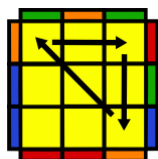# PLL Algorithms (Permutation of Last Layer)
Developed by Feliks Zemdegs
and Andy Klise

Algorithm Presentation Format

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

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

Moves in square brackets at the end of algorithms denote a U face adjustment necessary to complete the cube from the states specified.
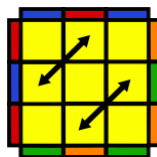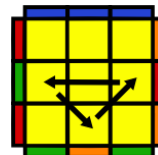
It is recommended to learn the algorithms in the order presented.
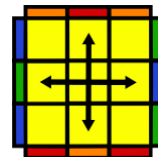
Permutations of Edges Only
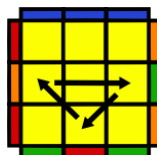
R2 U (R U R' U') R' U' (R' U R')
y2 (R' U R' U') R' U' (R' U R U) R2'

Ub - Probability = 1/18

(M2' U M2' U) (M' U2) (M2' U2 M') [U2]
y' M' U (M2' U M2') U (M' U2 M2) [U']

Z - Probability = 1/36

(R U' R U) R U (R U' R' U') R2
y2 (R U R' U) (R' U' R2 U') R' U R' U R [U2]
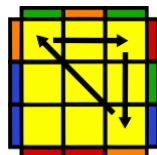y2 (R2 U' R' U') R U R U (R U' R)

Ua - Probability = 1/18
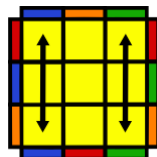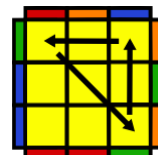
(M2' U M2') U2 (M2' U M2')
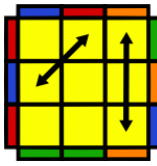
H - Probability = 1/72

Permutations of Corners Only

x (R' U R') D2 (R U' R') D2 R2 x'
y x' R2 D2 (R' U' R) D2 (R' U R') x

Aa - Probability = 1/18

x R2' D2 (R U R') D2 (R U' R) x'
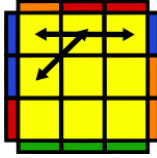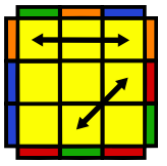y x' (R U' R) D2 (R' U R) D2 R2' x

Ab - Probability = 1/18

x' (R U' R' D) (R U R' D') (R U R' D) (R U' R' D') x
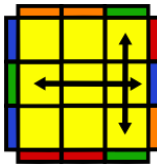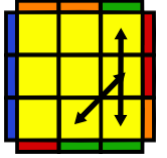
E - Probability = 1/36

Swap One Set of Adjacent Corners

 (R U' R' U') (R U R D) (R' U' R D') (R' U2 R') [U']
y' (L U2 L' U2) L F' (L' U' L U) L F L2' [U]
(R U R' F') (R U2' R' U2') (R' F R U) (R U2' R') [U']

Ra - Probability = 1/18

(R' U2 R U2') R' F (R U R' U') R' F' R2 [U']
(R' U2 R' D') (R U' R' D) (R U R U') (R' U' R) [U']

Rb - Probability = 1/18
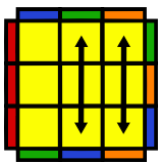

 (R' U L' U2) (R U' R' U2 R) L [U']
y' (L' U' L F) (L' U' L U) L F' L2' U L [U]

Ja - Probability = 1/18

(R U R' F') (R U R' U') R' F R2 U' R' [U']

Jb - Probability = 1/18

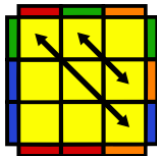 (R U R' U') (R' F R2 U') R' U' (R U R' F')

T - Probability = 1/18

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

F - Probability = 1/18
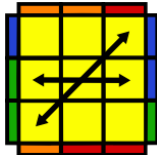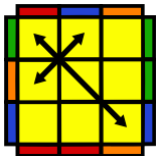

Swap One Set of Diagonal Corners

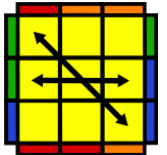 (R' U R' U') y (R' F' R2 U') (R' U R' F) R F

V - Probability = 1/18

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

Y - Probability = 1/18

 (RUR'U)(RUR'F')(RUR'U')(R'FR2U') R' U2 (RU'R')
z (U R' D) (R2 U' R D') (U R' D) (R2 U' R D') [R'] z'

Na - Probability = 1/72

(R' U R U') (R' F' U' F) (R U R' F) R' F' (R U' R)
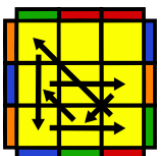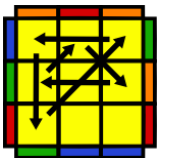(R' U L' U2 R U' L) (R' U L' U2 R U' L) [U]

Nb - Probability = 1/72

G Permutations (Double cycles)

 R2 U (R' U R' U') (R U' R2) D U' (R' U R D') [U]
R2 u (R' U R' U') R u' R2 y' (R' U R)

Ga - Probability = 1/18

(F' U' F) (R2 u R' U) (R U' R u') R2'
y' R' U' y F (R2 u R' U) (R U' R u') R2'
y' D (R' U' R U) D' (R2 U R' U) (R U' R U') R2' [U']

Gb - Probability = 1/18

 R2 U' (R U' R U) (R' U R2 D') (U R U' R') D [U']
y2 R2' F2 (R U2' R U2') R' F (R U R' U') R' F R2

Gc - Probability = 1/18

D' (R U R' U') D (R2 U' R U') (R' U R' U) R2 [U]
(R U R') y' (R2 u' R U') (R' U R' u) R2

Gd - Probability = 1/18