

Problem #4

One of the many possible solutions:

(a) States: S0, S1, S2, S3 (stuck), S4

Inputs:

- Reset
- Left to the first correct number
- Right past zero to the second correct number
- Left to the third correct number
- Close the lock
- Right past zero a few times (turn the dial right past zero a few times)
- Else

Outputs:

- Closed
- Open

Assumptions:

At state S0, once the dial is turned to the left and the number entered matches the first number in memory, advance to S1. At states S1 and S2, assume the user only dials to the right direction and stops at the correct number or he does, there are no intermediate stops. So the lock can only advance to the next state or it gets stuck at S3 until it is reset.

(b)



