**2x2 LEG Algorithms**

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| --- | --- | --- | --- | --- | --- |
| **H** |  |  |  |  | |
| **R (F2 R F' R' F U' F)** | **R2' U' (R U' R' U) (R' U' R U' R2)** | **F' R' U' F2 R U' F R'** | **R U' (F R' F' R)**  **U' R2**  (R U2 R U')  (F R F' R) | Easy [12]. | |
| **Pi** |  |  |  |  |  |
| **F R F' (R' F R2 F') R' U2 R**  (R' F' R2 F')  (R2' U2' F R) | **(R U R' U')**  **(R U2 R U' R2')** | **R F' U R' F2 U R F** | **R2 U (R' F R F')**  **U R'** | **(R U' R' F)**  **(R F' R2' U2' R)** | **(R U R' U)**  **(R2 U' R2' F R2 F')** |
| **U** |  |  |  |  |  |
| **(R' U R' U')**  **(R U' R' U' R2)**  U' (R2 U' R' U')  (R U' R' U R') | **(R2 U R2' F')**  **(R2 F' R2' F R2)** | **(R U R' F)**  **R2 F' R U' R'**  U' R2 F R U R' U' R2 U2 R2 F | **(R2 U R' U) (R' F R F') R U R2'** | **(R2 U R' U2)**  **(R' F' U' F)** | **(R2' U' R U2 R)**  **F R F'** |
| **T** |  |  |  |  |  |
| **(R U R' U') F'**  **(R' U2 R U') F** | **R U' (F R2 F')**  **(U R U' R2')**  U' (R2 U' R' U2)  (R' F R F') U2 R'  U' (R2' U' R2 U')  (R' F R' F') R2 | **(R U2' R' U) (R' U' R U2) R U R'** | **F R F' (R' F R2 F') (U R' U R)** | **R2 U' R' (F R' F' R) (U' R U' R2')** | **(R' F R2 F')**  **(R' U2' F R F')** |
| **L** |  |  |  |  |  |
| **R U2' (F R' F' R) (U2 R U R2')**  U' (R2' F R F')  (R U R2' U R2) | **(R U' R' U')**  **(R2 U' R2' F R F')** | **(R' U R' U R2 U')**  **R U2' R'**  (R U2 R' U) R2 U'  R U' R | **R' F U2' (R2' F R U2) R U2' R2'**  U' (R' U R' U') (R U R' F) R2 F' R | **F' U (F R U2 R U' R2')** | **(R' U2 R' F)**  **(R2 F' U' R)** |
| **S** |  |  |  |  |  |
| **R' F R2 F' R2' U2' R** | **(R2 U' R2' U') (R2 U R' U') R U' R2'** | **(F R' F' R2 U2')**  **R U' R2'** | **R2 U' R2' F' R U2 (R' U2 R' F)** | **(F2 R F' U)**  **(R' F U' R2)** | **(R U2 R U')**  **(R2' F R2 F')** |
| **AS** |  |  |  |  |  |
| **x' R U' R2' U R2 B2 R'**  R F' R2' U2' F' R | **(R2 U R2' U') (R U2 R' U') R U R'** | **(R2' F R F')**  **(U R' U R2)** | **F' (R U2 R U2')**  **R' F R2 U R2'** | **F' U2 (R U R' U')**  **(R' F2 R2 F' R')** | **(R2 U R' U2)**  **(R2' F R F')**  U' (R U R' U') (R U R' F) R F' R' |

**2x2 TCLL+ Algorithms**

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| **Hammer** | | | | | |
|  |  |  |  |  |  |
| **(R' F R F')2** | **y' (R' U2 R D')**  **R U' R'** | **(F R' F' R2 U' R' U2) R U R'** | **U2 (R' F' R F')**  **(R' F R U2 F')** | **y F' (R' F' R U)**  **(R U R2' F' R)** | **U (R U R' F R F')**  **(R U R' U R')** |
| **Spaceship** | | | | | |
|  |  |  |  |  |  |
| **y' U2 R' U' R U R' U' R** | **U (R' F R F') (R' F R U) (R U' R' F')** | **U (R U' R' U) R2 U' (R' F R' F')** | **U (R U' R2' F R U) (R U' R' F')** | **U (R U2' R' U) (R' F R F') R U' R'** | **U (R' F' R U2)**  **(R' F' R2 U R') F2**  U2 (R' F2 R U')  (R' F2 R2 U R') F2 |
| **Stollery** | | | | | |
|  |  |  |  |  |  |
| **(R U R' U) (F' R U' R') F2** | **U2 (R' F R U')**  **(F' R U2' R') F2** | **U (R U' R' U') (R U' R' U) (R' F R F')**  (R U R' U)  (F R F' R U R2') | **(R U R' F) (R U R' U') R' F' R** | **y U (R' U' R U2 R' F2) R' F R2** | **(R' U' F R F' U)**  **R2 U' R'** |
| **Pinwheel** | | | | | |
|  |  |  |  |  | |
| **F' U (R U' R2' F2 R) F U F'** | **(R' F' U' F R2 U')**  **R U2 R** | **y F U' F2 (R U' R' U') R U' R'** |  |  | |
| **Faces** | | | | | |
|  |  |  |  |  |  |
| **U (R U R' U') (R2 U R2' U' R2)** | **y' U R' U2 R'**  **F R F' R** | **(R U' R' U F')**  **(R' F' R F)** | **U R' U R (F R' F' R) U' R2** |  |  |
| **Turtle** | | | | | |
|  |  |  |  |  |  |
| **(R U' R' U) R U' R'** | **y (R' F' R U F') (R U R2' F R F') R U R'** | **(R' F R2 U R' F')**  **(R U' R' F')** | **U2 (F' U' F U')**  **R U2 R'** | **U2 (R' F R F')**  **(U2 R U2' R')** | **U2 (R U R2' F R F') (U2 R U' R')** |
| **Poser** | | | | | |
|  |  |  |  |  |  |
| **y (R U R' U') (R U2 R' F') (R U R' F')** | **U' (R' F R F') (R' F R2 U R' U' F')** | **(R U R' U2)**  **(R' F R F') R U' R'** | **U2 (R' F R) (F2 U' F)** | **R U' R2' F R F'** | **U2 F' U (R' F2 R F)** |
| **Gun** | | | | | |
|  |  |  |  |  |  |
| **(R U' R' U2)**  **R U2' R'**  U2 (R U' R' U') (R U' R' U2) R U' R' | **y U' F' (R' F2 R F') (R' F R2 U' R')** | **U R U' R' F' U' F**  (R' F R F')  (U R U' R') | **(R U' R' U) (R U2' R') (F R' F' R)** | **U2 (R U R' U)**  **(R U R2' F R F')**  y' (R2' F R F')  (R U R' U R) | **U (R U2 R' F R F') R U R2'** |

**2x2 TCLL- Algorithms**

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| --- | --- | --- | --- | --- | --- |
| **Hammer** | | | | | |
|  |  |  |  |  |  |
| **(F R' F' R)2** | **U' (R U2' R' D)**  **R' U R** | **U' (R2' F R F')**  **(R U2' R' U' R)** | **U' R U R' (F R' F' R) (U' R U2' R')** | **U' F (R U R' U')**  **(R' F' R2 U R')** | **(R U' R U' R')**  **(F R' F' R) U' R'** |
| **Spaceship** | | | | | |
|  |  |  |  |  |  |
| **(R U R' U') R U R'** | **U2 F (R U R' U')**  **(R' F' R) (F R' F' R)** | **U2 (R U R' U' F)**  **(R' F R U) R' F R** | **y U (R' F R2 U' R' U') (R' F R F)** | **U F2 (R U' R' U2)**  **R' F R** | **(R U R' U' F) (R' F2 R U') R' F2 R** |
| **Stollery** | | | | | |
|  |  |  |  |  |  |
| **U2 (F2 R U R' F)**  **(U' R U' R')** | **(F2 R U2 R' F)**  **(U R' F' R)** | **(F R' F' U) (R2 U R2' U' R)** | **(R' F R U) (R U' R' F') R U' R'** | **(L U L' U2' L F2')**  **L F' L2** | **U' (F R' F' R) U'**  **(R U R' U) R U R'** |
| **Pinwheel** | | | | | |
|  |  |  |  |  | |
| **F U' F' (R U' R2' F2' R U' F)** | **(R' U2 R' U2')**  **(R2 F R' F' R')** | **y (R U R' U) (R U R') F2 U F'** |  |  | |
| **Faces** | | | | | |
|  |  |  |  |  |  |
| **(R2 U R' U) (R U2' R' U2 R')** | **y2 L U2 L F' L' F L'** | **U F' (R' F R F)**  **(U' R U R')** | **U' (R' F R F')**  **(R U2' R' U') R U R'** |  |  |
| **Turtle** | | | | | |
|  |  |  |  |  |  |
| **y U' (R' F R U')**  **R' F R** | **y' U (R' U R U') (R2' F R F')**  **(R U' R' U2 R)** | **U F R F' (R U R2' U') R U R'** | **U (R U R' U)**  **F' U2' F** | **U' (R U2' R' U2)**  **(F R' F' R)** | **(R U' R' U2)**  **(R U R2' F R F')** |
| **Poser** | | | | | |
|  |  |  |  |  |  |
| **y F (R U' R' F) (R U2' R' U) R U' R'** | **U F U (R U' R2' F' R) (F R' F' R)** | **y U' R' F R2 U' R' F** | **U F R' F' R2 U R'** | **U (R U R') (F R' F' R) (U2 R U' R')** | **F' R' F2 R U' F** |
| **Gun** | | | | | |
|  |  |  |  |  |  |
| **U (R U2' R' U2)**  **R U R'** | **y U' (R U R2' F' R F) (R' F2 R F)** | **U (R U R' U')**  **(F R' F' R)** | **U2 (F R' F' R2 U' R' U') R U' R'** | **y' U' R' (F R' F' R) U2 R** | **R2 U (R' F R F')**  **R' U' R** |