

HomeWork1Z1

Outline chapters Z1 & Z2

Exercises

Use RIMS simulator to create and run a program as a solution to each of the two exercises below:
NOTE: This homework is to be coded in C language with **while loops** to wait for changes.
Maybe you do not have a perfect solution. Do the best you can and submit your work to show you have done diligence on these exercises.

1. A lock has two switches. These are A0 and A1. Once the proper sequence is followed, the lock will open. Write C code for the lock **using while loops to wait**.

Start at State 0, waiting for State 1 to become true, pseudocode is:
while (!(State 1)) then wait for the correct next state condition to occur

State	A1	A0
0	0	0
1	0	1
2	1	1
3	1	0 – open the lock

2. An automatic door at a store has a sensor in front (A0) and behind (A1). The door opens (B0=1) when a person approaches from the front, and stays open as long as a person is detected in front or behind. If the door is closed and a person approaches from the behind, the door does not open. If the door is closed and a person approaches from the front but a person is also detected behind, the door does not open, to prevent hitting the person that is behind. Show a description of the sequence of events and the C code for the solution.

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