1. List of Inputs

|  |  |  |
| --- | --- | --- |
| State # | Inputs | Saved Data |
| 1 | LEFT\_SCAN\_IN | Person.id |
| 2 | RIGHT\_SCAN\_IN | Person.id |
| 3 | WEIGHT\_SCALE\_IN | Person.weight |
| 4 | LEFT\_OPEN\_IN | N/A |
| 5 | RIGHT\_OPEN\_IN | N/A |
| 6 | LEFT\_CLOSE\_IN | N/A |
| 7 | RIGHT\_CLOSE\_IN | N/A |
| 8 | GUARD\_RIGHT\_LOCK\_IN | N/A |
| 9 | GUARD\_RIGHT\_UNLOCK\_IN | N/A |
| 10 | GUARD\_LEFT\_LOCK\_IN | N/A |
| 11 | GUARD\_LEFT\_UNLOCK\_IN | N/A |
| 12 | EXIT\_IN | N/A |

1. List of outputs

|  |  |  |  |
| --- | --- | --- | --- |
| STATE # | Outputs | PRINT | Data |
| 0 | START\_OUT | Controller PID: | Getpid() |
| 1 | LEFT\_SCAN\_OUT | Person scanned ID. ID= | Person.id |
| 2 | RIGHT\_SCAN\_OUT | Person scanned ID. ID= | Person.id |
| 3 | WEIGHT\_SCALE\_OUT | Person weighed. Weight = | Person.weight |
| 4 | LEFT\_OPEN\_OUT | Left door Open | N/A |
| 5 | RIGHT\_OPEN\_OUT | Right door Open | N/A |
| 6 | LEFT\_CLOSE\_OUT | Left door closed | N/A |
| 7 | RIGHT\_CLOSE\_OUT | Right door closed | N/A |
| 8 | GUARD\_RIGHT\_LOCK\_OUT | Right door locked by Guard | N/A |
| 9 | GUARD\_RIGHT\_UNLOCK\_OUT | Right door unlocked by Guard | N/A |
| 10 | GUARD\_LEFT\_LOCK\_OUT | Left door locked by Guard | N/A |
| 11 | GUARD\_LEFT\_UNLOCK\_OUT | Left door unlocked by Guard | N/A |
| 12 | EXIT\_OUT | Exiting Door Entry System | N/A |

1. List of Conditions

|  |  |  |
| --- | --- | --- |
| Current State | Condition | Next State |
| START\_ST | ./des\_input running | GUARD\_RIGHT\_LOCK\_ST |
| GUARD\_RIGHT\_LOCK\_ST | person.state = LEFT\_SCAN\_ST | LEFT\_SCAN\_ST |
| LEFT\_SCAN\_ST | person.state = GUARD\_LEFT\_UNLOCK\_ST | GUARD\_LEFT\_UNLOCK\_ST |
| GUARD\_LEFT\_UNLOCK\_ST | person.state = LEFT\_OPEN\_ST | LEFT\_OPEN\_ST |
| LEFT\_OPEN\_ST | Person.state = WEIGHT\_SCALE\_ST | WEIGHT\_SCALE\_ST |
| WEIGHT\_SCALE\_ST | Person.state = LEFT\_CLOSE\_ST | LEFT\_CLOSE\_ST |
| LEFT\_CLOSE\_ST | Person.state = GUARD\_LEFT\_LOCK\_ST | GUARD\_LEFT\_LOCK\_ST |
| GUARD\_LEFT\_LOCK\_ST | Person.state = GUARD\_RIGHT\_UNLOCK\_ST | GUARD\_RIGHT\_UNLOCK\_ST |
| GUARD\_RIGHT\_UNLOCK\_ST | Person.state = RIGHT\_OPEN\_ST | RIGHT\_OPEN\_ST |
| RIGHT\_OPEN\_ST | Person.state = RIGHT\_CLOSE\_ST | RIGHT\_CLOSE\_ST |
| RIGHT\_CLOSE\_ST | Person.state = GUARD\_RIGHT\_LOCK\_ST | GUARD\_RIGHT\_LOCK\_ST |
| GUARD\_RIGHT\_LOCK\_ST | person.state = RIGHT\_SCAN\_ST | RIGHT \_SCAN\_ST |
| RIGHT \_SCAN\_ST | person.state = GUARD\_ RIGHT \_UNLOCK\_ST | GUARD\_RIGHT \_UNLOCK\_ST |
| GUARD\_RIGHT \_UNLOCK\_ST | person.state = RIGHT\_OPEN\_ST | RIGHT\_OPEN\_ST |
| RIGHT\_OPEN\_ST | Person.state = WEIGHT\_SCALE\_ST | WEIGHT\_SCALE\_ST |
| WEIGHT\_SCALE\_ST | Person.state = RIGHT\_CLOSE\_ST | RIGHT\_CLOSE\_ST |
| RIGHT\_CLOSE\_ST | Person.state = GUARD\_RIGHT\_LOCK\_ST | GUARD\_RIGHT\_LOCK\_ST |
| GUARD\_RIGHT\_LOCK\_ST | Person.state = GUARD\_RIGHT\_UNLOCK\_ST | GUARD\_RIGHT\_UNLOCK\_ST |
| GUARD\_RIGHT\_UNLOCK\_ST | Person.state = LEFT\_OPEN\_ST | LEFT\_OPEN\_ST |
| LEFT\_OPEN\_ST | Person.state = LEFT\_CLOSE\_ST | LEFT\_CLOSE\_ST |
| LEFT\_CLOSE\_ST | Person.state = GUARD\_LEFT\_LOCK\_ST | GUARD\_LEFT\_LOCK\_ST |
| GUARD\_LEFT\_LOCK\_ST | Person.state = RIGHT\_SCAN\_ST | RIGHT\_SCAN\_ST |
| GUARD\_LEFT\_LOCK\_ST | Person.state = LEFT\_SCAN\_ST | LEFT\_SCAN\_ST |
| EXIT\_ST | Person.state = EXIT\_ST | EXIT\_ST |

D. List of states

|  |  |
| --- | --- |
| # | State |
| 0 | START\_ST |
| 1 | LEFT\_SCAN\_ST |
| 2 | RIGHT\_SCAN\_ST |
| 3 | WEIGHT\_SCALE\_ST |
| 4 | LEFT\_OPEN\_ST |
| 5 | RIGHT\_OPEN\_ST |
| 6 | LEFT\_CLOSE\_ST |
| 7 | RIGHT\_CLOSE\_ST |
| 8 | GUARD\_RIGHT\_LOCK\_ST |
| 9 | GUARD\_RIGHT\_UNLOCK\_ST |
| 10 | GUARD\_LEFT\_LOCK\_ST |
| 11 | GUARD\_LEFT\_UNLOCK\_ST |
| 12 | EXIT\_ST |

1. STATE MACHINE

A diagram of a diagram

Description automatically generated