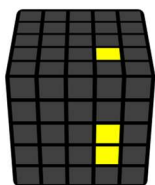³√ ■ CubeRoot

5x5 F4C Algorithms (First Four Centers)
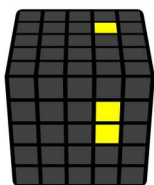# 五阶前四面公式

Learn intuitive F4C first. *(case)* denotes final state. 先凭直觉学习 F4C。*(case)* 表终态。
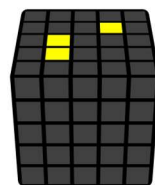
1x3 Line
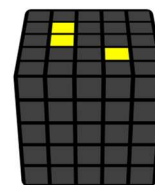
Rw U Rw' *(line)*

Rw U' Rw' *(line)*

Rw U Rw' *(line)*
U Rw' F' Rw

Rw U' Rw' *(line)*
U' Rw' F Rw
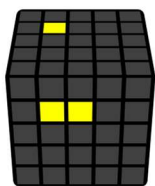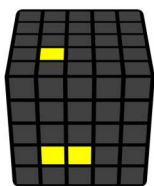
Rw U Rw' *(line)*

Rw U' Rw' *(line)*
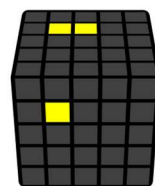
Rw' F Rw *(line)*
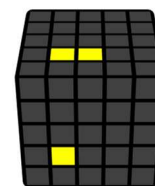
Rw' F' Rw *(line)*
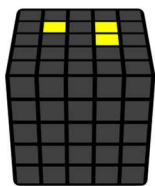
3Rw' F U' 3Rw *(line)*
U M' U M
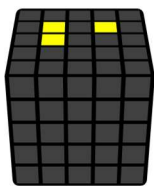
Rw U' B Rw' *(line)*
U' M' U' M
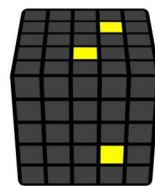
Rw U2 Rw' *(line)*
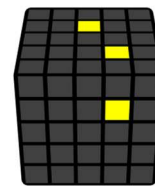
Rw U2 Rw' *(line)*
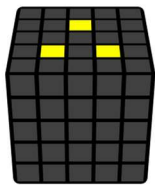
(U2) Rw U2' Rw' U2 Rw
(U2) M' U2 M *(line)*
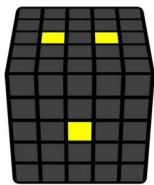
M' U M *(line)*
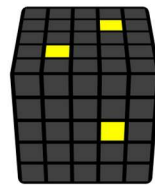
Rw U' Rw' U2 Rw
(line)
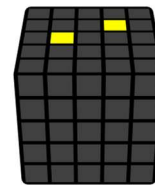
Rw U Rw' *(1x2)*
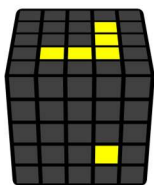
Rw U Rw' *(2 lines)*
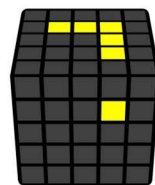
Rw U' Rw' *(2 lines)*

T
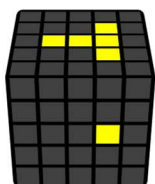
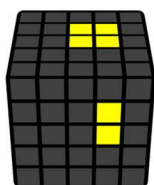**Rw U(') Rw'** *(2x3)*
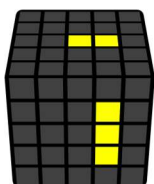
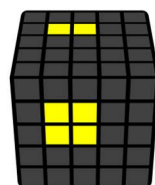**Rw U2 Rw'** *(T)*
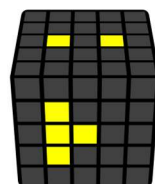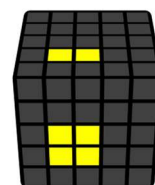
3Rw Rw' U' Rw' *(2x3)*
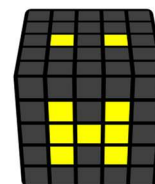
M' U M *(3x3)*

Squares (S) & W
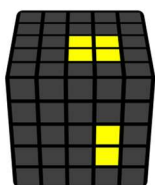
Rw U Rw' *(2x3)*

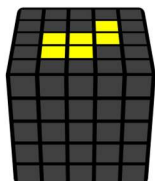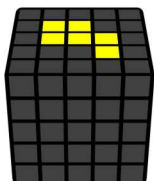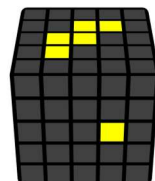Rw U' Rw' *(2x3)*
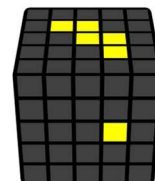
Rw U Rw' *(2x3)*

Rw U' Rw' *(2x3)*

Rw U Rw' *(2x3)*

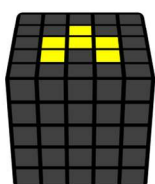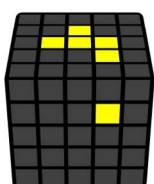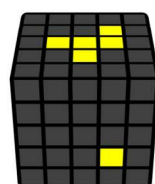Rw U' Rw' *(2x3)*

(Rw U Rw' U) (Rw U' Rw') *(2x3)*

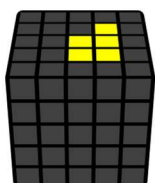(Rw U Rw' U') (Rw U' Rw') *(2x3)*

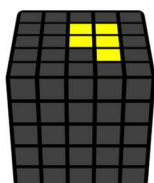(U2) Rw U2' Rw' U2 Rw
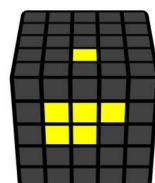(U2) M' U2 M *(1x3)*

(Rw U' Rw' U2) (Rw U' Rw') *(2x3)*

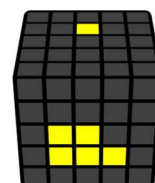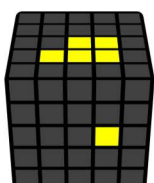(Rw U Rw' U2') (Rw U Rw') *(2x3)*

P

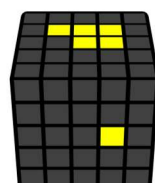Rw U Rw' *(T)*

Rw U' Rw' *(T)*

(Rw U Rw' U') (Rw U' Rw') *(2x3)*
U2 Rw U Rw2' F' Rw

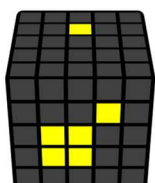(Rw U' Rw' U) (Rw U Rw') *(2x3)*
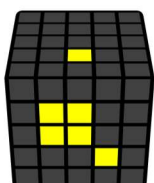U2 Rw U' Rw2' F Rw

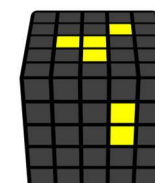(Rw U Rw' U2') (Rw U' Rw') *(2x3)*
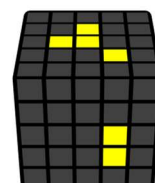
(Rw U' Rw' U2) (Rw U Rw') *(2x3)*

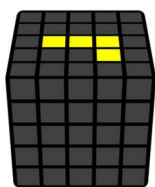## Fish (F)

Rw U Rw' *(2x3)*

Rw U' Rw' *(2x3)*

(Rw U' Rw' U) (Rw U' Rw') *(2x3)*
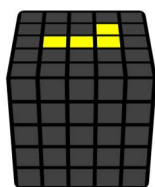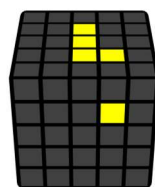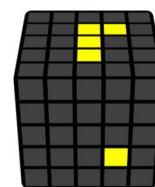
(Rw U Rw' U') (Rw U Rw') *(2x3)*
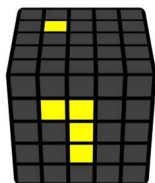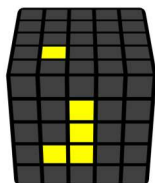
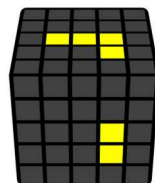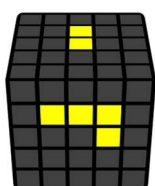## Knight Move

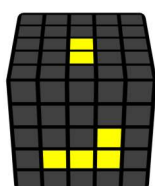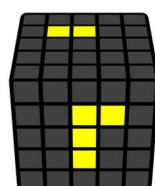Rw U' Rw' *(S)*

Rw U Rw' *(S)*

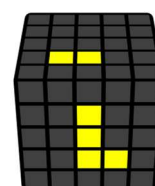Rw U2 Rw' *(T)*

Rw U2 Rw' *(T)*
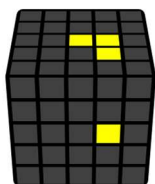
Rw U Rw' *(T)*

Rw U' Rw' *(T)*
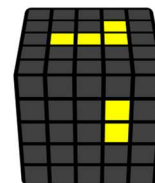
(Rw' U' Rw U) (Rw U Rw') *(2x3)*

(Rw' U Rw U') (Rw U' Rw') *(2x3)*

Rw U' Rw' F Rw *(2x3)*
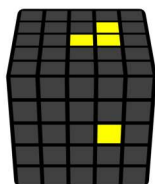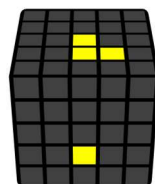
Rw U Rw' F' Rw *(2x3)*
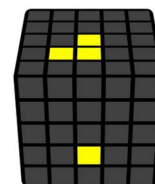
Rw U Rw' *(2x3)*

Rw U' Rw' *(2x3)*
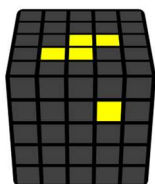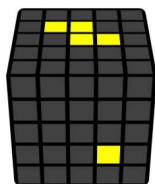
L

Rw U Rw' *(S)*
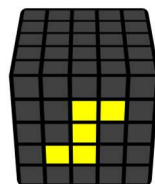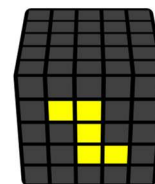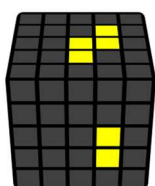
Rw U' Rw' *(S)*

M' U M *(S)*

M' U' M *(S)*
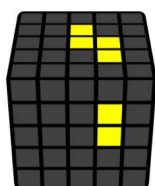
Lightning Bolts

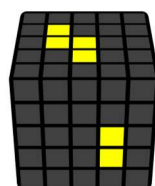Rw U Rw' U' Rw *(T)*

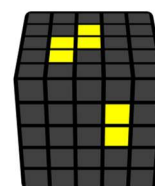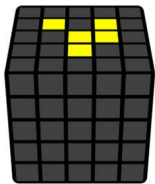Rw U' Rw' U Rw *(T)*

Rw U Rw' *(T)*

Rw U' Rw' *(T)*

Rw U2 Rw' *(2x3)*

Rw U2 Rw' *(2x3)*

(Rw U2 Rw' U') (Rw U Rw') *(2x3)*
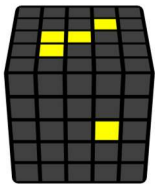
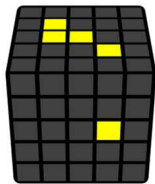(Rw U2' Rw' U) (Rw U' Rw') *(2x3)*
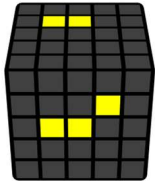
√³ **CubeRoot**

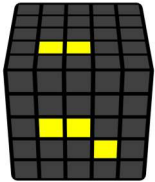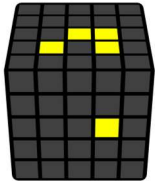## Awkward

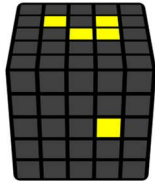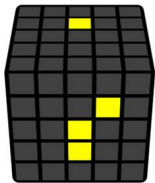Rw U Rw' U' Rw *(T)*   Rw U' Rw' U Rw *(T)*   Rw U Rw' *(T)*   Rw U' Rw' *(T)*
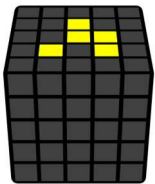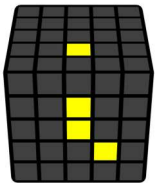
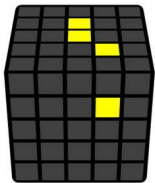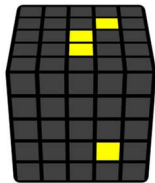Rw U Rw' *(T)*   Rw U' Rw' *(T)*   Rw U Rw' *(F)*   Rw U' Rw' *(F)*
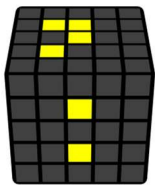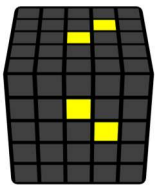
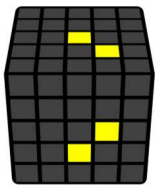Rw U Rw' *(S)*   Rw U' Rw' *(S)*   Rw U2 Rw' *(half T)*   Rw U2 Rw' *(half T)*

Dot

M' U M *(2x3)*   **Rw' F Rw2 U Rw'** *(S)*   **Rw' F' Rw2 U' Rw'** *(S)*