

## F2L Algorithms (First 2 Layers)

Developed by Feliks Zemdegs and Andy Klise

Images sourced from Conrad Rider's VisualCube - <a href="http://cube.crider.co.uk/visualcube.php">http://cube.crider.co.uk/visualcube.php</a>

## **Algorithm Presentation Format**



**Suggested algorithm here**Alternative algorithms here

Set up F2L pair // Solve F2L pair

It is not recommended to learn any of these algorithms before learning intuitive F2L.

The black part of each algorithm sets up the pieces to a basic insertion case, which is then written in blue.

#### **Basic Inserts**



U (R U' R')



**y' (R' U' R)** y (L' U' L) **y' U' (R' U R)** y U' (L' U L)

(R U R')





#### F2L Case 1



U' (R U' R' U) y' (R' U' R) y' U (R' U' R U') (R' U' R)

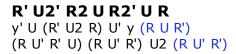


U' (R U2' R' U) y' (R' U' R) U' (R U2' R') d (R' U' R)



y' U (R' U R U') (R' U' R)

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



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







#### F2L Case 2

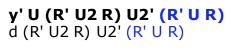


(U' R U R') U2 (R U' R')



U' (R U2' R') U2 (R U' R')

**y' (U R' U' R) U2' (R' U R)** d (R' U' R) U2' (R' U R) Note – (y' U) and (d) are interchangeable







#### F2L Case 3



U (R U2 R') U (R U' R')

y' U' (R' U2 R) U' (R' U R)





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



Note – The second algorithm is fewer moves, but less intuitive and less finger-friendly.

## **Incorrectly Connected Pieces**



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





(R U2 R') U' (R U R')

y' (R' U2 R) U (R' U' R)





U (R U' R' U') (R U' R' U) (R U' R')
(R U R' U2') (R U R' U') (R U R')

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



### Corner in Place, Edge in U Face



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





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

y' (R' U R U') (R' U R)





**y' (R' U' R U) (R' U' R)** (R' F R F') U (R U' R')

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



## **Edge in Place, Corner in U face**



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

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





(U' R U' R') U2 (R U' R')

U (R U R') U2 (R U R')





(U' R U R') U y' (R' U' R)

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



## **Edge and Corner in Place**



**Solved Pair** 

(R U' R') d (R' U2 R) U2' (R' U R)





(R U' R' U') R U R' U2 (R U' R') (R U R' U') R U2 R' U' (R U R') (R U' R' U) (R U2' R') U (R U' R') (R U R') U2' (R U' R' U) (R U R')





(F' U F) U2 (R U R' U) (R U' R') (R U' R') F (R U R' U') F' (R U' R')

(R U R' U') (R U' R') U2 y' (R' U' R)



# Notation

