House Rental System

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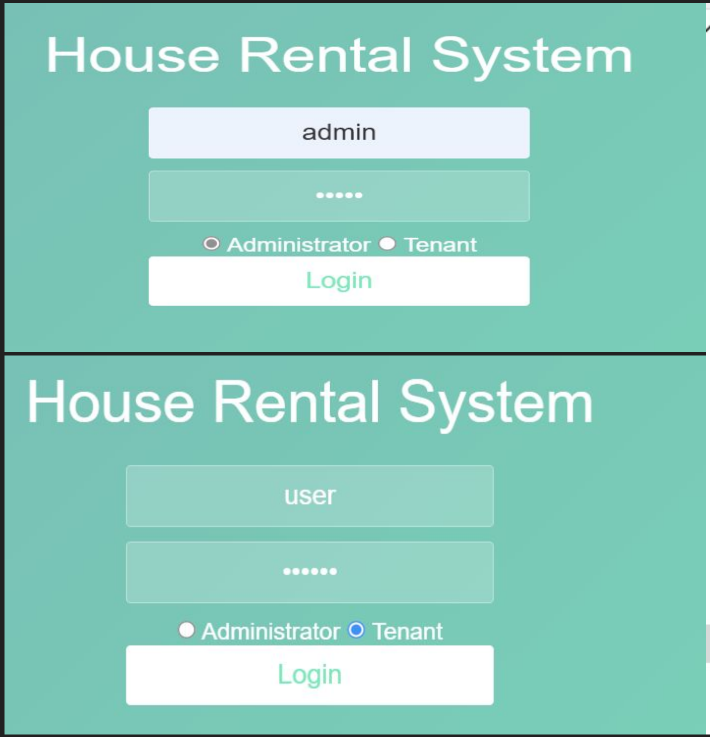
Ran Cao Tianmeng Xia

Why a House Rental System?

- Object and Goal: record many housing informations
- Agreement
- Apply
- Applyout
- Checkout
- HouseList
- Paid
- RentList
- Schedule
- Solve
- Topaid
- User
- UserList
- Wrong

Login


House Rental System

admin

•••••

Administrator Tenant

Login

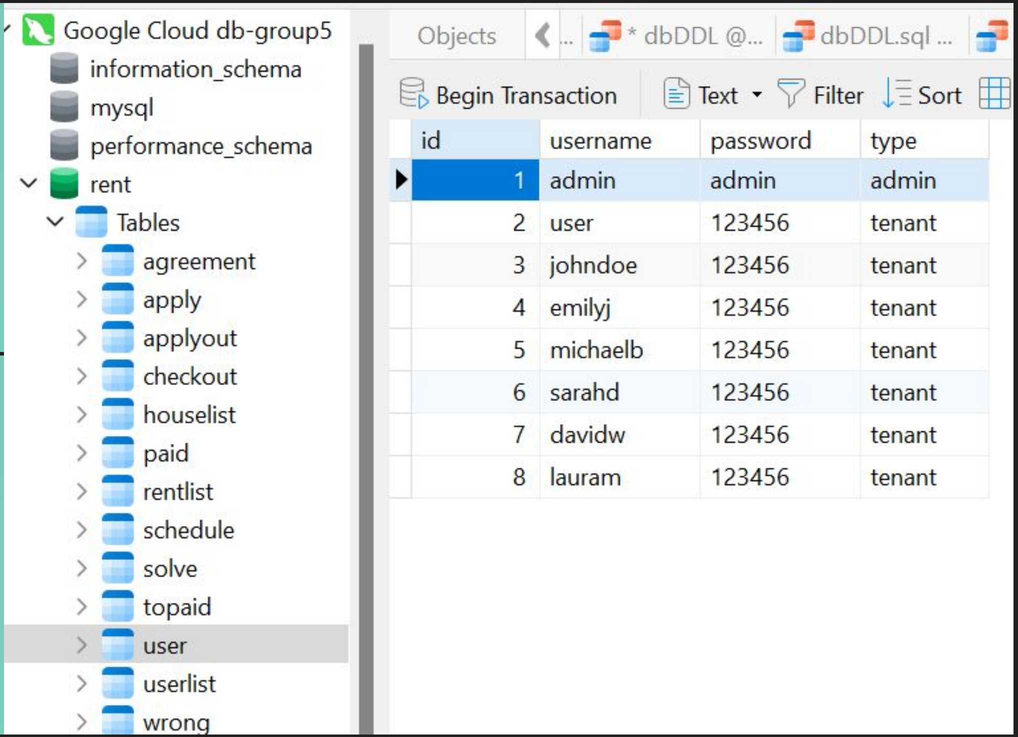
House Rental System

user

••••••

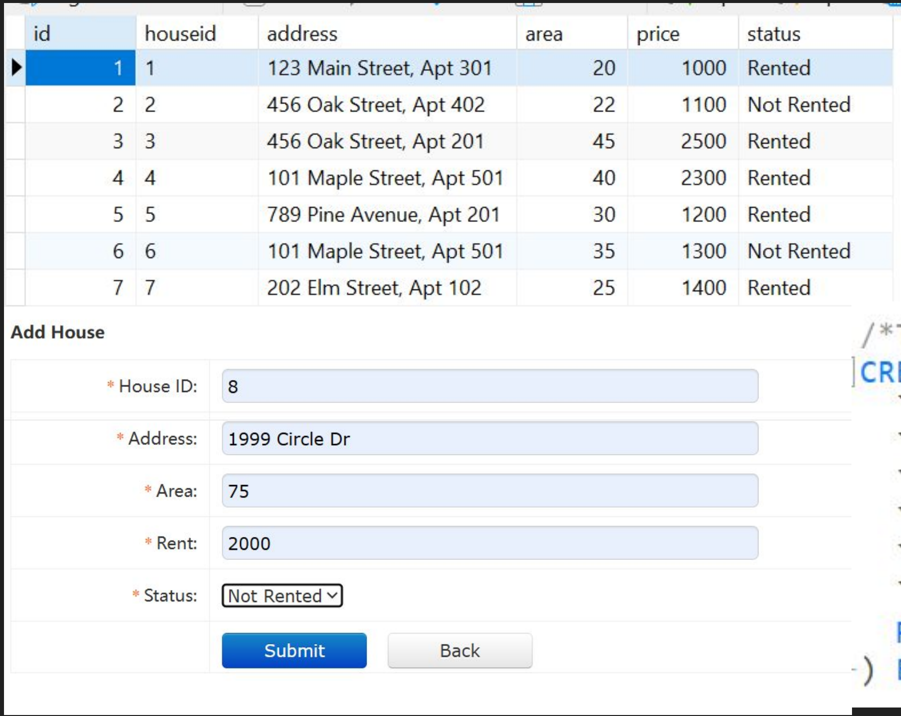
Administrator [✓ Tenant]

Login



id	username	password	type
1	admin	admin	admin
2	user	123456	tenant
3	johndoe	123456	tenant
4	emilyj	123456	tenant
5	michaelb	123456	tenant
6	sarahd	123456	tenant
7	davidw	123456	tenant
8	lauram	123456	tenant

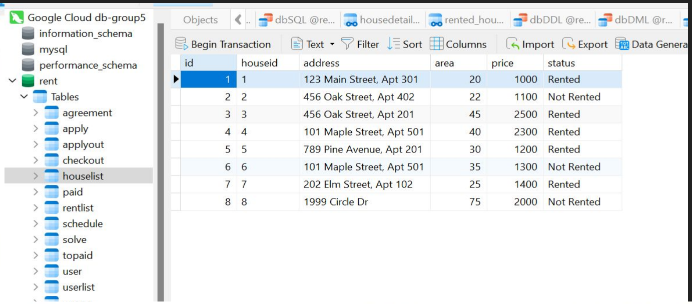
AddHouse



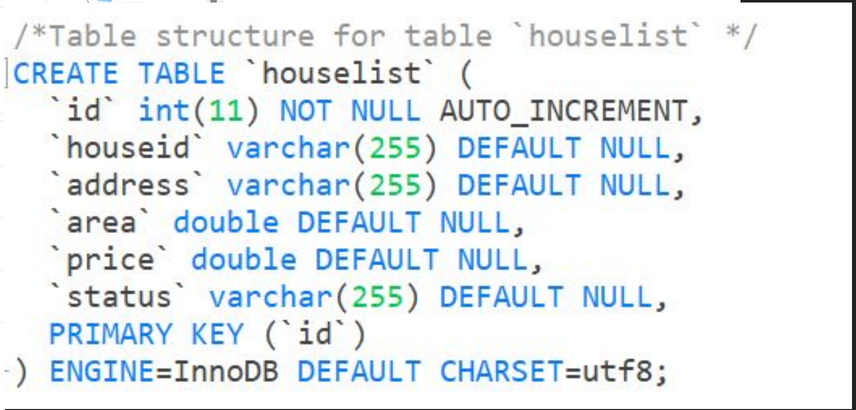
id	houseid	address	area	price	status
1	1	123 Main Street, Apt 301	20	1000	Rented
2	2	456 Oak Street, Apt 402	22	1100	Not Rented
3	3	456 Oak Street, Apt 201	45	2500	Rented
4	4	101 Maple Street, Apt 501	40	2300	Rented
5	5	789 Pine Avenue, Apt 201	30	1200	Rented
6	6	101 Maple Street, Apt 501	35	1300	Not Rented
7	7	202 Elm Street, Apt 102	25	1400	Rented

Add House

* House ID:	8
* Address:	1999 Circle Dr
* Area:	75
* Rent:	2000
* Status:	Not Rented



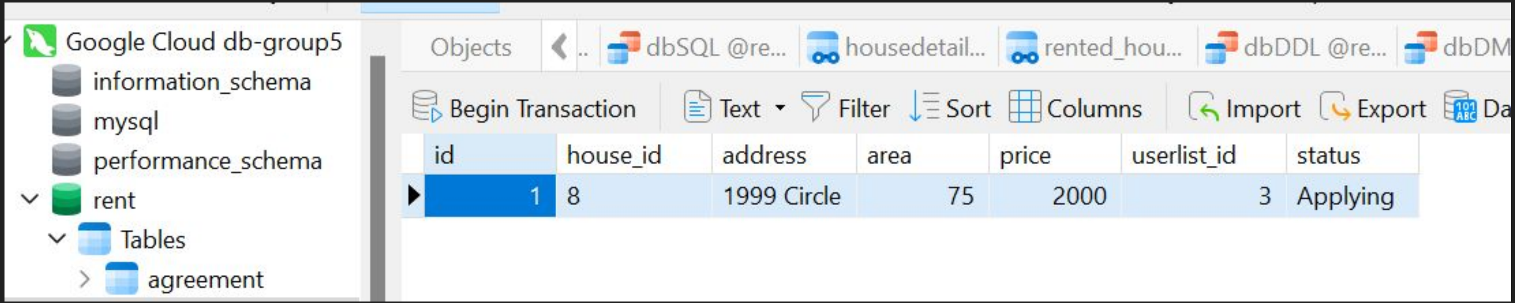
id	houseid	address	area	price	status
1	1	123 Main Street, Apt 301	20	1000	Rented
2	2	456 Oak Street, Apt 402	22	1100	Not Rented
3	3	456 Oak Street, Apt 201	45	2500	Rented
4	4	101 Maple Street, Apt 501	40	2300	Rented
5	5	789 Pine Avenue, Apt 201	30	1200	Rented
6	6	101 Maple Street, Apt 501	35	1300	Not Rented
7	7	202 Elm Street, Apt 102	25	1400	Rented
8	8	1999 Circle Dr	75	2000	Not Rented



```
/*Table structure for table `houselist` */
CREATE TABLE `houselist` (
  `id` int(11) NOT NULL AUTO_INCREMENT,
  `houseid` varchar(255) DEFAULT NULL,
  `address` varchar(255) DEFAULT NULL,
  `area` double DEFAULT NULL,
  `price` double DEFAULT NULL,
  `status` varchar(255) DEFAULT NULL,
  PRIMARY KEY (`id`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8;
```

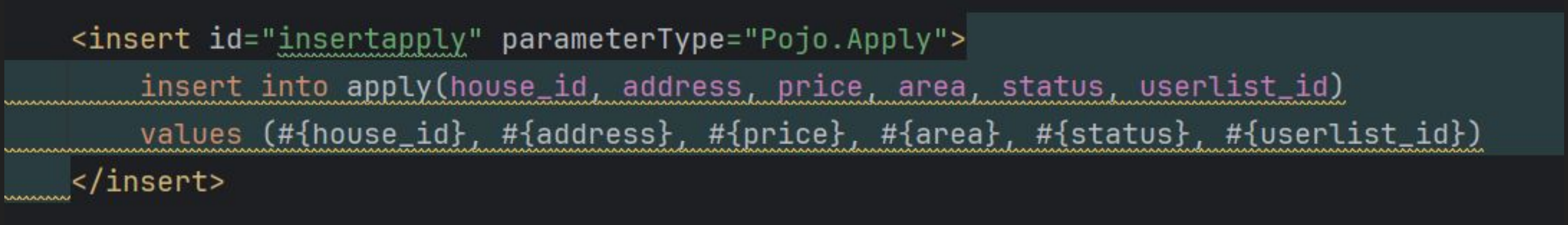
ApplyForRent

DB:



id	house_id	address	area	price	userlist_id	status
1	8	1999 Circle	75	2000	3	Applying

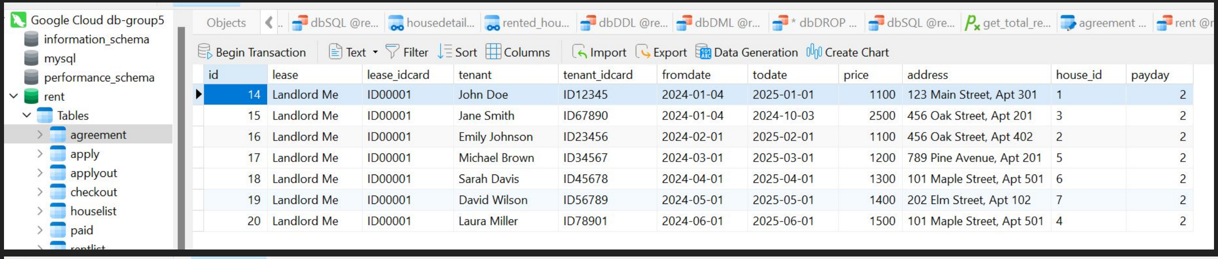
Dao:



```
<insert id="insertapply" parameterType="Pojo.Apply">
    insert into apply(house_id, address, price, area, status, userlist_id)
    values (#{house_id}, #{address}, #{price}, #{area}, #{status}, #{userlist_id})
</insert>
```

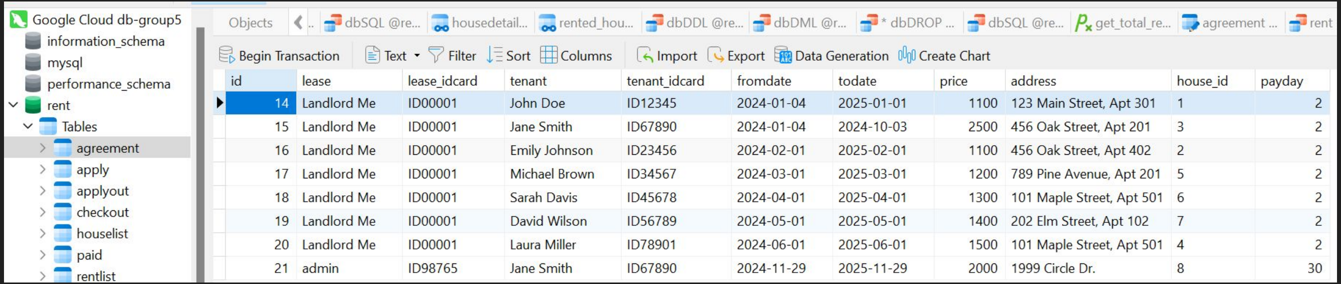
Insert Agreement

Before



id	lease	lease_idcard	tenant	tenant_idcard	fromdate	todate	price	address	house_id	payday
14	Landlord Me	ID00001	John Doe	ID12345	2024-01-04	2025-01-01	1100	123 Main Street, Apt 301	1	2
15	Landlord Me	ID00001	Jane Smith	ID67890	2024-01-04	2024-10-03	2500	456 Oak Street, Apt 201	3	2
16	Landlord Me	ID00001	Emily Johnson	ID23456	2024-02-01	2025-02-01	1100	456 Oak Street, Apt 402	2	2
17	Landlord Me	ID00001	Michael Brown	ID34567	2024-03-01	2025-03-01	1200	789 Pine Avenue, Apt 201	5	2
18	Landlord Me	ID00001	Sarah Davis	ID45678	2024-04-01	2025-04-01	1300	101 Maple Street, Apt 501	6	2
19	Landlord Me	ID00001	David Wilson	ID56789	2024-05-01	2025-05-01	1400	202 Elm Street, Apt 102	7	2
20	Landlord Me	ID00001	Laura Miller	ID78901	2024-06-01	2025-06-01	1500	101 Maple Street, Apt 501	4	2

After



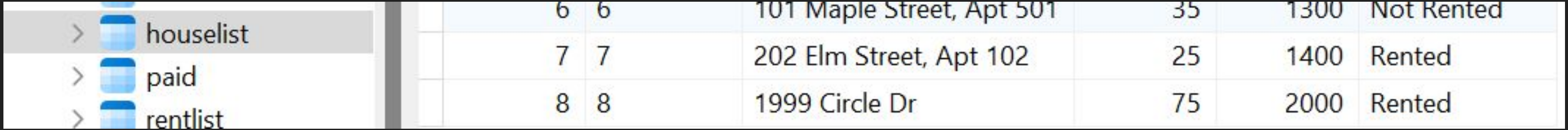
id	lease	lease_idcard	tenant	tenant_idcard	fromdate	todate	price	address	house_id	payday
14	Landlord Me	ID00001	John Doe	ID12345	2024-01-04	2025-01-01	1100	123 Main Street, Apt 301	1	2
15	Landlord Me	ID00001	Jane Smith	ID67890	2024-01-04	2024-10-03	2500	456 Oak Street, Apt 201	3	2
16	Landlord Me	ID00001	Emily Johnson	ID23456	2024-02-01	2025-02-01	1100	456 Oak Street, Apt 402	2	2
17	Landlord Me	ID00001	Michael Brown	ID34567	2024-03-01	2025-03-01	1200	789 Pine Avenue, Apt 201	5	2
18	Landlord Me	ID00001	Sarah Davis	ID45678	2024-04-01	2025-04-01	1300	101 Maple Street, Apt 501	6	2
19	Landlord Me	ID00001	David Wilson	ID56789	2024-05-01	2025-05-01	1400	202 Elm Street, Apt 102	7	2
20	Landlord Me	ID00001	Laura Miller	ID78901	2024-06-01	2025-06-01	1500	101 Maple Street, Apt 501	4	2
21	admin	ID98765	Jane Smith	ID67890	2024-11-29	2025-11-29	2000	1999 Circle Dr.	8	30

Dao:

```
<insert id="insertagreement" parameterType="Pojo.Agreement">
    insert into agreement(house_id,address,payday,price,lease,lease_idcard,tenant,tenant_idcard,fromdate,todate)
    values(#{house_id},#{address},#{payday},#{price},#{lease},#{lease_idcard},#{tenant},#{tenant_idcard},#{fromdate},#{todate})
</insert>
```

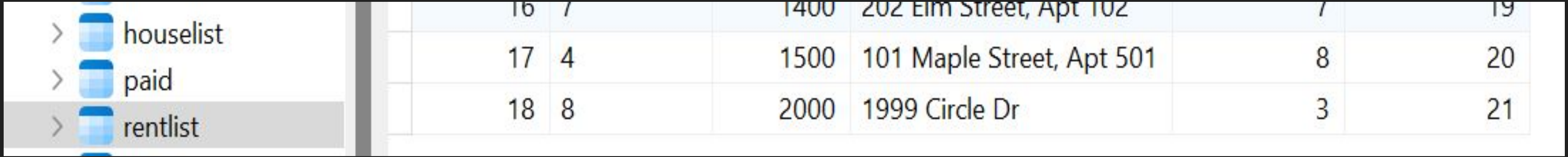
After New Agreement

houselist(unrented -> rented)



6	6	101 Maple Street, Apt 501	35	1300	Not Rented
7	7	202 Elm Street, Apt 102	25	1400	Rented
8	8	1999 Circle Dr	75	2000	Rented

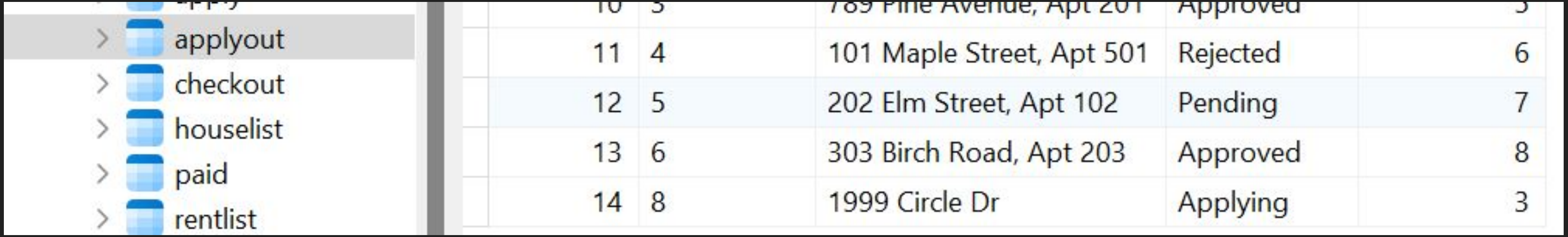
rentlist(houseid 3 added)



16	7	1400	202 Elm Street, Apt 102	7	19
17	4	1500	101 Maple Street, Apt 501	8	20
18	8	2000	1999 Circle Dr	3	21

Apply For Termination

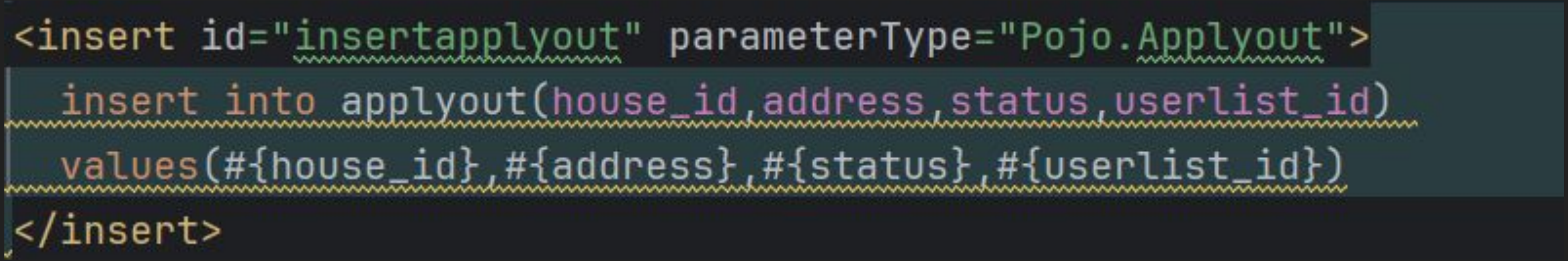
(Before Lease Termination)



applyout
checkout
houselist
paid
rentlist

10	3	789 Pine Avenue, Apt 201	Approved	5
11	4	101 Maple Street, Apt 501	Rejected	6
12	5	202 Elm Street, Apt 102	Pending	7
13	6	303 Birch Road, Apt 203	Approved	8
14	8	1999 Circle Dr	Applying	3

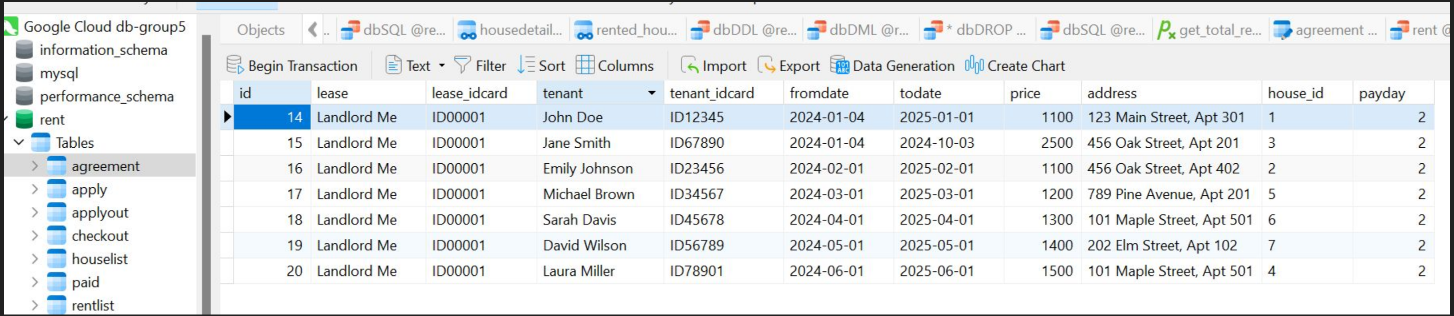
Dao:



```
<insert id="insertapplyout" parameterType="Pojo.Applyout">
  insert into applyout(house_id,address,status,userlist_id)
  values(#{house_id},#{address},#{status},#{userlist_id})
</insert>
```

After Lease Termination

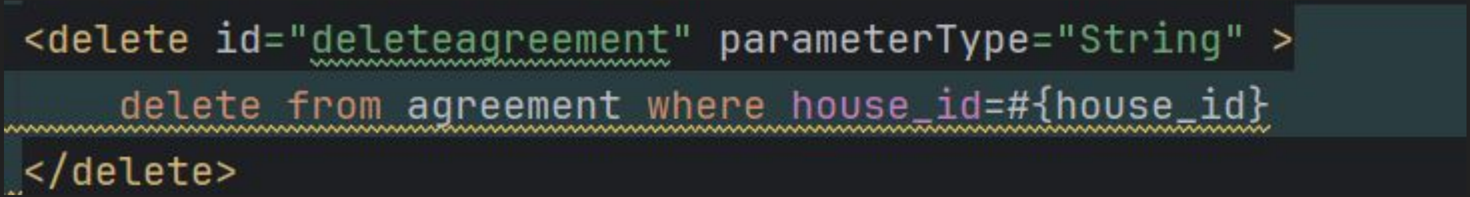
Agreement is Deleted



Google Cloud db-group5
- information_schema
- mysql
- performance_schema
- rent
  - Tables
    - agreement
    - apply
    - applyout
    - checkout
    - houselist
    - paid
    - rentlist

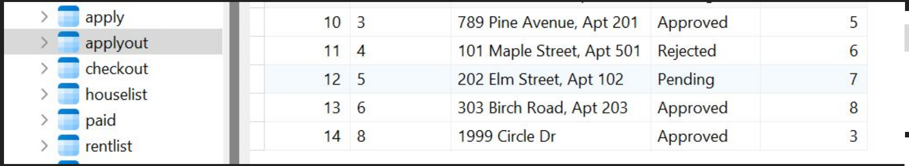
id	lease	lease_idcard	tenant	tenant_idcard	fromdate	todate	price	address	house_id	payday
14	Landlord Me	ID00001	John Doe	ID12345	2024-01-04	2025-01-01	1100	123 Main Street, Apt 301	1	2
15	Landlord Me	ID00001	Jane Smith	ID67890	2024-01-04	2024-10-03	2500	456 Oak Street, Apt 201	3	2
16	Landlord Me	ID00001	Emily Johnson	ID23456	2024-02-01	2025-02-01	1100	456 Oak Street, Apt 402	2	2
17	Landlord Me	ID00001	Michael Brown	ID34567	2024-03-01	2025-03-01	1200	789 Pine Avenue, Apt 201	5	2
18	Landlord Me	ID00001	Sarah Davis	ID45678	2024-04-01	2025-04-01	1300	101 Maple Street, Apt 501	6	2
19	Landlord Me	ID00001	David Wilson	ID56789	2024-05-01	2025-05-01	1400	202 Elm Street, Apt 102	7	2
20	Landlord Me	ID00001	Laura Miller	ID78901	2024-06-01	2025-06-01	1500	101 Maple Street, Apt 501	4	2

Dao

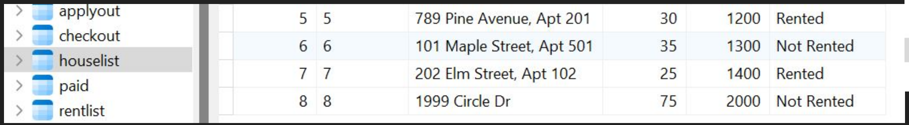


```
<delete id="deleteagreement" parameterType="String" >
    delete from agreement where house_id=#{house_id}
</delete>
```

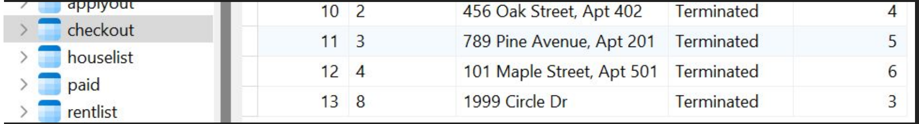
After Lease Termination(Update)



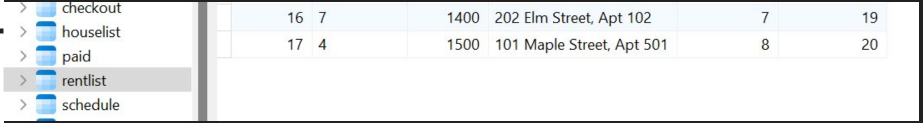
10	3	789 Pine Avenue, Apt 201	Approved	5
11	4	101 Maple Street, Apt 501	Rejected	6
12	5	202 Elm Street, Apt 102	Pending	7
13	6	303 Birch Road, Apt 203	Approved	8
14	8	1999 Circle Dr	Approved	3



5	5	789 Pine Avenue, Apt 201	30	1200	Rented
6	6	101 Maple Street, Apt 501	35	1300	Not Rented
7	7	202 Elm Street, Apt 102	25	1400	Rented
8	8	1999 Circle Dr	75	2000	Not Rented



10	2	456 Oak Street, Apt 402	Terminated	4
11	3	789 Pine Avenue, Apt 201	Terminated	5
12	4	101 Maple Street, Apt 501	Terminated	6
13	8	1999 Circle Dr	Terminated	3



16	7	1400	202 Elm Street, Apt 102	7	19
17	4	1500	101 Maple Street, Apt 501	8	20

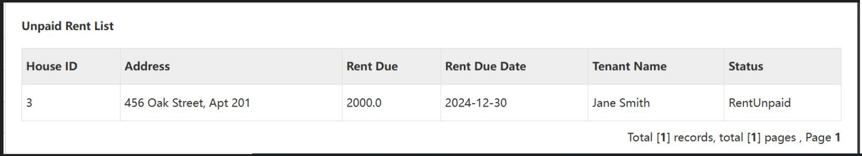
applyout(pending -> approved)

checkout(add terminated)

houselist(rented -> not rented)

rentlist(delete house_id)

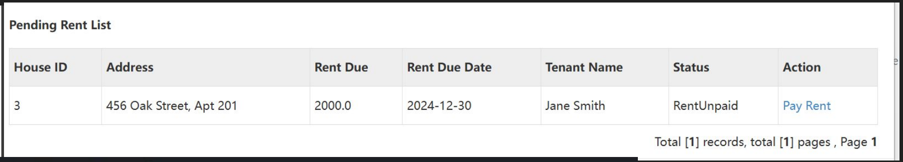
ToPay(admin left user right dao below)



Unpaid Rent List

House ID	Address	Rent Due	Rent Due Date	Tenant Name	Status
3	456 Oak Street, Apt 201	2000.0	2024-12-30	Jane Smith	RentUnpaid

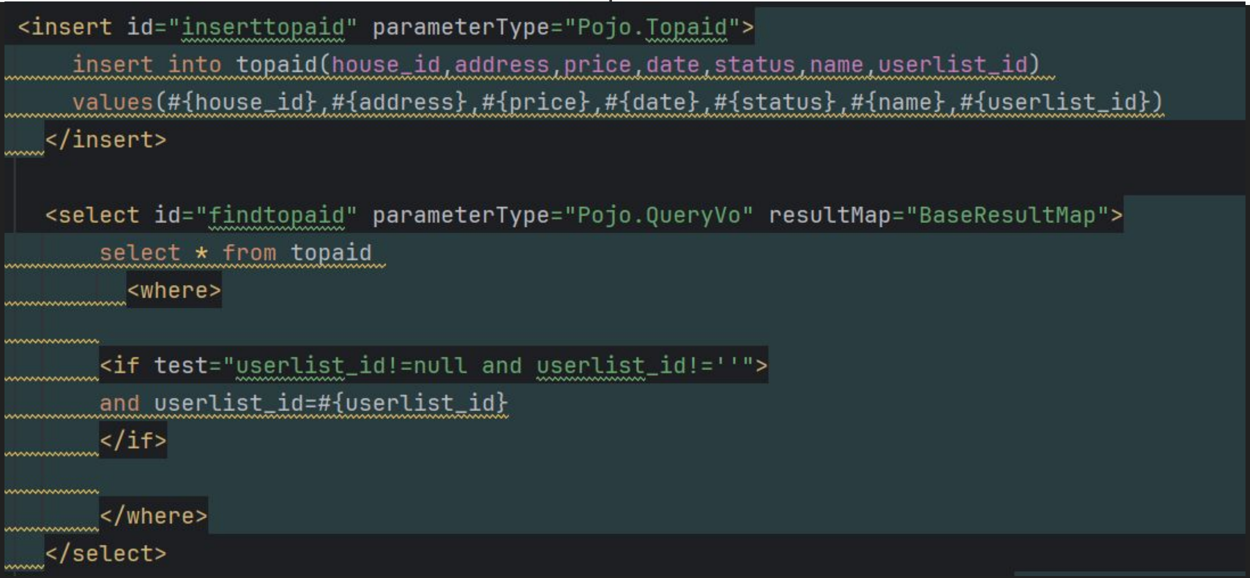
Total [1] records, total [1] pages , Page 1



Pending Rent List

House ID	Address	Rent Due	Rent Due Date	Tenant Name	Status	Action
3	456 Oak Street, Apt 201	2000.0	2024-12-30	Jane Smith	RentUnpaid	Pay Rent

Total [1] records, total [1] pages , Page 1



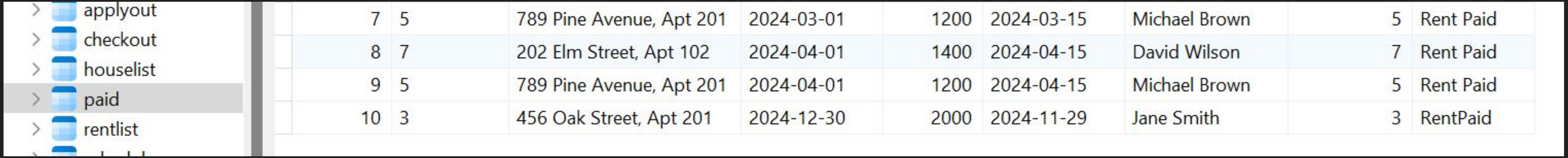
```
<insert id="inserttopaid" parameterType="Pojo.Topaid">
    insert into topaid(house_id,address,price,date,status,name,userlist_id)
    values(#{house_id},#{address},#{price},#{date},#{status},#{name},#{userlist_id})
  </insert>

  <select id="findtopaid" parameterType="Pojo.QueryVo" resultMap="BaseResultMap">
      select * from topaid
        <where>

      <if test="userlist_id!=null and userlist_id!=''">
      and userlist_id=#{userlist_id}
      </if>

      </where>
  </select>
```

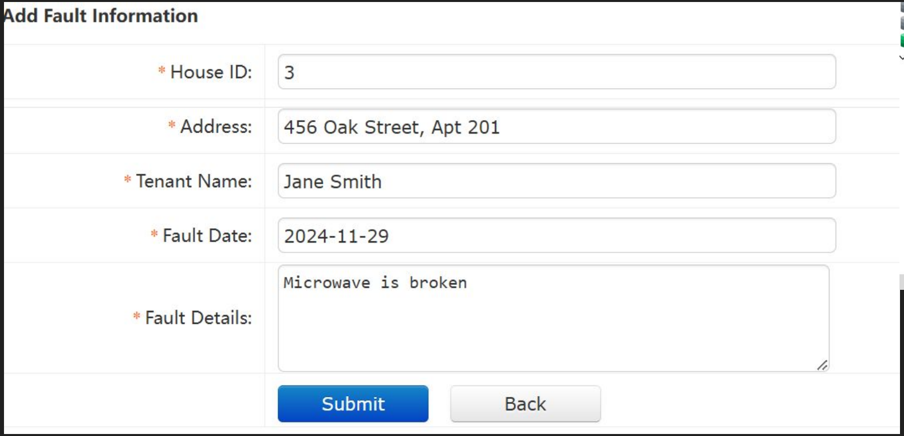
Paid



applyout
checkout
houselist
paid
rentlist

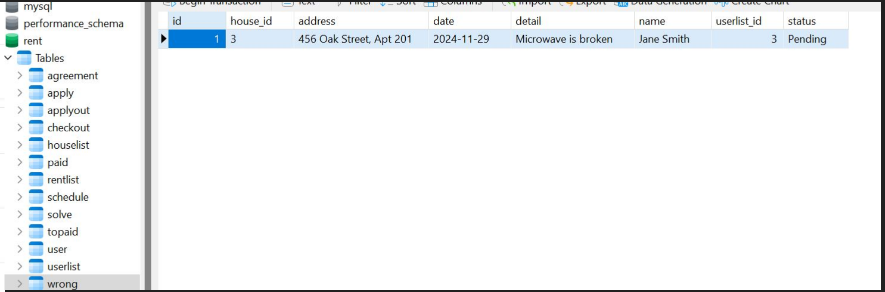
7	5	789 Pine Avenue, Apt 201	2024-03-01	1200	2024-03-15	Michael Brown	5	Rent Paid
8	7	202 Elm Street, Apt 102	2024-04-01	1400	2024-04-15	David Wilson	7	Rent Paid
9	5	789 Pine Avenue, Apt 201	2024-04-01	1200	2024-04-15	Michael Brown	5	Rent Paid
10	3	456 Oak Street, Apt 201	2024-12-30	2000	2024-11-29	Jane Smith	3	RentPaid

Submit Wrong Report

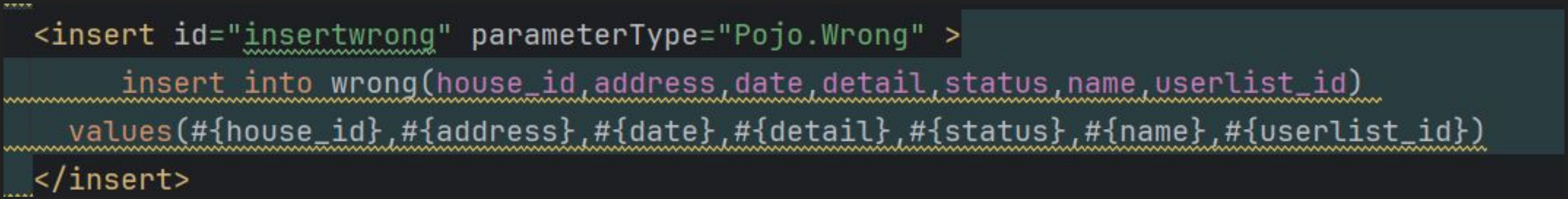


Add Fault Information

* House ID:	3
* Address:	456 Oak Street, Apt 201
* Tenant Name:	Jane Smith
* Fault Date:	2024-11-29
* Fault Details:	Microwave is broken

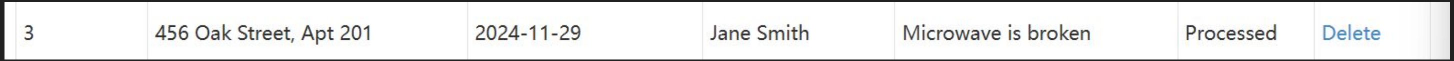


id	house_id	address	date	detail	name	userlist_id	status
1	3	456 Oak Street, Apt 201	2024-11-29	Microwave is broken	Jane Smith	3	Pending

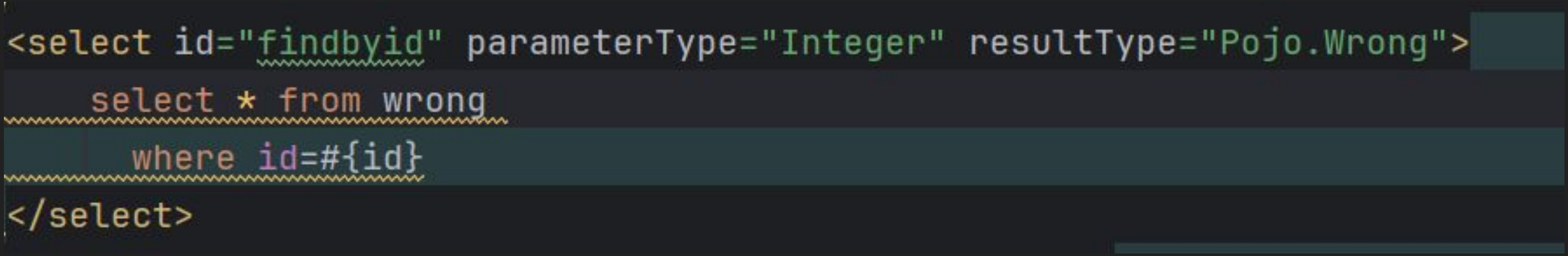


```
<insert id="insertwrong" parameterType="Pojo.Wrong" >
        insert into wrong(house_id,address,date,detail,status,name,userlist_id)
    values(#{house_id},#{address},#{date},#{detail},#{status},#{name},#{userlist_id})
</insert>
```

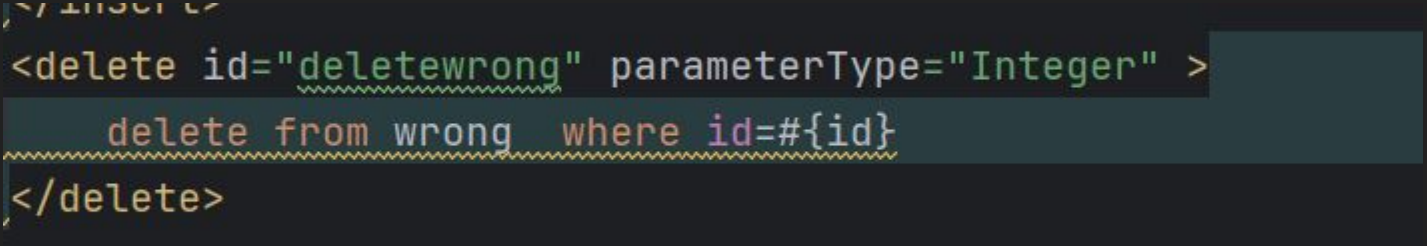
Processed Wrong Report



3	456 Oak Street, Apt 201	2024-11-29	Jane Smith	Microwave is broken	Processed	Delete



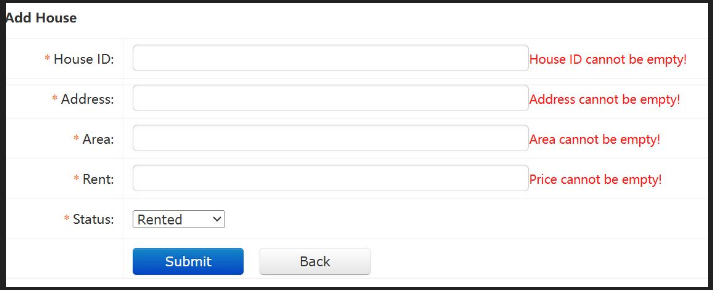
```
<select id="findbyid" parameterType="Integer" resultType="Pojo.Wrong">
    select * from wrong
      where id=#{id}
</select>
```



```
<delete id="deletewrong" parameterType="Integer" >
    delete from wrong  where id=#{id}
</delete>
```

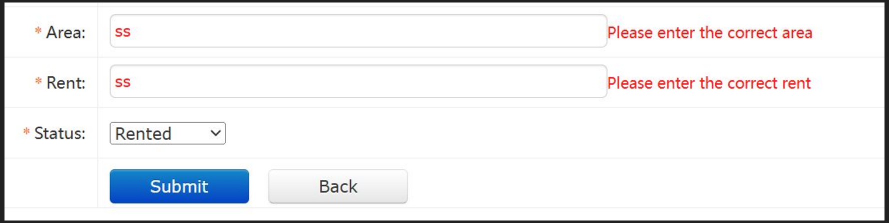
Error handling for invalid inputs

- Add House checks null/types



Add House

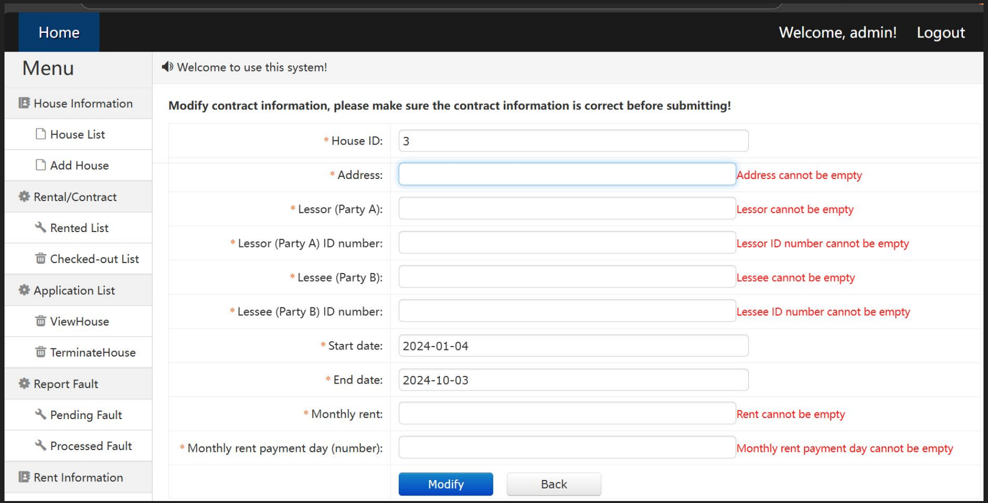
* House ID:		House ID cannot be empty!
* Address:		Address cannot be empty!
* Area:		Area cannot be empty!
* Rent:		Price cannot be empty!
* Status:	Rented	



* Area:	ss	Please enter the correct area
* Rent:	ss	Please enter the correct rent
* Status:	Rented	

Error handling for invalid inputs

update agreement empty check



Welcome to use this system!

Modify contract information, please make sure the contract information is correct before submitting!

* House ID:	3	
* Address:		Address cannot be empty
* Lessor (Party A):		Lessor cannot be empty
* Lessor (Party A) ID number:		Lessor ID number cannot be empty
* Lessee (Party B):		Lessee cannot be empty
* Lessee (Party B) ID number:		Lessee ID number cannot be empty
* Start date:	2024-01-04	
* End date:	2024-10-03	
* Monthly rent:		Rent cannot be empty
* Monthly rent payment day (number):		Monthly rent payment day cannot be empty

Potential improvements

- Add Payment API
- Add housing image stored in Cloudinary AWS EC2….

Learning

Hard skills

- Implemented SQL in cloud not in local
- Learned How SQL can be implemented in DAO(data accessed object) in framework like Spring

Soft skills

- Better at Communication, Teamwork…

Q&A

Any questions?

Thank You!