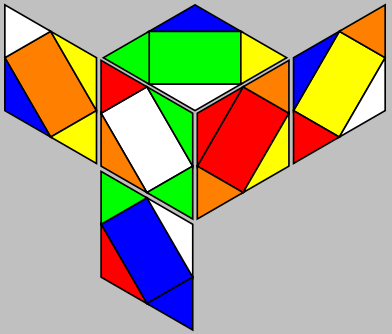
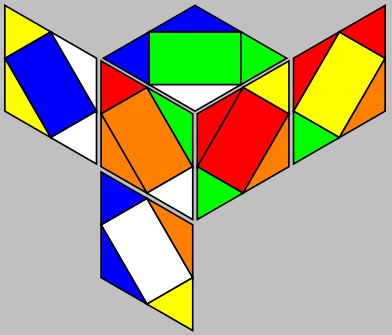
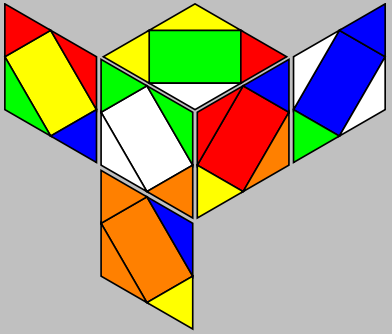
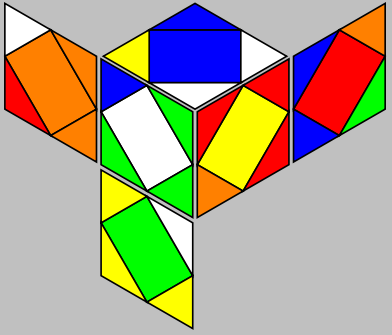
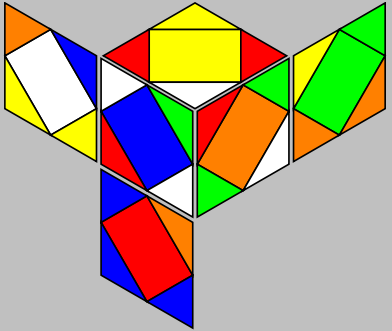
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	U'	R2	Uw2	U	L'	Dw'
	3Uw	U2	3Fw2	U	Lw2	Rw
	3Uw2	U	L'	Uw2	Fw	F2
	3Uw2	3Fw	F'	B'	Bw	Dw2
	R	B	L2	U'	Rw2	L
	3Uw	Fw'	3Uw	Fw	Dw	F2
	3Fw2	B2	Dw'	3Uw2	Bw2	Rw'
	Lw2	B	D'	B'	D	L2
	Uw'	3Uw'	U2	Lw2	F2	Lw2
	3Fw'	U2	L	3Fw'	3Rw2	Fw2
	U2	F				
2.	Rw2	B'	F2	Bw'	3Rw2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

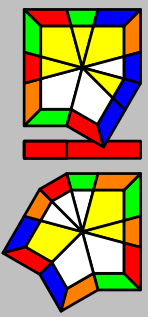
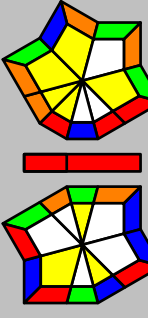
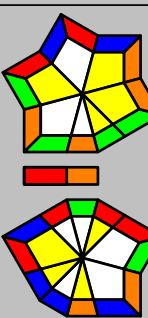
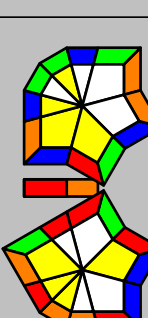
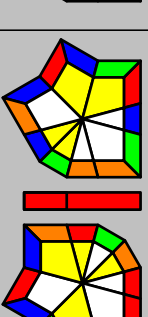
1.	L2	Bw2	D	3Fw	U'	3Dw	3Bw2
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	F2	Lw'	U'	Uw'	Rw	3Dw'	Rw2
	3Bw	Fw'	Uw2	3Rw2	3Dw	3Bw2	3Lw
	Uw2	Fw	Rw	3Dw	3Fw	R2	L
	B	3Uw'	3Lw2	Uw	Dw	B'	3Bw2
	Bw	3Lw'	3Fw'	3Rw'	Lw	D'	U'
	Fw'	Bw'	Dw'	F'	L'	3Dw	U'
	Bw'	Dw'	3Fw	3Uw	3Rw2	3Dw2	Bw'
	L'	Uw2	3Dw'	Fw	3Dw2	3Rw2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

1.	<div>R2 U' B2 F2</div> <div>D' B2 D' F2</div> <div>U L2 R' U</div> <div>L B F2 L'</div> <div>D U2 B' L</div> <div>U2 Rw Uw'</div>	
2.	<div>R2 U2 R D2</div> <div>F2 R U2 B2</div> <div>L U' R2 U</div> <div>R2 B R F</div> <div>U' L' B' Rw2</div> <div>Uw</div>	
3.	<div>B2 R2 U2 L F2 B'</div> <div>L' B R' U R2 U</div> <div>L2 U2 L2 U B2 U</div> <div>L2</div>	

1.	D' R' U F B R^2 B' L^2 U R' D B^2 R^2 D F^2 R^2 L^2 U' L^2 F^2 D	
2.	D R^2 U^2 R^2 D L^2 D' F' D' U' F^2 L' U^2 F U^2 B^2 D^2 F'	
3.	D' R^2 D R^2 D' B^2 D^2 B' U^2 R D F' D^2 R^2 B' R' U' B	
4.	F' D' F R' F D' B' L U' F R' U^2 B^2 U^2 F^2 R^2 U^2 R D^2	
5.	B D^2 B' L^2 D^2 B' R^2 U^2 F R' D B^2 R D' L' B' U' L U^2	

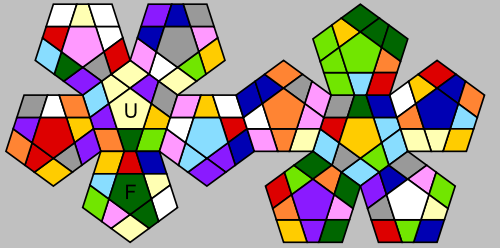
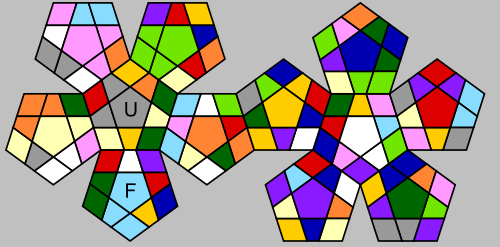
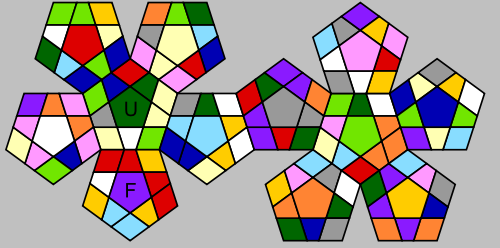
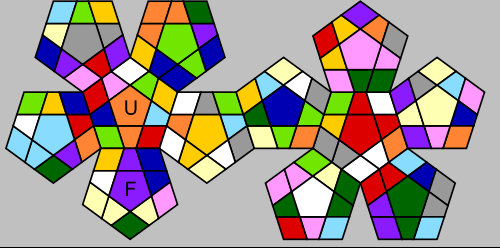
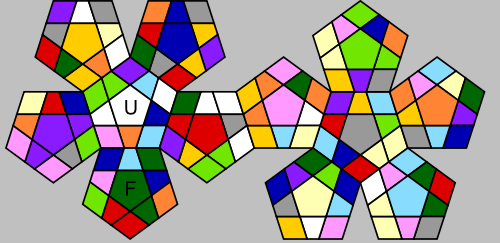
1.	$R U' B' L B' R U' L B' U' L \perp r' b'$	 A pyramid diagram with a top triangle and a bottom triangle. The top triangle is composed of 16 smaller triangles (4 rows of 4). The bottom triangle is composed of 10 smaller triangles (4 rows of 3, with the last row having 2 triangles). The triangles are colored red, yellow, green, and blue. The top triangle has a central vertical line and a horizontal line. The bottom triangle has a central vertical line.
2.	$U B' R' B' U' R U B R' U R' u$	 A pyramid diagram with a top triangle and a bottom triangle. The top triangle is composed of 16 smaller triangles (4 rows of 4). The bottom triangle is composed of 10 smaller triangles (4 rows of 3, with the last row having 2 triangles). The triangles are colored red, yellow, green, and blue. The top triangle has a central vertical line and a horizontal line. The bottom triangle has a central vertical line.
3.	$L U R B' L U R' L R B' R' u \perp r' b'$	 A pyramid diagram with a top triangle and a bottom triangle. The top triangle is composed of 16 smaller triangles (4 rows of 4). The bottom triangle is composed of 10 smaller triangles (4 rows of 3, with the last row having 2 triangles). The triangles are colored red, yellow, green, and blue. The top triangle has a central vertical line and a horizontal line. The bottom triangle has a central vertical line.
4.	$L' U L' U L B U R U' B R u r$	 A pyramid diagram with a top triangle and a bottom triangle. The top triangle is composed of 16 smaller triangles (4 rows of 4). The bottom triangle is composed of 10 smaller triangles (4 rows of 3, with the last row having 2 triangles). The triangles are colored red, yellow, green, and blue. The top triangle has a central vertical line and a horizontal line. The bottom triangle has a central vertical line.
5.	$R L' R U' R L' R L' B' R' B' u' b$	 A pyramid diagram with a top triangle and a bottom triangle. The top triangle is composed of 16 smaller triangles (4 rows of 4). The bottom triangle is composed of 10 smaller triangles (4 rows of 3, with the last row having 2 triangles). The triangles are colored red, yellow, green, and blue. The top triangle has a central vertical line and a horizontal line. The bottom triangle has a central vertical line.

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

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

2019-06-01

minx
Scrambles for 2019-06-01

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'	

2019-06-01

 clock
 Scrambles for 2019-06-01

1.	UR3- DR6+ DL4- UL5+ U1- R5- D5- L3- ALL1+ y2 U5- R1+ D3+ L2+ ALL6+ UR DR DL UL	
2.	UR3+ DR0+ DL4- UL1+ U1+ R2- D2+ L3- ALL1- y2 U4+ R5- D4+ L0+ ALL2+ UR DL UL	
3.	UR3- DR6+ DL3+ UL5- U3+ R6+ D2+ L3- ALL5- y2 U4- R1+ D5+ L3- ALL6+ DL UL	
4.	UR6+ DR5+ DL1+ UL2+ U2+ R5- D1+ L1+ ALL4+ y2 U2- R3- D0+ L0+ ALL4-	
5.	UR6+ DR5- DL4+ UL3+ U6+ R6+ D3+ L1- ALL1+ y2 U6+ R6+ D6+ L4- ALL1- UR UL	

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]

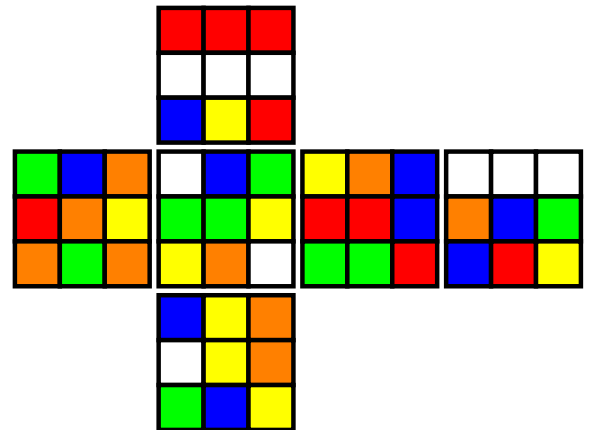
Scrambles for 2019-06-01
333fm

Competitor: _____

WCA ID: _____

DO NOT FILL IF YOU ARE THE COMPETITOR.

Graded by: _____ Result: ____



Scramble: R' U' F U2 B2 R U2 R2 D2 L' B2 R B' D L F' L' B' L B2 U R U2 R' U' F

A blank sheet of white paper featuring a light gray grid pattern. The grid consists of evenly spaced horizontal and vertical lines, creating a series of small squares across the entire page. There are no margins, text, or other markings on the paper.

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]

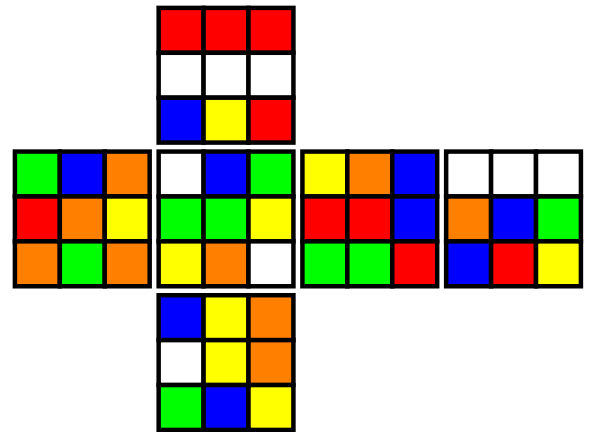
Scrambles for 2019-06-01
333fm

Competitor: _____

WCA ID: _____

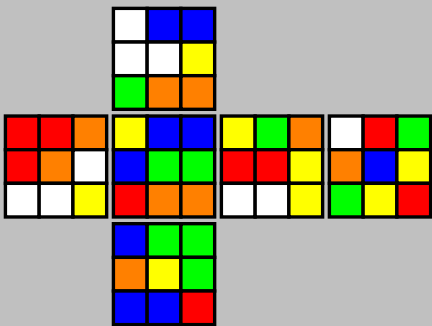
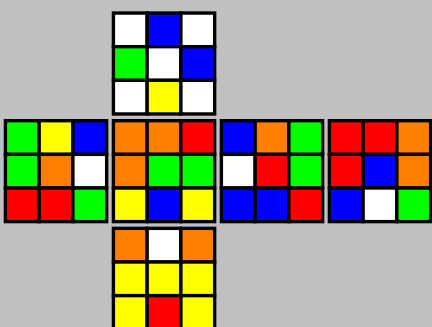
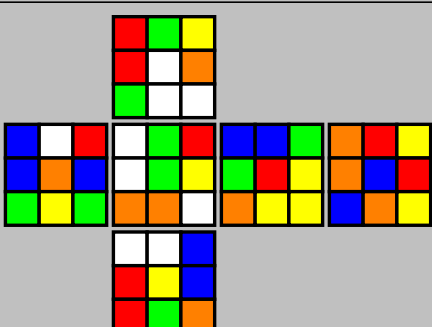
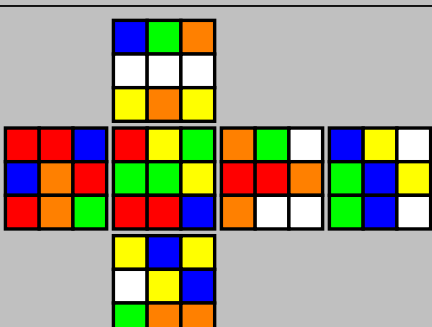
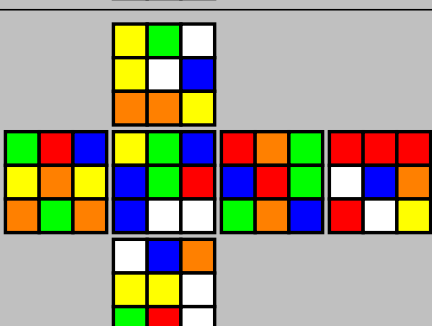
DO NOT FILL IF YOU ARE THE COMPETITOR.

Graded by: _____ Result: ____



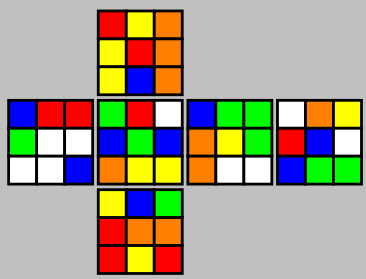
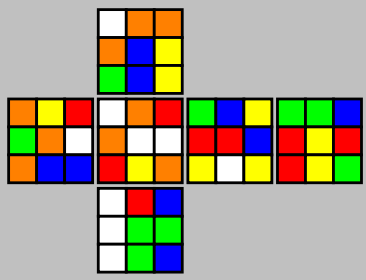
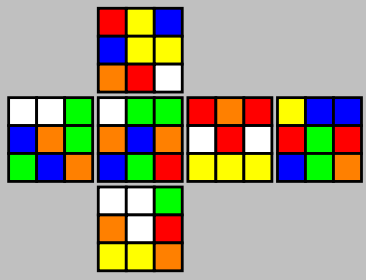
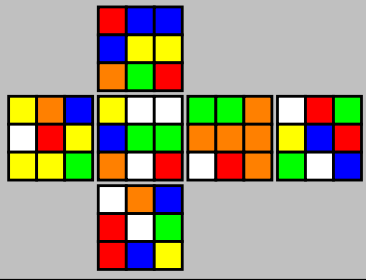
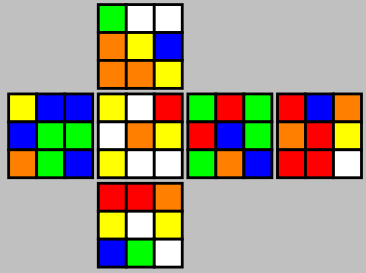
Scramble: R' U' F U2 B2 R U2 R2 D2 L' B2 R B' D L F' L' B' L B2 U R U2 R' U' F

[illegible]

1.	$U \quad L^2 \quad D' \quad U' \quad B^2 \quad D \quad U^2 \quad R^2$ $B^2 \quad R \quad D \quad B' \quad D^2 \quad R^2 \quad D^2 \quad B'$ $R' \quad F \quad D \quad R'$	
2.	$R' \quad U^2 \quad R \quad U^2 \quad R' \quad F^2 \quad L' \quad B^2$ $D^2 \quad B \quad R^2 \quad B^2 \quad F' \quad U \quad B' \quad D'$ $U' \quad B \quad L' \quad F$	
3.	$R^2 \quad U' \quad B \quad R' \quad L \quad D \quad B' \quad L^2$ $U \quad R \quad F^2 \quad B^2 \quad D^2 \quad L^2 \quad B^2 \quad D'$ $F^2 \quad U \quad D^2 \quad R^2 \quad L^2$	
4.	$D^2 \quad B \quad R^2 \quad U^2 \quad R' \quad F' \quad B^2 \quad L$ $F \quad D' \quad R^2 \quad L^2 \quad D^2 \quad F^2 \quad B^2 \quad R$ $F^2 \quad R' \quad L'$	
5.	$B' \quad D' \quad R \quad L^2 \quad B' \quad R' \quad U' \quad R'$ $B^2 \quad U' \quad R^2 \quad U' \quad B^2 \quad U^2 \quad D' \quad R^2$ $D' \quad B^2 \quad U'$	

1.	U	D2	F2	L2	U'
	R2	F2	L2	F2	U'
	F2	R	F'	L	U2
	F2	U'	D2	F'	U
	D'	Uw2	Rw2	L	U'
	L'	U	F2	D'	Rw2
	Uw2	D	L'	Fw	D2
	L	D	Fw	Rw	Fw2
	Uw	Fw'	U'	Rw'	F
2.	U2	L'	B2	R'	F2
	B2	L2	B2	D2	L'
	B	D'	L	B	R
	D2	R	U	B'	R2
	Uw2	Fw2	F2	B	U
	L2	Fw2	Rw2	B'	Rw2
	F2	D'	R'	B'	Rw'
	B2	R2	Uw	Rw	D
	B	Uw'	R2	Fw'	Rw2
x'					
3.	R'	U2	F	D	B
	L	B'	F	U2	L
	F2	R2	U'	L2	F2
	L2	B2	D	B2	D2
	Rw2	B	U2	F	Rw2
	Fw2	L	Uw2	F	D2
	R2	Uw2	B2	Uw'	D'
	F'	U2	D2	Fw	L'
	Fw	Uw	Fw	D2	L'
	z'	y'			

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

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

6.

U2R2B2UL2R2D2

R2F'D'R'DUL2

R'B'FL2DF2Rw'

Uw