State Table

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Current State** | | | **Reset** | **Right** | **Left** | **Next State** | | |
|  | **A** | **B** | **C** | **RES** | **R** | **L** | **AN** | **BN** | **CN** |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 3 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 |
| 4 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 5 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 6 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 7 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 |
| 8 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 0 |
| 9 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 10 | 0 | 0 | 0 | 0 | 1 | 1 | x | x | x |
| 11 | x | x | X | 0 | 1 | 1 | 1 | 1 | 1 |
| 12 | 1 | 1 | 1 | 1 | x | X | 0 | 0 | 0 |
|  |  |  |  |  |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Current State** | | | **Lights (Outputs)** | | | | | |
|  | **A** | **B** | **C** | **Ra** | **Rb** | **Rc** | **La** | **Lb** | **Lc** |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| 4 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 5 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 7 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 8 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| 9 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |
| 11 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |