Rubik's Cube Algorithms Compilation

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Explanation

This document is a compilation of algorithms for the 3x3 Rubik's Cube, most notably those for solving the last layer (LL) using the advanced method. I take no credit for any algorithm; this is just a compilation.

2-Look OLL Algs

Note that the first and second looks must be done in the given order.

First Look (Orient Edges)

Bar: $F\,(R\,U\,R'\,U')\,F'$
Corner: $f\,(R\,U\,R'\,U')\,f'$
None: $[F\,(R\,U\,R'\,U')\,F'][f\,(R\,U\,R'\,U')\,f']$

Second Look (Orient Corners)

Fish UL: $(R'\,U'\,R)\,U'\,(R'\,U2\,R)$
Fish LL: $(R\,U\,R'\,U')\,U(R\,U2\,R')$
Double Head-lights: $F\,(R\,U\,R'\,U')3\,F'$
Head-lights/Camilian: $(R\,U2)(R2\,U')(R2\,U')(R2\,U2\,R)$
Head-lights: $(R2'\,D)(R'\,U2)(R\,D')(R'\,U2\,R')$
Camilian: $(r\,U\,R'\,U')(r'\,F\,R\,F')$
Bow-tie: $F'\,(r\,U\,R'\,U')(r'\,F\,R)$

2-Look PLL Algs

Note that the first and second looks can be done in either order.

First Look (Permute Edges)

H-Perm: $M2\,U\,M2\,U2\,M2\,U\,M2$
U Perm (a): $R2\,U'\,R'\,U'\,R\,U\,R\,U\,R\,U'\,R$
U Perm (b): $R'\,U\,R'\,U'\,R'\,U'\,R'\,U\,R\,U\,R2$
Z Perm: $(M2\,U)2\,M'\,(U2\,M2\,U2)\,M'\,U2$

Second Look (Permute Corners)

A Perm (a): $R'\,F\,R'\,B2\,R\,F'\,R'\,B2\,R2$
A Perm (b): $R\,B'\,R\,F2\,R'\,B\,R\,F2\,R2$
E Perm: $L\,R'\,U'\,R\,U\,L'\,U'\,R'\,U\,R\,r\,U\,R'\,U'\,r'\,F\,R\,F'$

1-Look OLL Algs

Note that we do not repeat here algorithms already appearing for 2-look.

TODO: Add them here.

1-Look PLL Algs

Note that we do not repeat here algorithms already appearing for 2-look.

F Perm: $(R'\,U\,R\,U')\,R2\,(F'\,U'\,F\,U)(R\,F\,R'\,F')\,R2\,U'$
G Perm (a):
G Perm (b):
G Perm (c):
G Perm (d):
J Perm (a):
J Perm (b):
N Perm (a):
N Perm (b):
R Perm (a):

R Perm (b):
T Perm:
V Perm:
Y Perm: