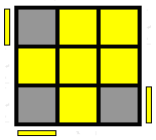
OLL Algorithms for Big Cubes

Developed by Feliks Zemdegs
and Andy Klise

Algorithm Presentation Format



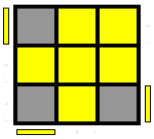
Suggested algorithm here
Alternative algorithms here
OLL Case Name - Probability = 1/x

Round brackets are used to segment algorithms to assist memorisation and group move triggers.

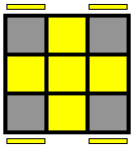
It is recommended to learn the algorithms in the order presented.

Purple text denotes either a change in the suggested algorithm (from the 3x3 OLL Algorithm PDF) or an entire new algorithm.

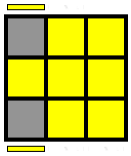
All Edges Oriented Correctly



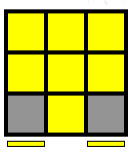
R U2 R' U' R U' R'
y' R' U' R U' R' U2 R
OCLL6 - 26 - Probability = 1/54



(R U2 R') (U' R U R') (U' R U' R')
y (R U R' U) (R U' R' U) (R U2' R')
OCLL1 - 21 - Probability = 1/108

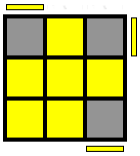


(r U R' U') (r' F R F')
y' F (R U R' U') (R U' R' U') (R U R' F')
y' (R U' R' U2) (R U R' U2) (R U R') (U R U' R')
OCLL4 - 24 - Probability = 1/54

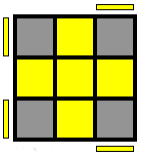


R2 D (R' U2 R) D' (R' U2 R')
y2 R2' D' (R U2 R') D (R U2 R)
y2 F (R U' R' U) (R U R' U) (R U' R' F')
y (R U R' U') (R U' R' U2) (R U' R' U2) (R U R')
OCLL3 - 23 - Probability = 1/54

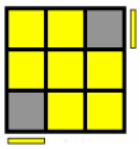
R U R' U R U2' R'
y' R' U2' R U R' U R
OCLL7 - 27 - Probability = 1/54



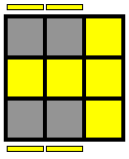
R U2' R2' U' R2 U' R2' U2' R
OCLL2 - 22 - Probability = 1/54



y F' (r U R' U') r' F R
y2 F (R U' R' U') (R U2 R' U') F'
OCLL5 - 25 - Probability = 1/54

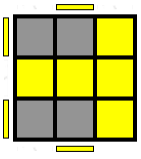


T-Shapes

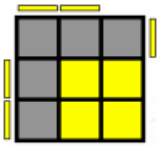


(R U R' U') (R' F R F')
T1 - 33 - Probability = 1/54

F (R U R' U') F'
T2 - 45 - Probability = 1/54

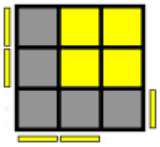


Squares

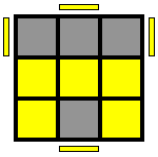


(r' U2' R U R' U r)
y2 (R' U' R U') y x' R2 U' R' U l'
S1 - 5 - Probability = 1/54

(r U2 R' U' R U' r')
S2 - 6 - Probability = 1/54

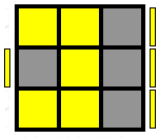


C-Shapes

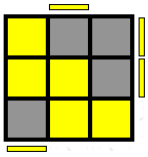


(R U R2' U') (R' F R U) R U' F'
y2 (R U R' U') (R' F R F') (R' U' R U' R' U2 R)
C1 - 34 - Probability = 1/54

R' U' (R' F R F') U R
C2 - 46 - Probability = 1/54

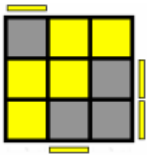


W-Shapes

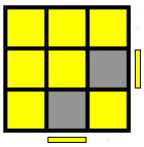


(R' U' R U') (R' U R U) l U' R' U x
y2 (R U R' F') (R U R' U') (R' F R U') (R' F R F')
W1 - 36 - Probability = 1/54

(R U R' U) (R U' R' U') (R' F R F')
W2 - 38 - Probability = 1/54

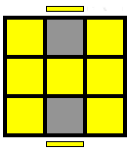


Corners Correct, Edges Flipped

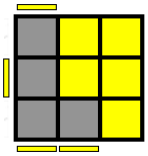


(r U R' U') M (U R U' R')
E1 - 28 - Probability = 1/54

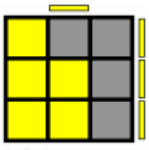
(R U R' U') M' (U R U' r')
E2 - 57 - Probability = 1/108



P-Shapes

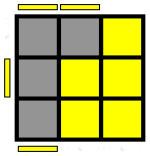


(R' U' F) (U R U' R') F' R
P1 - 31 - Probability = 1/54

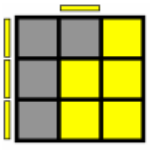


y R' U' F' U F R
P3 - 43 - Probability = 1/54

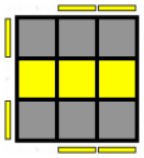
R U B' (U' R' U) (R B R')
y x' (U' R U l') (U' R' U' R) (U R' U R)
P2 - 32 - Probability = 1/54



y2 F (U R U' R') F'
f (R U R' U') f'
P4 - 44 - Probability = 1/54

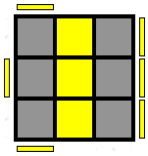


I-Shapes



y2 F (U R U' R') (U R U' R') F'
f (R U R' U') (R U R' U') f'
y' R' U' (R' F R F') (R U' R' U2 R)

I1 - 51 - Probability = 1/54

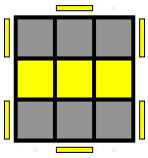


(R' U' R U' R' U) y' (R' U R) B
(R U R' U R U') y (R U' R') F'

I2 - 52 - Probability = 1/54

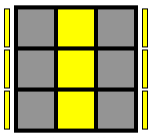
r' U' r (U' R' U R) (U' R' U R) r' U r

I4 - 56 - Probability = 1/108

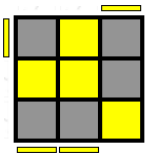


y (R' F R U) (R U' R2' F') R2 U' R' (U R U R')

I3 - 55 - Probability = 1/108

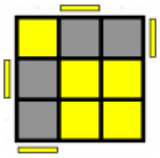


Fish Shapes



(R U R' U') R' F (R2 U R' U') F'
(R' U' R) y x' (R U' R' F) (R U l')

F1 - 9 - Probability = 1/54

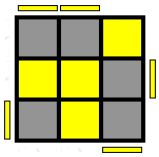


(R U2') (R2' F R F') (R U2' R')

F3 - 35 - Probability = 1/54

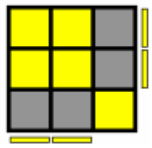
(R U R') y (R' F R U') (R' F' R)
(R U R' U) (R' F R F') (R U2' R')

F2 - 10 - Probability = 1/54

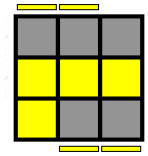


F (R U' R' U') (R U R' F')

F4 - 37 - Probability = 1/54

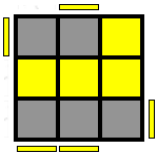


Knight Move Shapes



F U R U' R2' F' R U (R U' R')
F U (R U2 R' U') (R U R' F')

K1 - 13 - Probability = 1/54

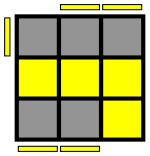


y2 R' F (R U R' U') F' (R U' R' U2 R)
(r U r') (R U R' U') (r U' r')

K4 - 16 - Probability = 1/54

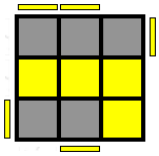
(R' F R) (U R' F' R) (F U' F')

K2 - 14 - Probability = 1/54

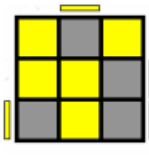


y' (R' U2' R U R') F (U R U' R') F' R
(r' U' r) (R' U' R U) (r' U r)

K3 - 15 - Probability = 1/54

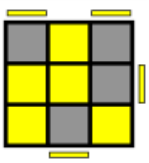


Awkward Shapes



y (R U R' U') (R U' R') (F' U' F) (R U R')

A1 - 29 - Probability = 1/54

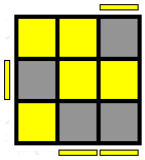


(R U R' U R U2' R') F (R U R' U') F'

A3 - 41 - Probability = 1/54

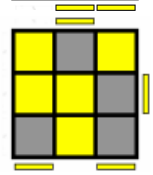
y' F U (R U2 R' U') (R U2 R' U') F'
y' (F R' F) (R2 U' R' U') (R U R') F2

A2 - 30 - Probability = 1/54

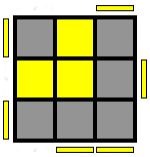


(R' U' R U' R' U2 R) F (R U R' U') F'
y (R' F R F') (R' F R F') (R U R' U') (R U R')

A4 - 42 - Probability = 1/54

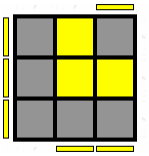


L-Shapes



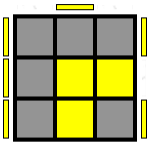
F (R U R' U') (R U R' U') F'

L2 - 48 - Probability = 1/54



y (R' U2 R U R' U R) F (R U R' U') F'

L3 - 49 - Probability = 1/54

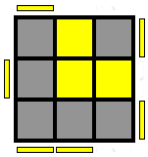


(r' U' R U') (R' U R U') R' U2 r
y r' U2' R (U R' U' R) (U R' U r)

L5 - 53 - Probability = 1/54

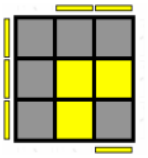
R' U' (R' F R F') (R' F R F') U R
y' (F R' F' R) U2' (R U' R' U) (R U2' R')

L1 - 47 - Probability = 1/54



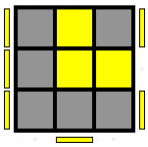
y' (R U2 R' U' R U' R') F (R U R' U') F'

L4 - 50 - Probability = 1/54

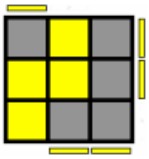


(r U R' U) (R U' R' U) R U2' r'
y' (r U2 R' U') (R U R' U') R U' r'

L6 - 54 - Probability = 1/54

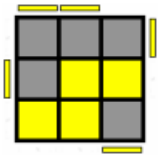


Lightning Bolts



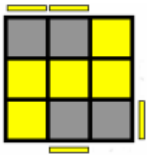
(r U R' U R U2' r')

B1 - 7 - Probability = 1/54



r' (R2 U R' U R U2 R') U M'

B3 - 11 - Probability = 1/54

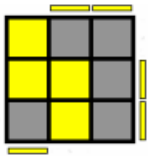


y2 (R U R') (F' U' F) (U R U2 R')
F (R U R' U') F' (R' U' R U' R' U2 R)

B5 - 39 - Probability = 1/54

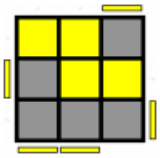
(r' U' R U' R' U2 r)
y2 (R U2 R' U2') (R' F R F')

B2 - 8 - Probability = 1/54



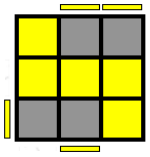
M' (R' U' R U' R' U2 R) U' M
y F (R U R' U') F' U F (R U R' U') F'

B4 - 12 - Probability = 1/54

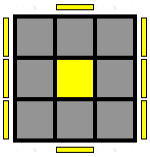


(R' F) (R U R' U') F' U R

B6 - 40 - Probability = 1/54

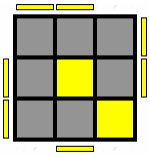


No Edges Flipped Correctly



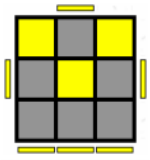
(R U2') (R2' F R F') U2' (R' F R F')

O1 - 1 - Probability = 1/108



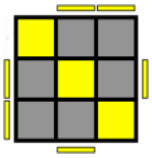
f (R U R' U') f' U' F (R U R' U') F'

O3 - 3 - Probability = 1/54



y R U2' (R2' F R F') U2' M' (U R U' r')
y2 F (R U R' U) y' R' U2 (R' F R F')

O6 - 18 - Probability = 1/54

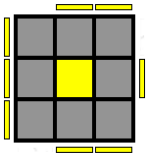


(R U R' U) (R' F R F') U2' (R' F R F')

O5 - 17 - Probability = 1/54

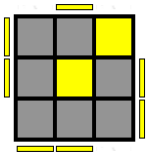
F (R U R' U') F' f (R U R' U') f'
y (r U r') U2 R U2' R' U2 (r U' r')

O2 - 2 - Probability = 1/54



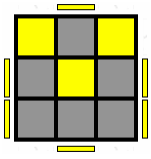
f (R U R' U') f' U F (R U R' U') F'

O4 - 4 - Probability = 1/54



M U (R U R' U') M' (R' F R F')
y F (R U' R' F) (R' F' R U) (R U R' U') F'

O7 - 19 - Probability = 1/54



M U (R U R' U') M2' (U R U' r')
(r U R' U') M2' (U R U' R') U' M'

O8 - 20 - Probability = 1/216