

Notations for 3x3 cube

1. Notation for a 3x3 Rubik's Cube is a system of letters that tells you which face to turn and how.

Faces (letters):

- **R** = right
- **L** = left
- **U** = up (top)
- **D** = down (bottom)
- **F** = front
- **B** = back

Turns:

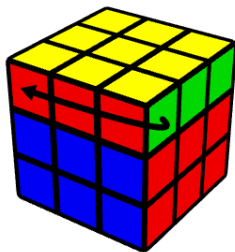
- **R** → turn right face clockwise (90°)
- **R'** → turn right face counterclockwise
- **R2** → turn right face 180°

Prime moves (') mean turning a face **counterclockwise (90°)** when you look directly at that face.

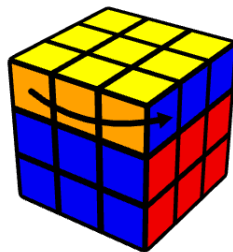
Examples:

- **R'** → right face counterclockwise
- **U'** → top face counterclockwise
- **F'** → front face counterclockwise
- **L', D', B'** → same idea for those faces

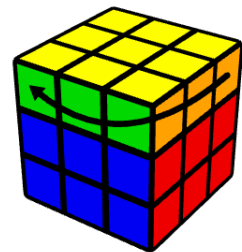
Same applies to all faces (U, L, F, etc.).



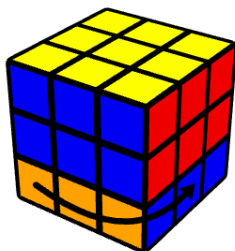
U



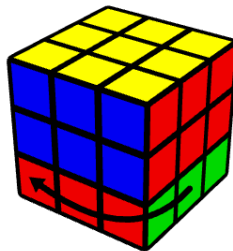
U'



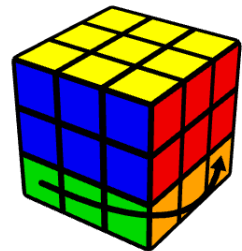
U2



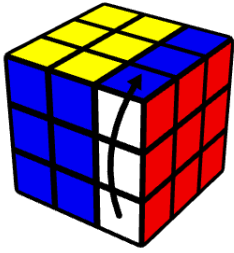
D



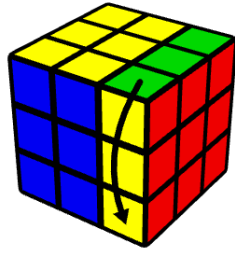
D'



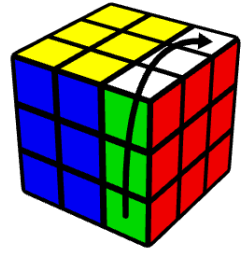
D2



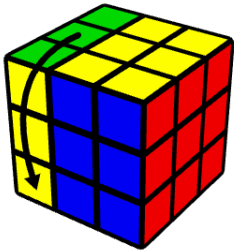
R



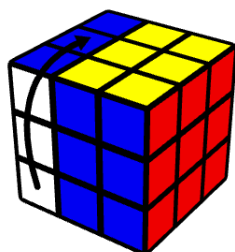
R'



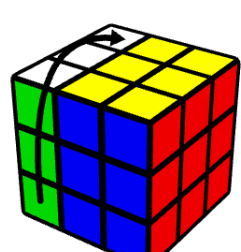
R2



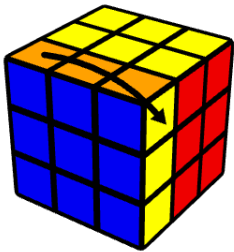
L



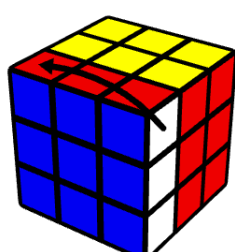
L'



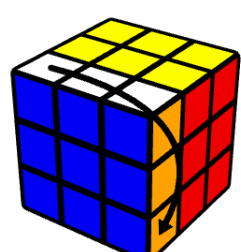
L2



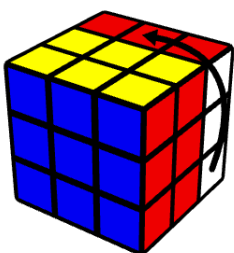
F



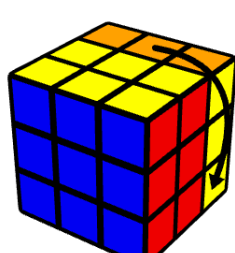
F'



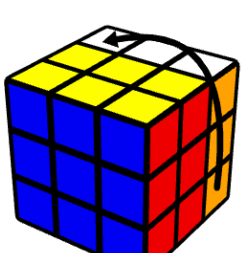
F2



B

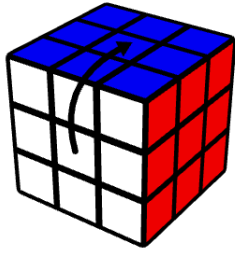


B'

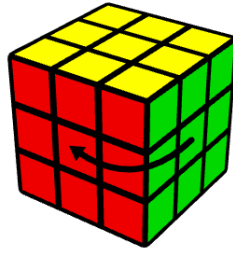


B2

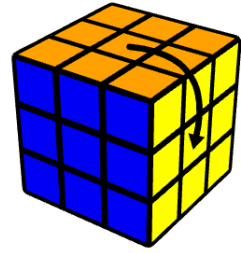
x follows the **R** direction, **y** follows the **U** direction, **z** follows the **F** direction.



x

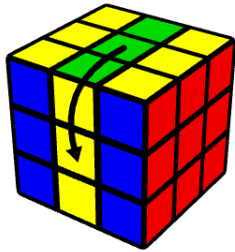


y



z

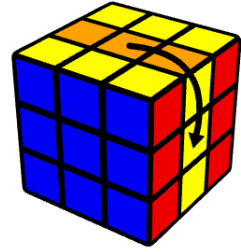
There are also x' and x^2 , y' and y^2 , z' and z^2



M



E



S

There are also M' and M^2 , E' and E^2 , S' and S^2