

```
1 import { useEffect } from 'react'; 8.23 kB (gzip: 3.33 kB)
2 import Head from 'next/head';
3 import type { AppProps } from 'next/app'; 5.11 kB (gzip: 2.16 kB)
4 import { ApolloProvider } from '@apollo/client'; 123.67 kB (gzip: 33.78 kB)
5 import { ThemeProvider } from '@material-ui/core/styles'; 2.45 kB (gzip: 1.15 kB)
6 import CssBaseline from '@material-ui/core/CssBaseline'; 61.61 kB (gzip: 20.02 kB)
7 import { Container } from '@material-ui/core'; 63.32 kB (gzip: 20.38 kB)
8 import { useApollo } from '../graphql/client';
9
10 import { lightTheme, darkTheme } from '../utils/theme';
11 import useLocalStorage from '../hooks/useLocalStorage';
12
13 import NavBar from '../components/NavBar';
14
15 function App({ Component, pageProps }: AppProps) {
16   const [currentTheme, setCurrentTheme] = useLocalStorage({ key: 'theme-value', initialValue: 'light' });
17   const apolloClient = useApollo(pageProps.initialApolloState);
18
19   useEffect(() => {
20     const jssStyles = document.querySelector(selectors: '#jss-server-side');
21     if (jssStyles) {
22       jssStyles.parentElement.removeChild(jssStyles);
23     }
24   }, deps: []);
25
26   return (
27     <>
28     <Head>
29       <title>ECU-DEV</title>
30       <meta name="viewport" content="minimum-scale=1, initial-scale=1, width=device-wid
31     </Head>
32     <ThemeProvider>
33       <CssBaseline>
34       <Container>
35         <Component {...pageProps} />
36       </Container>
37     </ThemeProvider>
38   );
39 }
```

Property Recommend

OBJECT ORIENTED
METHODOLOGY(OOM)

Project description

- ▶ This Project aims to allow the user to search through a given database and search different types of Properties.
- ▶ The different types of Properties can be classify as: **Residential ,Plot, Hotel and Commercial Property.**
- ▶ And can be filtered according to the given set of filters.

Requirements:

A database to store:

- I. Residence list
- II. Hotel list
- III. No. of plot list
- IV. No. of commercial property list



Residence list:

- I. We will require objects that define a house index in the list, house list its availability(buy or rent), No. of BHK and its price.
- II. Every residence will have its own perks/ features and we will require knowledge about it too.

Hotel list:

- I. We will be require objects that define a hotel index in the list which include hotel name , address and price per night.
- II. Every hotel will have its own set of specification/ features



No. of plot list:

We will be required objects that define a plot' index in the list, its price, area and address.

No. of commercial property list:

We will require object a building type and an index in the list, its address and available for buy, rent and its price.

Project Layout:

As soon as we run our software, The user is given a different types of properties to choose from .

These properties could be for Residential use , Commercial use, Hotels and Plots.

The user can choose anyone of these property and is given to different set of instruction to filter out the result.

Residencies:

If the user chooses Residences:

The user will be given option to choose whether He/she wants to buy or find a property for rent.

If the user chooses Buying:

They will be asking how many BHK they want According to his/her budget.

Then proceeding that they will be given a set of different perks that the residents may have for these perks they will pick the order of preference in ascending order.

After they done that, they will be shown different set of properties for filling the criteria.

If the user chooses Rent: The user will be given option to choose whether He/she wants to buy or find a property for rent.

Then proceeding that they will be given a set of different perks that the residents may have for these perks they will pick the order of preference in ascending order.

After they done that, they will be shown different set of properties for filling the criteria.

Hotels:

User will be asked about their budget, accordingly a list will be shown the hotels with key specifications.

Plot:

User will be asked if they want to view all the plots available or they want to filter by price.

Commercial Property:

The user will be asked whether he wants the property to be a building or a single floored property and results will be shown accordingly.

Why this Structure?

We have chosen to go with single inheritance construction of the classes present in our project. As they would allow a faster working code and this will avoid need less complications.

We could have choose to go with multiple inheritance but we didn't because that would lead to encounter a diamond problem.

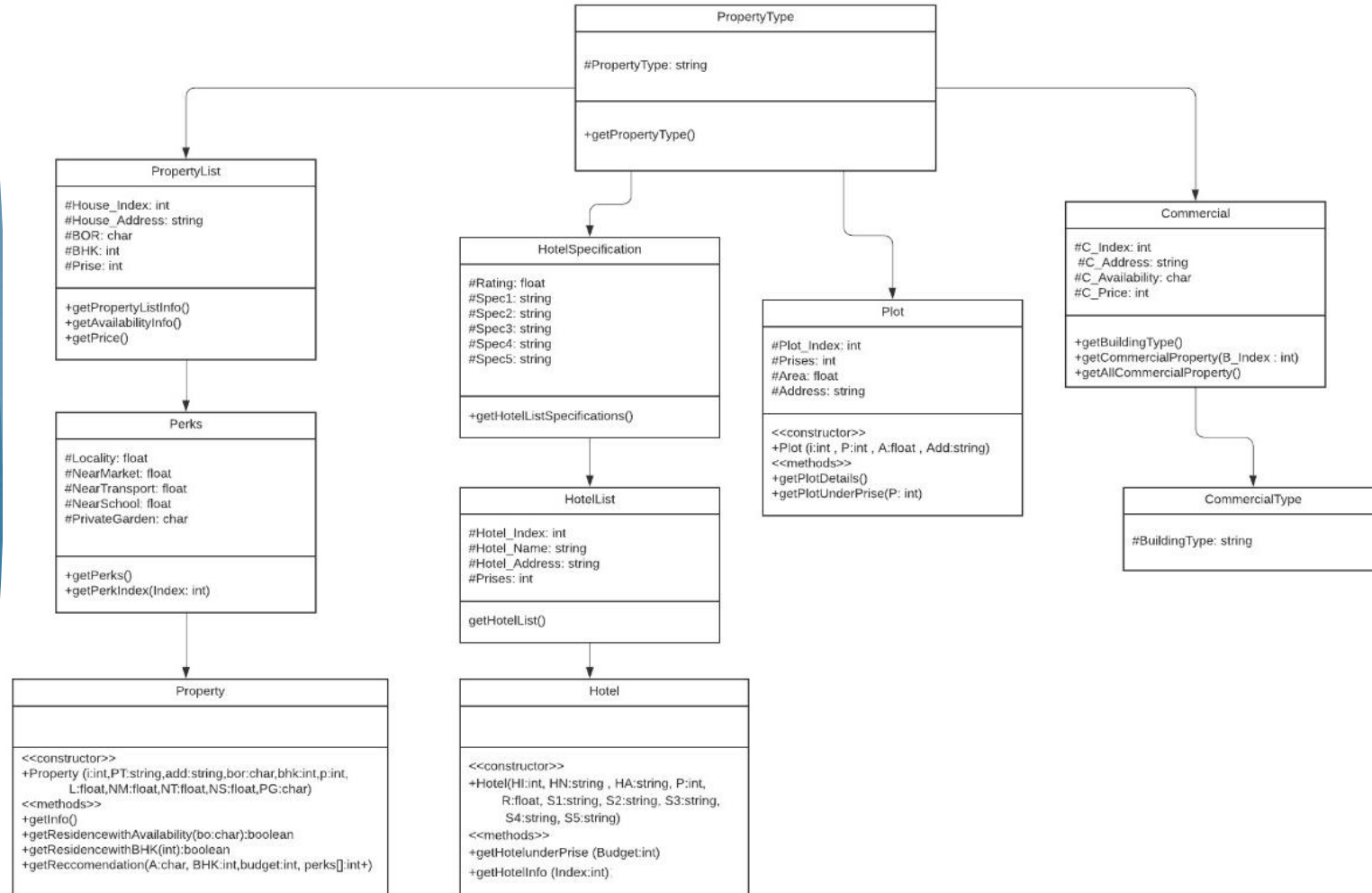
How would we encounter the diamond problem?

- ▶ As the classes are single inherited i.e. every residence will inherit different property.
- ▶ From its base class as we can see the class are property type (inherited by property list inherited by perks) inherited by class properties.
- ▶ If we would have gone with multiple inheritance, our class could have been divided in such a way that it would lead to problems with inheritance and that would lead to needless complications

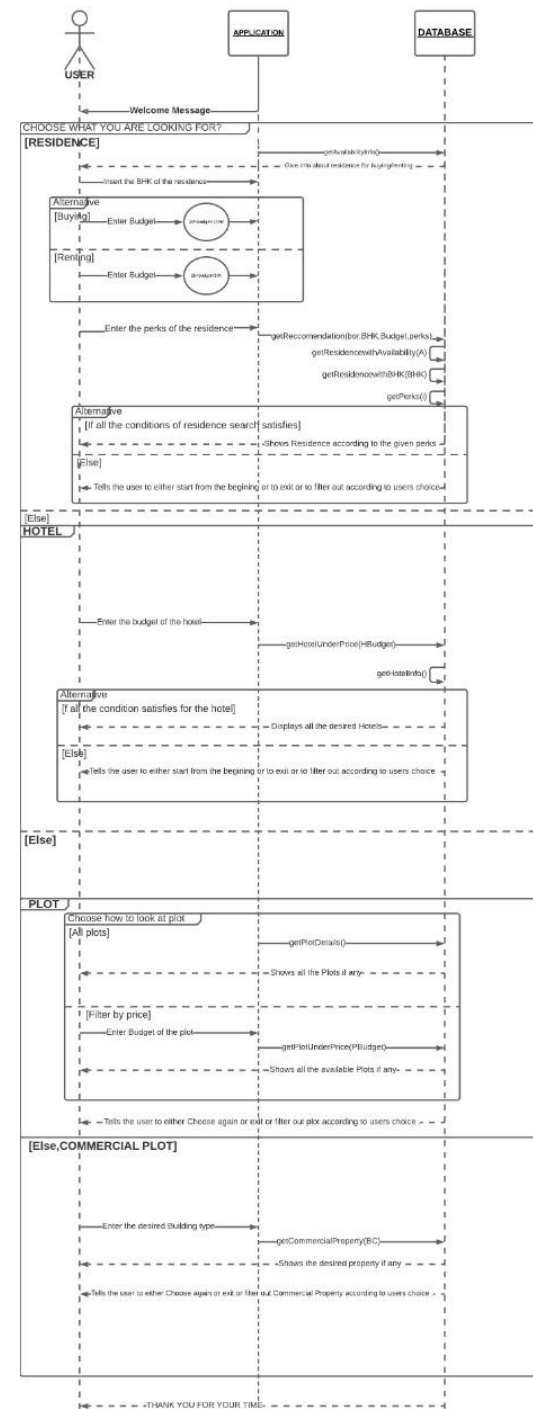
For example:

- If we would have created classes for residence that would give a residence a property of buying or property of rent (2 different classes)
- As the house index would be inherited by both classes and when these classes are inherited in the class perks that would lead us to encounter the diamond problem.

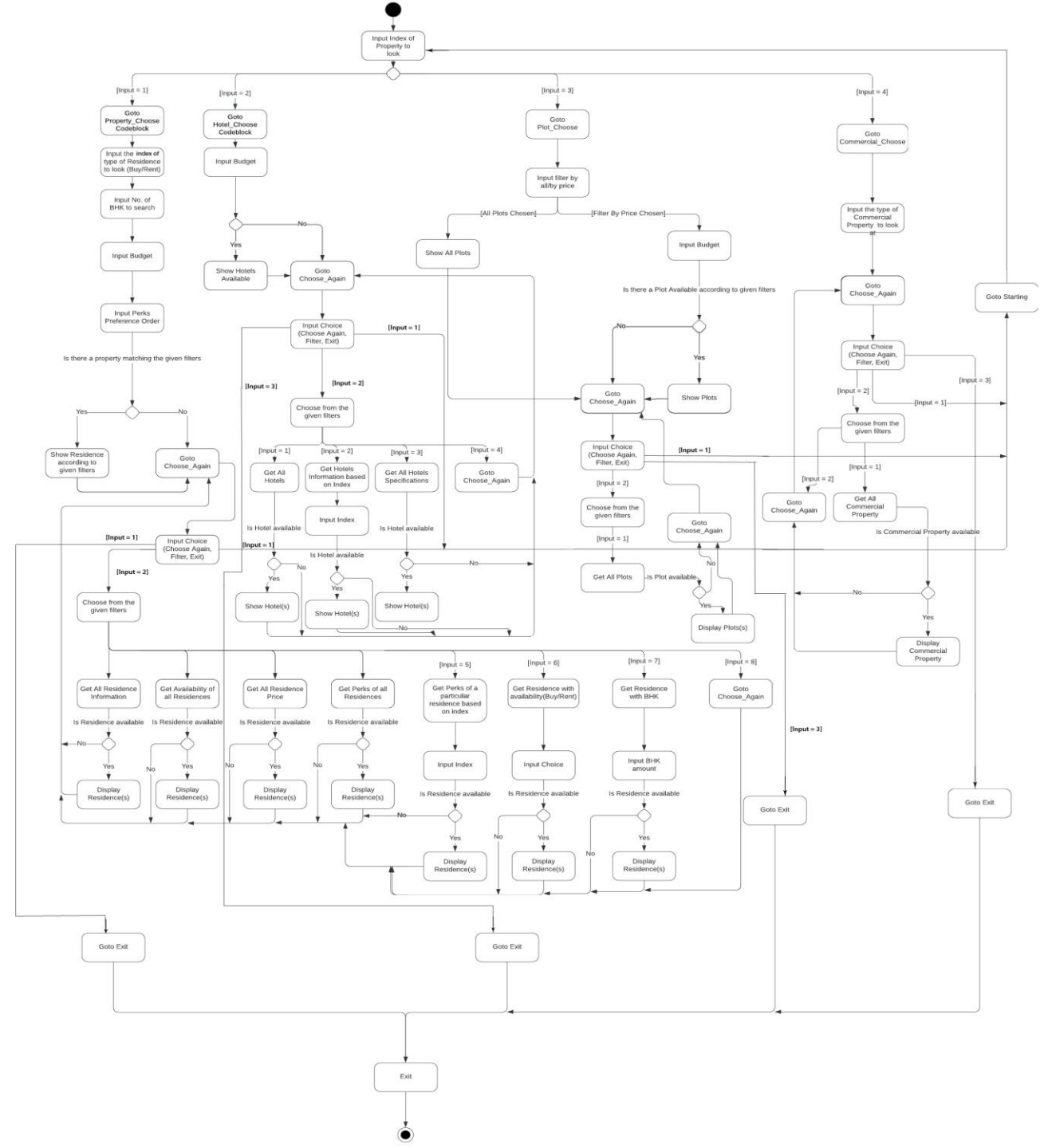
1. Class Diagram: (Structural Diagram)



2. Sequential Diagram: (Structural Diagram)



3. Activity Diagram: (Behavioral diagram)



Code structure:

- ▶ Header files: Property type , Residential property list, Residential property perks, Residential property , Hotel property list, Hotel property specification, Hotel property, Plot properties, Common property list, Common properties, property list.
- ▶ Cpp files: Residential property list, Residential property perks, Residential property, Hotel property list, Hotel property specification, Hotel property, Plot properties, common prop list, Common properties.

Basic outputs:

Residences:

```
Hello Welcome to Lucknow Property Recommender:-
What would you like to look at:-
1. Residences
2. Hotels
3. Plot
4. Commercial Properties
Press the Index of the list items to go to it.
1
Do you want to see the properties for
1. Buying
2. Rent
1
Type the number of BHK you want(1-4):-
3
Type in your budget(Max 100000000, min 1000000):
7000000
Given below are the set of perks that the residences have, pick the order(ascending) in which you prefer them:
1. Locality
2. Near Market
3. Near Transportation services
4. Near School
Pick the order via typing in the indexes in the ascending order:

1 3 2 4
5 South City 135-H
*****
Ratings:-
Locality: 2
NearMarket: 3
NearTransportation: 4
NearSchool: 5
PrivateGarden: Y

13 South City 97-E
*****
Ratings:-
Locality: 2
NearMarket: 4
NearTransportation: 4
NearSchool: 5
PrivateGarden: Y
```

```
Pick the order via typing in the indexes in the ascending order:

1 3 2 4
5 South City 135-H
*****
Ratings:-
Locality: 2
NearMarket: 3
NearTransportation: 4
NearSchool: 5
PrivateGarden: Y

13 South City 97-E
*****
Ratings:-
Locality: 2
NearMarket: 4
NearTransportation: 4
NearSchool: 5
PrivateGarden: Y

15 Gomti Nagar Expersion Capitol Vibhuti Khand 7 4nd Floor
*****
Ratings:-
Locality: 4
NearMarket: 4.5
NearTransportation: 3
NearSchool: 2
PrivateGarden: Y

19 Ashiyana 14-C
*****
Ratings:-
Locality: 3
NearMarket: 4
NearTransportation: 4.5
NearSchool: 4.2
PrivateGarden: N

What do you want to do now:
1. Choose Again
2. Filter out the different Properties from the Property List.
3. Exit
3
Thank You for your time
kushagra@kushagra-VirtualBox: ~/HotelPropertiesList$
```

Hotels:

Hello Welcome to Lucknow Property Recommender:-

What would you like to look at:-

1. Residences
2. Hotels
3. Plot
4. Commercial Properties

Press the Index of the list items to go to it.

2

Type in your budget:

3500

6 LaPalace Sarovar

Address: Hazratganj

Key Specifications:

Balconys

Garden

N/A

N/A

N/A

8 Comfort Inn

Address: Gomti Nagar

Key Specifications:

Garden

N/A

N/A

N/A

N/A

9 Grand JBR

Address: Gomti Nagar

Key Specifications:

Garden

Free Parking

N/A

N/A

N/A

What do you want to do now:

1. Choose Again
2. Filter out the different Properties from the Property List.
3. Exit

2

how do you want to filter:

1. Get All Hotels List.
2. Get a Hotels Information based on Index.
3. Get the Specifications of Hotels.
4. Go to Choose Again

3

how do you want to filter:

1. Get All Hotels List.
2. Get a Hotels Information based on Index.
3. Get the Specifications of Hotels.
4. Go to Choose Again

3

1 Hilton Garden

Key Specifications:

Private (Free) Gym

Common Garden

Spa

Pool

Banquet Halls

2 Radison Lucknow City Center

Key Specifications:

Private Gym

Common Garden

Spa

Pool

Banquet Halls

3 Hyat Regency

Key Specifications:

Garden

Pool

N/A

N/A

N/A

4 Clarks Awadh

Key Specifications:

Private Gym

Garden

Pool

Spa

Banquet Halls

5 Novotel

Key Specifications:

Garden

Balconys

Banquet Halls

N/A

N/A

6 LaPalace Sarovar

Key Specifications:

Balconys

Garden

N/A

6 LaPalace Sarovar

Key Specifications:

Balconys

Garden

N/A

N/A

N/A

7 Ramdya

Key Specifications:

Garden

Spa

Pool

Banquet Halls

Private Gyms

8 Comfort Inn

Key Specifications:

Garden

N/A

N/A

N/A

N/A

9 Grand JBR

Key Specifications:

Garden

Free Parking

N/A

N/A

N/A

10 Golden Tulip

Key Specifications:

Private Gym

Common Garden

Pool

Banquet Halls

N/A

What do you want to do now:

1. Choose Again
2. Filter out the different Properties from the Property List.
3. Exit

1

Plots:

```
kushagra@kushagra-VirtualBox:~/HotelPropertiesList$ ./RecommenderSimulator
```

```
Hello Welcome to Lucknow Property Recommender:-
```

```
What would you like to look at:-
```

1. Residences
2. Hotels
3. Plot
4. Commercial Properties

```
Press the Index of the list items to go to it.
```

```
3
```

```
Choose how you want to look at plots
```

1. All Plots
2. Filter by prise

```
2
```

```
Please Enter your Budget
```

```
5000000
```

```
1 Gomti Nagar 200 1000000
```

```
2 GomtiNagar 290 2000000
```

```
What do you want to do now:
```

1. Choose Again
2. Filter out the different Properties from the Property List.
3. Exit

```
2
```

```
how do you want to filter:
```

1. Get All Plots List.
2. Go to Choose Again.

```
1
```

```
1 Gomti Nagar 200 1000000
```

```
2 GomtiNagar 290 2000000
```

```
3 HazratGanj 200 40000000
```

```
4 Eldeco 50 1000000
```

```
5 Ashiyana 100 6000000
```

```
6 Eldeco 70 5000000
```

```
7 Eldeco 70 5000000
```

```
What do you want to do now:
```

1. Choose Again
2. Filter out the different Properties from the Property List.
3. Exit

```
█
```

Commercial Properties:

```
Hello Welcome to Lucknow Property Recommender:-
What would you like to look at:-
1. Residences
2. Hotels
3. Plot
4. Commercial Properties
Press the Index of the list items to go to it.
3
Choose how you want to look at plots
1. All Plots
2. Filter by prise
2
Please Enter your Budget
2500000
1 Gomti Nagar 200 1000000
2 GomtiNagar 290 2000000
What do you want to do now:
1. Choose Again
2. Filter out the different Properties from the Property List.
3. Exit
2
how do you want to filter:
1. Get All Plots List.
2. Go to Choose Again.
1
1 Gomti Nagar 200 1000000
2 GomtiNagar 290 2000000
3 HazratGanj 200 40000000
4 Eldeco 50 1000000
5 Ashiyana 100 6000000
6 Eldeco Udyan 70 5000000
7 Eldeco 70 5500000
What do you want to do now:
1. Choose Again
2. Filter out the different Properties from the Property List.
3. Exit
1
What would you like to look at:-
1. Residences
2. Hotels
3. Plot
4. Commercial Properties
Press the Index of the list items to go to it.
4
```

```
What would you like to look at:-
1. Residences
2. Hotels
3. Plot
4. Commercial Properties
Press the Index of the list items to go to it.
4
These are the given set of Buildings(Choose one):-
Building
Single Floor
1
1 ABC ABC B 100000000
4 UNS UNS R 4000
6 UWS UWS R 400000
9 KWS KWS B 7000000
What do you want to do now:
1. Choose Again
2. Filter out the different Properties from the Property List.
3. Exit
2
how do you want to filter:
1. Get All Commercial Properties List.
2. Go to Choose Again.
1
1 Building ABC ABC B 100000000
2 Single Floor DBC DBC R 20000
3 Single Floor PVC PVC B 400000
4 Building UNS UNS R 4000
5 Single Floor CQS CQS B 200000
6 Building UWS UWS R 400000
7 Single Floor GWS GWS B 1000000
8 Single Floor GQS GQS R 2500
9 Building KWS KWS B 7000000
What do you want to do now:
1. Choose Again
2. Filter out the different Properties from the Property List.
3. Exit
3
Thank You for your time
```

OUR TEAM



- DEVARYAN : LCI2020072
- KUSHAGRA: LIT2020070
- NAYANJIT : LCI2020071
- MASOOM : LCI2020038

