**Problem formulation**

**Keypad locking system:**

The aim of this implementation is to provide an end user with the possibility to use a key pad such that they are able to perform a lock, unlock and change of password. The software logic has to be able to handle different states and operations. Enter, validate, change the password, be able to handle wrong input and actions that are a follow up and a consequence of correct input.

Problems:

* Insert wrong password
* Validation in setting new password
* How to change an already existing password
* Insert less numbers than the password contains
* Insert more numbers than the password contains
* Second password does not match first inputted password in the password changing state

Assuming the password is 1212:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| No | Test Scenario | Test Steps | Test Data | Expected Results | Actual Result | Pass/Fail |
| 1 | Unlocking with valid PIN input | Input four digits | ‘1212’ | Green LED | Green LED | Pass |
| 2 | Unlocking with invalid PIN input | Press four numbers | ‘2323’ | Red LED | Red LED | Pass |
| 3 | Changing  password | Press four numbers | ‘2121’ | Green LED | Green LED | Pass |
| 4 | Reset  button | Press ‘A’ button | ‘A’ | Red LED | RED LED | Pass |

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