

RENTAL UNIT SYSTEM

Presented by

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PROBLEM STATEMENT

- ❖ Every year there are more than ten thousand students enrolled at Universities, which are located in New York City.
- ❖ The apartment hunting process is time-consuming, and the data information online can be misleading.
- ❖ It takes days, even weeks to decide where the perfect location is for students, especially when they are from all over the world and not familiar with local life.



OUR MAIN GOALS

➤ Goal 1

To find solution that will be capable of simplifying research the most acceptable rental unit for all potential students in New-York City.

➤ Goal 2

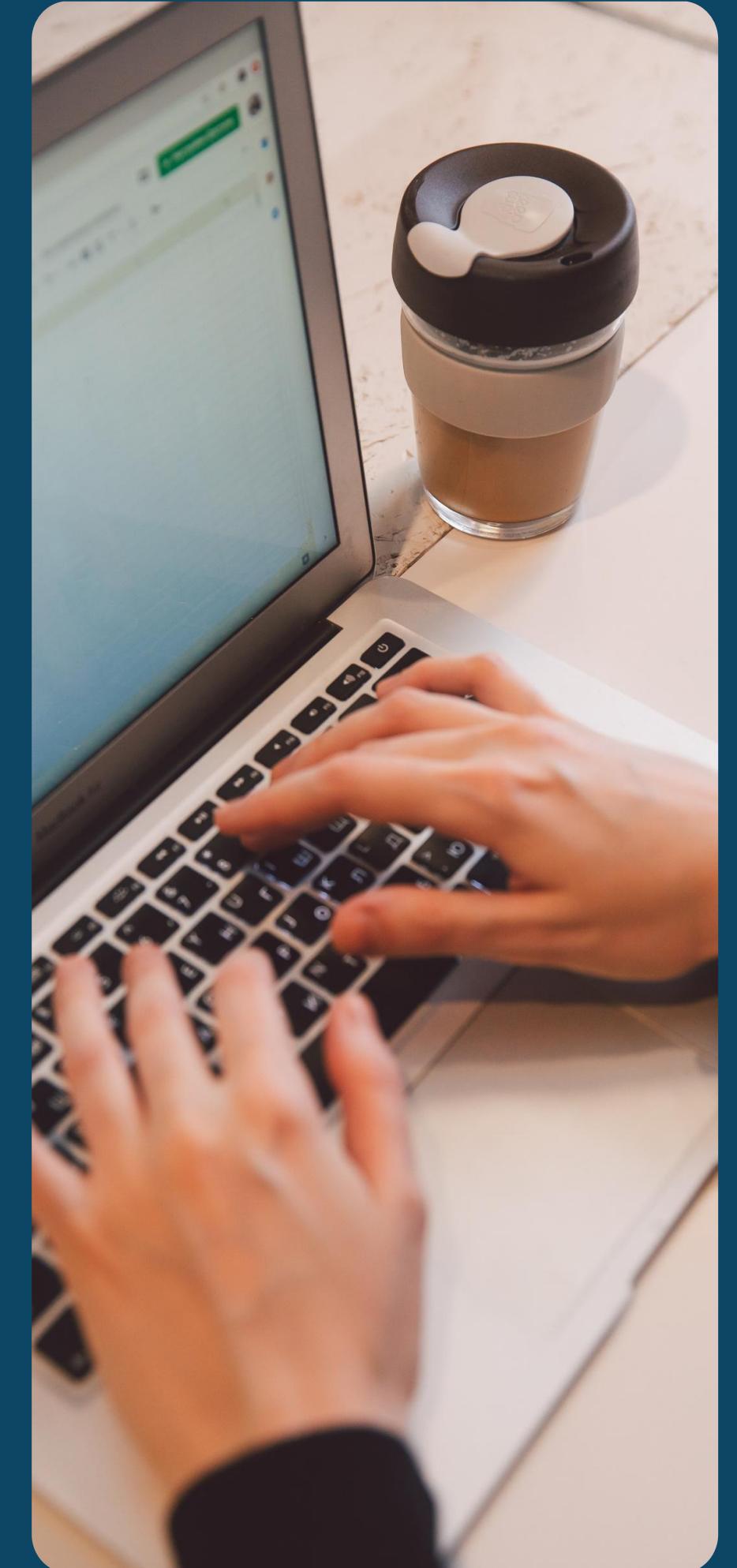
To make each system procedures efficient so one can access appropriate house of their choice, budget and requirement.

➤ Goal 3

To give quick data search result by reducing data fetching time.

➤ Goal 4

To provide a digital tool (platform) dedicated on permanent using when it is required again.



SOLUTION OR STRATEGY

01

To perform analysis and collect information and data about diverse types of rental units.

02

To design a database that can help students to filter, choose, and decide where and when they can live according to their personal preferences.

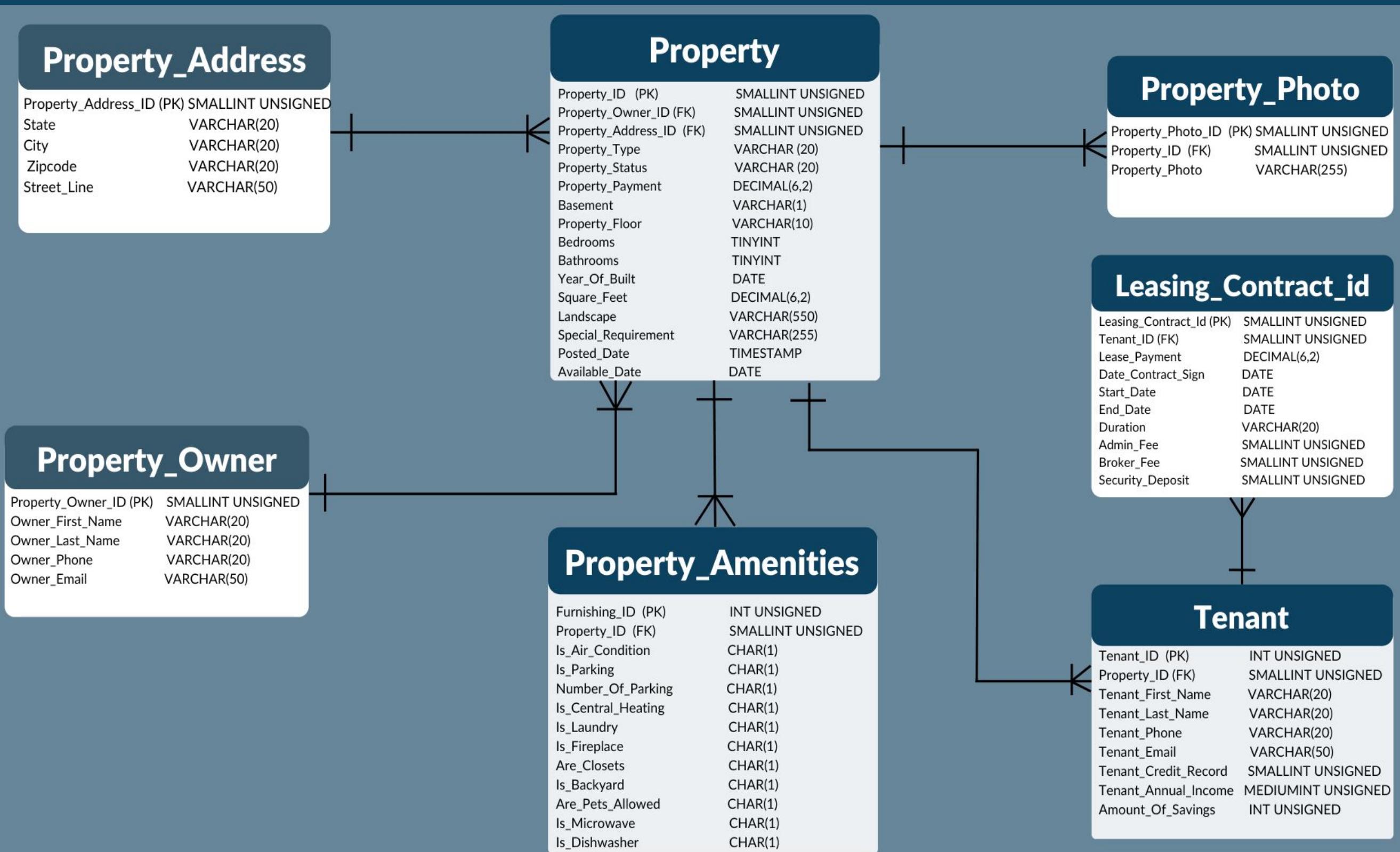
03

Normalized our database in BCNF(Boyce Codd Normal Form) form so that the database does not end in anomalies.

Required Entities

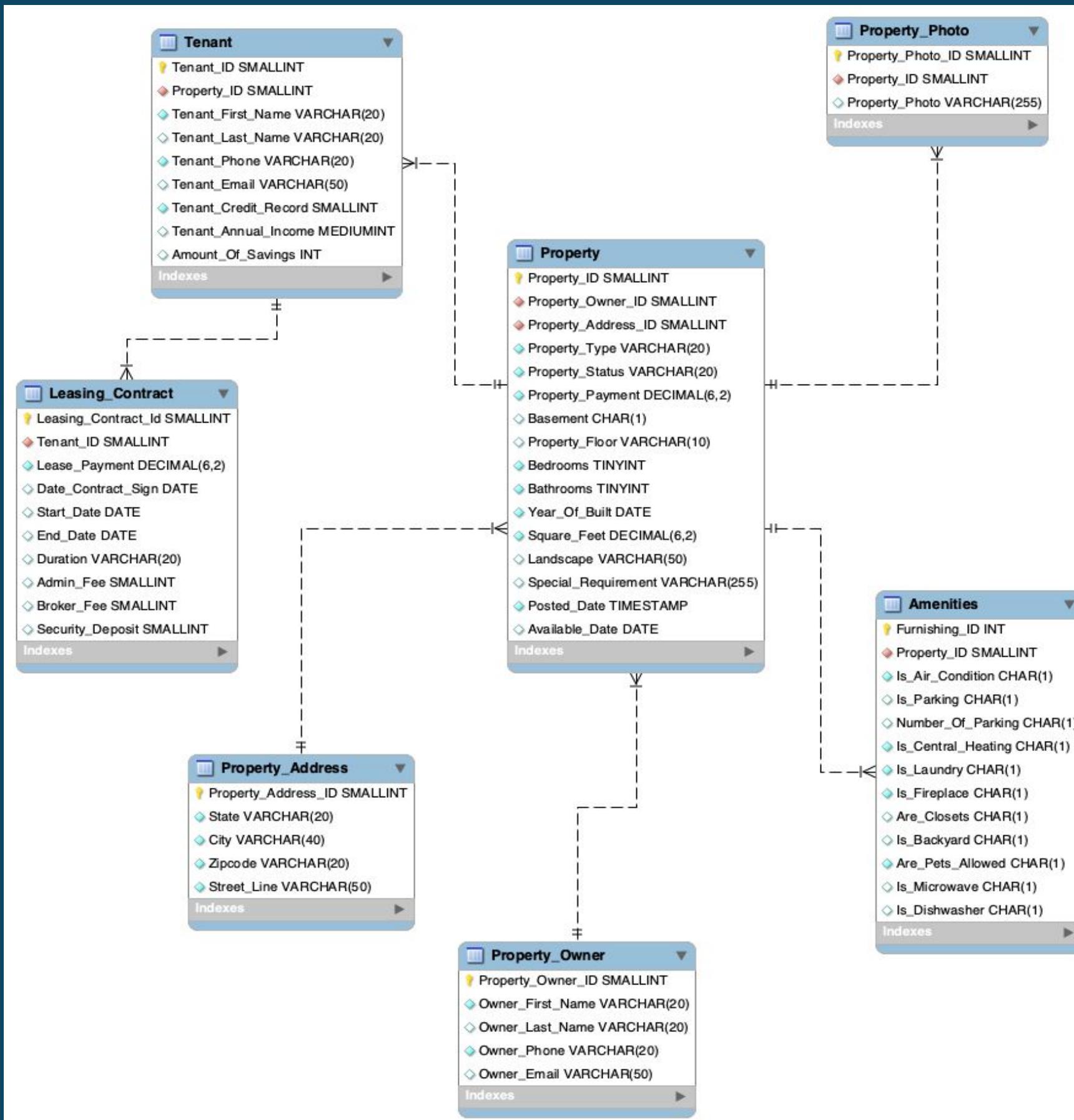
1. Property
2. Property_Photo
3. Property_Address
4. Amenities
5. Property_Owner
6. Tenant
7. Leasing_Contract

Entity Relationship Diagram



- ❖ The important entities and the relationships are shown in the ER diagram, including suitable data types.
- ❖ All the tables are connected with the related table with the primary key and foreign key relationship.

Entity Relationship Diagram



- ❖ The important entities and the relationships are shown in the ER diagram, including suitable data types.
- ❖ All the tables are connected with the related table with the primary key and foreign key relationship.

Property Columns

1. Property_ID
2. Property_Owner_ID
3. Property_Address_ID
4. Property_Type
5. Property_Status
6. Property_Payment
7. Basement
8. Property_Floor
9. Bedrooms
10. Bathrooms
11. Year_Of_Built
12. Square_Feet
13. Landscape
14. Special_Requirement
15. Posted_Date
16. Available_Date

Property Creation Code

```
CREATE TABLE `Property` (
  `Property_ID` smallint unsigned NOT NULL AUTO_INCREMENT,
  `Property_Owner_ID` smallint unsigned NOT NULL,
  `Property_Address_ID` smallint unsigned NOT NULL,
  `Property_Type` varchar(20) NOT NULL,
  `Property_Status` varchar(20) NOT NULL,
  `Property_Payment` decimal(6,2) NOT NULL,
  `Basement` char(1) DEFAULT NULL,
  `Property_Floor` varchar(10) DEFAULT NULL,
  `Bedrooms` tinyint NOT NULL,
  `Bathrooms` tinyint NOT NULL,
  `Year_Of_Built` date NOT NULL,
  `Square_Feet` decimal(6,2) NOT NULL,
  `Landscape` varchar(20) DEFAULT NULL,
  `Special_Requirement` varchar(255) DEFAULT NULL,
  `Posted_Date` timestamp NOT NULL,
  `Available_Date` date DEFAULT NULL,
  PRIMARY KEY (`Property_ID`),
  KEY `Property_Address_ID` (`Property_Address_ID`),
  KEY `Property_Owner_ID` (`Property_Owner_ID`),
  CONSTRAINT `property_ibfk_1` FOREIGN KEY (`Property_Address_ID`) REFERENCES `Property_Address` (`Property_Address_ID`) ON DELETE CASCADE ON UPDATE CASCADE,
  CONSTRAINT `property_ibfk_2` FOREIGN KEY (`Property_Owner_ID`) REFERENCES `Property_Owner` (`Property_Owner_ID`) ON DELETE CASCADE ON UPDATE CASCADE
);
```

Property

Data

Property_ID	Property_Owner_ID	Property_Address_ID	Property_Type	Property_Status	Property_Payment	Basement	Property_Floor	Bedrooms	Bathrooms	Year_Of_Built	Square_Feet	Landscape	Special_Requir...	Posted_Date	Available_Date
1	1	1	Apartment	Not Available	2000.00	Y	2	2	1	2008-10-28	1100.00		Pets allowed	2011-02-02 09:46:00	2011-02-11
2	2	2	Townhouse	Available	3000.00	Y	2	3	2	2008-10-27	1300.00		No Pets allowed	2010-01-11 10:45:00	2010-02-15
3	3	3	House	Not Available	2700.00	N	3	3	2	2002-10-27	950.00	waterfront	Smoking Prohib...	2008-11-15 12:30:00	2008-12-25
4	4	4	House	Available	3300.00	N	20	3	3	2006-10-27	1000.00		No Loud Music...	2010-09-23 05:37:00	2010-10-25
5	5	5	Townhouse	Not Available	3200.00	Y	2	4	2	2000-10-27	1600.00	waterfront		2016-10-05 07:00:00	2016-11-15
6	6	6	Apartment	Available	2200.00	N	30	2	2	2007-10-27	800.00	waterfront	No Pets allowed	2012-12-05 12:30:00	2022-01-10
7	7	7	Apartment	Not Available	1800.00	N	15	3	2	2005-10-27	1150.00	skyline		2017-12-05 11:30:00	2018-01-04
8	8	8	Townhouse	Available	3600.00	N	3	4	3	2009-10-27	1450.00		Smoking Prohib...	2017-12-05 07:30:00	2018-01-05
9	9	9	Apartment	Available	2400.00	N	27	3	1	2011-10-27	900.00	Brooklyn Bridge		2015-01-05 09:20:00	2016-01-14
10	10	10	House	Available	3300.00	Y	2	3	2	2004-10-27	1200.00	park	No Loud Music	2016-12-05 10:30:00	2017-01-05
11	11	11	Apartment	Not Available	1800.00	N	17	3	3	2013-10-27	1200.00	skyline		2015-12-05 01:40:00	2016-01-07
12	12	12	Apartment	Not Available	3300.00	Y	10	3	2	2015-07-22	2900.00	city	Pets allowed	2019-08-12 02:25:10	2019-08-15
13	13	13	House	Available	1600.00	N	3	2	2	2006-10-27	900.00	Garden	Smoking Prohib...	2014-12-05 07:00:00	2014-12-10
14	14	14	Apartment	Available	3600.00	N	20	4	2	2005-10-27	1500.00	park	No Loud Music...	2019-12-05 06:37:30	2019-01-21
15	15	15	Townhouse	Available	3600.00	Y	2	4	3	2004-10-27	1300.00	waterfront	Pets allowed	2018-12-05 01:15:30	2022-01-01
16	16	16	Apartment	Not Available	1500.00	N	35	1	1	2014-10-27	250.00	hudson river	No Pets allowed	2019-12-05 01:15:00	2020-01-31
17	17	17	Apartment	Available	1500.00	N	23	2	1	2012-10-27	800.00	skyline	No Pets allowed	2021-12-05 10:10:00	2022-01-19
18	18	18	House	Available	2100.00	Y	1	3	2	2002-10-27	1000.00	Mountain	No Smoking	2011-12-05 09:50:00	2011-12-25
19	19	19	Apartment	Available	1800.00	N	20	2	2	2011-10-27	750.00	riverfront	Pets allowed	2013-11-01 03:30:00	2013-12-05
20	20	20	House	Available	2700.00	N	2	3	3	2007-10-27	1100.00	Mountain	No Pets allowed	2019-12-05 12:20:40	2020-01-05
21	21	21	House	Not Available	1500.00	N	3	3	1	2013-10-27	1150.00	Mountain	Pets allowed	2021-12-29 12:20:00	2022-01-09
22	22	22	Apartment	Available	1000.00	N	29	1	1	2008-10-27	315.00	skyline		2017-12-20 10:50:00	2018-01-07
23	23	23	Townhouse	Not Available	3000.00	N	2	4	2	2010-10-27	1300.00	Mountain	Smoking Prohib...	2017-12-11 04:40:00	2018-01-05
24	24	24	Apartment	Available	2500.00	N	20	3	1	2017-10-27	900.00	riverfront	No Pets allowe...	2016-12-25 11:30:00	2017-01-15
25	25	25	House	Available	4500.00	Y	3	5	3	2008-10-27	2500.00	Mountain	Pets allowed	2018-12-15 01:40:00	2019-01-20
26	26	26	Duplex	Available	3050.00	Y		3	3	2016-10-22	1650.00	Manhattan	Pets allowed	2022-04-15 12:10:30	2022-04-30
27	27	27	Condominium	Available	2000.00	N	3	1	1	2015-06-21	800.00	Road	Pets allowed	2022-02-10 11:05:30	2022-03-01
28	28	28	Condominium	Available	2100.00	N	5	1	1	2018-07-21	1000.00	Road	Not Pets allowed	2022-04-05 11:05:30	2022-04-15
29	29	29	Cooperative	Not Available	1700.00	Y	3	1	1	1975-03-15	1110.00	Street	Not Pets allowed	2022-03-01 11:05:30	NULL
30	30	30	Cooperative	Available	1800.00	Y	4	1	1	1972-05-15	1115.00	Street	Not Pets allowed	2022-02-20 10:00:30	2022-03-01
31	31	31	Cooperative	Available	1850.00	Y	5	1	1	1977-07-25	1050.00	Street	Not Pets allowed	2022-04-20 12:35:30	2022-05-01
32	32	32	Condominium	Not Available	2220.00	N	4	1	1	2016-08-05	990.00	Bay	Pets allowed an...	2022-04-15 12:05:00	2022-05-01
33	33	33	Duplex	Available	3550.00	Y		3	2	2017-08-10	1750.00	Street	Pets allowed an...	2022-04-20 10:05:00	2022-05-31
34	34	34	House	Not Available	3900.00	Y	1-3	4	3	2008-07-10	2300.00	Ocean shore	Pets allowed	2022-05-15 03:45:00	NULL
35	35	35	House	Available	4500.00	Y	1-3	4	2	2012-05-22	2650.00	Ocean shore	Pets allowed an...	2022-06-01 02:30:00	2022-06-15
36	36	36	Condominium	Available	3900.00	Y	25	2	2	2016-05-20	1800.00	Manhattan West	Pets allowed an...	2022-06-05 12:35:00	2022-06-15
37	37	37	Condominium	Not Available	4350.00	Y	31	2	2	2010-06-20	1750.00	New Jersey	Pets allowed	2022-06-15 12:48:00	NULL
38	38	38	Condominium	Available	4100.00	N	15	2	1	2008-09-10	1600.00	New Jersey, Th...	Not Pets allowe...	2022-06-13 11:42:00	2022-06-30
39	39	39	Condominium	Available	4250.00	N	28	2	2	2015-08-12	1550.00	Downtown Man...	Pets allowed, n...	2022-07-05 09:15:00	2022-07-30
40	40	40	Condominium	Available	3700.00	N	20	2	1	2007-07-10	1300.00	Manhattan Bridge	Pets allowed, n...	2022-06-01 02:10:00	2022-07-01

Property

Queries

```
SELECT * FROM apartment_rent.Property where Bedrooms = 3 and Property_Payment < 2500;
```

Property_ID	Property_Owner_ID	Property_Address_ID	Property_Type	Property_Status	Property_Payment	Basement	Property_Floor	Bedrooms	Bathrooms	Year_Of_Built	Square_Feet	Landscape	Special_Requirement	Posted_Date	Available_Date
7	7	7	Apartment	Not Available	1800.00	N	15	3	2	2005-10-27	1150.00	skyline		2017-12-05 11:30:00	2018-01-04
9	9	9	Apartment	Available	2400.00	N	27	3	1	2011-10-27	900.00	Brooklyn Bridge		2015-01-05 09:20:00	2016-01-14
11	11	11	Apartment	Not Available	1800.00	N	17	3	3	2013-10-27	1200.00	skyline		2015-12-05 01:40:00	2016-01-07
18	18	18	House	Available	2100.00	Y	1	3	2	2002-10-27	1000.00	Mountain	No Smoking	2011-12-05 09:50:00	2011-12-25
21	21	21	House	Not Available	1500.00	N	3	3	1	2013-10-27	1150.00	Mountain	Pets allowed	2021-12-29 12:20:00	2022-01-09

```
SELECT * FROM apartment_rent.Property where Property_Type = 'Apartment' and Basement = 'Y';
```

Property_ID	Property_Owner_ID	Property_Address_ID	Property_Type	Property_Status	Property_Payment	Basement	Property_Floor	Bedrooms	Bathrooms	Year_Of_Built	Square_Feet	Landscape	Special_Requirement	Posted_Date	Available_Date
1	1	1	Apartment	Not Available	2000.00	Y	2	2	1	2008-10-28	1100.00		Pets allowed	2011-02-02 09:46:00	2011-02-11
12	12	12	Apartment	Not Available	3300.00	Y	10	3	2	2015-07-22	2900.00	city	Pets allowed	2019-08-12 02:25:10	2019-08-15

Property

Queries

```
SELECT * FROM Property AS p LEFT JOIN Property_Address AS pa ON  
p.Property_Address_ID = pa.Property_Address_ID WHERE Year_Of_Built > '2008-01-15';
```

Property_Type	Property_Status	Property_Payment	Basement	Property_Floor	Bedrooms	Bathrooms	Year_Of_Built	Square_Feet	Landscape	Special_Requi...	Posted_Date	Available_Date	Property_Address...	State	City	Zipco
Apartment	Not Available	2000.00	Y	2	2	1	2008-10-28	1100.00		Pets allowed	2011-02-02 09:46:00	2011-02-11	1	New-York	New-York, Brooklyn	11230
Townhouse	Available	3000.00	Y	2	3	2	2008-10-27	1300.00		No Pets allowed	2010-01-11 10:45:00	2010-02-15	2	New-York	New-York, Brooklyn	11228
Townhouse	Available	3600.00	N	3	4	3	2009-10-27	1450.00		Smoking Prohi...	2017-12-05 07:30:00	2018-01-05	8	New-Jersey	Jersey City	07310
Apartment	Available	2400.00	N	27	3	1	2011-10-27	900.00	Brooklyn Bridge		2015-01-05 09:20:00	2016-01-14	9	New-Jersey	Jersey City	07310
Apartment	Not Available	1800.00	N	17	3	3	2013-10-27	1200.00	skyline		2015-12-05 01:40:00	2016-01-07	11	New-Jersey	Jersey City	07302
Apartment	Not Available	3300.00	Y	10	3	2	2015-07-22	2900.00	city	Pets allowed	2019-08-12 02:25:10	2019-08-15	12	New-Jersey	Newark	07109
Apartment	Not Available	1500.00	N	35	1	1	2014-10-27	250.00	hudson river	No Pets allowed	2019-12-05 01:15:00	2020-01-31	16	New-Jersey	Union City	07087
Apartment	Available	1500.00	N	23	2	1	2012-10-27	800.00	skyline	No Pets allowed	2021-12-05 10:10:00	2022-01-19	17	New-York	New-York	10010
Apartment	Available	1800.00	N	20	2	2	2011-10-27	750.00	riverfront	Pets allowed	2013-11-01 03:30:00	2013-12-05	19	New-York	New-York	10011
House	Not Available	1500.00	N	3	3	1	2013-10-27	1150.00	Mountain	Pets allowed	2021-12-29 12:20:00	2022-01-09	21	New-York	New-York, Staten Island	10304
Apartment	Available	1000.00	N	29	1	1	2008-10-27	315.00	skyline		2017-12-20 10:50:00	2018-01-07	22	New-York	New-York, Staten Island	10304
Townhouse	Not Available	3000.00	N	2	4	2	2010-10-27	1300.00	Mountain	Smoking Prohi...	2017-12-11 04:40:00	2018-01-05	23	New-York	New-York, Staten Island	10304
Apartment	Available	2500.00	N	20	3	1	2017-10-27	900.00	riverfront	No Pets allow...	2016-12-25 11:30:00	2017-01-15	24	New-York	New-York, Bronx	10454
House	Available	4500.00	Y	3	5	3	2008-10-27	2500.00	Mountain	Pets allowed	2018-12-15 01:40:00	2019-01-20	25	New-York	New-York, Bronx	10454
Duplex	Available	3050.00	Y		3	3	2016-10-22	1650.00	Manhattan	Pets allowed	2022-04-15 12:10:30	2022-04-30	26	New-York	New-York	10011
Condominium	Available	2000.00	N	3	1	1	2015-06-21	800.00	Road	Pets allowed	2022-02-10 11:05:30	2022-03-01	27	New-York	New-York	10011
Condominium	Available	2100.00	N	5	1	1	2018-07-21	1000.00	Road	Not Pets allowed	2022-04-05 11:05:30	2022-04-15	28	New-York	New-York	10011
Condominium	Not Available	2220.00	N	4	1	1	2016-08-05	990.00	Bay	Pets allowed a...	2022-04-15 12:05:00	2022-05-01	32	New-York	New-York, Brooklyn	11201
Duplex	Available	3550.00	Y		3	2	2017-08-10	1750.00	Street	Pets allowed a...	2022-04-20 10:05:00	2022-05-31	33	New-York	New-York, Brooklyn	11217
House	Not Available	3900.00	Y	1-3	4	3	2008-07-10	2300.00	Ocean shore	Pets allowed	2022-05-15 03:45:00	NULL	34	New-Jersey	Jersey City	07302
House	Available	4500.00	Y	1-3	4	2	2012-05-22	2650.00	Ocean shore	Pets allowed a...	2022-06-01 02:30:00	2022-06-15	35	New-Jersey	Jersey City	07310
Condominium	Available	3900.00	Y	25	2	2	2016-05-20	1800.00	Manhattan West	Pets allowed a...	2022-06-05 12:35:00	2022-06-15	36	New-Jersey	Jersey City	07310
Condominium	Not Available	4350.00	Y	31	2	2	2010-06-20	1750.00	New Jersey	Pets allowed	2022-06-15 12:48:00	NULL	37	New-Jersey	Hoboken	07030
Condominium	Available	4100.00	N	15	2	1	2008-09-10	1600.00	New Jersey, Th...	Not Pets allow...	2022-06-13 11:42:00	2022-06-30	38	New-Jersey	Hoboken	07030
Condominium	Available	4250.00	N	28	2	2	2015-08-12	1550.00	Downtown Man...	Pets allowed,...	2022-07-05 09:15:00	2022-07-30	39	New-Jersey	Jersey City	07300

Property

Queries

```
SELECT t.Tenant_First_Name, t.Tenant_First_Name, p.Property_Payment,  
p.Property_Status, p.Property_Type, p.Basement, p.Property_Floor, p.Bedrooms,  
p.Bathrooms FROM Property AS p INNER JOIN Tenant AS t ON p.Property_ID =  
t.Property_ID;
```

Tenant_First_Name	Tenant_First_Name	Property_Payment	Property_Status	Property_Type	Basement	Property_Floor	Bedrooms	Bathrooms
Sally	Sally	2000.00	Not Available	Apartment	Y	2	2	1
Phil	Phil	3000.00	Available	Townhouse	Y	2	3	2
Amanda	Amanda	2700.00	Not Available	House	N	3	3	2
Sally	Sally	3300.00	Available	House	N	20	3	3
Oliver	Oliver	3200.00	Not Available	Townhouse	Y	2	4	2
Heather	Heather	2200.00	Available	Apartment	N	30	2	2
David	David	1800.00	Not Available	Apartment	N	15	3	2
Sonia	Sonia	3600.00	Available	Townhouse	N	3	4	3
Ryan	Ryan	2400.00	Available	Apartment	N	27	3	1
Connor	Connor	3300.00	Available	House	Y	2	3	2
Gavin	Gavin	1800.00	Not Available	Apartment	N	17	3	3
Julia	Julia	3300.00	Not Available	Apartment	Y	10	3	2
Finona	Finona	1600.00	Available	House	N	3	2	2
Jan	Jan	3600.00	Available	Apartment	N	20	4	2
Neil	Neil	3600.00	Available	Townhouse	Y	2	4	3
Gavin	Gavin	1500.00	Not Available	Apartment	N	35	1	1
Megan	Megan	1500.00	Available	Apartment	N	23	2	1
Deirdre	Deirdre	2100.00	Available	House	Y	1	3	2
Theresa	Theresa	1800.00	Available	Apartment	N	20	2	2
Piers	Piers	2700.00	Available	House	N	2	3	3
Adam	Adam	1500.00	Not Available	House	N	3	3	1
Eric	Eric	1000.00	Available	Apartment	N	29	1	1
Audrey	Audrey	3000.00	Not Available	Townhouse	N	2	4	2
Gordon	Gordon	2500.00	Available	Apartment	N	20	3	1
Joe	Joe	4500.00	Available	House	Y	3	5	3

Property

Issues faced during finalization of table

- ❖ The Property table is the most important table in database during the finalization of table column and content we had lots of conflicts like what should we mandatory for this table.
- ❖ what is the size of selected data type for particular column. For example, The size of the Property_type, Landscape and Property_Status column.
- ❖ which columns should be separated from the table to make database structure normalized. For instance, Property_Address to be included in to Property table or we should make it separate table what should be best choice.

Property_Photo Columns

1. Property_Photo_ID
2. Property_ID
3. Property_Photo

Property_Photo Creation Code

```
CREATE TABLE `Property_Photo` (
  `Property_Photo_ID` smallint unsigned NOT NULL AUTO_INCREMENT,
  `Property_ID` smallint unsigned NOT NULL,
  `Property_Photo` varchar(255) DEFAULT NULL,
  PRIMARY KEY (`Property_Photo_ID`),
  KEY `Property_ID` (`Property_ID`),
  CONSTRAINT `property_photo_ibfk_1` FOREIGN KEY (`Property_ID`) REFERENCES
  `Property` (`Property_ID`) ON DELETE CASCADE ON UPDATE CASCADE
);
```

Property_Photo

Data

Property_Photo_ID	Property_ID	Property_Photo
1	1	PP1-1.jpg
2	1	PP1-2.jpg
3	1	PP1-3.jpg
4	1	PP1-4.jpg
5	1	PP1-5.jpg
6	1	PP1-6.jpg
7	1	PP1-7.jpg
8	1	PP1-8.jpg
9	2	PP2-1.jpg
10	2	PP2-2.jpg
11	2	PP2-3.jpg
12	2	PP2-4.jpg
13	3	PP3-1.jpg
14	3	PP3-2.jpg
15	3	PP3-3.jpg
16	3	PP3-4.jpg
17	3	PP3-5.jpg
18	3	PP3-6.jpg
19	3	PP3-7.jpg
20	4	PP4-1.jpg
21	4	PP4-2.jpg
22	4	PP4-3.jpg
23	4	PP4-4.jpg
24	4	PP4-5.jpg
25	5	PP5-1.jpg
26	5	PP5-2.jpg
27	5	PP5-3.jpg
28	5	PP5-4.jpg
29	5	PP5-5.jpg
30	5	PP5-6.jpg

Property_Photo_ID	Property_ID	Property_Photo
31	5	PP5-7.jpg
32	5	PP5-8.jpg
33	5	PP5-9.jpg
34	6	PP6-1.jpg
35	6	PP6-2.jpg
36	6	PP6-3.jpg
37	6	PP6-4.jpg
38	6	PP6-5.jpg
39	6	PP6-6.jpg
40	6	PP6-7.jpg
41	6	PP6-8.jpg
42	6	PP6-9.jpg
43	7	PP7-1.jpg
44	7	PP7-2.jpg
45	7	PP7-3.jpg
46	7	PP7-4.jpg
47	7	PP7-5.jpg
48	7	PP7-6.jpg
49	7	PP7-7.jpg
50	7	PP7-8.jpg
51	7	PP7-9.jpg
52	8	PP8-1.jpg
53	8	PP8-2.jpg
54	8	PP8-3.jpg
55	8	PP8-4.jpg
56	9	PP9-1.jpg
57	9	PP9-2.jpg
58	9	PP9-3.jpg
59	9	PP9-4.jpg
60	10	PP10-1.jpg

Property_Photo_ID	Property_ID	Property_Photo
61	10	PP10-2.jpg
62	10	PP10-3.jpg
63	10	PP10-4.jpg
64	10	PP10-5.jpg
65	10	PP10-6.jpg
66	11	PP11-1.jpg
67	11	PP11-2.jpg
68	11	PP11-3.jpg
69	11	PP11-4.jpg
70	11	PP11-5.jpg
71	11	PP11-6.jpg
72	12	PP12-1.jpg
73	12	PP12-2.jpg
74	12	PP12-3.jpg
75	12	PP12-4.jpg
76	13	PP13-1.jpg
77	13	PP13-2.jpg
78	13	PP13-3.jpg
79	13	PP13-4.jpg
80	14	PP14-1.jpg
81	14	PP14-2.jpg
82	14	PP14-3.jpg
83	14	PP14-4.jpg
84	14	PP14-5.jpg
85	14	PP14-6.jpg
86	14	PP14-7.jpg
87	14	PP14-8.jpg
88	14	PP14-9.jpg
89	15	PP15-1.jpg
90	15	PP15-2.jpg

Property_Photo_ID	Property_ID	Property_Photo
91	15	PP15-3.jpg
92	15	PP15-4.jpg
93	16	PP16-1.jpg
94	16	PP16-2.jpg
95	16	PP16-3.jpg
96	16	PP16-4.jpg
97	16	PP16-5.jpg
98	16	PP16-6.jpg
99	17	PP17-1.jpg
100	17	PP17-2.jpg
101	17	PP17-3.jpg
102	17	PP17-4.jpg
103	17	PP17-5.jpg
104	17	PP17-6.jpg
105	17	PP17-7.jpg
106	17	PP17-8.jpg
107	17	PP17-9.jpg
108	18	PP18-1.jpg
109	18	PP18-2.jpg
110	18	PP18-3.jpg
111	18	PP18-4.jpg
112	18	PP18-5.jpg
113	18	PP18-6.jpg
114	18	PP18-7.jpg
115	19	PP19-1.jpg
116	19	PP19-2.jpg
117	19	PP19-3.jpg
118	19	PP19-4.jpg
119	19	PP19-5.jpg
120	19	PP19-6.jpg

Property_Photo

Queries

```
SELECT * FROM Property AS p INNER JOIN Property_Photo AS pp ON p.Property_ID = pp.Property_ID where p.Landscape = 'Mountain';
```

Property_Type	Property_Status	Property_Payment	Basement	Property_Floor	Bedrooms	Bathrooms	Year_Of_Built	Square_Feet	Landscape	Special_Requir...	Posted_Date	Available_Date	Property_Photo_ID	Property_ID	Property_Photo
House	Available	2100.00	Y	1	3	2	2002-10-27	1000.00	Mountain	No Smoking	2011-12-05 09:50:00	2011-12-25	108	18	PP18-1.jpg
House	Available	2100.00	Y	1	3	2	2002-10-27	1000.00	Mountain	No Smoking	2011-12-05 09:50:00	2011-12-25	109	18	PP18-2.jpg
House	Available	2100.00	Y	1	3	2	2002-10-27	1000.00	Mountain	No Smoking	2011-12-05 09:50:00	2011-12-25	110	18	PP18-3.jpg
House	Available	2100.00	Y	1	3	2	2002-10-27	1000.00	Mountain	No Smoking	2011-12-05 09:50:00	2011-12-25	111	18	PP18-4.jpg
House	Available	2100.00	Y	1	3	2	2002-10-27	1000.00	Mountain	No Smoking	2011-12-05 09:50:00	2011-12-25	112	18	PP18-5.jpg
House	Available	2100.00	Y	1	3	2	2002-10-27	1000.00	Mountain	No Smoking	2011-12-05 09:50:00	2011-12-25	113	18	PP18-6.jpg
House	Available	2100.00	Y	1	3	2	2002-10-27	1000.00	Mountain	No Smoking	2011-12-05 09:50:00	2011-12-25	114	18	PP18-7.jpg
House	Available	2700.00	N	2	3	3	2007-10-27	1100.00	Mountain	No Pets allowed	2019-12-05 12:20:40	2020-01-05	121	20	PP20-1.jpg
House	Available	2700.00	N	2	3	3	2007-10-27	1100.00	Mountain	No Pets allowed	2019-12-05 12:20:40	2020-01-05	122	20	PP20-2.jpg
House	Available	2700.00	N	2	3	3	2007-10-27	1100.00	Mountain	No Pets allowed	2019-12-05 12:20:40	2020-01-05	123	20	PP20-3.jpg
House	Available	2700.00	N	2	3	3	2007-10-27	1100.00	Mountain	No Pets allowed	2019-12-05 12:20:40	2020-01-05	124	20	PP20-4.jpg
House	Available	2700.00	N	2	3	3	2007-10-27	1100.00	Mountain	No Pets allowed	2019-12-05 12:20:40	2020-01-05	125	20	PP20-5.jpg
House	Available	2700.00	N	2	3	3	2007-10-27	1100.00	Mountain	No Pets allowed	2019-12-05 12:20:40	2020-01-05	126	20	PP20-6.jpg
House	Available	2700.00	N	2	3	3	2007-10-27	1100.00	Mountain	No Pets allowed	2019-12-05 12:20:40	2020-01-05	127	20	PP20-7.jpg
House	Available	2700.00	N	2	3	3	2007-10-27	1100.00	Mountain	No Pets allowed	2019-12-05 12:20:40	2020-01-05	128	20	PP20-8.jpg
House	Not Available	1500.00	N	3	3	1	2013-10-27	1150.00	Mountain	Pets allowed	2021-12-29 12:20:00	2022-01-09	129	21	PP21-1.jpg
House	Not Available	1500.00	N	3	3	1	2013-10-27	1150.00	Mountain	Pets allowed	2021-12-29 12:20:00	2022-01-09	130	21	PP21-2.jpg
House	Not Available	1500.00	N	3	3	1	2013-10-27	1150.00	Mountain	Pets allowed	2021-12-29 12:20:00	2022-01-09	131	21	PP21-3.jpg
House	Not Available	1500.00	N	3	3	1	2013-10-27	1150.00	Mountain	Pets allowed	2021-12-29 12:20:00	2022-01-09	132	21	PP21-4.jpg
House	Not Available	1500.00	N	3	3	1	2013-10-27	1150.00	Mountain	Pets allowed	2021-12-29 12:20:00	2022-01-09	133	21	PP21-5.jpg
House	Not Available	1500.00	N	3	3	1	2013-10-27	1150.00	Mountain	Pets allowed	2021-12-29 12:20:00	2022-01-09	134	21	PP21-6.jpg
House	Not Available	1500.00	N	3	3	1	2013-10-27	1150.00	Mountain	Pets allowed	2021-12-29 12:20:00	2022-01-09	135	21	PP21-7.jpg
Townhouse	Not Available	3000.00	N	2	4	2	2010-10-27	1300.00	Mountain	Smoking Prohib...	2017-12-11 04:40:00	2018-01-05	144	23	PP23-1.jpg
Townhouse	Not Available	3000.00	N	2	4	2	2010-10-27	1300.00	Mountain	Smoking Prohib...	2017-12-11 04:40:00	2018-01-05	145	23	PP23-2.jpg
Townhouse	Not Available	3000.00	N	2	4	2	2010-10-27	1300.00	Mountain	Smoking Prohib...	2017-12-11 04:40:00	2018-01-05	146	23	PP23-3.jpg
Townhouse	Not Available	3000.00	N	2	4	2	2010-10-27	1300.00	Mountain	Smoking Prohib...	2017-12-11 04:40:00	2018-01-05	147	23	PP23-4.jpg
Townhouse	Not Available	3000.00	N	2	4	2	2010-10-27	1300.00	Mountain	Smoking Prohib...	2017-12-11 04:40:00	2018-01-05	148	23	PP23-5.jpg
Townhouse	Not Available	3000.00	N	2	4	2	2010-10-27	1300.00	Mountain	Smoking Prohib...	2017-12-11 04:40:00	2018-01-05	149	23	PP23-6.jpg
Townhouse	Not Available	3000.00	N	2	4	2	2010-10-27	1300.00	Mountain	Smoking Prohib...	2017-12-11 04:40:00	2018-01-05	150	23	PP23-7.jpg
Townhouse	Not Available	3000.00	N	2	4	2	2010-10-27	1300.00	Mountain	Smoking Prohib...	2017-12-11 04:40:00	2018-01-05	151	23	PP23-8.jpg
Townhouse	Not Available	3000.00	N	2	4	2	2010-10-27	1300.00	Mountain	Smoking Prohib...	2017-12-11 04:40:00	2018-01-05	152	23	PP23-9.jpg
House	Available	4500.00	Y	3	5	3	2008-10-27	2500.00	Mountain	Pets allowed	2018-12-15 01:40:00	2019-01-20	160	25	PP25-1.jpg
House	Available	4500.00	Y	3	5	3	2008-10-27	2500.00	Mountain	Pets allowed	2018-12-15 01:40:00	2019-01-20	161	25	PP25-2.jpg
House	Available	4500.00	Y	3	5	3	2008-10-27	2500.00	Mountain	Pets allowed	2018-12-15 01:40:00	2019-01-20	162	25	PP25-3.jpg
House	Available	4500.00	Y	3	5	3	2008-10-27	2500.00	Mountain	Pets allowed	2018-12-15 01:40:00	2019-01-20	163	25	PP25-4.jpg
House	Available	4500.00	Y	3	5	3	2008-10-27	2500.00	Mountain	Pets allowed	2018-12-15 01:40:00	2019-01-20	164	25	PP25-5.jpg
House	Available	4500.00	Y	3	5	3	2008-10-27	2500.00	Mountain	Pets allowed	2018-12-15 01:40:00	2019-01-20	165	25	PP25-6.jpg
House	Available	4500.00	Y	3	5	3	2008-10-27	2500.00	Mountain	Pets allowed	2018-12-15 01:40:00	2019-01-20	166	25	PP25-7.jpg
House	Available	4500.00	Y	3	5	3	2008-10-27	2500.00	Mountain	Pets allowed	2018-12-15 01:40:00	2019-01-20	167	25	PP25-8.jpg

Property_Photo

Queries

```
SELECT pp.* FROM Property AS p INNER JOIN Property_Photo AS pp ON  
p.Property_ID = pp.Property_ID WHERE p.Property_Type = 'Townhouse' and  
Property_Payment BETWEEN 3000 AND 4500;
```

Property_Photo_ID	Property_ID	Property_Photo
9	2	PP2-1.jpg
10	2	PP2-2.jpg
11	2	PP2-3.jpg
12	2	PP2-4.jpg
25	5	PP5-1.jpg
26	5	PP5-2.jpg
27	5	PP5-3.jpg
28	5	PP5-4.jpg
29	5	PP5-5.jpg
30	5	PP5-6.jpg
31	5	PP5-7.jpg
32	5	PP5-8.jpg
33	5	PP5-9.jpg
52	8	PP8-1.jpg
53	8	PP8-2.jpg
54	8	PP8-3.jpg
55	8	PP8-4.jpg
89	15	PP15-1.jpg
90	15	PP15-2.jpg
91	15	PP15-3.jpg
92	15	PP15-4.jpg
144	23	PP23-1.jpg
145	23	PP23-2.jpg
146	23	PP23-3.jpg
147	23	PP23-4.jpg
148	23	PP23-5.jpg
149	23	PP23-6.jpg
150	23	PP23-7.jpg
151	23	PP23-8.jpg
152	23	PP23-9.jpg

Property_Photo

Issues faced during finalization of table

- ❖ There was some conflict about adding property image like add fixed number of images or any number of images.
- ❖ For fixed number of images we were going to add fixed column of images as photo_1, photo_2, photo_3 and so on.
- ❖ At the end we decided to add any number of images with the property id because how many property images one want to add is not limited.

Property_Address Columns

1. Property_Adress_ID
2. State
3. City
4. Zipcode
5. Street_Line

Property_Address Creation Code

```
CREATE TABLE `Property_Address` (
  `Property_Address_ID` smallint unsigned NOT NULL AUTO_INCREMENT,
  `State` varchar(20) NOT NULL,
  `City` varchar(40) NOT NULL,
  `Zipcode` char(5) NOT NULL,
  `Street_Line` varchar(50) NOT NULL,
  PRIMARY KEY (`Property_Address_ID`)
);
```

Property_Address

Data

Property_Address_ID	State	City	Zipcode	Street_Line
1	New-York	New-York, Brooklyn	11230	414 Elmwood Ave APT 3-E
2	New-York	New-York, Brooklyn	11228	7210 Fort Hamilton Pkwy #1L
3	New-York	New-York, Brooklyn	11236	160 E 89th St #5D
4	New-York	New-York, Brooklyn	11210	730 E 32nd St #2C
5	New-York	New-York, Brooklyn	11226	800 Ocean Ave APT 4C
6	New-York	New-York, Brooklyn	11218	86 Chester Ave FLOOR 2
7	New-Jersey	Jersey City	07302	180 10th St
8	New-Jersey	Jersey City	07310	25 River Dr S
9	New-Jersey	Jersey City	07310	20 River Ct
10	New-Jersey	Jersey City	07310	1 Shore Ln APT 1007
11	New-Jersey	Jersey City	07302	270 10th St
12	New-Jersey	Newark	07105	45 Fleming Ave
13	New-Jersey	Newark	07105	88 Saint Francis St APT 1F
14	New-Jersey	Hoboken	07030	334 Washington St #1
15	New-Jersey	Harrison	07029	330 Angelo Cifelli D
16	New-Jersey	Union City	07087	1009-380 Mountain Rd #1009
17	New-York	New-York	10016	240 E 39th St
18	New-York	New-York	10019	305 W 50th St
19	New-York	New-York	10011	217 W 16th St APT A
20	New-York	New-York	10005	45 Wall St
21	New-York	New-York, Staten Island	10304	668 Richmond Rd #1F
22	New-York	New-York, Staten Island	10304	1000 Targee St
23	New-York	New-York, Staten Island	10305	19 Orlando St APT 1
24	New-York	New-York, Bronx	10454	340 E 134th St APT 4
25	New-York	New-York, Bronx	10454	112 Lincoln Ave
26	New-York	New-York	10014	25 King St APT 1RW
27	New-York	New-York	10014	661 Washington St #6
28	New-York	New-York	10014	45 Carmine St APT 3DD
29	New-York	New-York	10018	70 W 37th St
30	New-York	New-York	10009	310 E 2nd St
31	New-York	New-York, Brooklyn	11201	111 Lawrence St
32	New-York	New-York, Brooklyn	11201	17 Monroe Pl APT 4A
33	New-York	New-York, Brooklyn	11217	1 Flatbush Ave
34	New-Jersey	Jersey City	07302	474 Warren St
35	New-Jersey	Jersey City	07310	45 River Dr S
36	New-Jersey	Jersey City	07310	40 Newport Pkwy
37	New-Jersey	Hoboken	07030	253 3rd St #2A
38	New-Jersey	Hoboken	07030	77 Park Ave
39	New-Jersey	Jersey City	07306	615 Pavonia Ave
40	New-Jersey	Jersey City	07307	89 Sherman Ave #1

Property_Address

Queries

```
SELECT * FROM apartment_rent.Property_Address  
WHERE City LIKE '%b%n'
```

Property_Address_ID	State	City	Zipcode	Street_Line
1	New-York	New-York, Brooklyn	11230	414 Elmwood Ave APT 3-E
2	New-York	New-York, Brooklyn	11228	7210 Fort Hamilton Pkwy #1L
3	New-York	New-York, Brooklyn	11236	160 E 89th St #5D
4	New-York	New-York, Brooklyn	11210	730 E 32nd St #2C
5	New-York	New-York, Brooklyn	11226	800 Ocean Ave APT 4C
6	New-York	New-York, Brooklyn	11218	86 Chester Ave FLOOR 2
14	New-Jersey	Hoboken	07030	334 Washington St #1
31	New-York	New-York, Brooklyn	11201	111 Lawrence St
32	New-York	New-York, Brooklyn	11201	17 Monroe PI APT 4A
33	New-York	New-York, Brooklyn	11217	1 Flatbush Ave
37	New-Jersey	Hoboken	07030	253 3rd St #2A
38	New-Jersey	Hoboken	07030	77 Park Ave

Property_Address

Queries

```
SELECT State,City,Street_Line  
FROM apartment_rent.Property_Address  
ORDER BY City
```

State	City	Street_Line
New-Jersey	Harrison	330 Angelo Cifelli D
New-Jersey	Hoboken	77 Park Ave
New-Jersey	Hoboken	253 3rd St #2A
New-Jersey	Hoboken	334 Washington St #1
New-Jersey	Jersey City	89 Sherman Ave #1
New-Jersey	Jersey City	615 Pavonia Ave
New-Jersey	Jersey City	40 Newport Pkwy
New-Jersey	Jersey City	45 River Dr S
New-Jersey	Jersey City	180 10th St
New-Jersey	Jersey City	25 River Dr S
New-Jersey	Jersey City	20 River Ct
New-Jersey	Jersey City	1 Shore Ln APT 1007
New-Jersey	Jersey City	270 10th St
New-Jersey	Jersey City	474 Warren St
New-York	New-York	310 E 2nd St
New-York	New-York	70 W 37th St
New-York	New-York	240 E 39th St
New-York	New-York	305 W 50th St
New-York	New-York	217 W 16th St APT A
New-York	New-York	45 Wall St
New-York	New-York	45 Carmine St APT...
New-York	New-York	661 Washington St #6
New-York	New-York	25 King St APT 1RW
New-York	New-York, Bronx	340 E 134th St APT 4
New-York	New-York, Bronx	112 Lincoln Ave
New-York	New-York, Broo...	414 Elmwood Ave A...
New-York	New-York, Broo...	111 Lawrence St
New-York	New-York, Broo...	17 Monroe Pl APT 4A
New-York	New-York, Broo...	1 Flatbush Ave
New-York	New-York, Broo...	86 Chester Ave FLO...
New-York	New-York, Broo...	800 Ocean Ave APT...

Property_Address

Queries

```
SELECT Property_Address_ID, State, Street_Line  
FROM apartment_rent.Property_Address  
WHERE City NOT IN ('New-York,Bronx' ,  
'New-York,Staten Island')
```

Property_Address_ID	State	Street_Line
1	New-York	414 Elmwood Ave APT 3-E
2	New-York	7210 Fort Hamilton Pkwy #1L
3	New-York	160 E 89th St #5D
4	New-York	730 E 32nd St #2C
5	New-York	800 Ocean Ave APT 4C
6	New-York	86 Chester Ave FLOOR 2
7	New-Jersey	180 10th St
8	New-Jersey	25 River Dr S
9	New-Jersey	20 River Ct
10	New-Jersey	1 Shore Ln APT 1007
11	New-Jersey	270 10th St
12	New-Jersey	45 Fleming Ave
13	New-Jersey	88 Saint Francis St APT 1F
14	New-Jersey	334 Washington St #1
15	New-Jersey	330 Angelo Cifelli D
16	New-Jersey	1009-380 Mountain Rd #1009
17	New-York	240 E 39th St
18	New-York	305 W 50th St
19	New-York	217 W 16th St APT A
20	New-York	45 Wall St
21	New-York	668 Richmond Rd #1F
22	New-York	1000 Targee St
23	New-York	19 Orlando St APT 1
24	New-York	340 E 134th St APT 4
25	New-York	112 Lincoln Ave
26	New-York	25 King St APT 1RW
27	New-York	661 Washington St #6
28	New-York	45 Carmine St APT 3DD
29	New-York	70 W 37th St
30	New-York	310 E 2nd St
31	New-York	111 Lawrence St

Property_Address

Issues faced during finalization of table

- ❖ The Property_Address table plays a crucial role. New-York City and Neighborhood is a huge town with an enormous amount of possible addresses. It is important to consider transportation time because it impacts on the price. We included only buildings within one-hour transportation, since most of the students don't mind saving budget and compromising transit time.
- ❖ There was issue with data type of column "City". Firstly, we decided to set up Varchar(20), but this size was not enough for some cases. It is explained that some places have additional description (specific area or district), for instance New-York, Staten-Island.

Property_Owner Columns

1. Property_Owner_ID
2. Owner_First_Name
3. Owner_Last_Name
4. Owner_Phone
5. Owner_Email

Property_Owner Creation Code

```
CREATE TABLE `Property_Owner` (
  `Property_Owner_ID` smallint unsigned NOT NULL AUTO_INCREMENT,
  `Owner_First_Name` varchar(20) NOT NULL,
  `Owner_Last_Name` varchar(20) DEFAULT NULL,
  `Owner_Phone` varchar(20) NOT NULL,
  `Owner_Email` varchar(50) DEFAULT NULL,
  PRIMARY KEY (`Property_Owner_ID`)
);
```

Property_Owner Data

Property_Owner_ID	Owner_First_Name	Owner_Last_Name	Owner_Phone	Owner_Email
1	Austin	Bradley	8667553321	austinb@gmail.com
2	Dash	Kennedy	8632503321	dashk105@gmail.com
3	Lucia	Belle	9292104821	luciabelle@gmail.com
4	Emerson	Cove	9294264060	coveem@gmail.com
5	Heath	Everett	9294263341	heathev10@gmail.com
6	Layla	Auden	9294264898	laylaauden05@gmail.com
7	Lucia	Belle	8667343391	bellek@gmail.com
8	Jaxton	Pierce	9294265195	jaxonpierce15@gmail.com
9	LLC	InvestCapital	9295552555	info@Investcapital.com
10	Finn	Grayson	9294260590	finngr@gmail.com
11	Graham	Elliot	9294220935	grell@gmail.com
12	Damari	Grey	8632514455	damarig@gmail.com
13	Eden	Soleil	8633204161	edenoleil@gmail.com
14	Gemma	Snow	8637451520	gemmas15@gmail.com
15	Henslie	Tate	8639100235	hensliet@gmail.com
16	August	Leo	9293775747	augustleo@gmail.com
17	Bodhi	Atlas	9292551520	bodhiat@gmail.com
18	Dorian	Oliver	9290101143	dorianoliv@yahoo.com
19	Felix	Reid	9290120565	felixreid@yahoo.com
20	Graham	Elliot	8638150345	elliotgr@yahoo.com
21	Milo	Weston	7186995565	westonm@yahoo.com
22	Oliver	Hudson	7182724090	oliver75@yahoo.com
23	Renly	Quinn	7183735595	renly01@yahoo.com
24	Ryland	Carter	7182550500	carterr@gmail.com
25	James	Presley	7181770250	jamespresley@gmail.com
26	Livienne	Beatrix	7182550510	livienneB@gmail.com
27	Kira	Stella	7180103250	kiras01@gmail.com
28	Kesleigh	Morgan	7180201005	kesleigh05@yahoo.com
29	India	Rose	9291650130	indiarose@yahoo.com
30	Camden	Hunter	9290134565	camdenh90@gmail.com
31	Tarquin	Felix	9290227570	tarquinf@yahoo.com
32	Silas	Nixon	8633509590	nixons@gmail.com
33	Rory	Sutton	8631004420	suttonr@gmail.com
34	LLC	InvestCapital	9295552555	info@Investcapital.com
35	LLC	InvestCapital	9295552555	info@Investcapital.com
36	Preston	Eli	8639901515	elipreston@gmail.com
37	Jasper	Levi	8630278855	jasperl@yahoo.com
38	Grayson	Conrad	7180123535	conradg@gmail.com
39	Della	Faye	7188851012	fayedella@gmail.com
40	Liam	Hendrix	7180104555	liamhendrix@gmail.com

Property_Owner

Queries

```
SELECT Lease_Payment, Date_Contract_Sign,  
Duration, Security_Deposit, City, Street_Line  
FROM apartment_rent.Leasing_Contract  
INNER JOIN Property_Address  
ON Leasing_Contract_Id = Property_Address_ID
```

Owner_First_Name	Owner_Phone	City	Street_Line
Austin	8667553321	New-York, Brooklyn	414 Elmwood Ave APT 3-E
Dash	8632503321	New-York, Brooklyn	7210 Fort Hamilton Pkwy #1L
Lucia	9292104821	New-York, Brooklyn	160 E 89th St #5D
Emerson	9294264060	New-York, Brooklyn	730 E 32nd St #2C
Heath	9294263341	New-York, Brooklyn	800 Ocean Ave APT 4C
Layla	9294264898	New-York, Brooklyn	86 Chester Ave FLOOR 2
Lucia	8667343391	Jersey City	180 10th St
Jaxton	9294265195	Jersey City	25 River Dr S
LLC	9295552555	Jersey City	20 River Ct
Finn	9294260590	Jersey City	1 Shore Ln APT 1007
Graham	9294220935	Jersey City	270 10th St
Damari	8632514455	Newark	45 Fleming Ave
Eden	8633204161	Newark	88 Saint Francis St APT 1F
Gemma	8637451520	Hoboken	334 Washington St #1
Henslie	8639100235	Harrison	330 Angelo Cifelli D
August	9293775747	Union City	1009-380 Mountain Rd #1009
Bodhi	9292551520	New-York	240 E 39th St
Dorian	9290101143	New-York	305 W 50th St
Felix	9290120565	New-York	217 W 16th St APT A
Graham	8638150345	New-York	45 Wall St
Milo	7186995565	New-York, Staten Island	668 Richmond Rd #1F
Oliver	7182724090	New-York, Staten Island	1000 Targee St
Renly	7183735595	New-York, Staten Island	19 Orlando St APT 1
Ryland	7182550500	New-York, Bronx	340 E 134th St APT 4
James	7181770250	New-York, Bronx	112 Lincoln Ave
Livienne	7182550510	New-York	25 King St APT 1RW
Kira	7180103250	New-York	661 Washington St #6
Kesleigh	7180201005	New-York	45 Carmine St APT 3DD
India	9291650130	New-York	70 W 37th St

Property_Owner

Queries

```
SELECT *
FROM apartment_rent.Property_Owner
WHERE Owner_First_Name LIKE 'L_C'
```

Property_Owner_ID	Owner_First_Name	Owner_Last_Name	Owner_Phone	Owner_Email	
9	LLC	InvestCapital	9295552555	info@Investcapital.com	
34	LLC	InvestCapital	9295552555	info@Investcapital.com	
35	LLC	InvestCapital	9295552555	info@Investcapital.com	
NULL	NULL	NULL	NULL	NULL	

Tenant Columns

1. Tenant_ID
2. Property_ID
3. Tenant_First_Name
4. Tenant_Last_Name
5. Tenant_Phone
6. Tenant_Email
7. Tenant_Credit_Record
8. Tenant_Annual_Income
9. Amount_Of_Savings

Tenant Creation Code

```
CREATE TABLE `Tenant` (
  `Tenant_ID` smallint unsigned NOT NULL AUTO_INCREMENT,
  `Property_ID` smallint unsigned NOT NULL,
  `Tenant_First_Name` varchar(20) NOT NULL,
  `Tenant_Last_Name` varchar(20) DEFAULT NULL,
  `Tenant_Phone` varchar(20) NOT NULL,
  `Tenant_Email` varchar(50) DEFAULT NULL,
  `Tenant_Credit_Record` smallint unsigned NOT NULL,
  `Tenant_Annual_Income` mediumint unsigned DEFAULT NULL,
  `Amount_Of_Savings` int unsigned DEFAULT NULL,
  PRIMARY KEY (`Tenant_ID`),
  KEY `Property_ID` (`Property_ID`),
  CONSTRAINT `tenant_ibfk_1` FOREIGN KEY (`Property_ID`) REFERENCES `Property`(`Property_ID`) ON DELETE CASCADE ON UPDATE CASCADE
);
```

Tenant Data

Data

Tenant_ID	Property_ID	Tenant_First_Name	Tenant_Last_Name	Tenant_Phone	Tenant_Email	Tenant_Credit_Record	Tenant_Annual_Income	Amount_Of_Savings
1	1	Sally	Churchill	8667223338	sallyc@gmail.com	700	50000	200000
2	2	Phil	Hamilton	8667223340	philh@gmail.com	710	6000	300000
3	3	Amanda	Mills	8667223342	amandam@gmail.com	690	NULL	200000
4	4	Sally	Gray	8667223490	sallyg@gmail.com	750	70000	400000
5	5	Oliver	Lambert	8667223587	oliverl@gmail.com	770	110000	2000000
6	6	Heather	Macleod	8667223645	heatherm@gmail.com	750	90000	1000000
7	7	David	Roberts	8667223753	davidr@gmail.com	755	60000	100000
8	8	Sonia	King	86672233823	soniak@hotmail.com	740	70000	200000
9	9	Ryan	Bower	8667223967	ryanb@hotmail.com	730	90000	600000
10	10	Connor	Butler	8667222178	connorb@hotmail.com	710	80000	800000
11	11	Gavin	Greene	8667222231	gaving@gmail.com	700	90000	500000
12	12	Julia	Bailey	8667222267	juliab@gmail.com	720	140000	200000
13	13	Finona	McDonald	8667222190	finonam@gmail.com	725	200000	300000
14	14	Jan	Mclean	8667343321	janm@gmail.com	730	190000	300000
15	15	Neil	Campbell	8667343330	neilc@hotmail.com	734	80000	500000
16	16	Gavin	Terry	8667343349	gavint@gmail.com	756	70000	400000
17	17	Megan	Nash	8667343353	megann@hotmail.com	742	90000	300000
18	18	Deirdre	May	8667343361	deirdrem@hotmail.com	690	40000	100000
19	19	Theresa	Roberts	8667343379	teresar@hotmail.com	680	50000	100000
20	20	Piers	Skinner	8667343385	pierss@gmail.com	705	NULL	200000
21	21	Adam	Reid	8667343391	adamr@gmail.com	780	0	300000
22	22	Eric	Payne	8667343396	ericp@gmail.com	710	0	150000
23	23	Audrey	Thomoson	8667373321	audreyt@hotmail.com	723	0	170000
24	24	Gordon	Alsop	8667373321	gordona@gmail.com	712	0	100000
25	25	Joe	Slater	8667373321	joes@gmail.com	650	0	100000

Amenities Columns

Furnishing_ID,

Property_ID,

Is_Air_Condition,

Is_Parking,

Number_Of_Parking,

Is_Central_Heating,

Is_Laundry,

Is_Fireplace,

Are_Closets,

Is_Backyard,

Are_Pets_Allowed,

Is_Microwave,

Is_Dishwasher

Need for Amenities Table

- ❖ Amenities Table describes and expands on the information that relates with a property details which will be available to everyone looking to purchase one of these properties mentioned in our Database, such as Number of Parking, Pets Allowed, and other important details that would help to finalise the purchasing decision faster.
- ❖ The Data here is kept very simple and easy for viewers use.

Amenities Creation Code

```
CREATE TABLE `Amenities` (
  `Furnishing_ID` int unsigned NOT NULL AUTO_INCREMENT,
  `Property_ID` smallint unsigned NOT NULL,
  `Is_Air_Condition` char(1) NOT NULL,
  `Is_Parking` char(1) DEFAULT NULL,
  `Number_Of_Parking` char(1) DEFAULT NULL,
  `Is_Central_Heating` char(1) NOT NULL,
  `Is_Laundry` char(1) NOT NULL,
  `Is_Fireplace` char(1) NOT NULL,
  `Are_Closets` char(1) DEFAULT NULL,
  `Is_Backyard` char(1) DEFAULT NULL,
  `Are_Pets_Allowed` char(1) NOT NULL,
  `Is_Microwave` char(1) DEFAULT NULL,
  `Is_Dishwasher` char(1) DEFAULT NULL,
  PRIMARY KEY (`Furnishing_ID`),
  KEY `Property_ID` (`Property_ID`),
  CONSTRAINT `amenities_ibfk_1` FOREIGN KEY (`Property_ID`) REFERENCES `Property`(`Property_ID`) ON DELETE CASCADE ON UPDATE CASCADE
);
```

Amenities Table Data

Furnishing_ID	Property_ID	Is_Air_Condition	Is_Parking	Number_Of_Parking	Is_Central_Heating	Is_Laundry	Is_Fireplace	Are_Closets	Is_Backyard	Are_Pets_Allowed	Is_Microwave	Is_Dishwasher
1	1	N	Y		1	Y	Y	Y	N	Y	Y	Y
2	2	Y	Y		1	Y	Y	Y	Y	Y	N	Y
3	3	Y	Y		2	Y	Y	Y	Y	Y	Y	Y
4	4	N	Y		2	Y	Y	Y	Y	Y	Y	Y
5	5	N	Y		1	Y	Y	Y	Y	Y	Y	Y
6	6	N	Y		1	Y	Y	N	Y	N	N	Y
7	7	N	Y		1	Y	Y	N	Y	N	Y	Y
8	8	Y	Y		1	Y	Y	Y	Y	Y	Y	Y
9	9	N	Y		1	Y	Y	Y	Y	N	Y	Y
10	10	Y	Y		2	Y	Y	Y	Y	Y	Y	Y
11	11	N	Y		1	Y	Y	N	Y	N	N	Y
12	12	N	Y		1	Y	Y	N	Y	N	Y	Y
13	13	Y	Y		2	Y	Y	Y	Y	Y	Y	Y
14	14	N	Y		1	Y	Y	N	Y	N	Y	Y
15	15	Y	Y		1	Y	Y	Y	Y	Y	Y	Y
16	16	N	Y		1	Y	Y	N	Y	N	N	Y
17	17	N	Y		1	Y	Y	N	Y	N	N	Y
18	18	Y	Y		2	Y	Y	Y	Y	Y	Y	Y
19	19	N	Y		1	Y	Y	N	Y	N	Y	Y
20	20	Y	Y		2	Y	Y	Y	Y	Y	N	Y
21	21	Y	Y		2	Y	Y	Y	Y	Y	Y	Y
22	22	N	Y		1	Y	Y	N	Y	N	Y	Y
23	23	Y	Y		2	Y	Y	Y	Y	Y	Y	Y
24	24	N	Y		1	Y	Y	N	Y	N	N	Y
25	25	Y	Y		2	Y	Y	Y	Y	Y	Y	Y
26	26	Y	Y		2	Y	Y	N	Y	N	Y	Y
27	27	Y	Y		2	Y	Y	N	Y	N	Y	Y
28	28	Y	Y		2	Y	Y	N	Y	N	N	Y
29	29	Y	Y		1	Y	Y	N	Y	N	N	Y
30	30	N	Y		1	Y	Y	N	Y	N	N	Y
31	31	N	Y		1	Y	Y	N	Y	N	N	Y
32	32	Y	Y		2	Y	Y	N	Y	Y	Y	Y
33	33	Y	Y		2	Y	Y	Y	Y	N	Y	Y
34	34	N	Y		2	Y	Y	Y	Y	Y	Y	Y
35	35	N	Y		2	Y	Y	Y	Y	Y	Y	Y
36	36	Y	Y		2	Y	Y	N	Y	N	Y	Y
37	37	Y	Y		2	Y	Y	N	Y	N	Y	Y
38	38	Y	Y		2	Y	Y	N	Y	N	N	Y
39	39	Y	Y		2	Y	Y	N	Y	N	Y	Y
40	40	Y	Y		2	Y	Y	N	Y	N	Y	Y

Amenities Table

```
SELECT p.Property_Owner_ID, a.Is_Air_Condition, a.Is_Central_Heating, a.Are_Pets_Allowed, p.Property_Status,  
p.Available_Date  
FROM amenities a  
JOIN property p on a.Property_ID = p.Property_ID  
WHERE Are_Pets_Allowed = 'Y'  
AND p.Property_Status = 'Available'
```

Property_Owner_ID	Is_Air_Condition	Is_Central_Heating	Are_Pets_Allowed	Property_Status	Available_Date
4	N	Y	Y	Available	2010-10-25
8	Y	Y	Y	Available	2018-01-05
9	N	Y	Y	Available	2016-01-14
10	Y	Y	Y	Available	2017-01-05
13	Y	Y	Y	Available	2014-12-10
14	N	Y	Y	Available	2019-01-21
15	Y	Y	Y	Available	2022-01-01
18	Y	Y	Y	Available	2011-12-25
19	N	Y	Y	Available	2013-12-05
22	N	Y	Y	Available	2018-01-07
25	Y	Y	Y	Available	2019-01-20
26	Y	Y	Y	Available	2022-04-30
27	Y	Y	Y	Available	2022-03-01
33	Y	Y	Y	Available	2022-05-31
35	N	Y	Y	Available	2022-06-15
36	Y	Y	Y	Available	2022-06-15
39	Y	Y	Y	Available	2022-07-30
40	Y	Y	Y	Available	2022-07-01

Leasing_Contract Columns

1. Leasing_Contract_Id
2. Tenant_ID
3. Lease_Payment
4. Date_Contract_Sign
5. Start_Date
6. End_Date
7. Duration
8. Admin_Fee
9. Broker_Fee
10. Security_Deposit

Leasing_Contract Creation Code

```
CREATE TABLE `Leasing_Contract` (
  `Leasing_Contract_Id` smallint unsigned NOT NULL AUTO_INCREMENT,
  `Tenant_ID` smallint unsigned NOT NULL,
  `Lease_Payment` decimal(6,2) NOT NULL,
  `Date_Contract_Sign` date DEFAULT NULL,
  `Start_Date` date DEFAULT NULL,
  `End_Date` date DEFAULT NULL,
  `Duration` varchar(20) DEFAULT NULL,
  `Admin_Fee` smallint unsigned DEFAULT NULL,
  `Broker_Fee` smallint unsigned DEFAULT NULL,
  `Security_Deposit` smallint unsigned DEFAULT NULL,
  PRIMARY KEY (`Leasing_Contract_Id`),
  KEY `Tenant_ID` (`Tenant_ID`),
  CONSTRAINT `leasing_contract_ibfk_1` FOREIGN KEY (`Tenant_ID`) REFERENCES `Tenant`(`Tenant_ID`) ON DELETE CASCADE ON UPDATE CASCADE
);
```

Leasing_Contract Data

Leasing_Contract_Id	Tenant_ID	Lease_Payment	Date_Contract_Sign	Start_Date	End_Date	Duration	Admin_Fee	Broker_Fee	Security_Deposit
1	1	2000.00	2010-11-12	2011-03-17	2012-03-17	One year	60	2200	3000
2	2	3000.00	2009-12-20	2010-02-28	2011-02-28	One year	60	3300	4500
3	3	2700.00	2008-12-01	2008-12-29	2009-12-29	One year	60	3000	3500
4	4	3300.00	2010-10-09	2010-11-15	2012-11-15	Two years	75	3500	4950
5	5	3200.00	2016-10-09	2016-11-30	2018-11-30	Two years	70	3400	4800
6	6	2200.00	2022-01-09	2022-01-20	2022-07-20	Six months	60	2400	3300
7	7	1800.00	2018-01-22	2018-02-01	2019-02-01	One years	50	2000	2700
8	8	3600.00	2018-01-04	2018-02-05	2020-02-05	Three years	80	3900	5400
9	9	2400.00	2016-01-10	2016-01-24	2018-01-24	Two years	60	2700	3600
10	10	3300.00	2017-01-03	2017-02-20	2017-08-20	Six months	70	3500	4950
11	11	1200.00	2017-01-17	2017-01-30	2018-01-30	One year	500	1400	1800
12	12	1000.00	2016-01-02	2016-01-12	2017-01-12	One year	40	1300	1500
13	13	1600.00	2014-10-18	2014-12-20	2017-12-20	Three years	50	1800	2400
14	14	3600.00	2019-01-15	2019-02-26	2023-02-26	Five years	80	3900	5400
15	15	3600.00	2022-01-08	2022-01-20	2023-01-20	One year	70	3800	5400
16	16	1500.00	2020-01-19	2020-02-15	2023-02-15	Three years	40	1700	2250
17	17	1500.00	2022-01-10	2022-01-31	2023-01-31	One year	50	1800	2250
18	18	2100.00	2011-12-22	2012-01-05	2014-01-05	Two years	60	2300	3150
19	19	1800.00	2013-09-12	2013-12-15	2015-12-15	Two years	50	2000	2700
20	20	2700.00	2020-01-03	2020-01-21	2023-01-21	Three years	60	2900	4050
21	21	1500.00	2022-01-03	2022-01-16	2023-01-16	One year	40	1700	2250
22	22	1000.00	2018-02-01	2018-03-08	2018-09-28	Six months	30	1200	1500
23	23	3000.00	2018-01-08	2018-01-24	2020-01-24	Two years	70	3300	4500
24	24	2500.00	2017-01-30	2017-02-10	2020-02-10	Three years	50	2700	3750
25	25	4500.00	2019-02-20	2019-03-25	2020-03-25	One year	90	4700	6750

Leasing_Contract

Queries

```
SELECT *
FROM apartment_rent.Leasing_Contract
WHERE Admin_Fee < 60 AND Lease_Payment < 2400.00
```

Leasing_Contract_Id	Tenant_ID	Lease_Payment	Date_Contract_Sign	Start_Date	End_Date	Duration	Admin_Fee	Broker_Fee	Security_Deposit
7	7	1800.00	2018-01-22	2018-02-01	2019-02-01	One years	50	2000	2700
12	12	1000.00	2016-01-02	2016-01-12	2017-01-12	One year	40	1300	1500
13	13	1600.00	2014-10-18	2014-12-20	2017-12-20	Three years	50	1800	2400
16	16	1500.00	2020-01-19	2020-02-15	2023-02-15	Three years	40	1700	2250
17	17	1500.00	2022-01-10	2022-01-31	2023-01-31	One year	50	1800	2250
19	19	1800.00	2013-09-12	2013-12-15	2015-12-15	Two years	50	2000	2700
21	21	1500.00	2022-01-03	2022-01-16	2023-01-16	One year	40	1700	2250
22	22	1000.00	2018-02-01	2018-03-08	2018-09-28	Six months	30	1200	1500

Leasing_Contract

Queries

```

SELECT Lease_Payment,
       Date_Contract_Sign, Duration, Security_Deposit
  FROM apartment_rent.Leasing_Contract
 INNER JOIN Property_Address
    ON Leasing_Contract_Id = Property_Address_ID
  
```

Lease_Payment	Date_Contract_Sign	Duration	Security_Deposit	City	Street_Line
2000.00	2010-11-12	One year	3000	New-York, Brooklyn	414 Elmwood Ave APT 3-E
3000.00	2009-12-20	One year	4500	New-York, Brooklyn	7210 Fort Hamilton Pkwy #1L
2700.00	2008-12-01	One year	3500	New-York, Brooklyn	160 E 89th St #5D
3300.00	2010-10-09	Two years	4950	New-York, Brooklyn	730 E 32nd St #2C
3200.00	2016-10-09	Two years	4800	New-York, Brooklyn	800 Ocean Ave APT 4C
2200.00	2022-01-09	Six months	3300	New-York, Brooklyn	86 Chester Ave FLOOR 2
1800.00	2018-01-22	One years	2700	Jersey City	180 10th St
3600.00	2018-01-04	Three years	5400	Jersey City	25 River Dr S
2400.00	2016-01-10	Two years	3600	Jersey City	20 River Ct
3300.00	2017-01-03	Six months	4950	Jersey City	1 Shore Ln APT 1007
1200.00	2017-01-17	One year	1800	Jersey City	270 10th St
1000.00	2016-01-02	One year	1500	Newark	45 Fleming Ave
1600.00	2014-10-18	Three years	2400	Newark	88 Saint Francis St APT 1F
3600.00	2019-01-15	Five years	5400	Hoboken	334 Washington St #1
3600.00	2022-01-08	One year	5400	Harrison	330 Angelo Cifelli D
1500.00	2020-01-19	Three years	2250	Union City	1009-380 Mountain Rd #1009
1500.00	2022-01-10	One year	2250	New-York	240 E 39th St
2100.00	2011-12-22	Two years	3150	New-York	305 W 50th St
1800.00	2013-09-12	Two years	2700	New-York	217 W 16th St APT A
2700.00	2020-01-03	Three years	4050	New-York	45 Wall St
1500.00	2022-01-03	One year	2250	New-York, Staten Island	668 Richmond Rd #1F
1000.00	2018-02-01	Six months	1500	New-York, Staten Island	1000 Targee St
3000.00	2018-01-08	Two years	4500	New-York, Staten Island	19 Orlando St APT 1
2500.00	2017-01-30	Three years	3750	New-York, Bronx	340 E 134th St APT 4
4500.00	2019-02-20	One year	6750	New-York, Bronx	112 Lincoln Ave

Conclusion

- ❖ After putting our knowledge we have for “Database Management System” as well as with MySql helped us to complete our optimised rental unit system.
- ❖ In conclusion, we are able to fulfill all the requirement we are asked to do in this project and have created great database system.

RENTAL UNIT SYSTEM

Thank You

