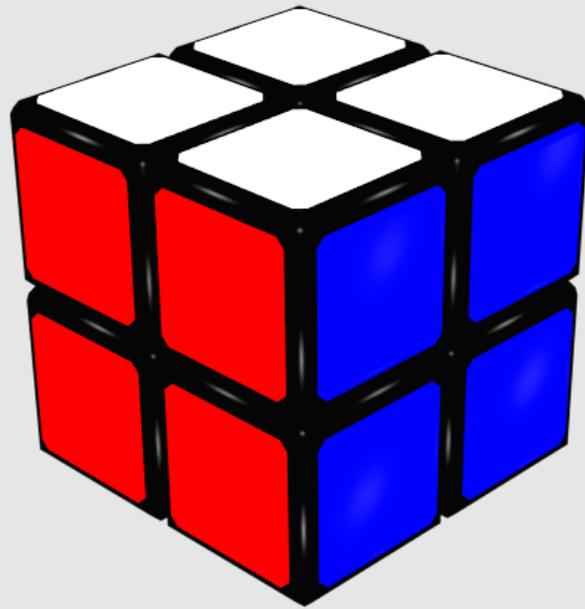


2x2x2 cube
Easy method





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Introduction

As the title says, this tutorial is going to be very easy. We will not solve the cube very fast, because the algorithms shown here will be repeated several times. It is a tutorial to get started with this cube, which might be the easiest one. If you know how to solve the 3x3x3 this is going to be easier, since the algorithms can also be applied to that one.

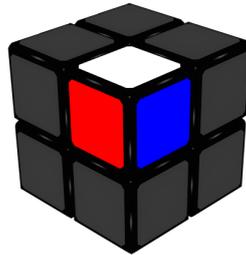
Note 1: The moves are in quotes. Letters of faces without quotes are references to corners, edges and faces.

Note 2: It is necessary to have read the 2x2x2 Notation guide.

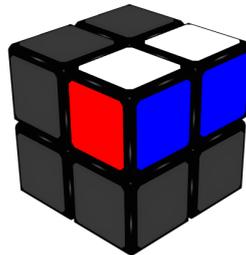
1 First layer

Moves are written here; however, intuition the most important thing in this step.

Choose a referenfce colour to form the base. Locate a corner containing this colour; that corner will be the reference corner: Place the cube so that the reference colour of that corner is in the U face.



To start to form the base, find another corner containing two colours of the reference corner. For instance, if you chose the white-red-blue corner as the reference corner, find the corner with colours white, blue and orange.



The aim is to place the corners one by one. There are two possibilities: the piece to place could be in the top layer or in the bottom layer:

- Corner in the **top layer**: Rotate the cube until the corner is in **URF**. We just want to take it down. Do:

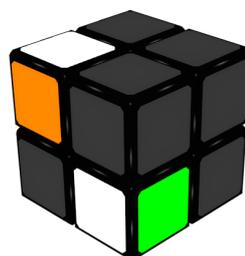
“R'D'RD”

After that, place it just below its right position and follow the instructions of the other possibility (corner already on the bottom).

- Corner already on the **bottom layer**: Rotate the cube to place the corner in **DRF**. **Remember** that it must remain under the position where it should be. Here there are 3 cases:

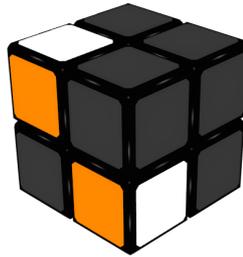
- If the sticker of the reference colour is in the F face, do:

“D' R' D R”



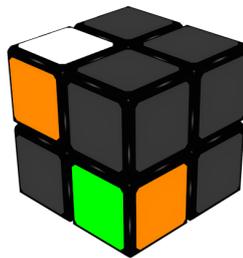
- If the sticker of the reference colour is in the R face, do:

“R’ D’ R”



- If the sticker of the reference colour is in the D face, do:

“R’ D2 R D2 F D’ F”



If we follow these two steps (or one, depending on the corner position) for each corner to place, we will have solved the base.

The case of having two or even three corner well placed may occur. The remaining corner(s) is/are placed following the steps above.

2 Placing of the second layer

The first thing to do is to turn the cube upside down, to place the solved layer on the bottom.

There should be at least one corner in the right position. Each colour may not be in the appropriate face: Orientation of the corners is the next step. With the following instructions, we will get the corners well permuted, although some of them may remain badly oriented. For instance:

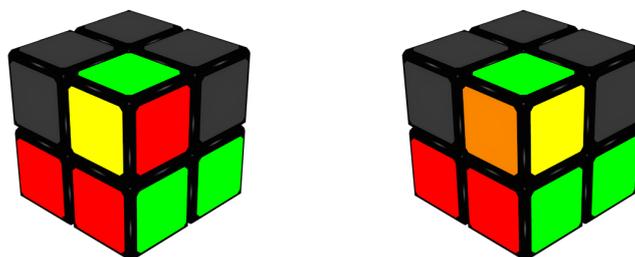


Figure 1: Left: The upper corner is not oriented yet, but is well positioned. Right: The colours do not match so we must find another corner.

To get a corner in the right position (if it is still misplaced), turn the face:

“U”

There will be several cases:

1. There is **just one corner in the right place** (remember that the colours can be badly oriented). In this case place it in **URF**, and look at the **ULF** corner. Two options can appear:

- (a) There is just one sticker belonging to this place. To position this color well, we should turn the corner counterclockwise. Do:

“URU’L’UR’U’L”

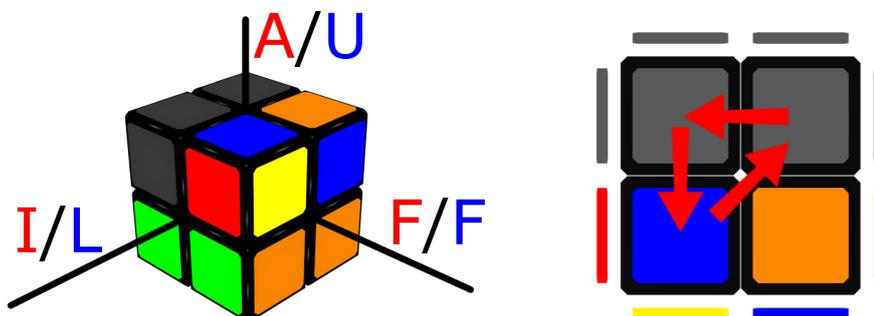


Figura 2: Left: In this case, the orange-blue-yellow corner is well permuted. Right: The rest of corners must be placed as indicated. Seen from above, they must be swapped counterclockwise.

- (b) There are two stickers belonging to this place. To position these colors well, we should turn the corner clockwise.

“L’URU’LUR’U”

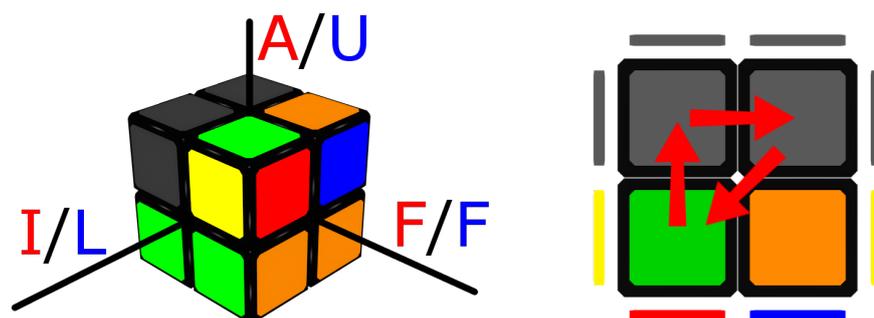


Figura 3: Left: In this case, the orange-blue-yellow corner is well permuted. Right: The rest of corners must be placed as indicated. Seen from above, they must be swapped clockwise.

Once this step is completed all the corners will be well permuted (although the orientation may not be right yet).

2. There are **two contiguous corners well placed**. Hold the cube so that those corners end up in the front face and do “U” to get just one well placed corner. We will deal with the same options explained above and we will use one algorithm or the other one depending on the turn seen from above (clockwise or counterclockwise).

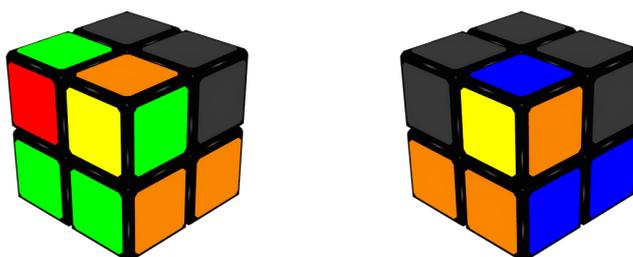


Figure 4: Left: We have turned the whole cube to place the two corners on the front. Right: Situation of the cube after applying the algorithm and doing “U”.

3. There are **two corners in their place, but diagonally**. No matter how you hold the cube, do:

“URU’L’UR’U’L”

After that, turn the U face (by doing “U” until one of the corners’ colours match those of the corner below) and apply one of the two algorithms explained in case 1 (clockwise or clounterclockwise).

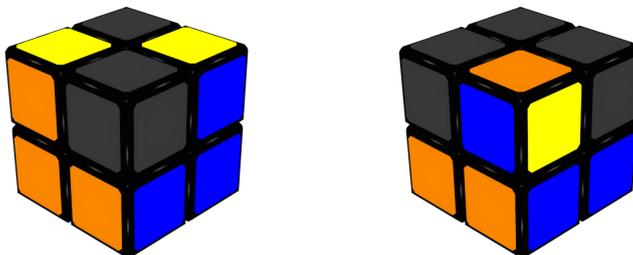
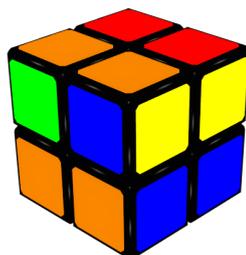


Figure 5: Left: As the initial position of the cube does not matter, apply the algorithm. Then turn the U face until the situation shown on the Right occurs.

After this, all the corners will be well permuted (although the orientation may not be right yet).

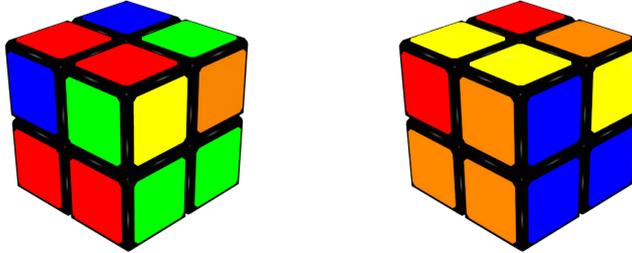
4. The last case is to find **the four corners well permuted**. In this case, skip to the next step.



3 Orientation of the last layer

It is the easiest step, since there is just one algorithm (although repeated many times). Several cases are possible::

- The four corners must be oriented.
- Three corners must be oriented.
- Two corners must be oriented.



The algorithm to repeat many times is:

“R'D'RD”

Turn the cube to place the corner to orient in **URF**. If this corner needs to be turned clockwise, then this algorithm will be applied 4 times. If this corner needs to be turned counterclockwise, then this algorithm will be applied 2 times.

IMPORTANT: Once the corner is oriented, the bottom layer will remain undone. It is normal; it will solve “automatically” when all the corners on the top will be oriented. To do so, turn the **U** face to position another unoriented corner in **URF**. Repeat the algorithm until all the corners are correctly oriented. Then the cube will be done.

This guide and much more at:

www.iberorubik.com