

[illegible]













 <p>黄色在顶部 蓝色在右侧</p>	 <p>黄色在顶部 蓝色在右侧</p>
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 <p>黄色在顶部 蓝色在右侧</p>	 <p>黄色在顶部 蓝色在右侧</p>
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Figure 11-11 illustrates the sequence of 11 steps for solving a 3x3 Rubik's cube. Each step is represented by a cube diagram and a corresponding sequence of moves in Chinese notation.

- Step 1: Cube diagram showing the initial state. Moves: $R^2 U^2 R^2 U^2 R^2 U^2 R^2 U^2 R^2 U^2 R^2 U^2$
- Step 2: Cube diagram showing the first move. Moves: $R^2 U^2 R^2 U^2 R^2 U^2 R^2 U^2 R^2 U^2 R^2 U^2$
- Step 3: Cube diagram showing the second move. Moves: $R^2 U^2 R^2 U^2 R^2 U^2 R^2 U^2 R^2 U^2 R^2 U^2$
- Step 4: Cube diagram showing the third move. Moves: $R^2 U^2 R^2 U^2 R^2 U^2 R^2 U^2 R^2 U^2 R^2 U^2$
- Step 5: Cube diagram showing the fourth move. Moves: $R^2 U^2 R^2 U^2 R^2 U^2 R^2 U^2 R^2 U^2 R^2 U^2$
- Step 6: Cube diagram showing the fifth move. Moves: $R^2 U^2 R^2 U^2 R^2 U^2 R^2 U^2 R^2 U^2 R^2 U^2$
- Step 7: Cube diagram showing the sixth move. Moves: $R^2 U^2 R^2 U^2 R^2 U^2 R^2 U^2 R^2 U^2 R^2 U^2$
- Step 8: Cube diagram showing the seventh move. Moves: $R^2 U^2 R^2 U^2 R^2 U^2 R^2 U^2 R^2 U^2 R^2 U^2$
- Step 9: Cube diagram showing the eighth move. Moves: $R^2 U^2 R^2 U^2 R^2 U^2 R^2 U^2 R^2 U^2 R^2 U^2$
- Step 10: Cube diagram showing the ninth move. Moves: $R^2 U^2 R^2 U^2 R^2 U^2 R^2 U^2 R^2 U^2 R^2 U^2$
- Step 11: Cube diagram showing the tenth move. Moves: $R^2 U^2 R^2 U^2 R^2 U^2 R^2 U^2 R^2 U^2 R^2 U^2$

Figure 4.10

Figure 4.10 displays eight 3D cubes, each representing a different combination of face colors (red, green, blue, yellow, white, black) and their corresponding 3x3 grid color codes. The cubes are arranged in a 4x2 grid. Each cube is labeled with its color code below it.

- Top-left cube: Red (top), Green (front), Blue (right), Yellow (left), White (bottom), Black (back). Color code: $\begin{bmatrix} R & G & B \\ G & Y & W \\ B & W & K \end{bmatrix}$
- Top-right cube: Red (top), Green (front), Blue (right), Yellow (left), White (bottom), Black (back). Color code: $\begin{bmatrix} R & G & B \\ G & Y & W \\ B & W & K \end{bmatrix}$
- Second row, left cube: Red (top), Green (front), Blue (right), Yellow (left), White (bottom), Black (back). Color code: $\begin{bmatrix} R & G & B \\ G & Y & W \\ B & W & K \end{bmatrix}$
- Second row, right cube: Red (top), Green (front), Blue (right), Yellow (left), White (bottom), Black (back). Color code: $\begin{bmatrix} R & G & B \\ G & Y & W \\ B & W & K \end{bmatrix}$
- Third row, left cube: Red (top), Green (front), Blue (right), Yellow (left), White (bottom), Black (back). Color code: $\begin{bmatrix} R & G & B \\ G & Y & W \\ B & W & K \end{bmatrix}$
- Third row, right cube: Red (top), Green (front), Blue (right), Yellow (left), White (bottom), Black (back). Color code: $\begin{bmatrix} R & G & B \\ G & Y & W \\ B & W & K \end{bmatrix}$
- Bottom row, left cube: Red (top), Green (front), Blue (right), Yellow (left), White (bottom), Black (back). Color code: $\begin{bmatrix} R & G & B \\ G & Y & W \\ B & W & K \end{bmatrix}$
- Bottom row, right cube: Red (top), Green (front), Blue (right), Yellow (left), White (bottom), Black (back). Color code: $\begin{bmatrix} R & G & B \\ G & Y & W \\ B & W & K \end{bmatrix}$

Figure 1 illustrates the 8-queens problem solution space as a 4x4x4 cube. The cube is divided into 64 smaller cubes, each representing a potential queen position. The axes are labeled with numbers 1 through 4, indicating the row, column, and depth of the cube.

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Diagram illustrating the 12 possible states of a 2x2x2 cube, arranged in a 4x3 grid. Each state is represented by a cube with colored faces (red, blue, green, yellow, white, black) and a corresponding text label below it.

- 1. (白)F U F U F U F U
- 2. (白)B U B U B U B U
- 3. (白)R U R U R U R U
- 4. (白)L U L U L U L U
- 5. (白)F D F D F D F D
- 6. (白)B D B D B D B D
- 7. (白)R D R D R D R D
- 8. (白)L D L D L D L D
- 9. (白)F U F U F U F U
- 10. (白)B U B U B U B U
- 11. (白)R U R U R U R U
- 12. (白)L U L U L U L U

[illegible]

[1] Wait isn't this the same as the above, just with a different AUF? But the one where the F2L edge is between two flipped edges is missing. For that one I use:

L F2 U F U' F2 L'

(inverse of the alg for the case above)

-Bernhard Brodowsky

Yea that would work if the edge was aligned with the blue stripe in the front, not sure why that's not just the suggested case pattern

-Owen Wei