

EDGE ANCHORED CENTERS METHOD (4 BY 4 STEP-BY-STEP GUIDE)

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1. What is the EAC Method?

EAC (Edge Anchored Centers) is a big-cube solving method I developed to make big-cube solving more logical and easier to understand the puzzle.

The core idea is simple: use edges as anchors and build centers in a way that stays connected to those anchors. Because of this, EAC leans strongly on block building, much like how the Petrus method builds structure step by step.

Most common big-cube approaches are based on Reduction, which generally works inside-to-outside (centers -> Edges -> 3 BY 3 stage). In contrast, EAC is designed to work outside-to-inside (F2L pairs -> Internal Block building -> Last layer 3 by 3 stage).

2. Design Philosophy (Why I created this)

While experimenting with the Roux method on 4×4, I started thinking about how the method could be made more efficient—and whether its overall structure could be extended beyond the usual boundaries. During this process, I arrived at what eventually became EAC.

If you look at my early steps, you'll notice that after completing the first phase (building initial F2L-style pairs), I move into constructing two Roux blocks. I was already comfortable solving a 4×4 using Roux, but a question kept coming back: if block building works so well up to two blocks, is it possible to continue the same concept further and complete the entire solve using a consistent block building framework?

Through repeated attempts—solving one limitation at a time and refining the structure step by step—I eventually developed a new system that answered that question. That system became EAC, and later I realized that its core idea is not limited to 4×4: the same logic can be applied to any N×N cube size.

3. Limitations Of EAC method

Move Count and Slice Density

EAC can involve many slice moves, especially during block building stages.

This happens because as our outer layers are already fixed by F2L pairs we can do very limited outer moves. We left only with the inner layers so if we have to work on that we need to perform slice moves, which will make solve much slower.

While it's logical, it can be move-heavy.

Efficiency Drops as Cube Size Increases

As cube size grows (6×6, 7×7, 9×9...), the number of required inner-slice actions grows significantly as the inner layers are increased.

EAC remains consistent logically, but the solve can become:

- longer
- more repetitive
- physically demanding on non-magnetic or tight cubes

Not Primarily Designed for World-Class Speed

If the main goal is absolute speed, some solvers may find other systems faster due to:

- lower slice volume
- higher algorithm density
- more established speed-optimized workflows

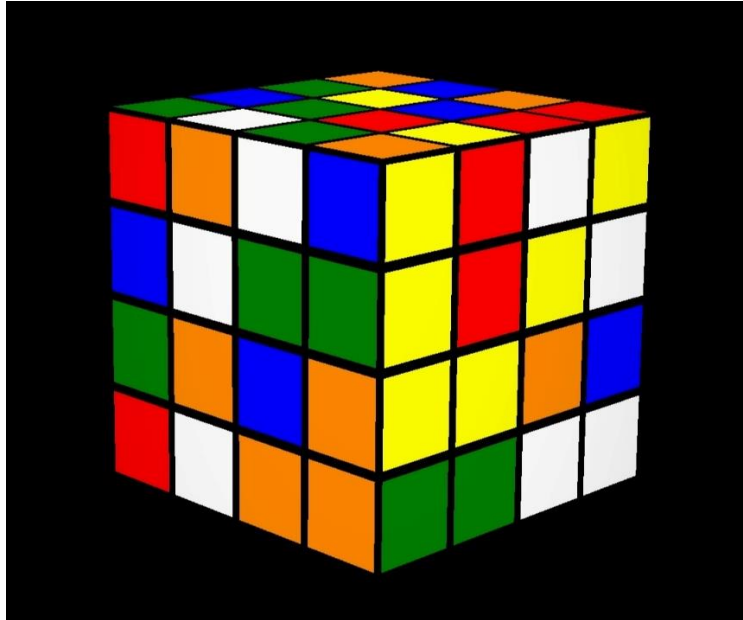
EAC is a method designed for control and clarity of the Puzzle.

4. Workflow of Edge Anchored centers Method-

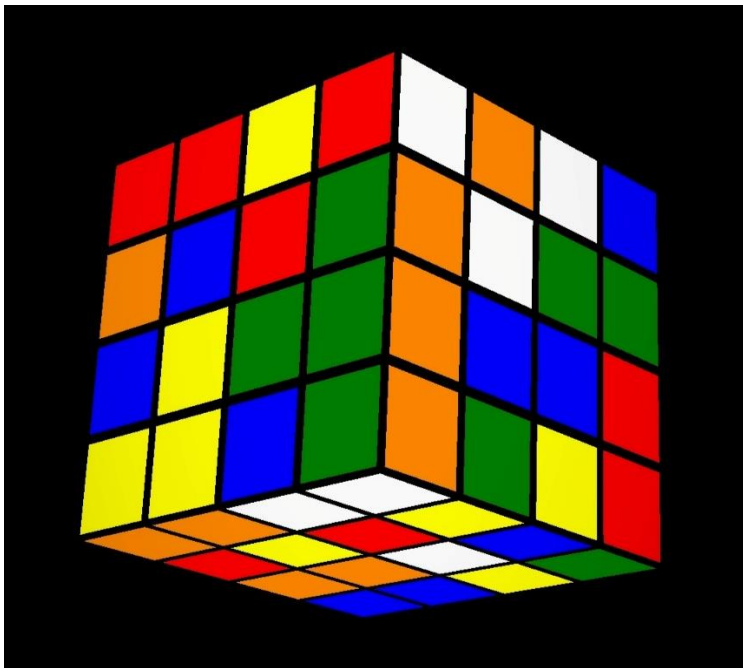
1. Build 4 F2L Pairs.
 2. Make 1st Roux Block.
 3. Then 2nd Roux Block.
 4. Pair 3rd Block along with the cross edge center.
 5. Pair 4th Block.
 6. Solve last 4 Edges at the Top layer.
 7. Solve it using OLL & PLL algorithms.
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5. STEP-BY-STEP GUIDE OF 4 BY 4 USING EDGE AND CORED CENTERS METHOD

STEP 1- Take a Scrambled Cube and Inspect it.

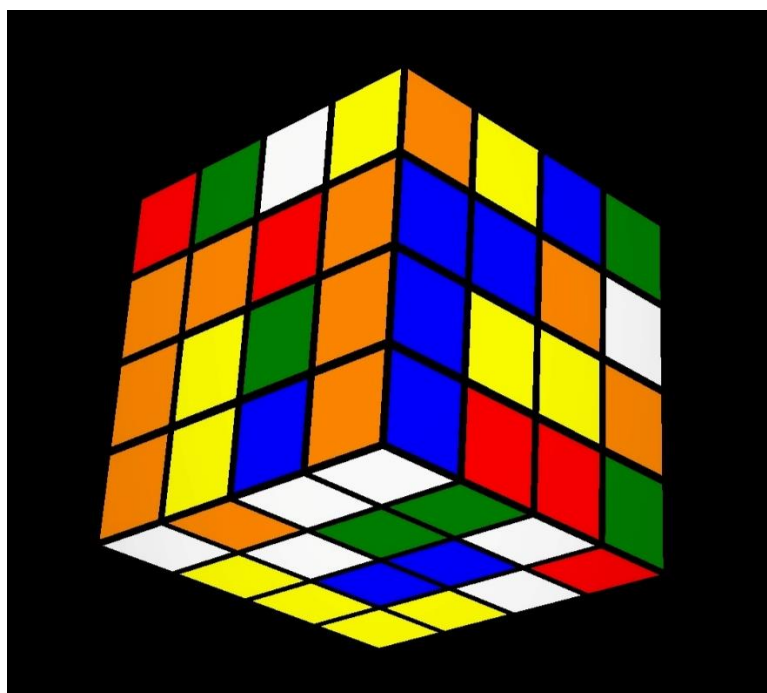


STEP 2- Pair 1st F2L

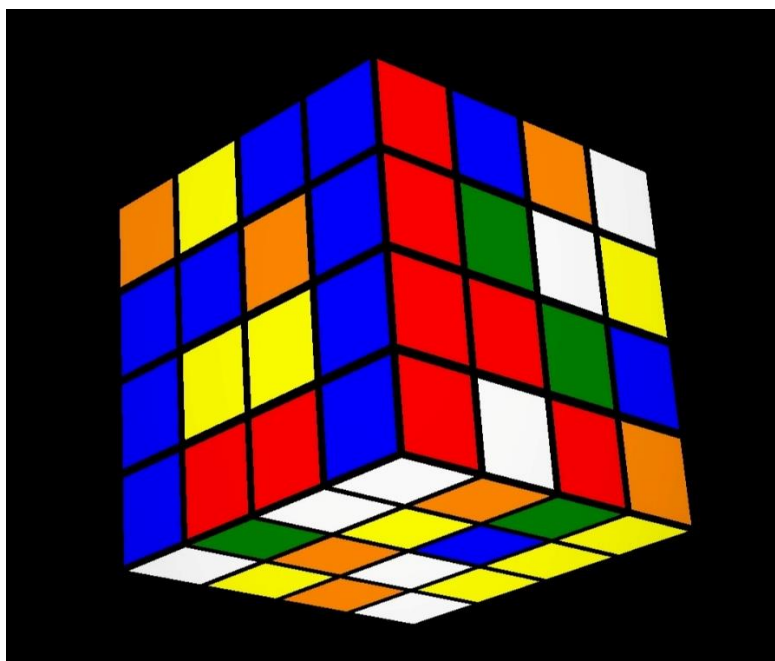


I selected white as the cross colour. Based on that I identified the corners that contain white and paired each one with its matching edge to build the F2L pairs.

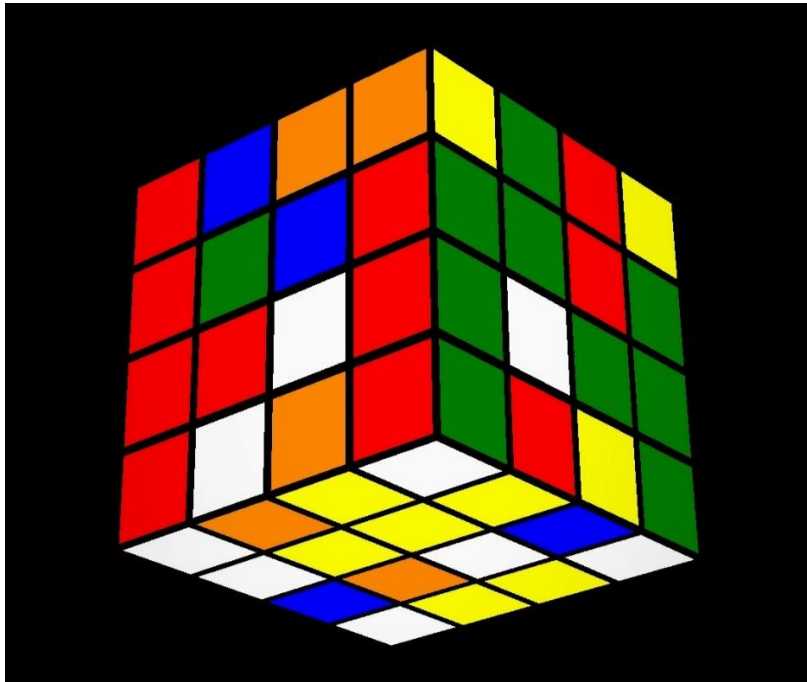
STEP 3- Pair 2nd F2L



STEP 4- Pair 3rd F2L

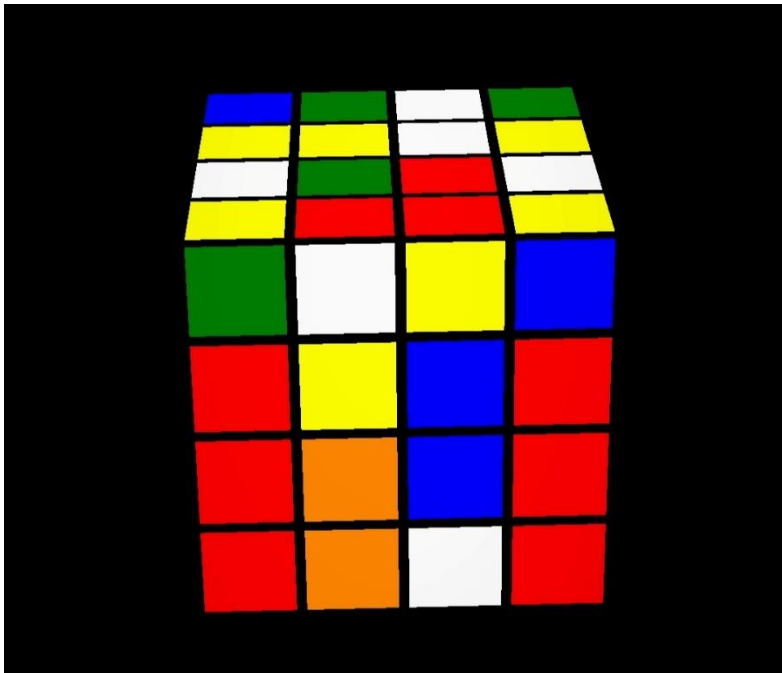


STEP 5- Pair 4th F2L



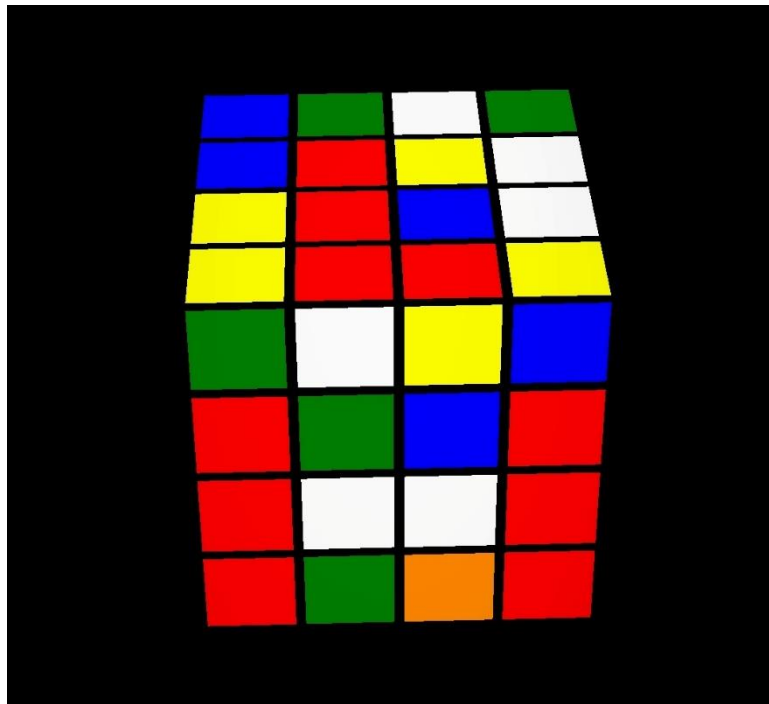
You should keep in mind that white Side of the corner should be at the bottom in whole Process. This Varies person to person, that which 4 corners they choose and which F2L pairs they build.

STEP 6- Building 1st Roux Block



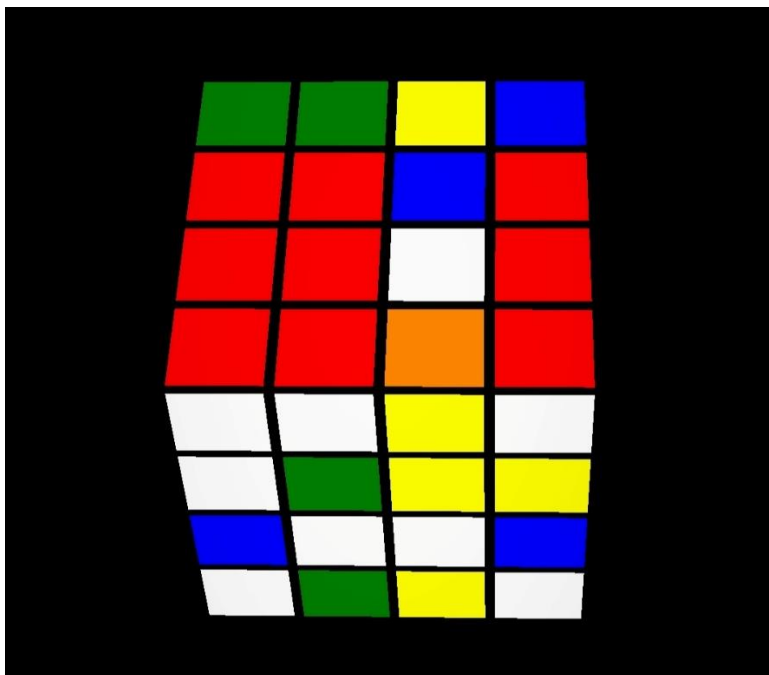
After pairing F2L pairs, we must build 2 Roux Blocks. You can choose any side (Blue, Green, Orange or Red), In my case I choose red side. So, I will select one Red and White Edge piece which will now acts as an Anchor Point.

STEP 7- Building 1st Roux Block



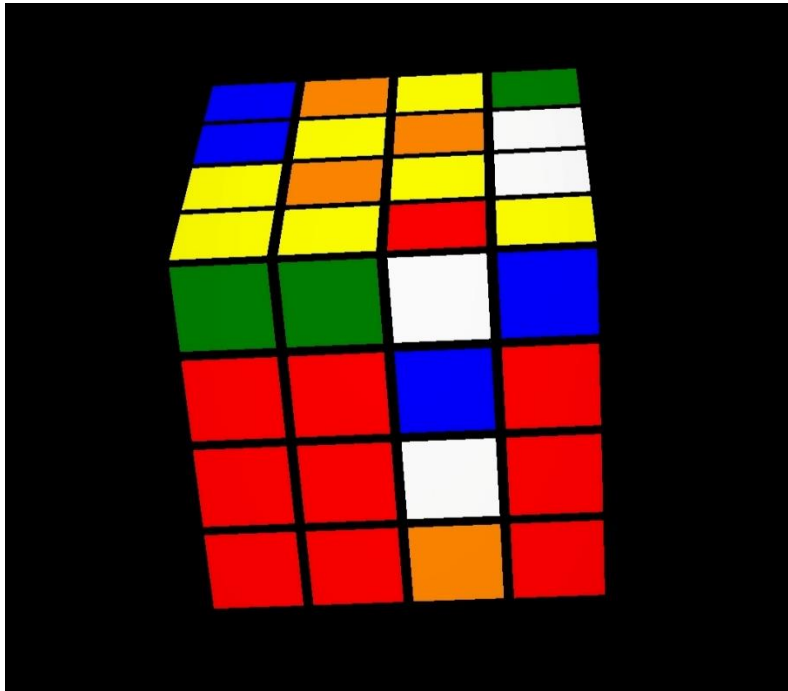
After choosing the anchor point, Note that a 4x4 cube has four red center pieces. Choose any two that are easiest to connect and attach them to the anchored edge.

STEP 8- Building 1st Roux Block



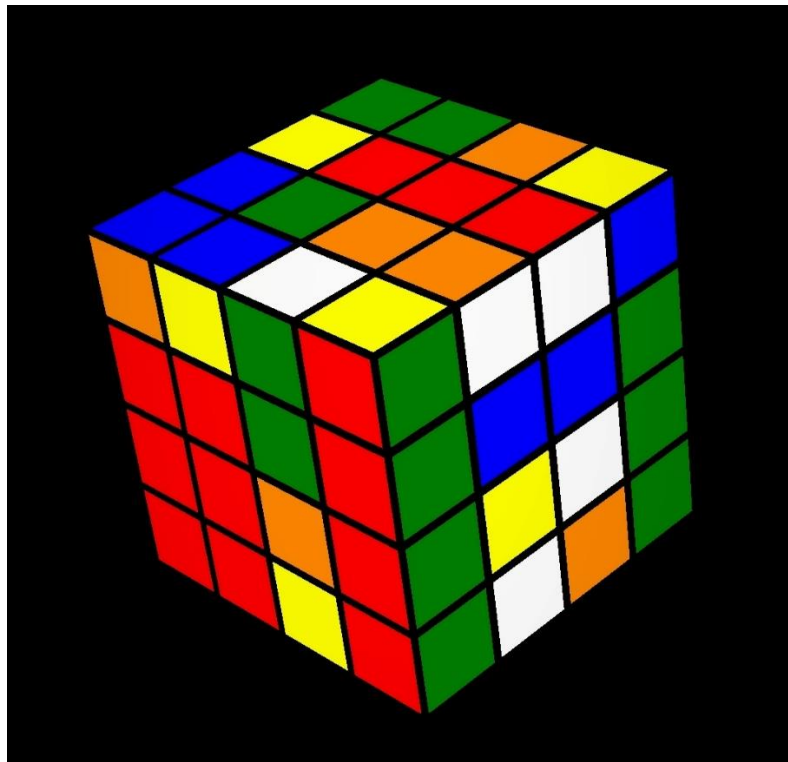
Insert that red and white edge in its correct spot along with the Centers. So here Edge guides the center pieces in its correct location resulting in Half Roux Block.

STEP 9- Building 1st Roux Block



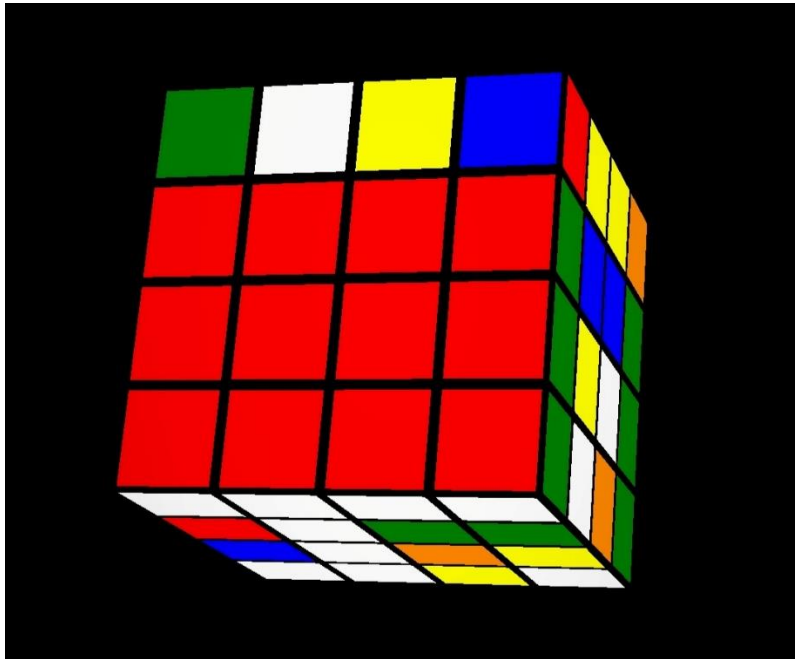
Pick last Red & White edge

STEP 10- Building 1st Roux Block



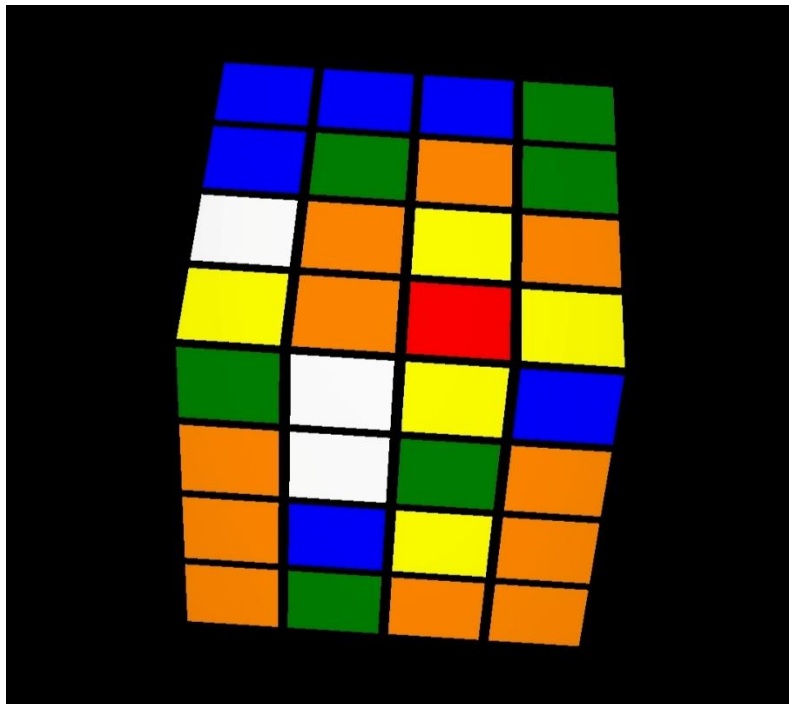
Connect last two red center pieces with that edge Piece.

STEP 11- Building 1st Roux Block



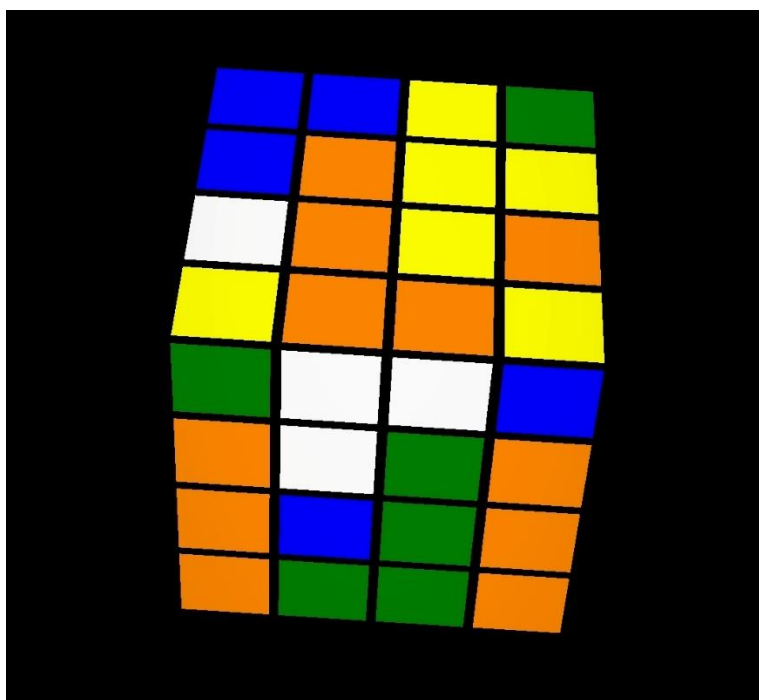
Insert last block in its correct location. Now we are done with our first Roux Block

STEP 12- Building 2nd Roux Block



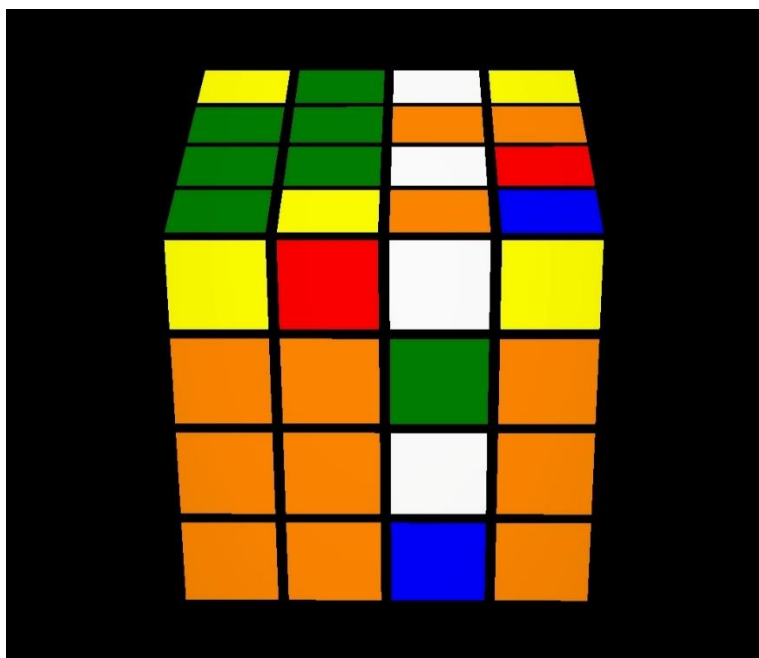
After building the first Roux block, choose the side opposite to it. In my case, that side is orange. Now take the orange-white edge and repeat the same procedure we used earlier with the red-white case.

STEP 13- Building 2nd Roux Block



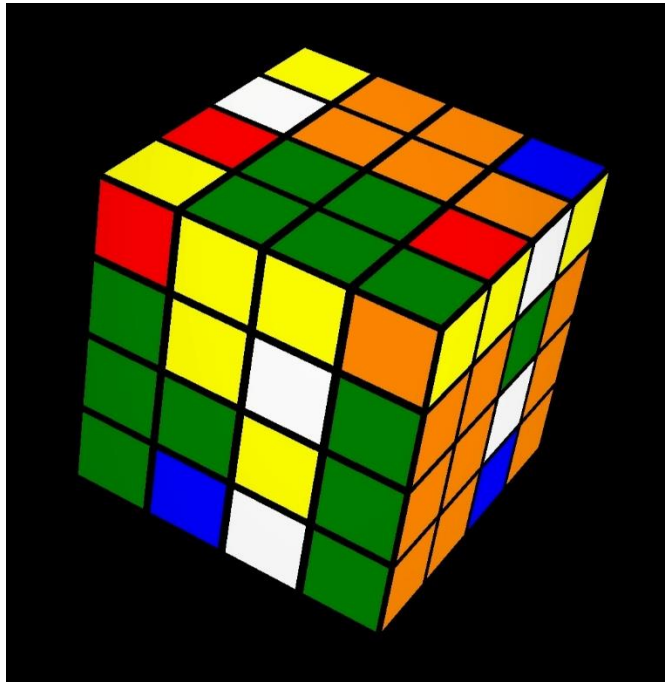
Attach two orange center pieces with its correct Anchor point.

STEP 14- Building 2nd Roux Block



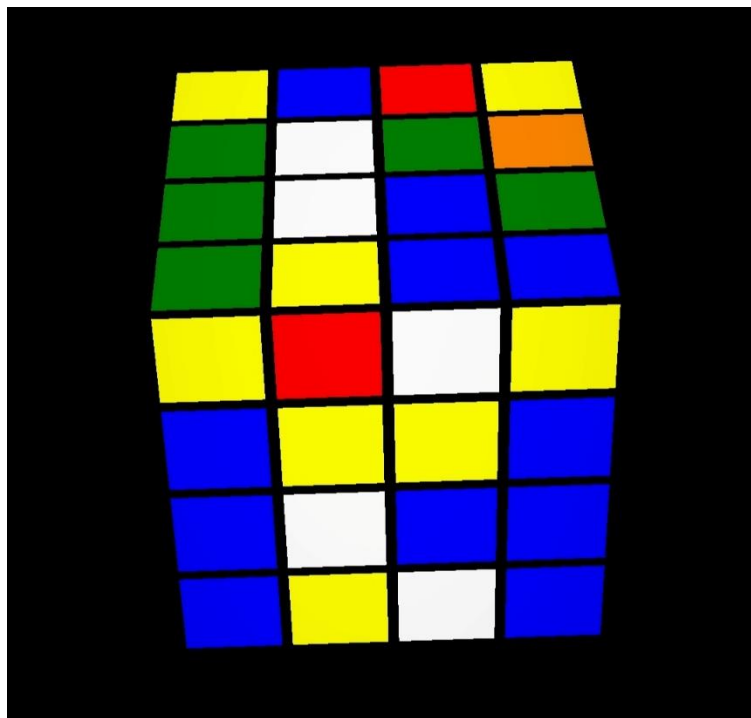
Insert that edge in its correct spot along with the center pieces. And choose another anchor point.

STEP 15- Building 2nd Roux Block



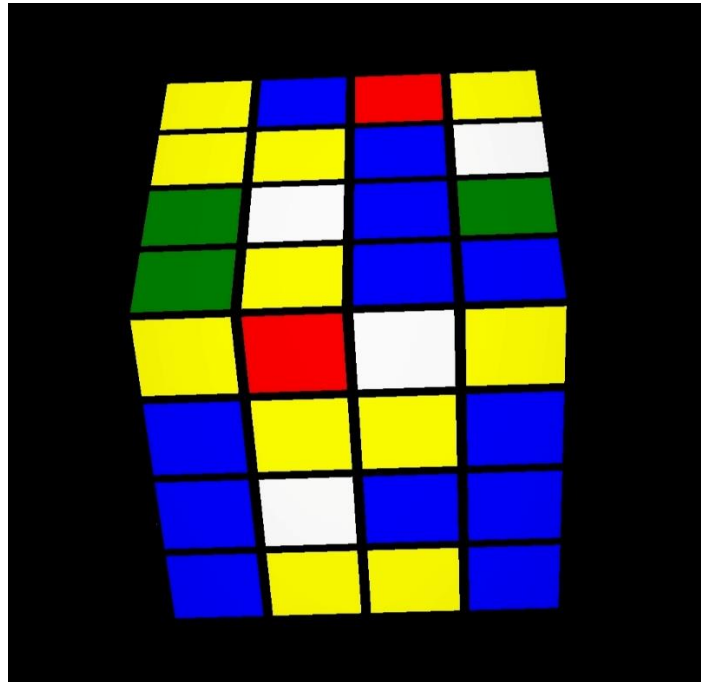
Attach remaining two orange center pieces with the Anchor point and insert that last orange and white block.

STEP 16- Building 3rd Block



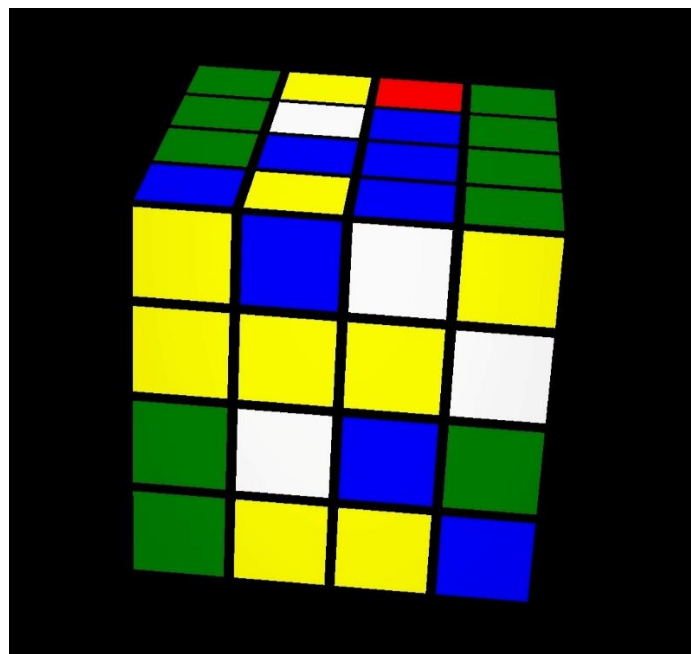
After building our both Roux blocks, we will switch to third side. Here I have chosen blue side so I will work on blue and white anchor point. You can choose Green and white side also.

STEP 17- Building 3rd Block



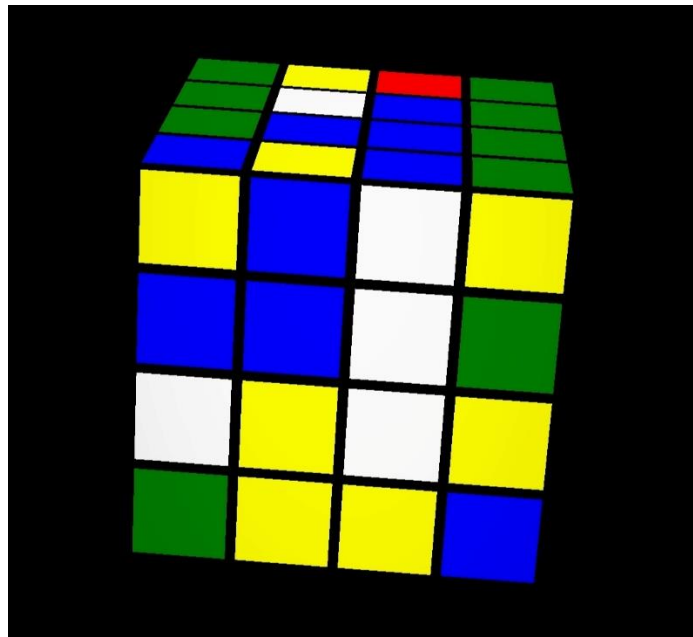
Attach two blue center pieces to the blue side of the anchor edge; so far, the procedure is unchanged. Next, attach two white center pieces to the white side of the same edge. This is the only variation—every other step remains the same.

STEP 18- Building 3rd Block



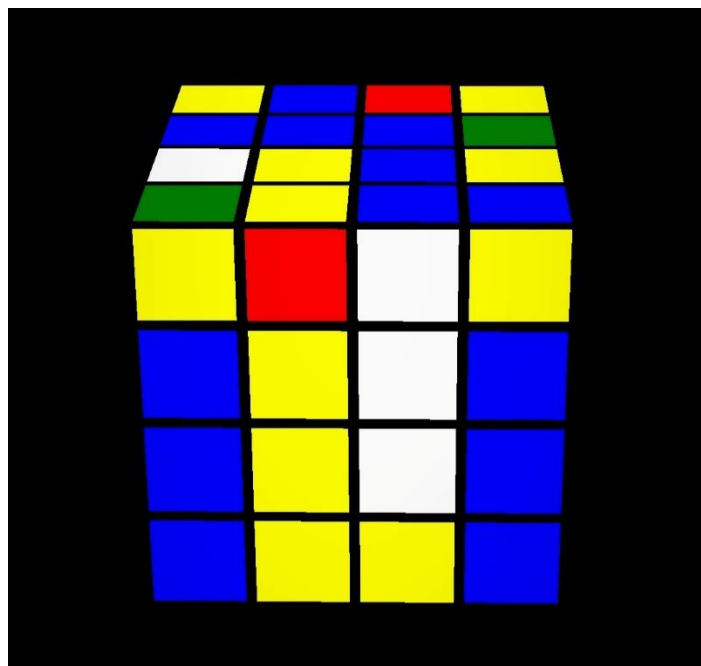
Instead of inserting the blue-white block immediately, I first need to attach the white center pieces as well. For that, I will do the r or l move as per the situation so that white side of the anchor edge is on top, making it easy to connect the white center pieces to the edge. This follows the same rule used earlier: whichever center pieces you want to attach, that colour side of the anchor edge must be positioned on top.

STEP 19- Building 3rd Block



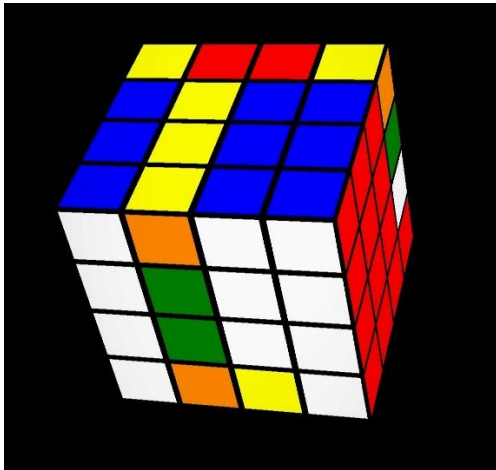
Now simply attach two center pieces of white with that edge.

STEP 20- Building 3rd Block

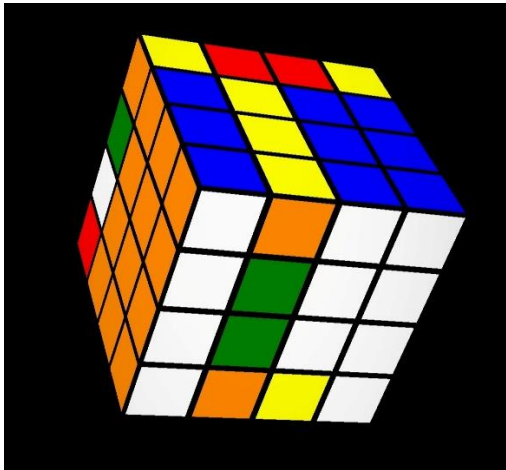


After pairing the required center pieces bring that block forward using r' or l depends on the situation.

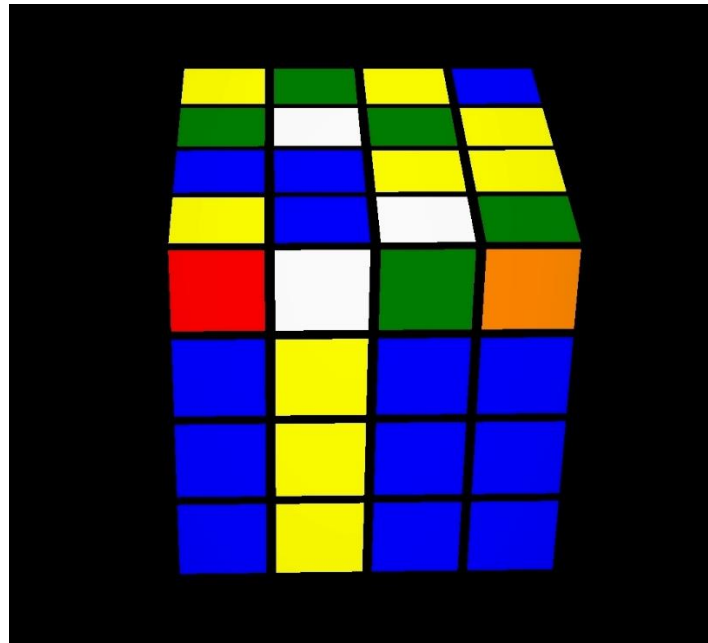
STEP 21- Building 3rd Block



Again, do r' or l move and insert that block in its correct location. After insertion it will look something like this.

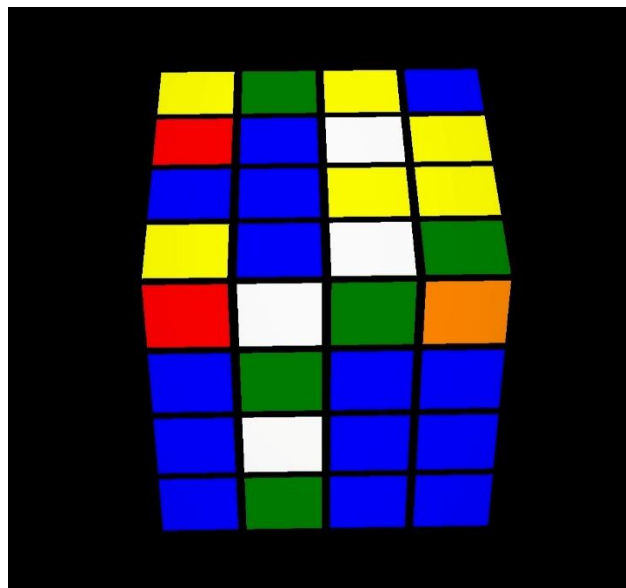


STEP 22- Building 3rd Block



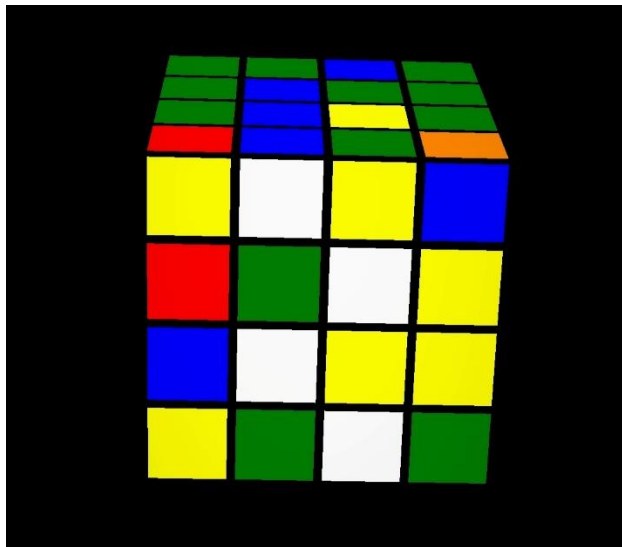
Select last blue & white edge piece

STEP 23- Building 3rd Block



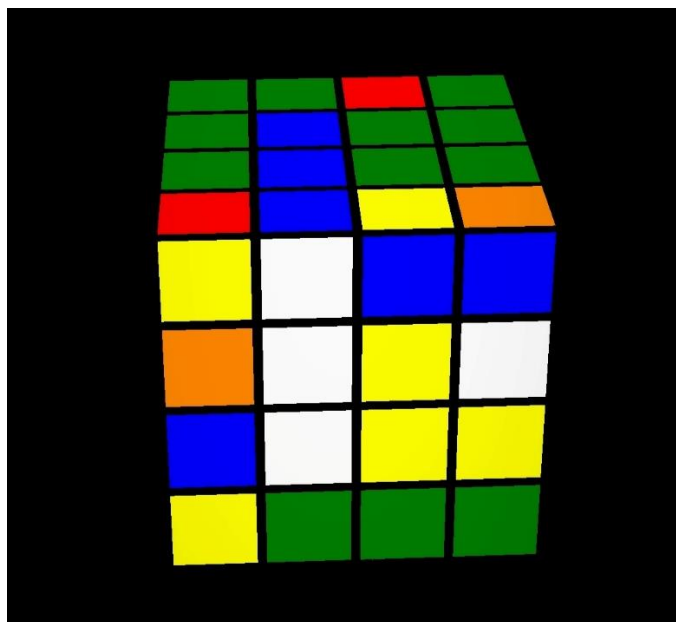
Attach remaining two blue center pieces with the blue side of the anchor point

STEP 24- Building 3rd Block



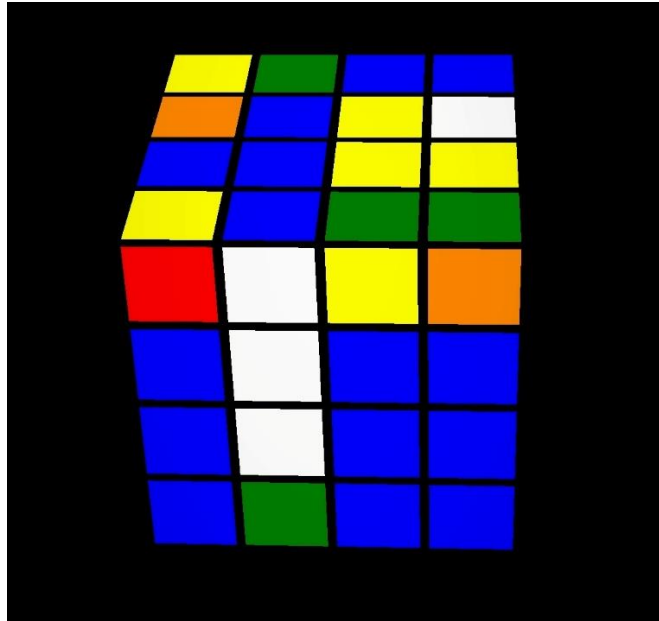
Perform an I' move depending on the situation, and position the white side of the anchor edge on top, as done previously

STEP 25- Building 3rd Block



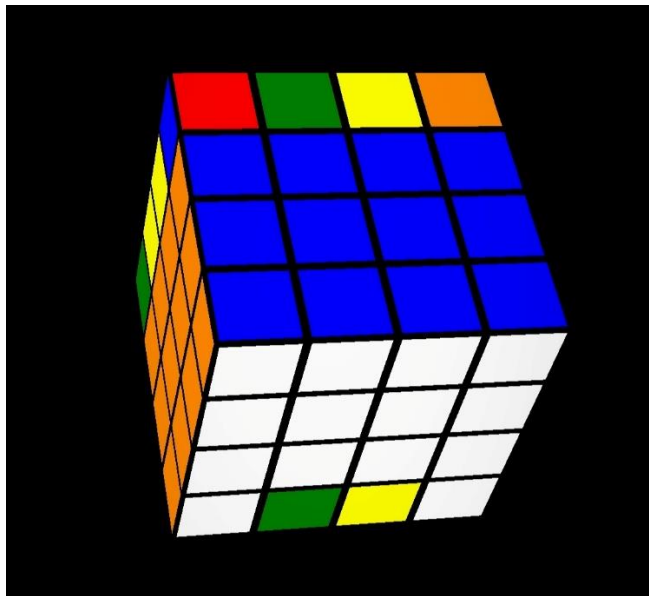
Attach remaining two white center pieces with the white side of the anchor point

STEP 26- Building 3rd Block

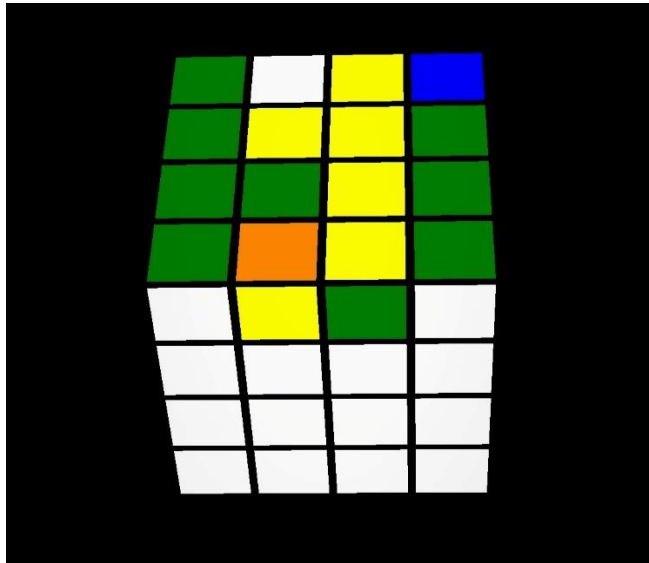


Make I move and bring the block forward. Making sure that blue side of the anchor comes at the top

STEP 27- Building 3rd Block

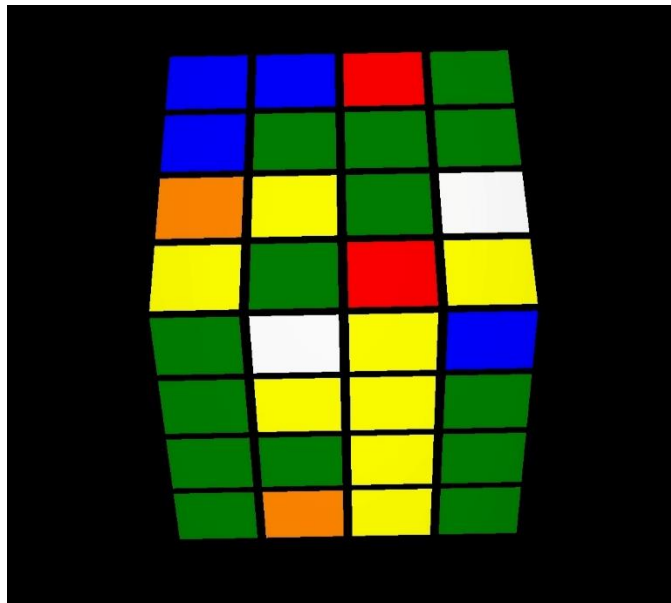


Similarly, make another I move and ensure the block inserts into its correct slot. The 3rd block is now complete, and the cube should look like this



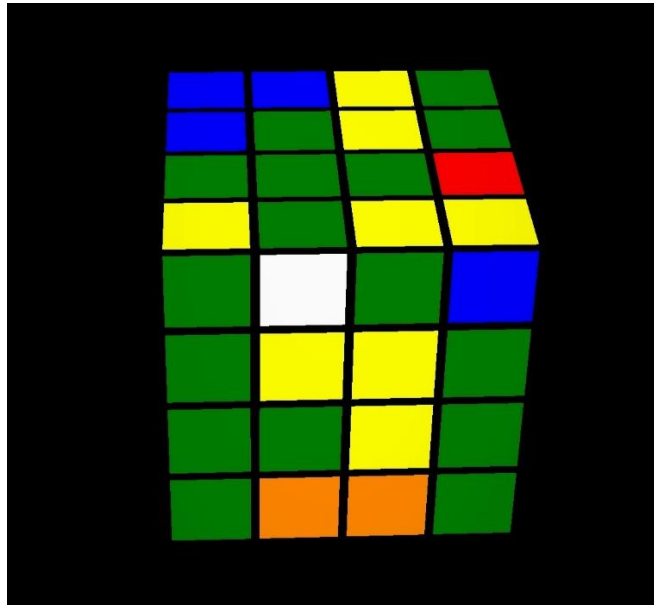
The cube should look like this from the back. We are now only left with Green block.

STEP 28- Building 4th Block



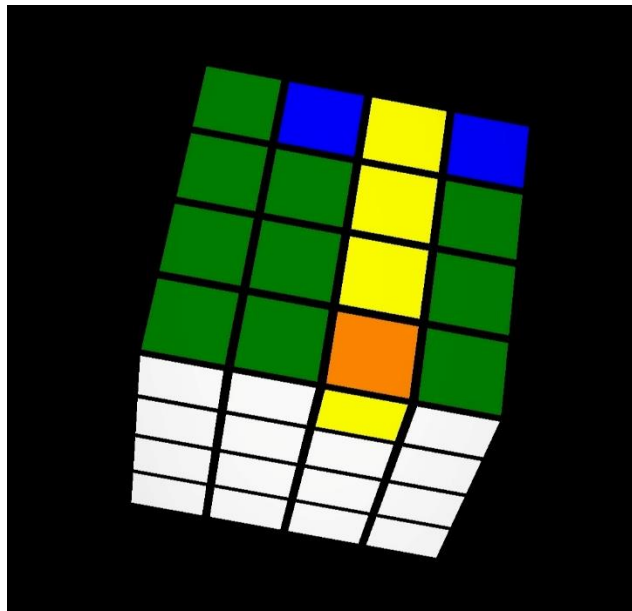
Select green & white edge piece

STEP 29- Building 4rd Block



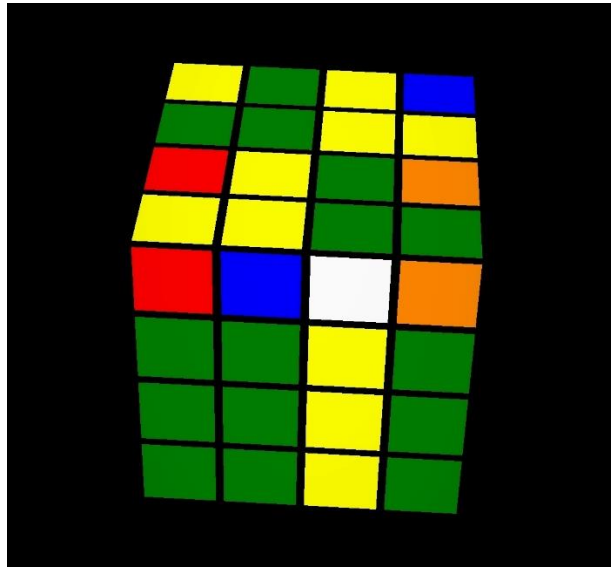
Attach remaining two green center pieces with the green side of the anchor point.

STEP 30- Building 4rd Block



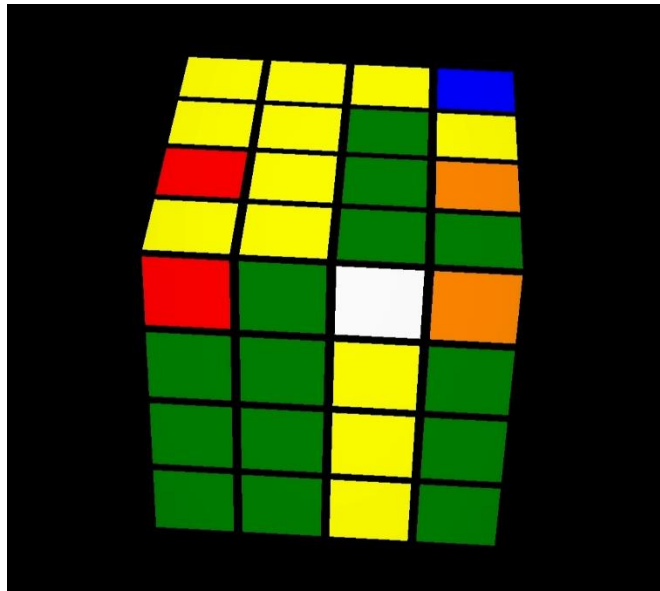
Do I move and insert the block in it's location. And now we are left with our last Anchor point.

STEP 31- Building 4rd Block



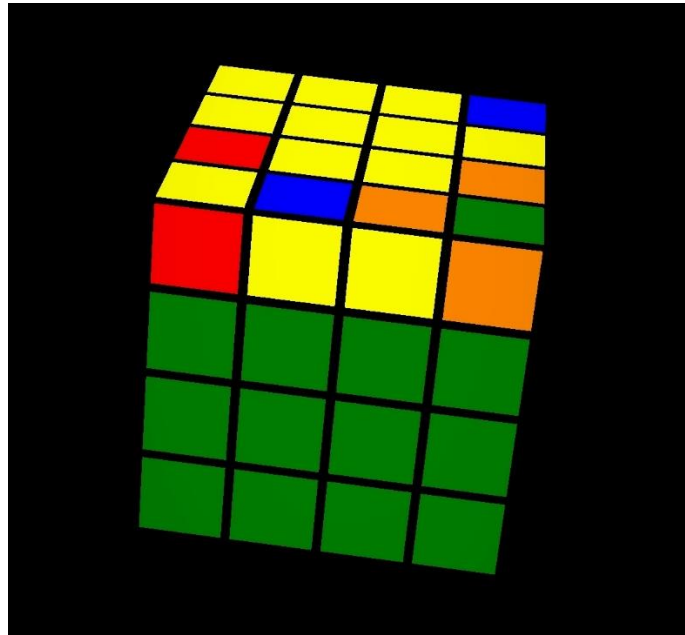
Select last green & white edge piece

STEP 32- Building 4rd Block



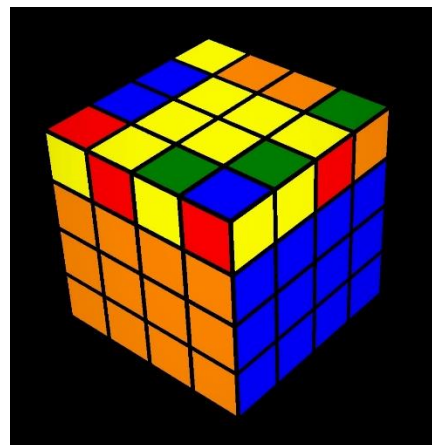
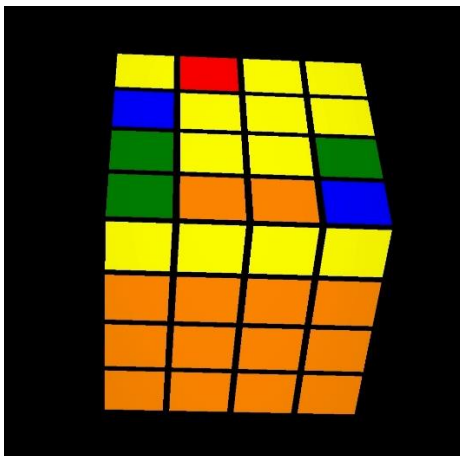
Attach remaining two center pieces with the edge.

STEP 33- Building 4rd Block

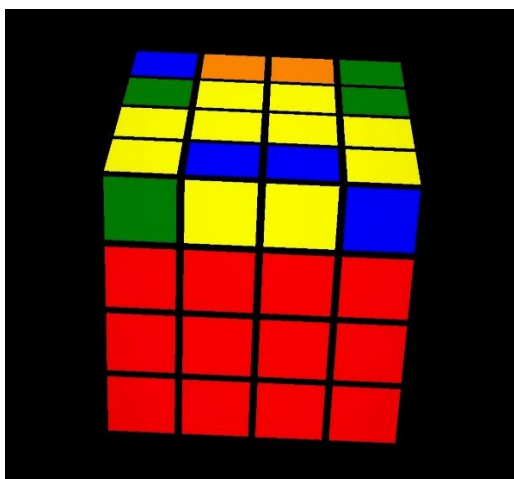


And now Insert that Edge piece along with the centers in it's correct location

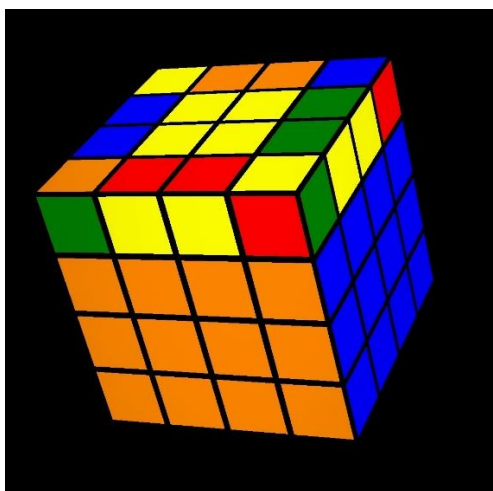
STEP 34- Last 4 Edges



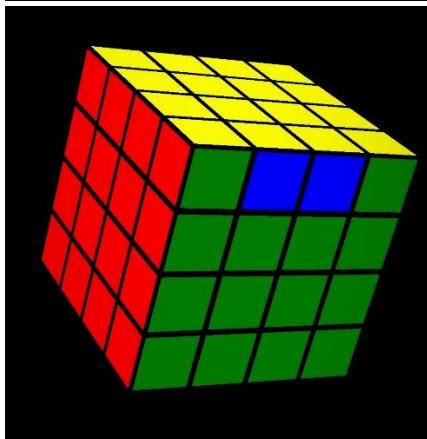
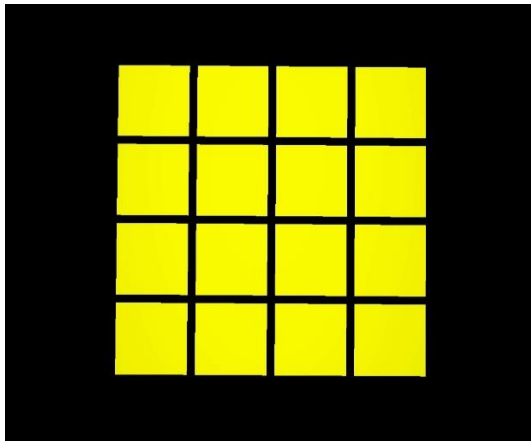
To pair last four edges without disturbing the cube, you can take reference from my videos.



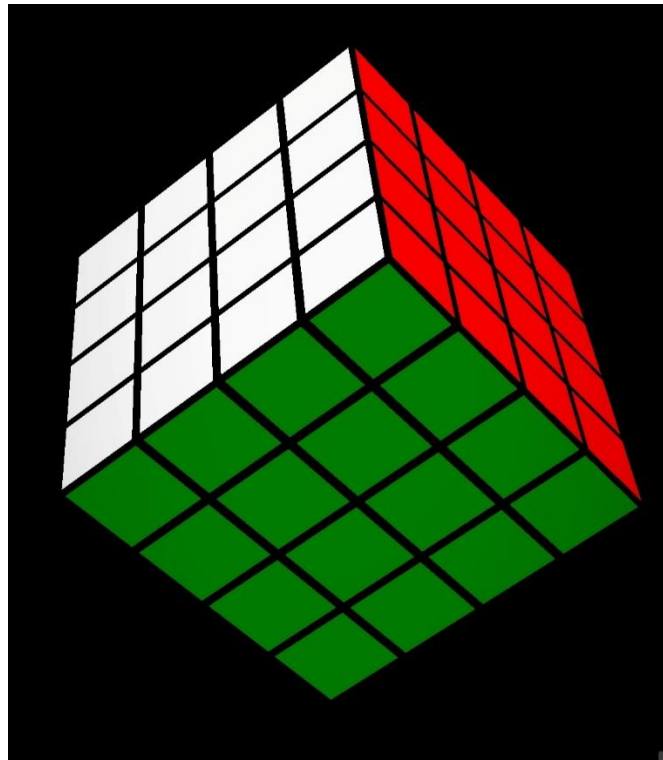
Pair your Last four edges, if OLL parity arises solve it using algorithm and you will left with OLL and PLL stage.



STEP 35- 3 by 3 Stage



Execute OLL and PLL algorithms, If PLL parity arises solve it using PLL parity algorithm.



And congratulations your cube is solved.

FINAL THOUGHTS-

This document is a step-by-step EAC (Edge Anchored Centers) guide for the 4×4.

It demonstrates the complete workflow through a full reference solve. Since big-cube solving naturally produces multiple situations and variations, additional cases and walkthroughs are covered in my videos, which you can use as a reference for better understanding.

Even cubes will always have unavoidable “exception cases.”

No matter how logical or “algorithm-free” the solve is up to that point, even-layered cubes (4×4, 6×6, 8×8...) can still generate parity and edge-orientation issues. These cases require dedicated algorithms—they cannot be removed entirely by pure brute force without sacrificing structure.

To make the method more algorithm-free, I experimented with combining EAC + 8355.

After extensive testing and step-by-step refinement, I am confident that EAC—especially when combined with the 8355 approach—offers one of the most logical and practical ways to solve big cubes with minimal algorithms in today's date.

Thank you