Easy VLS Algorithms
(Valk Last Slot)
Developed by Feliks Zemdegs
and Mats Valk

Images sourced from Conrad Rider’s VisualCube - http://cube.crider.co.uk/visualcube.php

Algorithm Presentation Format

VLS is a very large algorithm set. This algorithm sheet presents a subset of VLS algorithms which are either easy to recognise, learn, or execute. This selection of ‘easy’ cases is based on subjective judgement and experience, and we’re always happy to take suggestions about the inclusion/removal of certain cases.

This sheet provides a nice introduction to the full VLS algorithm set, and aims to highlight the most useful cases to know.

In this sheet we have not included cases which involve directly inserting the pair and then executing OLL.

UF Edge Misoriented

U (F' U' F) U (R U2 R')
M'' (U R U' r')
(F2 r U r' F) (U' R U R')
y' (r' U' R U) M'
(R' F R F')
U (R' U' R' F) R2 F' (R' U R)
**UB & UL Edges Misoriented**

- \( y' \) \( U \) \( (R \ D \ r') \) \( U' \) \( (r \ D' \ R') \)
- \( M \) \( (U \ R \ U' \ R') \) \( U' \) \( M' \)
- \( (U \ R U') \) \( y \) \( (R \ U R' U') \) \( F' \)
- \( U \) \( (R \ I \ U' R' \ U) x U' R' \)
- \( U2 \) \( (r \ U' \ U') \) \( M \) \( (U \ R \ U' R) \)
- \( (U2 \ R U') \) \( y \) \( (R \ U' R' F') \)
- \( U \) \( R \) \( (R \ U' R' U) \) \( (R \ U' R' U') \) \( F' \)
- \( U2 \) \( (R \ U' R' U') \) \( (R' F R F') \)

**UB & UF Edges Misoriented**

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

**UF & UL Edges Misoriented**

- \( U \) \( (R U R' U') \) \( (R U' R') \)
- \( F (R U R' U') \) \( F' \)
- \( M' \) \( U2 (R U' R' U) (R U2' r') \)
- \( U2 \) \( (R U' R' U) \) \( (R' F R F') \)

**All Edges Misoriented**

- \( y' \) \( (r' U' r) \) \( U2 \) \( (M U' M') \)
- \( U2 \) \( (F' L' U2 L F) (R U2 R') \)
- \( U2' \) \( (R' F R F') \) \( U2' \) \( (R' F R F') \)
- \( U2 \) \( (F' U2' F) R U' (R2' F R F') \)