
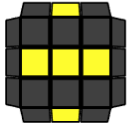

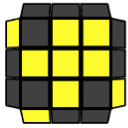
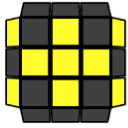
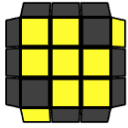
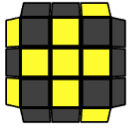
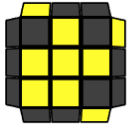
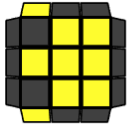
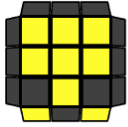



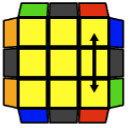



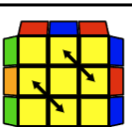
2-Look OLL

the Last Layer) solves the top color of the last layer in 2 steps. This is part of the [CFOP](#) method. To solve the cube
Advanced: [OLL](#)

NAME ↕	CASE	ALGORITHM ↕	GROUP ^	BEST ↕	AVG ↕
Dot Shape		$F R U R' U' F' f R U R' U' f'$	1: Edges	-	-
I-Shape		$F R U R' U' F'$	1: Edges	-	-
L-Shape		$f R U R' U' f'$	1: Edges	-	-
Antisune		$R U^2 R' U' R U' R'$	2: Corners	-	-
H		$R U R' U R U' R' U R U^2 R'$	2: Corners	-	-
L		$F R' F' r U R U' r'$	2: Corners	-	-
Pi		$R U^2 R^2 U' R^2 U' R^2 U^2 R$	2: Corners	-	-
Sune		$R U R' U R U^2 R'$	2: Corners	-	-
T		$r U R' U' r' F R F'$	2: Corners	-	-
U		$R^2 D R' U^2 R D' R' U^2 R'$	2: Corners	-	-

2-Look PLL


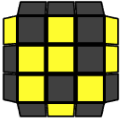
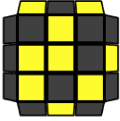

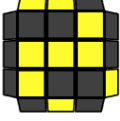
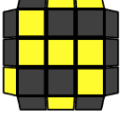
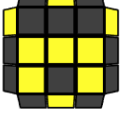
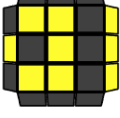
L (Permutation of the Last Layer) solves the cube in 2 steps after completing [2-Look OLL](#). This is part of the [CFOI](#)
 Advanced: [PLL](#)

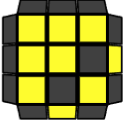
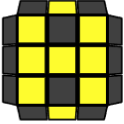
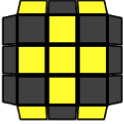
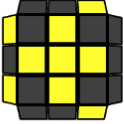
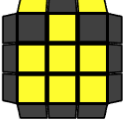
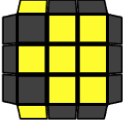
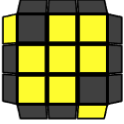
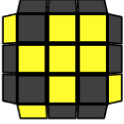
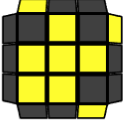
NAME ↕	CASE	ALGORITHM ↕	GROUP ^	BEST ↕	AVG ↕
Diagonal		$FRU'R'U'RUR'FRUR'U'R'FRF'$	1: Corners	-	-
Headlights		$RUR'U'R'FR2U'R'U'RUR'F'$	1: Corners	-	-
PLL (H)		$M2UM2U2M2UM2$	2: Edges	-	-
PLL (Ua)		$RU'RURURU'R'U'R2$	2: Edges	-	-
PLL (Ub)		$R2URUR'U'R'U'R'UR'$	2: Edges	-	-
PLL (Z)		$M'UM2UM2UM'U2M2$	2: Edges	-	-

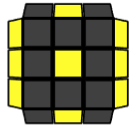
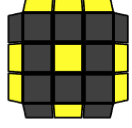
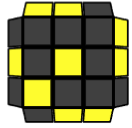
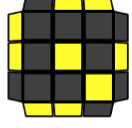
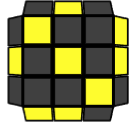

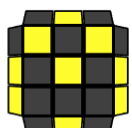
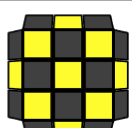
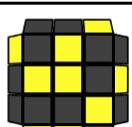
3x3 OLL

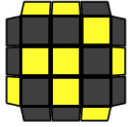
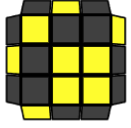
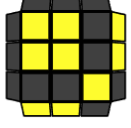
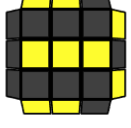
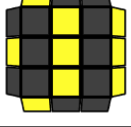
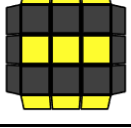
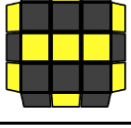
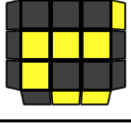
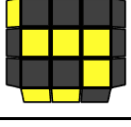
OLL (Orientation of the Last Layer) solves the top color of the last layer. This is the 3rd step of the CFOP method.

Beginner: [2-Look OLL](#) | Advanced: [Winter Variation](#), [COLL](#)

NAME ↕	CASE	ALGORITHM ↕	GROUP ^	BEST ↕	AVG ↕
29		R U R' U' R U' R' F' U' F R U R'	Awkward Shape	-	-
30		F R' F R2 U' R' U' R U R' F2	Awkward Shape	-	-
41		R U R' U R U2 R' F R U R' U' F'	Awkward Shape	-	-
42		R' U' R U' R' U2 R F R U R' U' F'	Awkward Shape	-	-
39		L F' L' U' L U F U' L'	Big Lightning Bolt	-	-
40		R' F R U R' U' F' U R	Big Lightning Bolt	-	-
34		R U R2 U' R' F R U R U' F'	C Shape	-	-
46		R' U' R' F R F' U R	C Shape	-	-

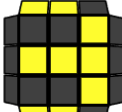
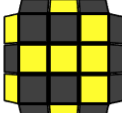

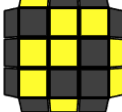
28		$rUR'U'r'RURU'R'$	Corners Oriented	-	-
57		$RUR'U'M'URU'r'$	Corners Oriented	-	-
21		$RU2R'U'RUR'U'RUR'R'$	Cross	-	-
22		$RU2R2U'R2U'R2U2R$	Cross	-	-
23		$R2D'RU2R'DRU2R$	Cross	-	-
24		$rUR'U'r'FRF'$	Cross	-	-
25		$F'rUR'U'r'FR$	Cross	-	-
26	 ✎	$RU2R'U'RUR'R'$	Cross	-	-
27		$RUR'URU2R'$	Cross	-	-

1		$R U^2 R^2 F R F' U^2 R' F R F'$	Dot	-	-
2		$r U r' U^2 r U^2 R' U^2 R U' r'$	Dot	-	-
3		$r' R^2 U R' U r U^2 r' U M'$	Dot	-	-
4		$M U' r U^2 r' U' R U' R' M'$	Dot	-	-
17		$F R' F' R^2 r' U R U' R' U' M'$	Dot	-	-
18		$r U R' U R U^2 r^2 U' R U' R' U^2 r$	Dot	-	-
19		$r' R U R U R' U' M' R' F R F'$	Dot	-	-
20		$r U R' U' M^2 U R U' R' U' M'$	Dot	-	-
9		$R U R' U' R' F R^2 U R' U' F'$	Fish Shape	-	-

10		R U R' U R' F R F' R U2 R'	Fish Shape	-	-
35		R U2 R2 F R F' R U2 R'	Fish Shape	-	-
37		F R' F' R U R U' R'	Fish Shape	-	-
51		F U R U' R' U R U' R' F'	I Shape	-	-
52		R U R' U R U' B U' B' R'	I Shape	-	-
55		R' F R U R U' R2 F' R2 U' R' U R U R'	I Shape	-	-
56		r' U' r U' R' U R U' R' U R r' U r	I Shape	-	-
13		F U R U' R2 F' R U R U' R'	Knight Move Shape	-	-
14		R' F R U R' F' R F U' F'	Knight Move Shape	-	-

15		$F'U'L'L'U'LUI'UI$	Knight Move Shape	-	-
16		$rUr'RUR'U'rU'r'$	Knight Move Shape	-	-
31		$R'U'FURU'R'F'R$	P Shape	-	-
32		$LUF'U'L'ULFL'$	P Shape	-	-
43		$F'U'L'ULF$	P Shape	-	-
44		$FURU'R'F'$	P Shape	-	-
47		$R'U'R'FRF'R'FRF'UR$	Small L Shape	-	-
48		$FRUR'U'RUR'U'F'$	Small L Shape	-	-
49		$rU'r2U'r2U'r2U'r$	Small L Shape	-	-

50		$r' U r2 U' r2 U' r2 U r'$	Small L Shape	-	-
53		$l' U2 L U L' U' L U L' U l$	Small L Shape	-	-
54		$r U2 R' U' R U R' U' R U' r'$	Small L Shape	-	-
7		$r U R' U R U2 r'$	Small Lightning Bolt	-	-
8		$l' U' L U' L' U2 l$	Small Lightning Bolt	-	-
11		$r U R' U R' F R F' R U2 r'$	Small Lightning Bolt	-	-
12		$M' R' U' R U' R' U2 R U' R r'$	Small Lightning Bolt	-	-
5		$l' U2 L U L' U l$	Square Shape	-	-
6		$r U2 R' U' R U' r'$	Square Shape	-	-





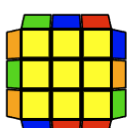
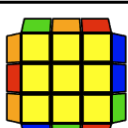
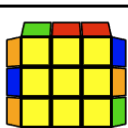
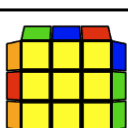
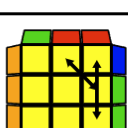
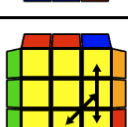
33		RUR'U'R'FRF'	T Shape	-	-
45		FRUR'U'F'	T Shape	-	-
36		L'U'LU'L'ULULF'L'F	W Shape	-	-
38		RUR'URU'R'U'R'FRF'	W Shape	-	-

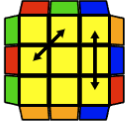
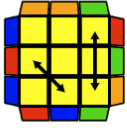
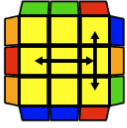
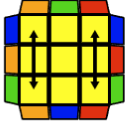
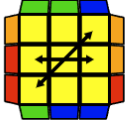
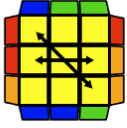
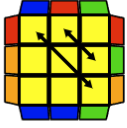
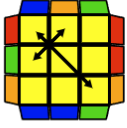
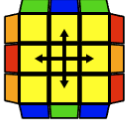
3x3 PLL

PLL (Permutation of the Last Layer) solves the cube after [OLL](#). This is the last step of the [CFOP](#) method.

Note: Recognize G perms with headlights (solved corners) on the left, and find where the block is.

Beginner: [2-Look PLL](#)

NAME ↕	CASE	ALGORITHM ↕	GROUP ^	BEST ↕	AVG ↕
Aa		$x L2 D2 L' U' L D2 L' U L'$	Adjacent Corner Swap	-	-
Ab	 	$x' L2 D2 L U L' D2 L U' L$	Adjacent Corner Swap	-	-
F		$R' U' F' R U R' U' R' F R2 U' R' U' R U R' U R$	Adjacent Corner Swap	-	-
Ga		$R2 U R' U R' U' R U' R2 U' D R' U R D'$	Adjacent Corner Swap	-	-
Gb		$R' U' R U D' R2 U R' U R U' R U' R2 D$	Adjacent Corner Swap	-	-
Gc		$R2 U' R U' R U R' U R2 U D' R U' R' D$	Adjacent Corner Swap	-	-
Gd		$R U R' U' D R2 U' R U' R' U R' U R2 D'$	Adjacent Corner Swap	-	-
Ja		$x R2 F R F' R U2 r' U r U2$	Adjacent Corner Swap	-	-
Jb		$R U R' F' R U R' U' R' F R2 U' R'$	Adjacent Corner Swap	-	-

Ra		$R U' R' U' R U R D R' U' R D' R' U^2 R'$	Adjacent Corner Swap	-	-
Rb		$R^2 F R U R U' R' F' R U^2 R' U^2 R$	Adjacent Corner Swap	-	-
T		$R U R' U' R' F R^2 U' R' U' R U R' F'$	Adjacent Corner Swap	-	-
E		$x' L' U L D' L' U' L D L' U' L D' L' U L D$	Diagonal Corner Swap	-	-
Na		$R U R' U R U R' F' R U R' U' R' F R^2 U' R' U^2 R U' R'$	Diagonal Corner Swap	-	-
Nb		$R' U R U' R' F' U' F R U R' F R' F' R U' R$	Diagonal Corner Swap	-	-
V		$R' U R' U' y R' F' R^2 U' R' U R' F R F$	Diagonal Corner Swap	-	-
Y		$F R U' R' U' R U R' F' R U R' U' R' F R F'$	Diagonal Corner Swap	-	-
H		$M^2 U M^2 U^2 M^2 U M^2$	Edges Only	-	-

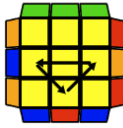


Ua		M2 U M U2 M' U M2	Edges Only	-	-
Ub		M2 U' M U2 M' U' M2	Edges Only	-	-
Z		M' U M2 U M2 U M' U2 M2	Edges Only	-	-

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