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My strategies are that when the robot is closed to the edge of the circle, it will quickly head forward to the opposite directions. When there is an enemy come closer, the robot will detect the enemy and fix the sides closed to the enemy then make other sides moving forward so that it can give a stoke to the enemy. When the robot was in the middle of two edges. The robot will not move but keep spinning until there is space to move forward. (SEE the Strategy.pdf and A1 TruthTable.pdf for details)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| M0 | M1 | E0 | E1 | L0 | L1 | R0 | R1 |
| 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 |
| 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 |
| 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 |
| 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 |
| 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 |
| 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 |
| 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 |
| 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 |
| 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 |
|  |  |  |  |  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Kmax-L0 | E0E1->11 | E0E1->10 | E0E1->00 | E0E1->01 |
| M0M1->11 | 1 | 1 | 1 | 1 |
| M0M1->10 | 0 | 0 | 0 | 0 |
| M0M1->00 | 1 | 0 | 1 | 1 |
| M0M1->01 | 1 | 0 | 1 | 1 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Kmax-L1 | E0E1->11 | E0E1->10 | E0E1->00 | E0E1->01 |
| M0M1->11 | 0 | 0 | 0 | 0 |
| M0M1->10 | 1 | 0 | 1 | 1 |
| M0M1->00 | 0 | 0 | 0 | 0 |
| M0M1->01 | 0 | 0 | 0 | 0 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Kmax-R0 | E0E1->11 | E0E1->10 | E0E1->00 | E0E1->01 |
| M0M1->11 | 0 | 0 | 0 | 0 |
| M0M1->10 | 0 | 0 | 0 | 0 |
| M0M1->00 | 1 | 1 | 1 | 0 |
| M0M1->01 | 1 | 1 | 1 | 0 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Kmax-R1 | E0E1->11 | E0E1->10 | E0E1->00 | E0E1->01 |
| M0M1->11 | 1 | 1 | 1 | 1 |
| M0M1->10 | 1 | 1 | 1 | 0 |
| M0M1->00 | 0 | 0 | 0 | 0 |
| M0M1->01 | 0 | 0 | 0 | 0 |