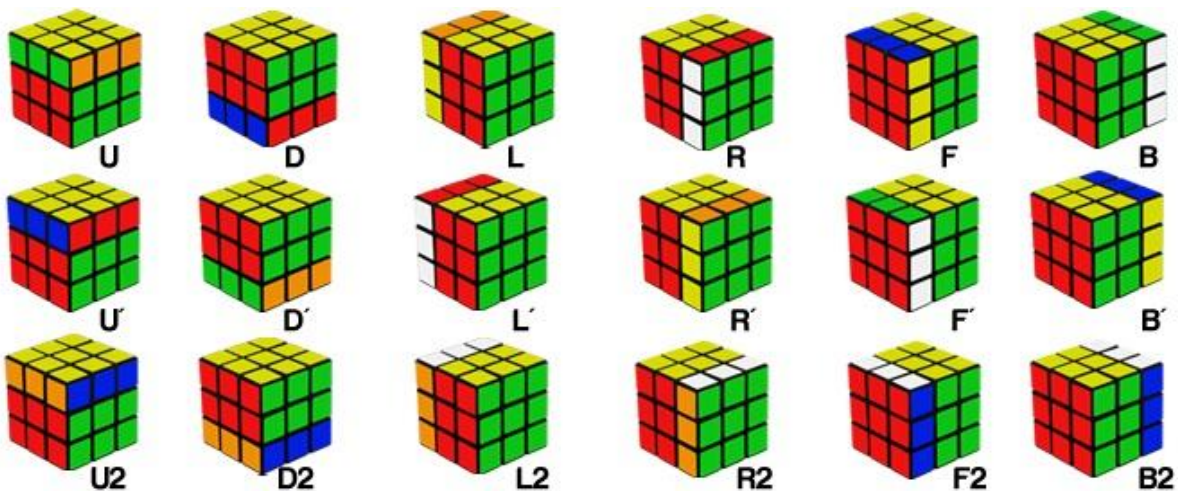


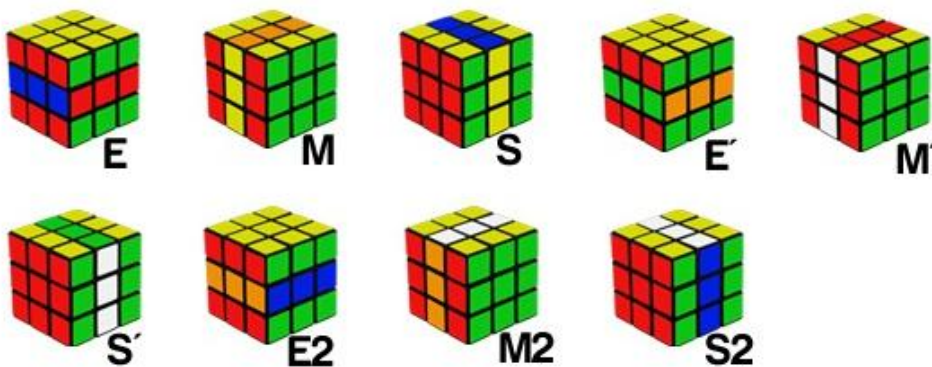
# Método de Fridrich – cinoto.com.br

## Notação

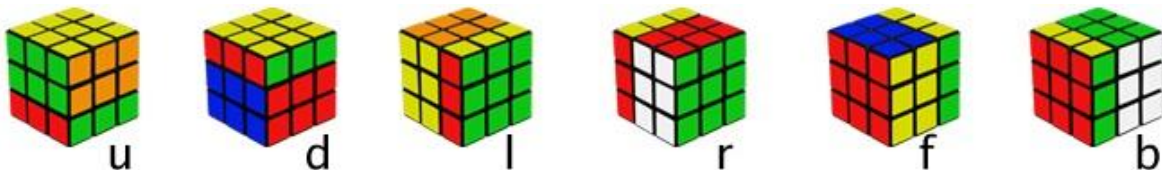
Movimentos de uma face:



Movimentos de camadas internas:



Movimentos de camadas duplas (analogamente, existem os movimentos no sentido anti-horário e duas vezes como nos casos acima, por exemplo: u' e u2). A WCA agora utiliza a letra w para esses movimentos, então u também pode ser escrito Uw, d é Dw, e assim sucessivamente:



Movimentos de rotação do cubo (analogamente, existem os movimentos no sentido anti-horário e duas vezes como nos casos acima, por exemplo: x' e x2). A WCA agora aceita uma letra minúscula entre colchetes para essas rotações, então x é o mesmo que [r], y é o mesmo que [u] e z é o mesmo que [f]:



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## F2L – 2 primeiras camadas (link nas imagens)



R U2 R' U R U2 R' d R' U' R  
ou  
R U' R' d R' U2 R U2' R' U R



y U L' U' L d' L U L'  
ou  
U F' U' F U' R U R'



U R U R' U' y L' U' L  
ou  
U R U' R' d' L' U L



U' R U R' d R' U' R



y U' L' U' L d R U R'  
ou  
U' F' U' F U R U R'



R U' R' y L' U2 L  
ou  
R U' U' R' U' U'



Pesca na direita: R U R'



R' U2 R2 U R2 U R  
ou  
U F' U2 F U' R U R'



Pesca na esquerda: y L' U' L  
ou  
F' U' F



U' R U2' R' d R' U' R  
ou  
y L U2' L2' U' L2 U' L'



U R U' R'  
ou  
R' F R F'



R U2 R' U' R U R'



d' L' U L  
ou  
U' F' U F



y L' U2' L U L' U' L  
ou  
F' U2 F U F' U' F



U' R U2' R' U R U R'  
ou  
U R U R' U2 R U R'



U' R U' R' U R U R'



U' R U' R' U2 R U' R'



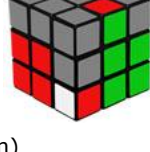
d R' U R U' R' U' R



R U R' U' R U R' U' R U R'  
ou  
R2 U R2 U R2 U2 R2



U' R U R' U' R U R'  
ou  
U F' U F R U R'



R U' R' U R U' R'  
ou  
R U' R2 F R F'

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## F2L – 2 primeiras camadas (link nas imagens)



$\gamma U L' U' L U L' U' L$   
ou  
 $\gamma' U R' U' R U R' U' R$



$\gamma L' U L U' L' U L$   
ou  
 $F' U F2 R' F' R$



$R U' R' U2 \gamma L' U' L$



$\gamma L' U L U2' \gamma' R U R'$   
ou  
 $F' U F U2 R U R'$



$\gamma U L' U' L U2 L' U L$   
ou  
 $D R' U' R U2' R' U R$



$U' R U R' U2 R U' R'$



$U' R U R' U R U R'$   
ou  
 $U F' U F U' R U R'$



$d R' U' R U' R' U' R$   
ou  
 $U' R U' R' d R' U' R$



$\gamma U L' U2 L U2 L' U L$   
ou  
 $F' U' L' U2 L U' F$



$U' R U2' R' U2 R U' R'$



$R U R' U' R U' R' U d R' U' R$   
ou  
 $F' U F' U' L' U L F2$



$R U' R' U' R U' R' d R' U' R$   
ou  
 $R U' R' d R' U' R U' R' U' R$



$R U2 R U R' U R U2 R2$   
ou  
 $\gamma' R2 U2 R U R' U R U2 R$



$R U R' U' R U2 R' U' R U R'$   
ou  
 $R2 U2 R' U' R U' R' U2 R'$



$\gamma U2 L2 U2 L U L' U L2$   
ou  
 $\gamma' U' R' U R U R' U R U' R' U R$



$U2 R2 U2 R' U' R U' R2$   
ou  
 $U R U' R' U' R U' R' U R U' R'$



$R U' R' U2 R U R'$   
ou  
 $U2 R U R' U R U' R'$



$\gamma L' U L U2 L' U' L$   
ou  
 $\gamma' R' F' U2 F R$



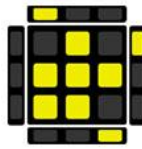
$U R U2 R' U R U' R'$



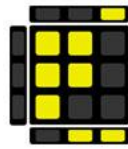
$d' L' U2' L U' L' U L$   
ou  
 $\gamma U' L' U2 L U' L' U L$

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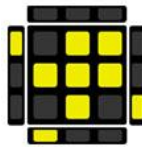
## OLL – Orientar última camada (link nas imagens)



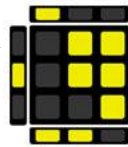
Sune: R U R' U R U2' R'  
ou  
R U' L' U R' U' L



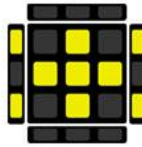
L U F' U' L' U L F L'  
ou  
L d R' d' L' U L F L'



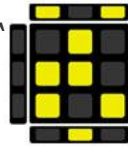
Anti-Sune: y' R' U' R U' R' U2 R  
ou  
R U2 R' U' R U' R'



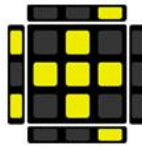
R' U' F U R U' R' F' R  
ou  
R' d' L d R U' R' F' R



Sune duplo: R U R' U R U' R' U R U2 R'  
ou  
y R U2 R' U' R U R' U' R U' R'



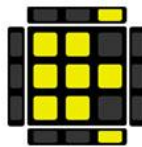
y2 R U' R' U2 R U y R U' R' U' F'



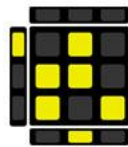
T cantos: R U2' R2' U' R2 U' R2' U2 R



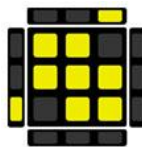
R' U R U2 R' U' y L' U L U F  
ou  
R' U R U2 R' U' F' U F U R



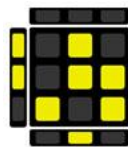
Torre: x' R U L' U' R' U L U'  
ou  
l' U' L U R U' r' F



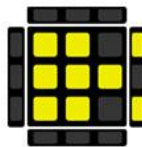
y2 R2 U R' B' R U' R2 U I U I'  
ou  
F U R U' B R' F' R B' R'



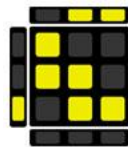
Vesgo: y' x' R U L U' R' U L' U'  
ou  
l' U' L' U R U' L U



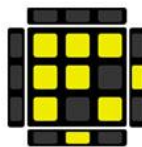
y2 L2 U' L B L' U L2 U' r' U' r  
ou  
F' U' L' U B' L F L' B L



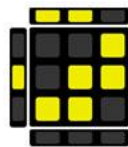
Olhos: y R2' D R' U2 R D' R' U2 R'  
ou  
R' U2 R F U' R' U' R U F'



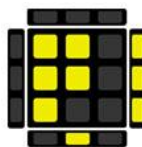
y R U R' U R U' R' U' R' F R F'  
ou  
F R U R2 U' F' U F R F'



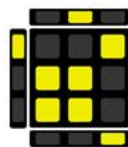
r U R' U' r' R U R U' R'  
ou  
M U M' U2 M U M'



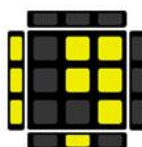
y R' U' R U' R' U R U I U' R' U x  
ou  
F' L' U' L2 U F U' F' L' F



F U R U' R' F'  
ou  
y2 f R U R' U' f'



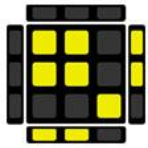
L' U2 L2 F' L' F L' U2 L  
ou  
y' R U2 R2' F R F' R U2 R'



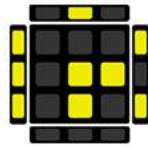
F' U' L' U L F

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## OLL – Orientar última camada (link nas imagens)



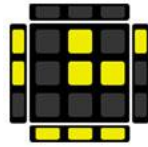
F R U' R' U' R U R' F'  
ou  
F R' F' R U R U' R'



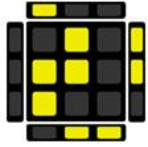
r' U' R U' R' U R U' R' U2 r



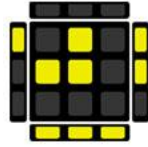
l' U2 L U L' U l  
ou  
y2 r' U2 R U R' U r



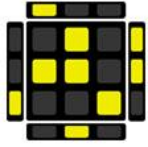
y r' U r2 U' r2' U' r2 U r'  
ou  
F' L F2 L' U2 L' U2 L F'



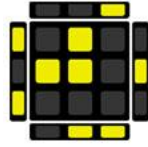
r U R' U R U2 r'  
ou  
L F R' F R F2 L'



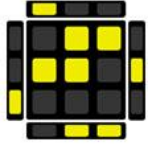
y' l U' l2' U l2 U l2' U' l  
ou  
F R' F2 R U2 R U2 R' F



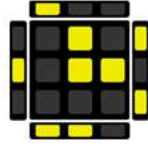
y' R U R' y' x' L' U L F' L' U' L  
ou  
y' R U R' U R' F R F' R U2 R'



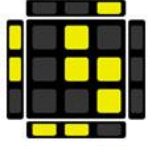
F R U R' U' R U R' U' F'



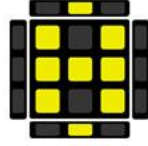
y2 r' R2 U R' U R U2 R' U R' r



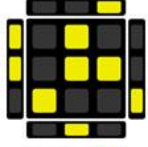
F' L' U' L U L' U' L U F



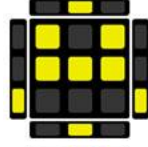
l' U' L U' L' U2 l  
ou  
R' F' L F' L' F2 R



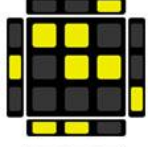
R U R' U' r R' U R U' r'



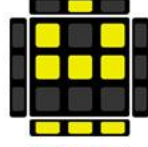
y' R' U' R y' x' R U' R' F R U l'  
ou  
F' U' F L F' L' U L F L'



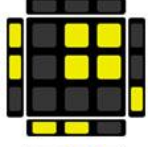
R' U' R U y' l U L' U' r R'



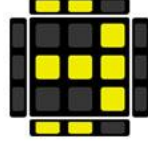
r R2 U' R U' R' U2 R U' R r'  
ou  
y2 l l2' U' L U' L' U2 L U' r R'



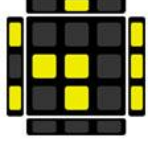
y' R U l U' R' U x U' R'  
ou  
y' R' U' R' F R F' U R



L F2 R' F' R F' L'  
ou  
r U2 R' U' R U' r'



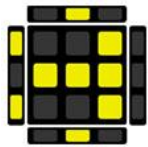
R U R' U' R' F R F'  
ou  
F R U' R' U R U R' F'



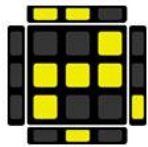
y2 r U R' U R U' R' U R U2 r'

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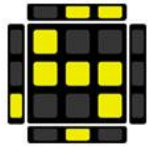
## OLL – Orientar última camada (link nas imagens)



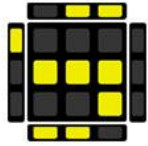
FRUR'U'F'



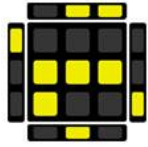
LF'L'U'LUFU'L'  
ou  
r'U'r'U'rUR'F'dR



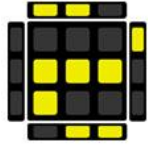
R'FRUR'U'F'UR



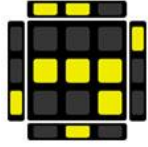
R'FRUR'F'Ry'RUR'  
ou  
R'FRUR'F'RFU'F'



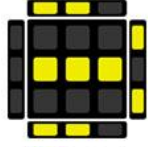
RB'R'LU'L'U'RB'R'  
ou  
IU'I'LU'L'U'IU'I'



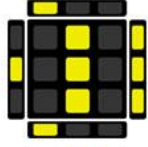
LF'L'U'LF'L'y'L'UL



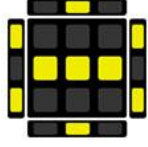
L'B'LR'U'RUL'BL  
ou  
r'U'rR'U'RUR'Ur



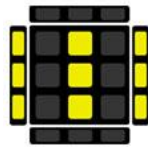
FURU'R'URU'R'F'  
ou  
y2fRUR'U'RUR'U'f'



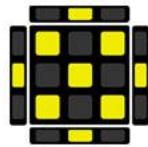
R'U'RUR'R'yUL'ULF  
ou  
R'U'RUR'R'UF'UFR



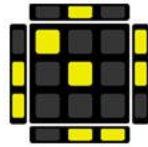
L'B'LU'R'URU'R'URL'BL  
ou  
FRUR'U'RF'rUR'U'r'



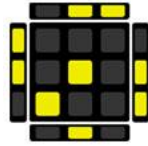
R'U2R2UR'URU2x'U'R'U  
ou  
R'U2R2'U'RUR'R'UdRBR'



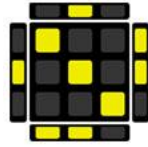
r'RURUR'U'r2R2'URU'r'  
ou  
MUMUMUMUM'UM'UM'UM'U



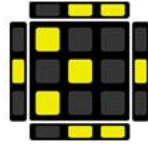
y'r'R2UR'UrU2r'UR'r'  
ou  
yR'LF'L'U2LFR'FR2L'



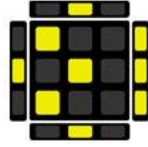
y'I'L2U'LU'I'U2'IU'L'I'  
ou  
yR'LF'R'U2R'F'LF'RL2



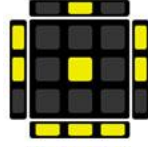
LF'L'FU2FU'RUR'F'  
ou  
y2RUR'UR'FRF'U2R'FRF'



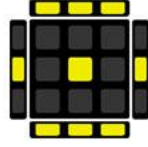
y'r'RURUR'U'rR2'FRF'



y'r'U'RU'R'U2r2UR'URU2r'  
ou  
y2RU2R2'FRF'U2rR'URU'r'



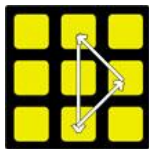
LF'L'FUy'R2B'R'BU'R'  
ou  
LF'L'FU2R'F'RU'F'



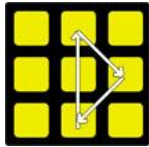
yRU2'R2'FRF'U2'R'FRF'

# Método de Fridrich – cinoto.com.br

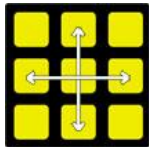
## PLL – Permutar última camada (link nas imagens)



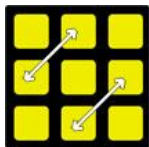
U1: y'R2U'R'U'RURURU'R  
ou  
y R U' R U R U R U' R' U' R2



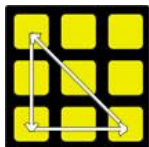
U2: y'R'UR'U'R'U'R'URUR2  
ou  
y R2' U R U R' U' R' U' R' U R'



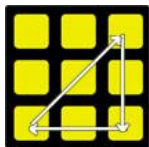
H: M2 U M2 U2 M2 U M2  
ou  
L R U2 R' L' y' L' R' U2 R L



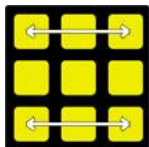
Z: M2UM2UMU2M2U2MU2  
ou  
RUR'UR'U'R'URU'R'U'R2URU2



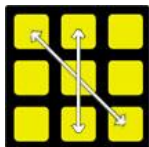
A1: y' l U' R D2 R' U R D2 R2  
ou  
y x L U' L D2 L' U L D2 L



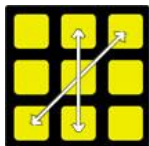
A2: y' l' U R' D2 R U' R' D2 R2  
ou  
x' R2' D2 R' U' R D2 R' U R'



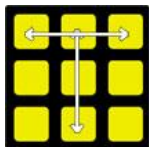
E: RU'LD2L'UR'LU'RD2R'UL'  
ou  
yx'RU'R'DRUR'D'RUR'DRU'R'D'



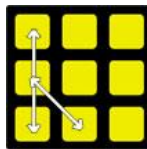
N1: LU'RU2L'UR'LU'RU2L'UR'U  
ou  
zR'UR'DR2U'RD'UR'DR2U'RD'



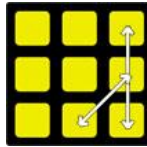
N2: R'UL'U2RU'LR'UL'U2RU'LU'  
ou  
zRU'RD'R2'UR'DU'RD'R2'UR'D



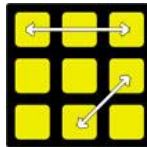
T: yRUR'U'R'FR2U'R'U'RUR'F'  
ou  
y R2 U' R2 D B2 L2 U L2 D' B2



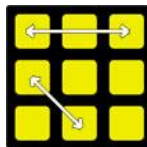
J1: y2 x U2 r' U' r U2 l' U R' U' R2  
ou  
R U' L' U R' U2 L U' L' U2 L



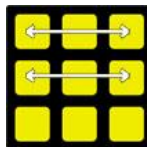
J2: y2 x U2 l U l' U2 r U' L U L2'  
ou  
R U R' F' R U R' U' R' F R2 U' R' U'



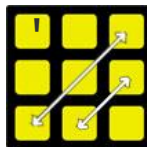
R1: R'U2RU2R'FRUR'U'R'F'R2U'



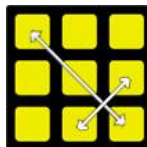
R2: y2RU2'R'U2RB'R'U'RUIUR2'F



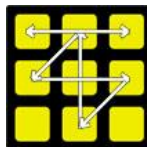
F: R'URU'R2y'R'U'RUyxRUR'U'R2B'  
ou  
yR'U'F'RUR'U'R'FR2U'R'U'RUR'UR



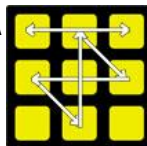
V: R'UR'U'yR'F'R2U'R'UR'FRF  
ou  
L'URU'LUL'UR'U'LU2RU2R'



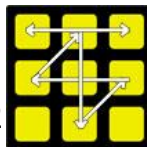
Y: y2FRU'R'U'RUR'F'RUR'U'R'FRF'  
ou  
y2R2U'R'URU'y'x'L'U'RU'R'U'LU



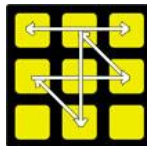
G1: yRUR'y'R2u'RU'R'UR'uR2  
ou  
L U' R U2 L' U R' y' R' L' U2 R L U



G3: yR'U'RyR2'uR'URU'Ru'R2  
ou  
R' U L' U2 R U' L y' R L U2 R' L' U'



G2: yR2u'RU'RUR'uR2yRU'R'  
Ou  
L' R' U2 L R y' R U' L U2 R' U L'



G4: yR2'uR'UR'U'Ru'R2y'R'UR  
Ou  
R L U2 R' L' y L' U R' U2 L U' R