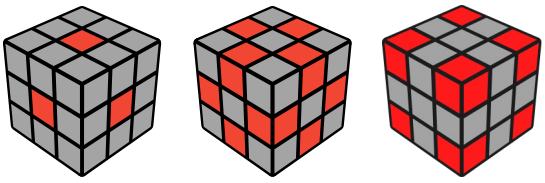
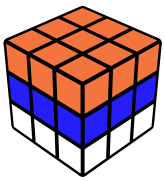
How to Solve 3x3x3

ThailandCube

Knowing the pieces



Centers **Edges** **Corners**



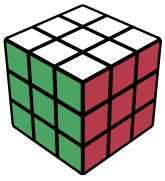
Upper layer
Middle layer
Lower layer

** The center pieces indicate the position of each faces **

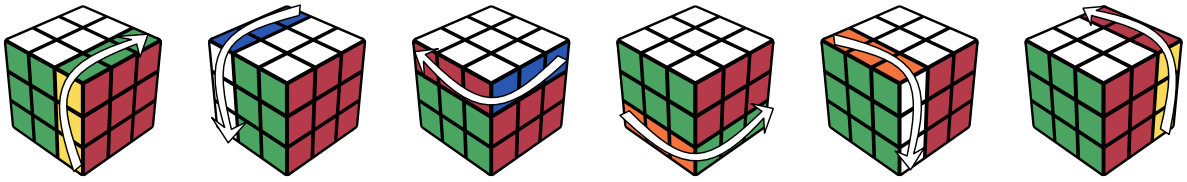
Notations

Notation consists of 6 different symbols representing each moves

Green - Front face
White - Upper face



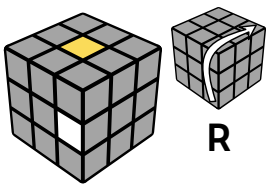
(**R**)ight (**L**)eft (**U**)p (**D**)own (**F**)ront (**B**)ack



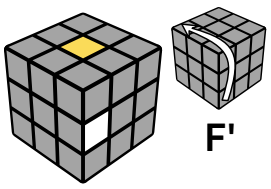
If there is a prime symbol (') (Ex. R' L' U' D' F' B'), the direction of the move will be counterclockwise
If there is 2 in the notation (Ex. R2 L2 D2 F2 B2), you need to apply that move twice

Step 1: Daisy 

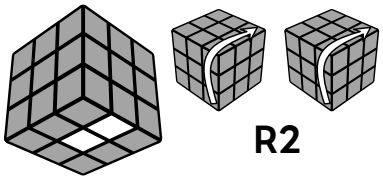
The goal is to bring **white edges** to surround the **yellow center**.



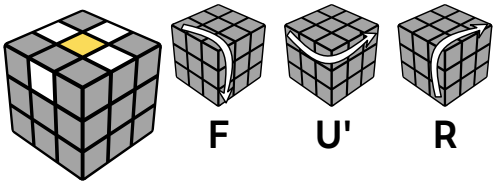
R



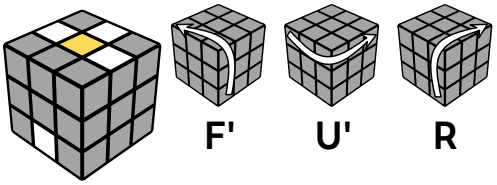
F'



R2

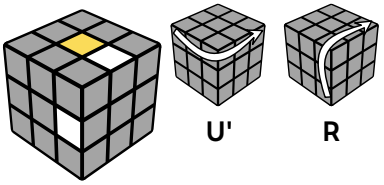


F U' R



F' U' R

If white edge is on yellow layer, apply U move to change the slot.

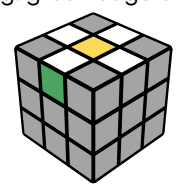


U' R

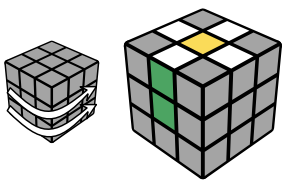
Step 2: White Cross 

The goal is to align the **white edges** around the **white center** and **match their adjacent color with the center pieces**.

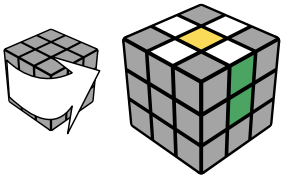
From previous step, check the white edge on top to see its adjacent color, e.g. green edge below.



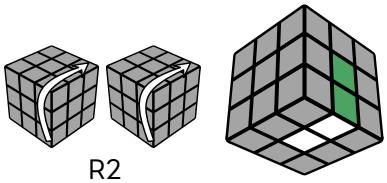
Turn the bottom two layers to the right until you see the green center piece.



Then, rotate the cube so that the green side is on the right.



Next, apply R move twice, the white edge will be at the bottom layer and green edge will be matched with green center

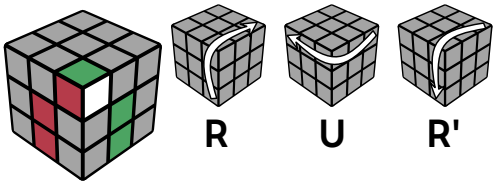


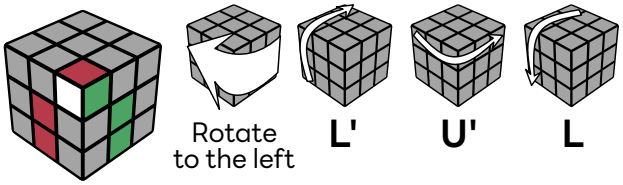
R2

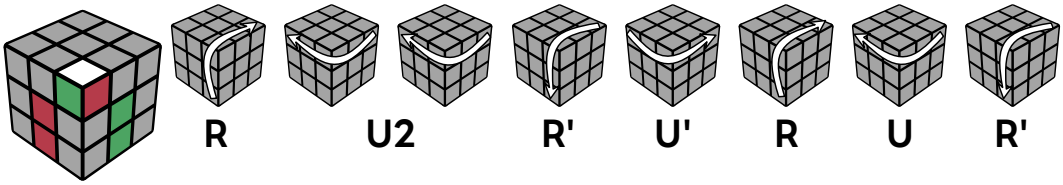
Repeat the previous step until there are no white edge pieces left on top.

Step 3: First Layer

The goal is to complete the first layer (white face)



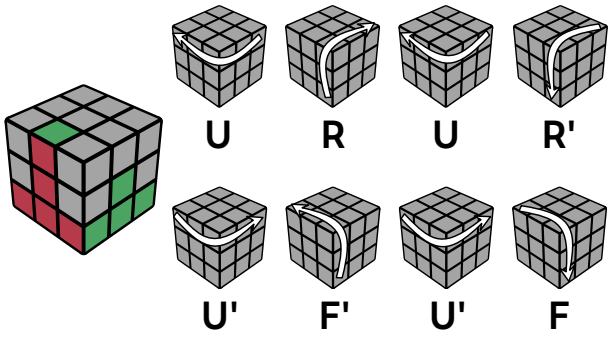


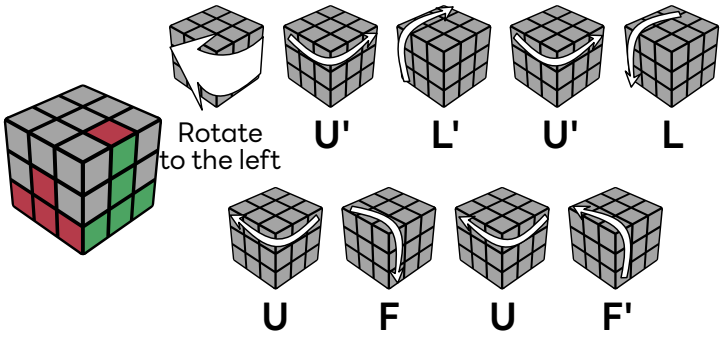


If white corner is in bottom layer but incorrectly oriented, apply any of the above algorithm to bring the corner to upper layer.

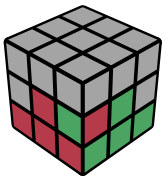
Step 4: Middle Layer

The goal is to complete the second layer by inserting edge to the middle layer.



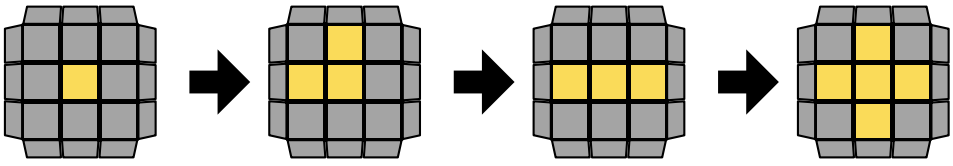


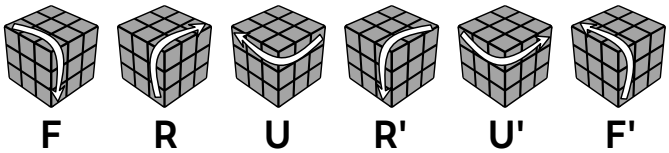
If the edge is in the correct position but flipped, use any of the above algorithm to bring the flipped edge to top layer.



Step 5: Edge Orientation

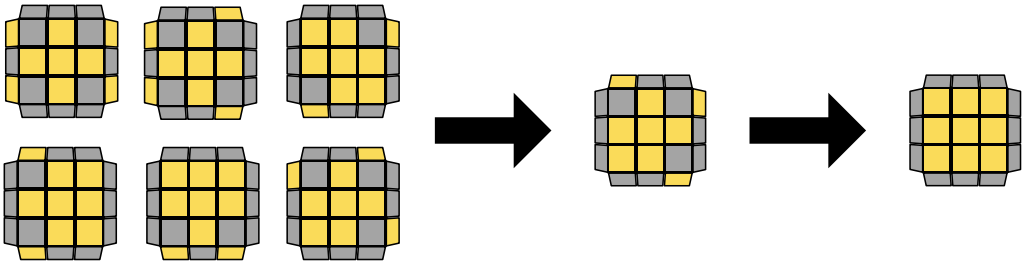
The goal is to flip all of the **yellow edges** to be positioned correctly.

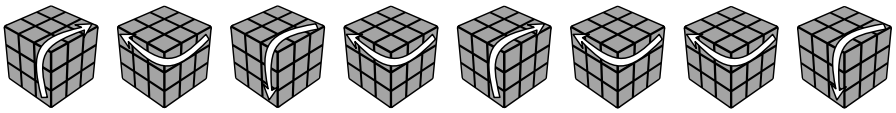




Step 6: Corner Orientation

The goal is to complete the yellow face by orienting all **yellow corner pieces**.



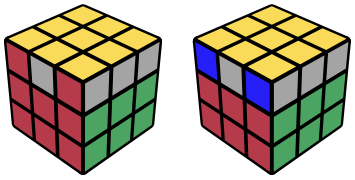


R U R' U R U2 R'

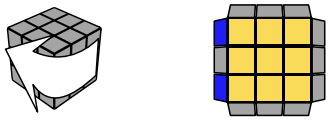
Step 7: Corner Permutation

The goal is to position all **corners of upper layer** to be positioned in the correct spot.

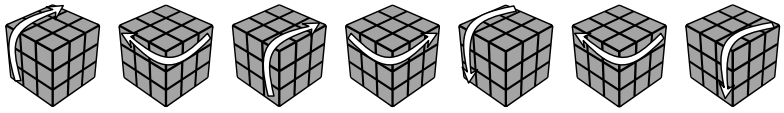
Look for **corners** with the same color
(Ex. the image below)



Then, rotate the cube to the left
so the corners are positioned on the left.

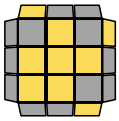


Then, apply the following algorithm



L' U R U' L U R'

Then, use the algorithm on Step 6 to solve it

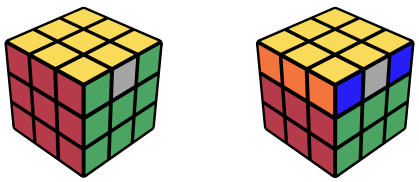


If there are no corners with the same color, apply the algorithm above once.

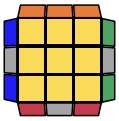
Step 8: Edge Permutation

The goal is to position all **edges of upper layer** to be positioned in the correct spot.

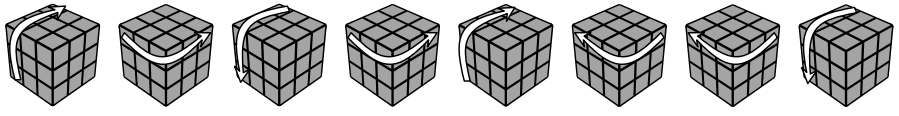
Find a face on upper layer where a face is solved,
like the image below.



Rotate the cube so that the solved face is
positioned at the back, like the image below.

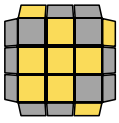


Then, apply the following algorithm



L' U' L U' L' U2 L

Then, use the algorithm on Step 6 to solve it



If there is no solved face, apply the algorithm above once.
Or if the cube is not solved after applied the above algorithm, repeat the process again.

Success!!!!!