



SOEN 6441

Advanced Programming Practices

Final Project Phase 2

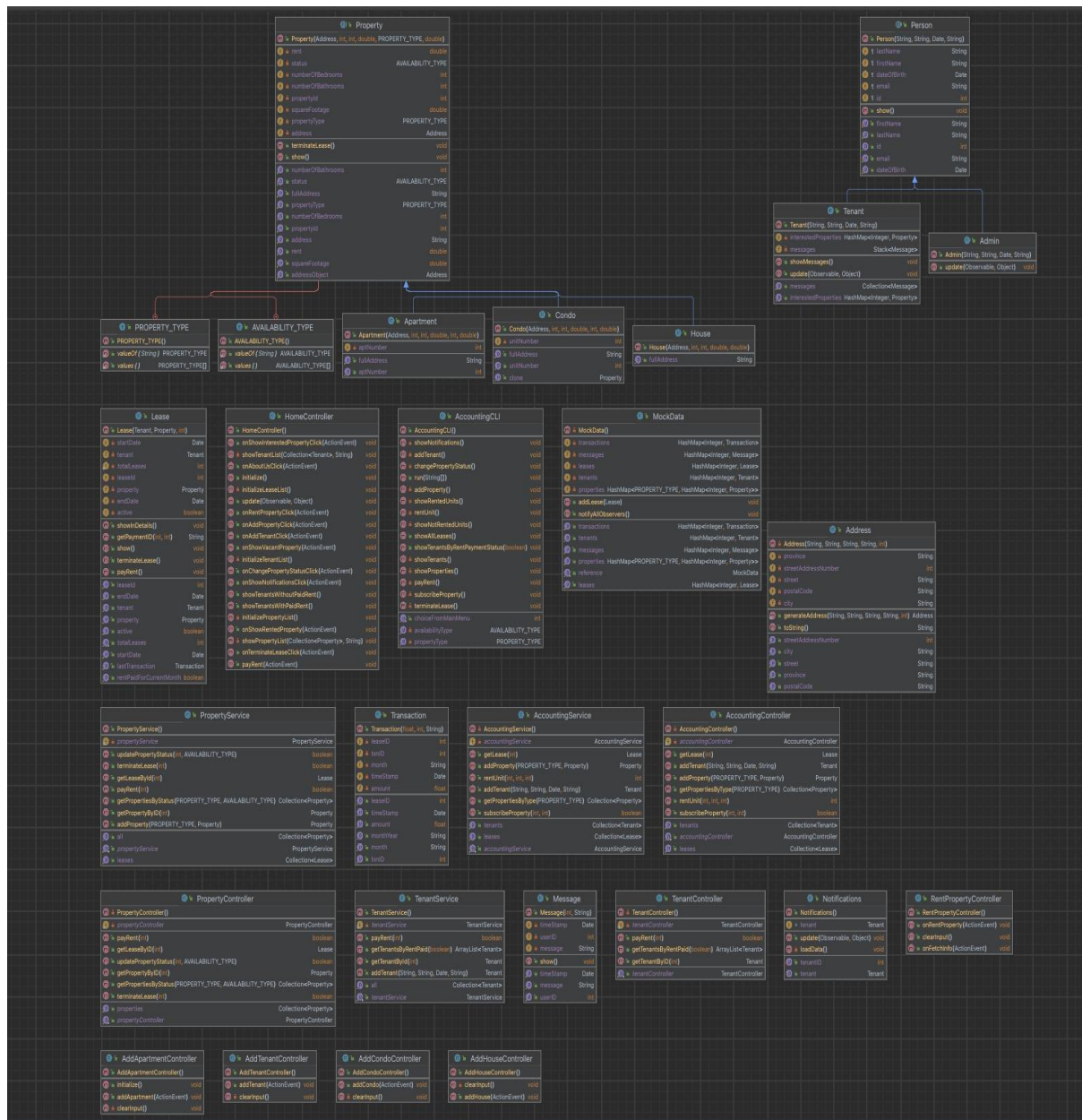
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UML:



SAMPLE OUTPUTS:

[illegible]

Start screen (with some dummy data)

Rent Property

Property ID:

1

Apartment Number

Number of Bedrooms:

Number of Bathrooms:

Square Footage

Rent

Address

Street Address Number

Street

City

Postal Code

Province

Tenant

First Name

Last Name

Email

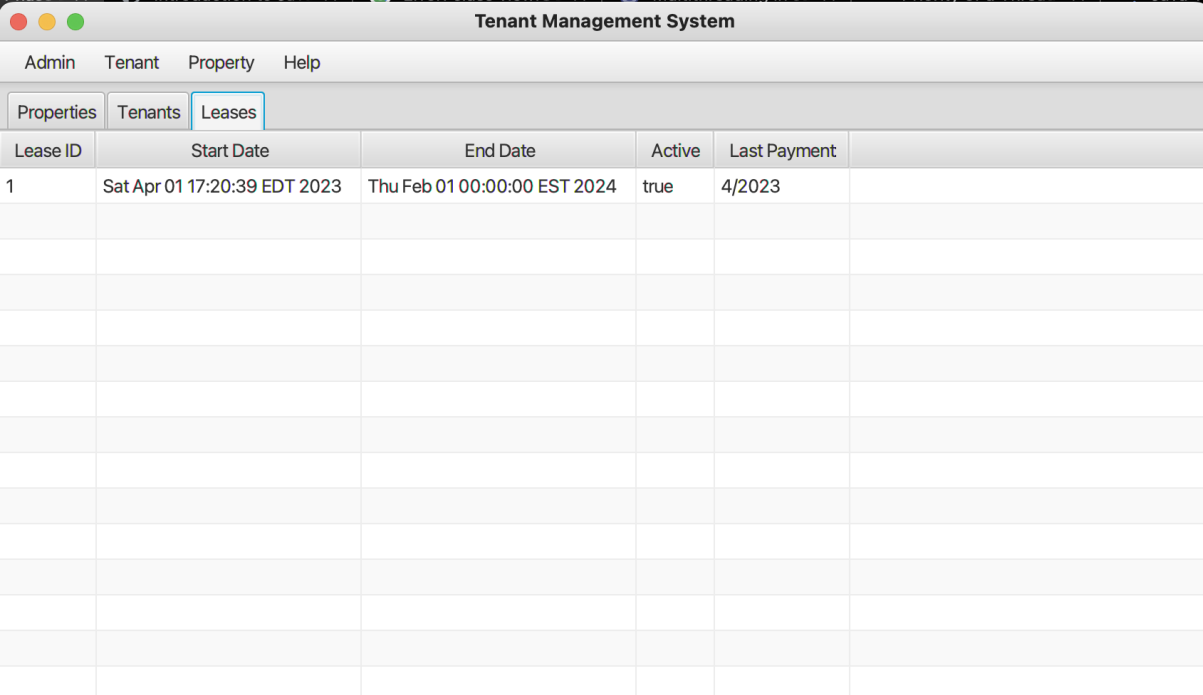
Fetch Info

Rent Property

Rent Property

[illegible]

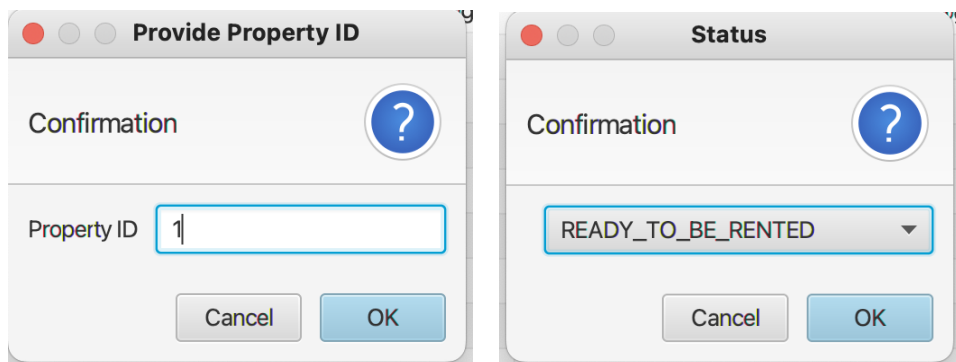
Show tenants



The screenshot shows a web application window titled "Tenant Management System". It has a menu bar with "Admin", "Tenant", "Property", and "Help". Below the menu bar are three tabs: "Properties", "Tenants", and "Leases", with "Leases" being the active tab. The main content area is a table with the following columns: "Lease ID", "Start Date", "End Date", "Active", and "Last Payment". The first row of data shows Lease ID 1, Start Date Sat Apr 01 17:20:39 EDT 2023, End Date Thu Feb 01 00:00:00 EST 2024, Active true, and Last Payment 4/2023. There are several empty rows below the first one.

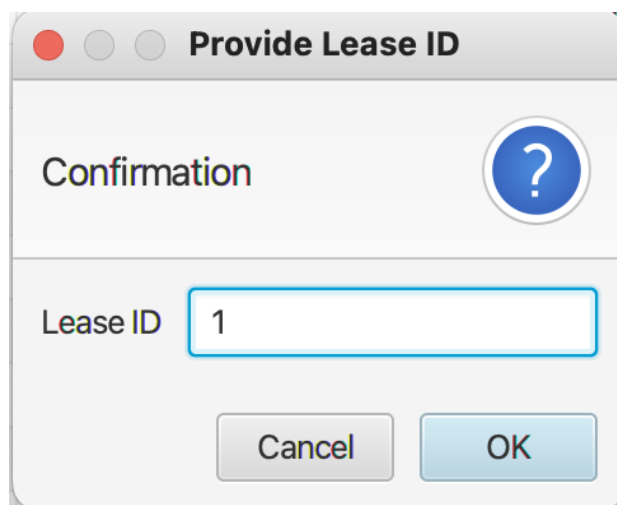
| Lease ID | Start Date | End Date | Active | Last Payment |
|----------|------------------------------|------------------------------|--------|--------------|
| 1 | Sat Apr 01 17:20:39 EDT 2023 | Thu Feb 01 00:00:00 EST 2024 | true | 4/2023 |
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Show active Leases

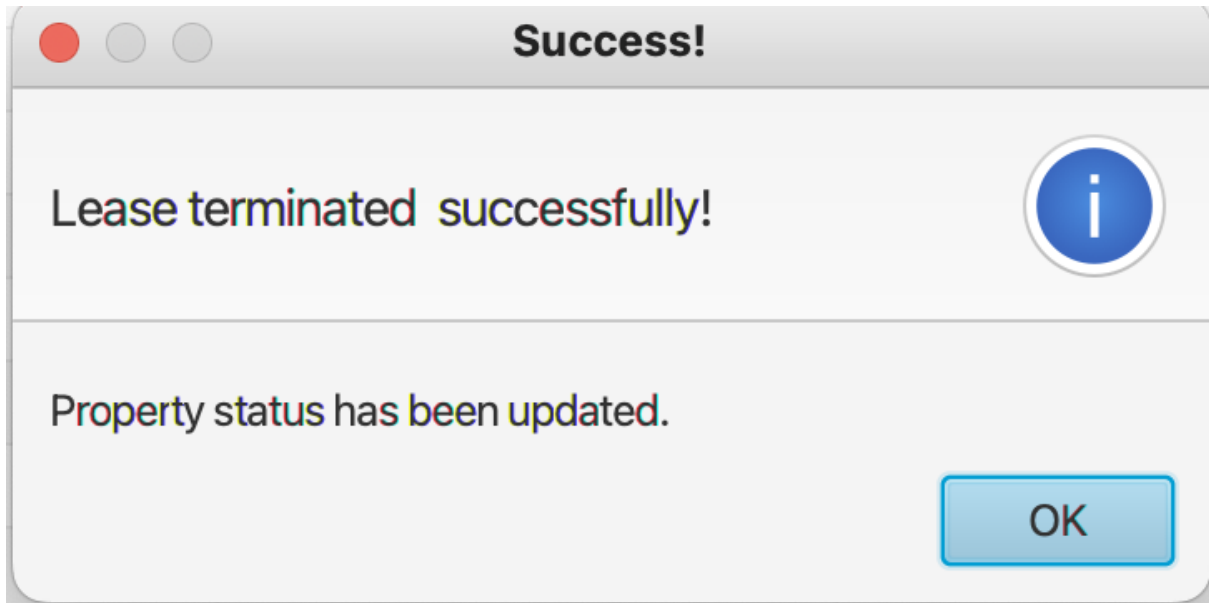


The image shows two side-by-side dialog boxes. The left dialog box is titled "Provide Property ID" and has a "Confirmation" section with a question mark icon. It contains a text input field labeled "Property ID" with the value "1". Below the input field are "Cancel" and "OK" buttons. The right dialog box is titled "Status" and also has a "Confirmation" section with a question mark icon. It contains a dropdown menu labeled "READY_TO_BE_RENTED" with a downward arrow. Below the dropdown are "Cancel" and "OK" buttons.

Change property status



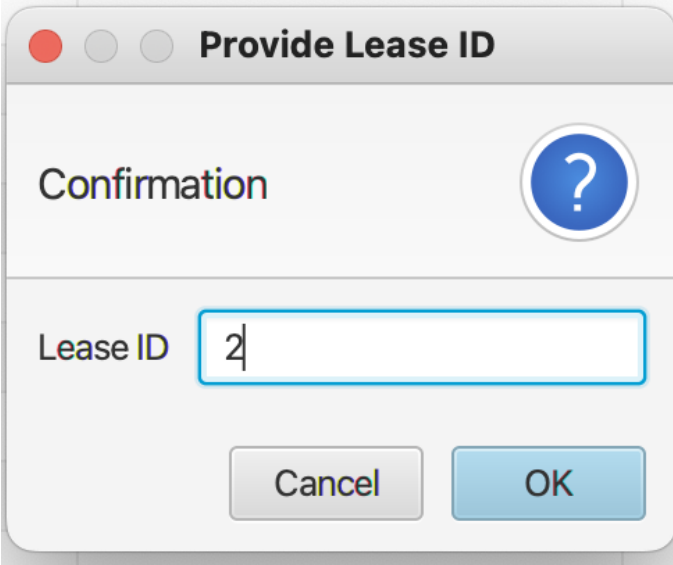
The image shows a single dialog box titled "Provide Lease ID". It has a "Confirmation" section with a question mark icon. It contains a text input field labeled "Lease ID" with the value "1". Below the input field are "Cancel" and "OK" buttons.



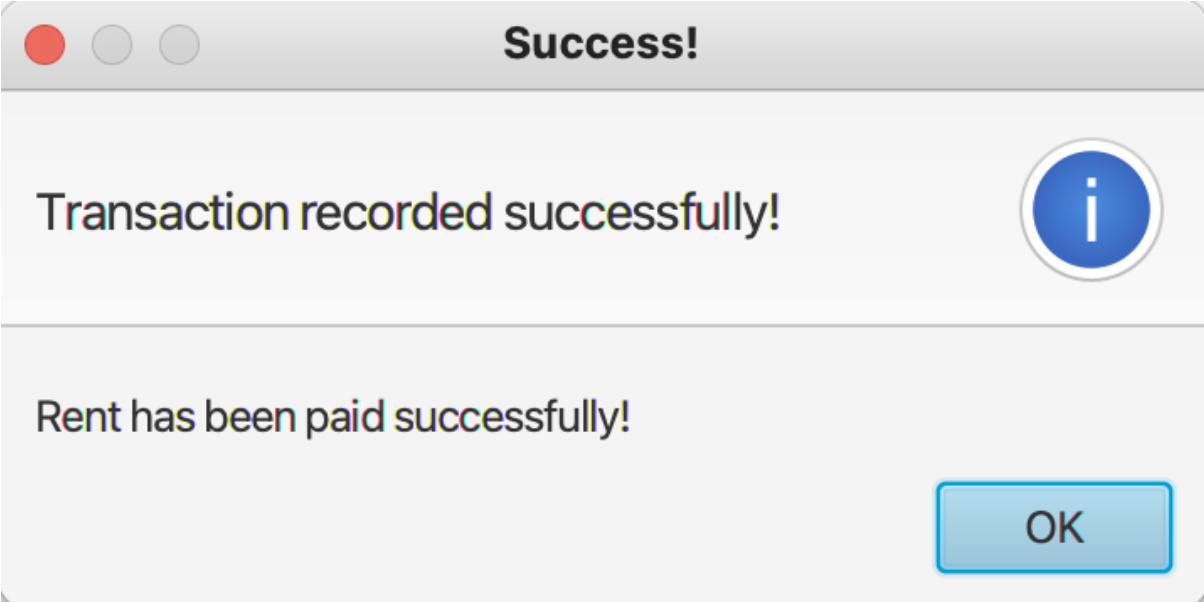
Terminate Lease

A macOS-style window titled "Tenant" with three window control buttons (red, yellow, green). The window contains a form with the label "Customer Details:". The form has four rows of input fields. The first row is "First Name" with the value "Anuj". The second row is "Last Name" with the value "Agrawal". The third row is "Date of Birth" with the value "02/04/2003" and a small calendar icon to the right. The fourth row is "Email" with the value "anuj@gmail.com". At the bottom right of the form, there is a gray rectangular button with the text "Add".

Add tenant

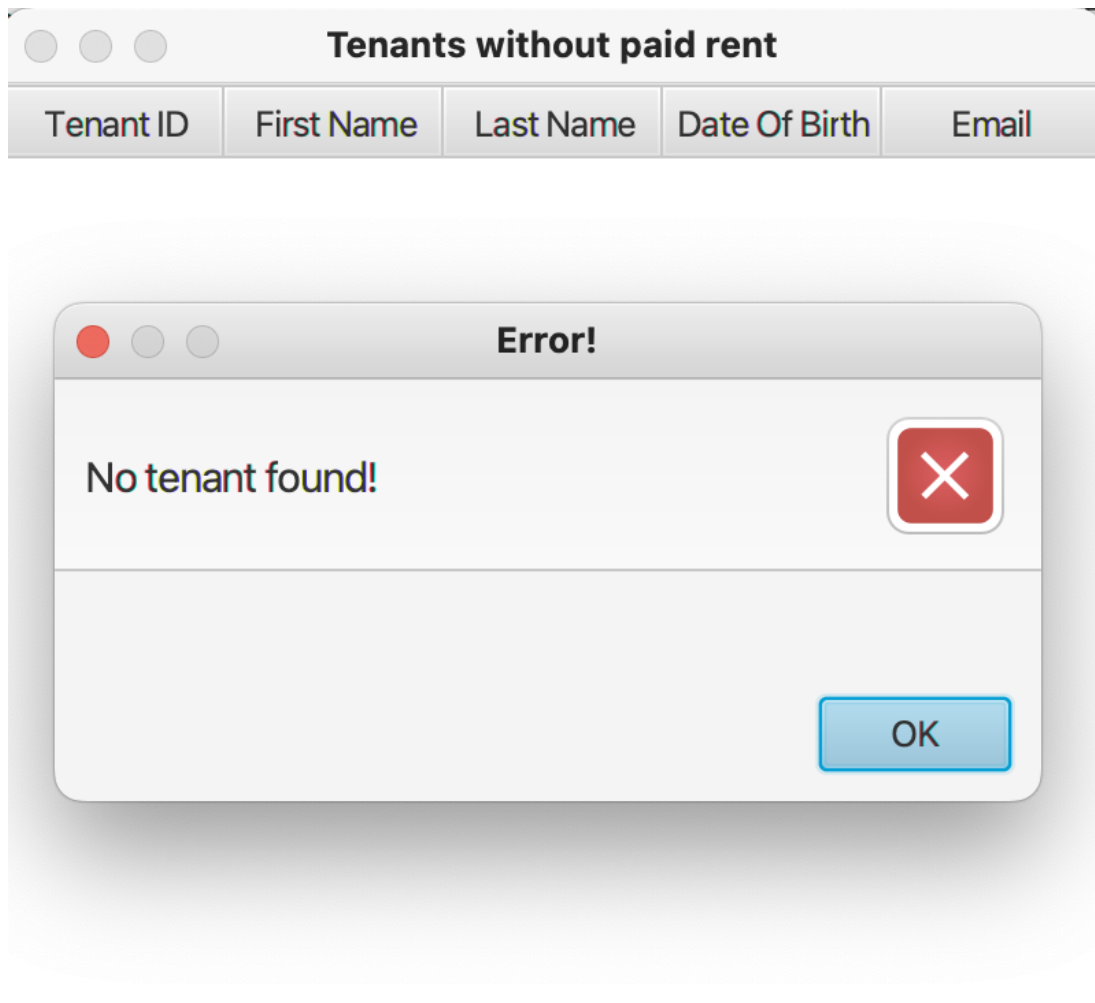


A macOS-style dialog box titled "Provide Lease ID". It features a title bar with standard red, yellow, and green window control buttons. The main content area is divided into two sections. The top section is labeled "Confirmation" and contains a blue circular icon with a white question mark. The bottom section is labeled "Lease ID" and contains a text input field with the number "2" entered. At the bottom of the dialog are two buttons: "Cancel" and "OK".

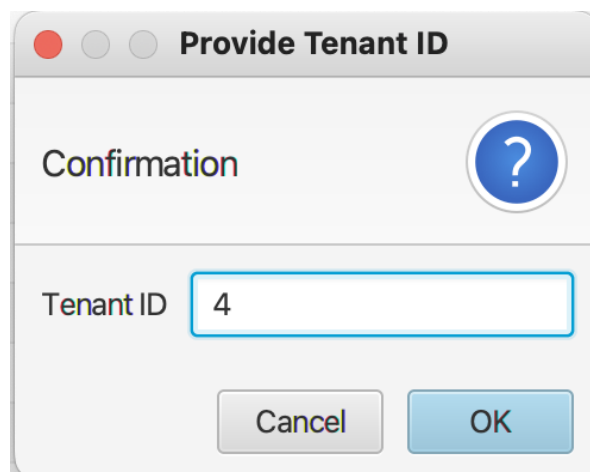


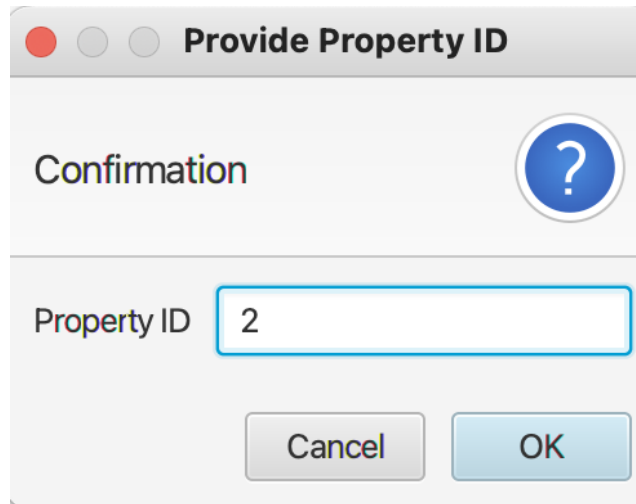
A macOS-style dialog box titled "Success!". It features a title bar with standard red, yellow, and green window control buttons. The main content area is divided into two sections. The top section contains the text "Transaction recorded successfully!" and a blue circular icon with a white lowercase "i". The bottom section contains the text "Rent has been paid successfully!". At the bottom right of the dialog is a single "OK" button.

Pay rent

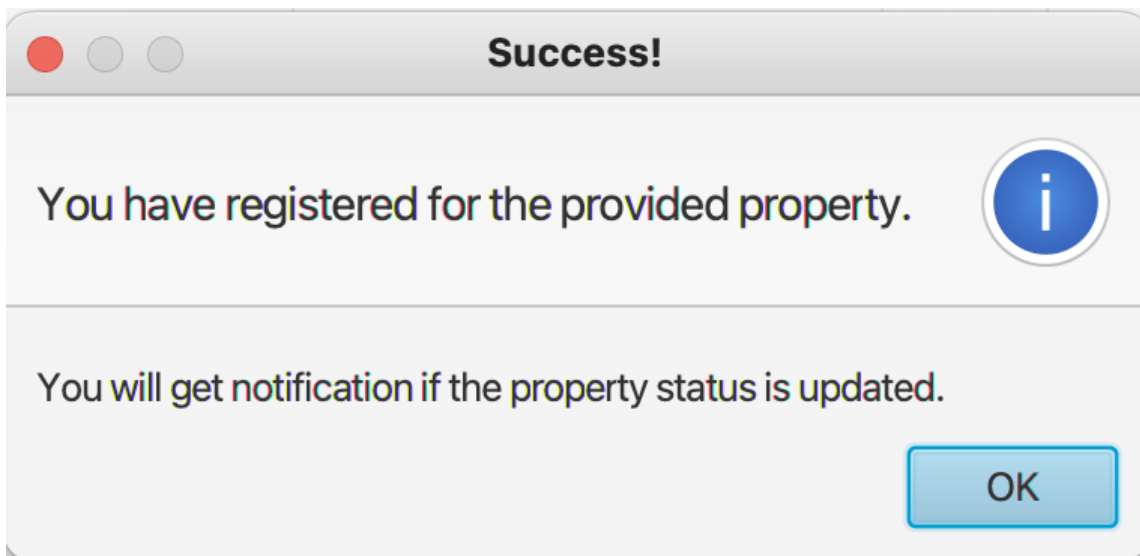


Tenants without paid rent



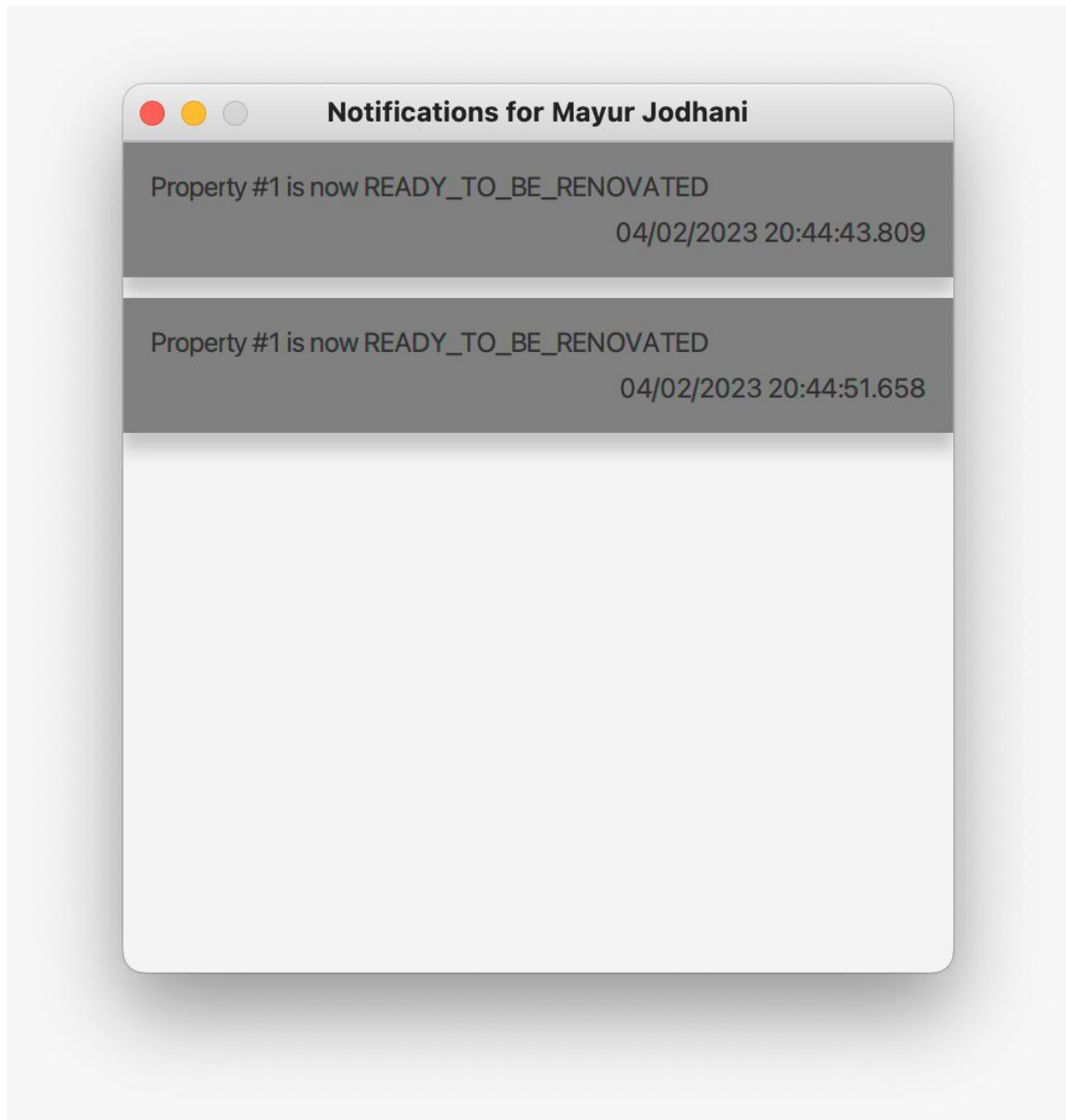


A dialog box titled "Provide Property ID" with a red close button, a grey minimize button, and a grey maximize button. The dialog has a light grey background. The top section is labeled "Confirmation" and features a blue circular icon with a white question mark. Below this, the text "Property ID" is followed by a text input field containing the number "2". At the bottom, there are two buttons: "Cancel" and "OK".



A dialog box titled "Success!" with a red close button, a grey minimize button, and a grey maximize button. The dialog has a light grey background. The top section contains the text "You have registered for the provided property." and a blue circular icon with a white lowercase 'i'. Below this, the text "You will get notification if the property status is updated." is displayed. At the bottom right, there is a single "OK" button.

Show interest in property



Show notifications (for tenant 4)

●●●

Apartment

Property Details:

| | | | |
|-----------------------|---------------------------------------|---------------------|--|
| Apartment Number | <input type="text" value="1234"/> | Number of Bedrooms: | <input type="text" value="2"/> |
| Number of Bathrooms: | <input type="text" value="1"/> | Square Footage | <input type="text" value="1400"/> |
| Rent | <input type="text" value="1300"/> | | |
| Address | | | |
| Street Address Number | <input type="text" value="1254"/> | Street | <input type="text" value="Saint Mathieu"/> |
| City | <input type="text" value="Montreal"/> | Postal Code | <input type="text" value="h4h 1s3"/> |
| Province | <input type="text" value="Quebec"/> | | |

Add

Add a property

[illegible]

Show rented property

| Vacant Properties | | | | | |
|-------------------|------------|-----------|----------------|--------|--------------------|
| Property ID | #Bathrooms | #Bedrooms | Square Footage | Rent | Status |
| 4 | 1 | 2 | 1400.0 | 1300.0 | READY_TO_BE_RENTED |
| 2 | 3 | 5 | 1500.0 | 2500.0 | READY_TO_BE_RENOV |
| 3 | 7 | 3 | 2000.0 | 2000.0 | READY_TO_BE_RENTED |
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Show vacant property

Set Assignment:

1) Add element in Set:

```
1. Add element in set
2. Remove element from set
3. Check element with ID available
4. Size of set
5. Display All elements
6. exit
Enter your choice: 1
Enter id: 1
Enter name: xixi
Element added in to set successfully.
1. Add element in set
2. Remove element from set
3. Check element with ID available
4. Size of set
5. Display All elements
6. exit
Enter your choice: 1
Enter id: 2
Enter name: bob
Element added in to set successfully.
```

2) Add element with duplicate id:

```
1. Add element in set
2. Remove element from set
3. Check element with ID available
4. Size of set
5. Display All elements
6. exit
Enter your choice: 1
Enter id: 2
Enter name: alice
Element is not added into set.
```

3) Remove element from set:

```

1. Add element in set
2. Remove element from set
3. Check element with ID available
4. Size of set
5. Display All elements
6. exit
Enter your choice: 1
Enter id: 3
Enter name: mill
Element added in to set successfully.
1. Add element in set
2. Remove element from set
3. Check element with ID available
4. Size of set
5. Display All elements
6. exit
Enter your choice: 2
Enter id: 2
Element with id 2 removed successfully.

```

4) Check element with ID available or not:

```

1. Add element in set
2. Remove element from set
3. Check element with ID available
4. Size of set
5. Display All elements
6. exit
Enter your choice: 3
Enter id: 1
Element with id 1 available in set.
1. Add element in set
2. Remove element from set
3. Check element with ID available
4. Size of set
5. Display All elements
6. exit
Enter your choice: 3
Enter id: 6
Element with id 6 not available in set.

```

5) Size of set:

```

1. Add element in set
2. Remove element from set
3. Check element with ID available
4. Size of set
5. Display All elements
6. exit
Enter your choice: 4
Size of set: 2

```

6) Display all elements:

```

1. Add element in set
2. Remove element from set
3. Check element with ID available
4. Size of set
5. Display All elements
6. exit
Enter your choice: 5
Animal{ id=1, name='xixi' }
Animal{ id=3, name='mill' }

```

7) Compare 2 set are equal or not:

```

Set 1:
Animal{ id=1, name='animal1' }
Animal{ id=2, name='animal2' }
Animal{ id=4, name='animal4' }
Set 2:
Animal{ id=1, name='animal1' }
Animal{ id=2, name='animal2' }
Animal{ id=3, name='animal3' }
Both are not equal

```

```
Set 1:
Animal{ id=1, name='animal1' }
Animal{ id=3, name='animal3' }
Animal{ id=2, name='animal2' }
Set 2:
Animal{ id=1, name='animal1' }
Animal{ id=2, name='animal2' }
Animal{ id=3, name='animal3' }
Both are equal

Process finished with exit code 0
```