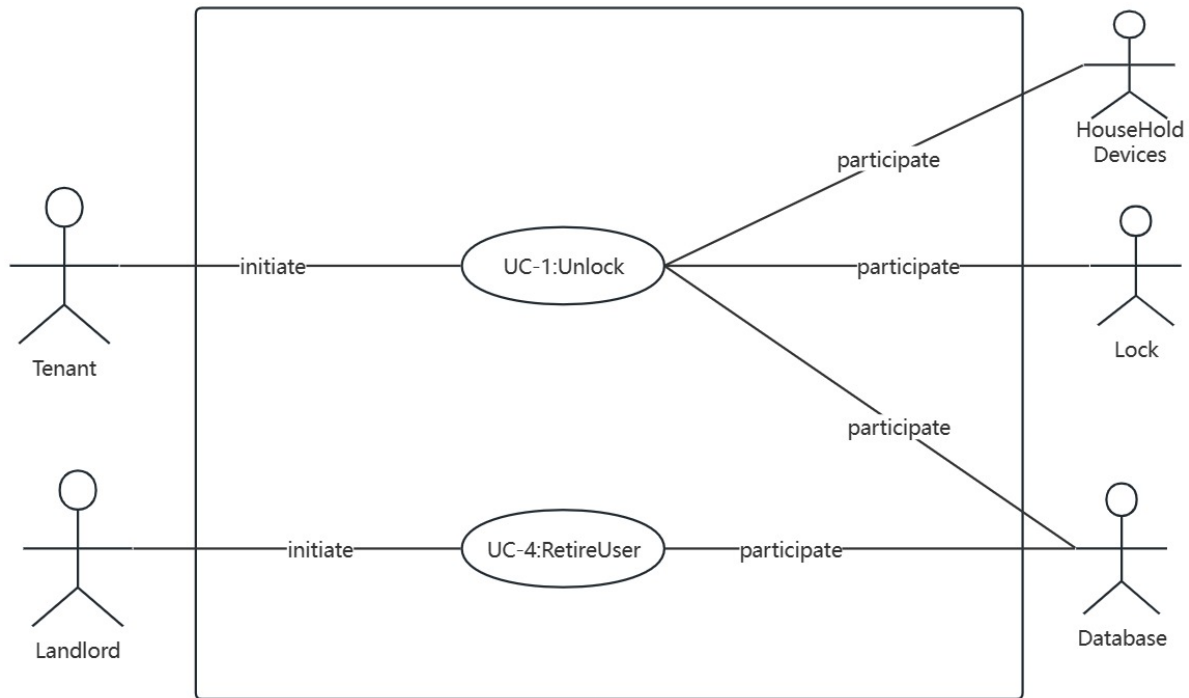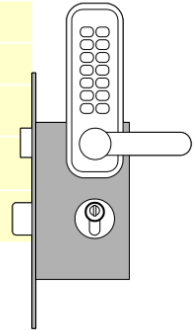# assignment_1

- Draw use case diagram for UC-1 (Unlock) and UC-4 (RetireUser)

- Write the use case schemas of UC-1 and UC-4

table of REQs：

Identifier	User Story
REQ-1	As a user, I can be sure that the doors by default will be locked.
REQ-2	As a user, I will be able to unlock the doors using a mobile phone
REQ-3	An intruder will not be able to unlock the doors by using his own mobile phone; the system will block when it detects multiple lock-phone pairing failures
REQ-4	As a user, I can be sure that the doors will be automatically locked at all times.
REQ-5	The door keypad will be backlit when dark for visibility.
REQ-6	Anyone will be able to lock the doors on demand.
REQ-7	As a user, I will be able to manage additional user accounts (by user mobile device info, e.g., phone number)
REQ-8	As a user, I will be able to view the history of accesses to my home.
REQ-9	As a user, I will be able to configure the preferences for how my household devices will be activated on my arrival.

schema of UC-1

Use Case UC-1:	Unlock
Related Requirements:	REQ-1, REQ-2, REQ-3, REQ-4 and REQ-6 stated in the table of REQs.
Initiating Actor:	Any of: tenant/landlord
Actor's Goal:	To get into the room with valid key/authorized permission.
Participating Actors:	Lock Devices , Household Devices and Database
Preconditions:	• The door is locked by default • The states of the door are "Lock" and "Unlock" • The valid keys in the database are non-empty
Postconditions:	• The door will be automatically locked after user's entrance

Flow of Events for Main Success Scenario:

→	1.	**Tenant/Landlord** entered a valid key
←	2.	**System** (1)browse the **Database** to verify the key and then (2)signals to the **Lock Devices** to unlock (3)signals to **Household Devices** to turn on lights or execute other instructions
←	3.	**System** signals to **Lock Devices** to lock the door after user entered the room

The arrows on the left indicate the direction of interaction: → Actor's action; ← System's reaction

schema of UC-4

Use Case UC-4:	RetireUser
Related Requirements:	List of the requirements that are addressed by this use case
Initiating Actor:	Landlord
Actor's Goal:	Retire an existing user account and disable access.
Participating Actors:	Database
Preconditions:	• The **User** and the valid key exists in the **Database** before being removed.
Postconditions:	• **User** no longer in the **Database** can't enter the room with her/his old key.

Flow of Events for Main Success Scenario:

→	1.	The **Landlord** remove User from the Tenant list.
←	2.	The **system** (1)remove the **User** from the **Database** (2)remove the valid key of **User** from the **Database** (3)signals to the **Landlord** that the User is removed successfully

The arrows on the left indicate the direction of interaction: → Actor's action; ← System's reaction

- Write the acceptance tests for UC-1 and UC-4

acceptance test fot UC-1

Test-case Identifier:	TC-1
Use Case Tested:	UC-1
Pass/fail Criteria:	The test passes if the user enters a key that is contained in the database, with less than a maximum allowed number of unsuccessful attempts
Input Data:	Numeric keycode, door identifier

Test Procedure:	Expected Result:
Step 1. Type in an incorrect keycode and a valid door identifier	System beeps to indicate failure; records unsuccessful attempt in the database; prompts the user to try again
Step 2. Type in the correct keycode and door identifier	System flashes a green light to indicate success; records successful access in the database; disarms the lock device

acceptance test fot UC-4

Test-case Identifier:	TC-2
Use Case Tested:	UC-4
Pass/fail Criteria:	The test passes if the user removed from the Database can't enter the room with her/his previous key and door identifier
Input Data:	Previously valid Numeric keycode, door identifier

Test Procedure:	Expected Result:
Step 1. Type in a keycode the former tenant had and a valid door identifier	System beeps to indicate failure; records unsuccessful attempt in the database; prompts the user to try again
Step 2. Type in the keycode that a current tenant owns and door identifier	System flashes a green light to indicate success; records successful access in the database; disarms the lock device