

```

#importing the required libraries
import pandas as pd
import numpy as np

# loading the dataset
dataset = pd.read_csv("RealEstateAU updated.csv")
dataset

```

```

      property_type building_size preferred_size
price \
0      House      NaN      NaN      $435,000
1      Apartment  171m²      171m² Offers Over $320,000
2      Unit      NaN      NaN      $310,000
3      House      NaN      NaN      $259,000
4      Unit      201m²      201m²      $439,000
..      ...      ...      ...      ...
995     House      NaN      9170      2 Residence
996     House      203m²      600m²      $601,000
997     House      209.6m²      800m²      $655,000
998     House      180m²      450m²      $675,000
999     Unit      120m²      120m²      $399,000

```

```

      product_depth bedroom_count bathroom_count parking_count
0      premiere      2.0      1.0      1.0
1      premiere      3.0      2.0      2.0
2      premiere      2.0      1.0      1.0
3      premiere      1.0      1.0      0.0
4      premiere      3.0      2.0      2.0
..      ...      ...      ...      ...
995     feature      4.0      3.0      6.0
996     standard      4.0      2.0      2.0
997     standard      4.0      2.0      2.0
998     standard      4.0      2.0      3.0
999     feature      2.0      2.0      2.0

```

```
[1000 rows x 8 columns]
```

```

#checking the no of rows and columns
dataset.shape

```

```
(1000, 8)
```

```
#checking the column names
```

```
dataset.columns
```

```
Index(['property_type', 'building_size', 'preferred_size', 'price',  
      'product_depth', 'bedroom_count', 'bathroom_count',  
      'parking_count'],  
      dtype='object')
```

```
# checking the null values in the dataset
```

```
dataset.isnull().sum()
```

```
property_type      0  
building_size     720  
preferred_size    391  
price              1  
product_depth      0  
bedroom_count     33  
bathroom_count    33  
parking_count     33  
dtype: int64
```

```
#finding the mean of the bedroom_count column
```

```
bedroomMean = dataset["bedroom_count"].mean()
```

```
bathroomMean = dataset["bathroom_count"].mean()
```

```
parkingMean = dataset["parking_count"].mean()
```

```
print(bedroomMean)
```

```
print(bathroomMean)
```

```
print(parkingMean)
```

```
2.8665977249224404
```

```
1.7394002068252328
```

```
2.1520165460186145
```

```
# replacing the null values in bedroom, bathroom and parking with  
their mean values
```

```
dataset["bedroom_count"].fillna(bedroomMean, inplace=True)
```

```
dataset["bathroom_count"].fillna(bathroomMean, inplace=True)
```

```
dataset["parking_count"].fillna(parkingMean, inplace=True)
```

```
dataset.isnull().sum()
```

```
property_type      0  
building_size     720  
preferred_size    391  
price              1  
product_depth      0  
bedroom_count     0  
bathroom_count    0
```

```
parking_count      0
dtype: int64
```

```
dataset
```

```
   property_type  building_size  preferred_size  price \
0      House      NaN      NaN      $435,000
1  Apartment  171m2  171m2  Offers Over $320,000
2      Unit      NaN      NaN      $310,000
3      House      NaN      NaN      $259,000
4      Unit  201m2  201m2      $439,000
..      ...      ...      ...      ...
995     House      NaN      9170      2 Residence
996     House  203m2  600m2      $601,000
997     House  209.6m2  800m2      $655,000
998     House  180m2  450m2      $675,000
999     Unit  120m2  120m2      $399,000
```

```
   product_depth  bedroom_count  bathroom_count  parking_count
0      premiere      2.0      1.0      1.0
1      premiere      3.0      2.0      2.0
2      premiere      2.0      1.0      1.0
3      premiere      1.0      1.0      0.0
4      premiere      3.0      2.0      2.0
..      ...      ...      ...      ...
995     feature      4.0      3.0      6.0
996     standard      4.0      2.0      2.0
997     standard      4.0      2.0      2.0
998     standard      4.0      2.0      3.0
999     feature      2.0      2.0      2.0
```

```
[1000 rows x 8 columns]
```

```
# building size, land size and preferred size has units along with numbers. Removing the units
dataset["building_size"]=dataset.building_size.str.split('m').str[0]
dataset["preferred_size"]=dataset.preferred_size.str.split('m').str[0]
dataset["price"]=dataset.price.str.split('$').str[1]
```

```
print(dataset.to_string())
```

	property_type	building_size	preferred_size	
price	product_depth	bedroom_count	bathroom_count	parking_count
0		House	NaN	NaN
435,000	premiere	2.000000	1.0000	1.000000
1	Apartment	171	171	
320,000	premiere	3.000000	2.0000	2.000000
2	Unit	NaN	NaN	
310,000	premiere	2.000000	1.0000	1.000000
3	House	NaN	NaN	
259,000	premiere	1.000000	1.0000	0.000000
4	Unit	201	201	
439,000	premiere	3.000000	2.0000	2.000000
5	Apartment	218	218	
825,000	premiere	3.000000	2.0000	2.000000
6	Unit	NaN	NaN	
820,000	premiere	3.000000	2.0000	2.000000
7	Unit	NaN	105	
369000	premiere	2.000000	1.0000	1.000000
8	Unit	NaN	NaN	
439,000	premiere	2.000000	2.0000	1.000000
9	Apartment	NaN	NaN	
455,000	premiere	2.000000	2.0000	1.000000
10	Apartment	NaN	NaN	
280,000	premiere	1.000000	1.0000	1.000000
11	Apartment	NaN	NaN	
NaN	premiere	3.000000	2.0000	2.000000
12	Unit	173	173	
439,000	premiere	2.000000	2.0000	2.000000
13	House	236	236	
775,000	premiere	3.000000	2.0000	2.000000
14	Apartment	181	181	
625,000	premiere	3.000000	2.0000	2.000000
15	Unit	NaN	NaN	
599,000	premiere	2.000000	2.0000	2.000000
16	Apartment	69	69	
490,000	premiere	1.000000	1.0000	1.000000
17	Unit	62	62	
337,500	premiere	1.000000	1.0000	0.000000
18	Unit	NaN	NaN	
NaN	premiere	1.000000	1.0000	0.000000
19	House	138	138	
439,000	premiere	2.000000	2.0000	1.000000
20	Apartment	NaN	NaN	
NaN	premiere	3.000000	2.0000	2.000000
21	Apartment	155	155	
440,000	midtier	2.000000	2.0000	2.000000
22	Apartment	114	114	
640,000	premiere	2.000000	2.0000	2.000000

23	Apartment		NaN		NaN
500,000	premiere	1.000000		1.0000	1.000000
24	Unit		NaN		53
305,000	premiere	1.000000		1.0000	1.000000
25	Unit		NaN		NaN
295,000	premiere	1.000000		1.0000	1.000000
26	Unit		340		340
795,000	premiere	3.000000		3.0000	4.000000
27	Unit		NaN		236
950,000	premiere	3.000000		2.0000	2.000000
28	House		NaN		NaN
485,000	premiere	2.000000		2.0000	2.000000
29	Unit		51		51
250,000	premiere	1.000000		1.0000	1.000000
30	Apartment		NaN		NaN
549,000	premiere	2.000000		2.0000	2.000000
31	Apartment		48		48
299,000	premiere	1.000000		1.0000	1.000000
32	Apartment		NaN		NaN
395,000	premiere	3.000000		1.0000	1.000000
33	Unit		NaN		NaN
NaN	premiere	1.000000		1.0000	1.000000
34	Unit		NaN		127
475,000	premiere	2.000000		2.0000	2.000000
35	Unit		140		140
NaN	premiere	2.000000		2.0000	2.000000
36	House		NaN		NaN
NaN	premiere	2.000000		2.0000	2.000000
37	Apartment		81		81
465,000	premiere	1.000000		1.0000	1.000000
38	Apartment		NaN		NaN
600,000	premiere	3.000000		2.0000	2.000000
39	Apartment		235		235
980,000	premiere	3.000000		2.0000	2.000000
40	Apartment		NaN		NaN
1,050,000	premiere	3.000000		2.0000	2.000000
41	Apartment		NaN		NaN
NaN	premiere	3.000000		2.0000	2.000000
42	House		81		81
450,000	premiere	1.000000		1.0000	1.000000
43	Apartment		NaN		NaN
749,000	premiere	3.000000		2.0000	2.000000
44	Apartment		NaN		NaN
NaN	premiere	3.000000		3.0000	2.000000
45	Unit		NaN		NaN
289,000	premiere	1.000000		1.0000	1.000000
46	Apartment		NaN		NaN
490,000	premiere	2.000000		2.0000	2.000000
47	Apartment		NaN		NaN
NaN	premiere	3.000000		2.0000	2.000000

48		Unit	NaN		NaN	
565,000		premiere	2.000000	2.0000	2.000000	
49		Apartment	130		130	
399,000		premiere	2.000000	2.0000	2.000000	
50		Apartment	NaN		NaN	
469,000		premiere	3.000000	2.0000	2.000000	
51		Apartment	NaN		NaN	
649,000		premiere	4.000000	2.0000	2.000000	
52		Unit	NaN		NaN	
499,000		feature	1.000000	1.0000	1.000000	
53		Apartment	NaN		NaN	
400,000		premiere	2.000000	2.0000	1.000000	
54		Apartment	NaN		NaN	
800,000		premiere	3.000000	2.0000	2.000000	
55		Unit	93		93	
NaN		premiere	1.000000	1.0000	1.000000	
56		Apartment	53		53	
299,000		premiere	1.000000	1.0000	1.000000	
57		Unit	NaN		74	
580,000		standard	1.000000	1.0000	1.000000	
58		Apartment	138		138	
375,000		premiere	2.000000	2.0000	2.000000	
59		Apartment	NaN		NaN	
489,000		feature	2.000000	2.0000	1.000000	
60		Unit	NaN		52	
195,000		premiere	1.000000	1.0000	1.000000	
61		Apartment	NaN		NaN	
505,000		premiere	2.000000	2.0000	2.000000	
62		Apartment	NaN		NaN	
325,000		feature	2.000000	2.0000	2.000000	
63		Apartment	NaN		NaN	
539,000	negotiable	standard		2.000000		2.0000
1.000000						
64		Apartment	NaN		NaN	
180,000		feature	1.000000	1.0000	0.000000	
65		Apartment	198		198	
NaN		premiere	3.000000	2.0000	2.000000	
66		Unit	33		33	
145,000		standard	1.000000	1.0000	0.000000	
67		Apartment	NaN		NaN	
215,000		feature	1.000000	1.0000	1.000000	
68		Apartment	NaN		NaN	
450,000		standard	2.000000	2.0000	1.000000	
69		Apartment	255		255	
865,000		standard	3.000000	2.0000	2.000000	
70		Apartment	NaN		NaN	
400,000		premiere	2.000000	2.0000	1.000000	
71		Unit	NaN		154	
369,000		premiere	2.000000	2.0000	2.000000	
72		Apartment	66		66	

350,000	feature	1.000000		1.0000	1.000000
73	Unit		NaN	NaN	
549,000	premiere	3.000000		2.0000	2.000000
74	Apartment		NaN	NaN	
539,000	standard	2.000000		2.0000	1.000000
75	Apartment		83	83	
NaN	premiere	1.000000		1.0000	0.000000
76	Apartment		110	110	
490,000	premiere	2.000000		2.0000	1.000000
77	Apartment		NaN	NaN	
209,000	Negotiate	feature		1.000000	1.0000
1.000000					
78	Apartment		NaN	NaN	
420,000	premiere	2.000000		2.0000	2.000000
79	Unit		150	150	
NaN	standard	2.000000		2.0000	2.000000
80	Unit		NaN	153	
510,000	standard	3.000000		2.0000	2.000000
81	Unit		NaN	NaN	
NaN	premiere	3.000000		2.0000	2.000000
82	Unit		NaN	NaN	
535,000	premiere	2.000000		2.0000	2.000000
83	Unit		NaN	66	
335,000	feature	1.000000		1.0000	1.000000
84	Apartment		153	153	
NaN	premiere	2.000000		2.0000	1.000000
85	Apartment		NaN	NaN	
850,000	feature	4.000000		2.0000	2.000000
86	Apartment		NaN	NaN	
510,000	feature	3.000000		2.0000	2.000000
87	Unit		NaN	242	
1,300,000	premiere	3.000000		2.0000	2.000000
88	Unit		80	80	
580,000	premiere	2.000000		2.0000	2.000000
89	Apartment		NaN	NaN	
470,000	feature	3.000000		2.0000	1.000000
90	Apartment		NaN	NaN	
539,000	feature	2.000000		2.0000	1.000000
91	Unit		NaN	NaN	
519,000	premiere	2.000000		2.0000	2.000000
92	Unit		NaN	50	
219,000	premiere	1.000000		1.0000	1.000000
93	Apartment		NaN	NaN	
235,000	negotiable	feature		1.000000	1.0000
1.000000					
94	Apartment		NaN	NaN	
315,000	feature	1.000000		1.0000	1.000000
95	Unit		NaN	NaN	
450,000	feature	3.000000		2.0000	2.000000
96	Apartment		200	200	

NaN	standard	3.000000	2.0000	2.000000
97	Apartment	NaN	NaN	
380,000	standard	2.000000	2.0000	0.000000
98	Apartment	NaN	NaN	
275,000	feature	2.000000	1.0000	1.000000
99	Apartment	NaN	NaN	
1,070,000	feature	4.000000	2.0000	2.000000
100	Unit	NaN	NaN	
270,000	feature	1.000000	1.0000	1.000000
101	Apartment	172.06	172.06	
1,100,000	standard	3.000000	2.0000	2.000000
102	Unit	NaN	125	
NaN	feature	3.000000	2.0000	0.000000
103	House	NaN	209	
550,000	feature	3.000000	2.0000	1.000000
104	Apartment	NaN	NaN	
NaN	feature	2.000000	2.0000	2.000000
105	Unit	NaN	NaN	
380,000	feature	1.000000	1.0000	1.000000
106	Apartment	NaN	NaN	
868,000	standard	3.000000	2.0000	2.000000
107	Apartment	NaN	NaN	
NaN	feature	2.000000	2.0000	0.000000
108	Apartment	NaN	NaN	
539,000	feature	2.000000	2.0000	1.000000
109	Apartment	NaN	NaN	
165,000	feature	1.000000	1.0000	1.000000
110	Studio	52	52	
130,000	premiere	1.000000	1.0000	1.000000
111	Apartment	NaN	NaN	
589,000	standard	3.000000	2.0000	2.000000
112	Apartment	18	18	
360,000	standard	2.000000	2.0000	2.000000
113	Apartment	NaN	NaN	
430,000	standard	3.000000	2.0000	2.000000
114	Apartment	NaN	NaN	
839,000	standard	3.000000	2.0000	2.000000
115	Unit	33	33	
147,000	feature	1.000000	1.0000	0.000000
116	Unit	NaN	54	
270,000	feature	2.000000	1.0000	1.000000
117	Unit	231	231	
795,000	feature	3.000000	2.0000	2.000000
118	Unit	NaN	NaN	
430,000	feature	2.000000	2.0000	1.000000
119	Apartment	213	213	
NaN	feature	3.000000	3.0000	3.000000
120	Unit	NaN	135	555,000
Furnished Pool ,Gym LEASED:	feature		2.000000	
2.0000	2.000000			

121		Unit	183		183
NaN	feature	2.000000		2.0000	2.000000
122		Apartment	NaN		NaN
529,000	feature	2.000000		2.0000	1.000000
123		Apartment	NaN		NaN
460,000	feature	1.000000		1.0000	1.000000
124		Unit	NaN		NaN
195,000	feature	1.000000		1.0000	1.000000
125		Apartment	NaN		NaN
479,000	feature	3.000000		2.0000	2.000000
126		Unit	NaN		NaN
295,000	feature	2.000000		1.0000	1.000000
127		Apartment	NaN		NaN
370,000	ono	feature	1.000000		1.0000
1.000000					
128		Unit	NaN		NaN
475,000	feature	2.000000		2.0000	1.000000
129		Unit	NaN		NaN
520,000	feature	3.000000		2.0000	2.000000
130		Apartment	NaN		NaN
449,000	feature	2.000000		2.0000	0.000000
131		Apartment	NaN		NaN
525,000	feature	2.000000		2.0000	2.000000
132		Apartment	NaN		NaN
NaN	feature	1.000000		1.0000	1.000000
133		Apartment	NaN		NaN
500,000	premiere	3.000000		2.0000	1.000000
134		Unit	NaN		NaN
NaN	feature	3.000000		2.0000	2.000000
135		Apartment	186		186
595,000	standard	2.000000		2.0000	2.000000
136		Apartment	NaN		NaN
190,000	feature	1.000000		1.0000	1.000000
137		Apartment	111		111
NaN	feature	2.000000		2.0000	2.000000
138		Apartment	NaN		NaN
NaN	feature	4.000000		2.0000	2.000000
139		Unit	NaN		NaN
235,000	standard	1.000000		1.0000	1.000000
140		Apartment	NaN		NaN
389,000.00	standard	2.000000		2.0000	2.000000
141		Apartment	99		99
370,000	feature	2.000000		2.0000	0.000000
142		Apartment	415		415
1,950,000	feature	5.000000		3.0000	2.000000
143		Apartment	NaN		NaN
175,000	feature	1.000000		1.0000	1.000000
144		Apartment	81		81
520,000	O.N.O	feature	1.000000		1.0000
1.000000					

145		Unit	NaN	NaN	
329,000	feature		2.000000	2.0000	1.000000
146		Apartment	NaN	NaN	
559,000	feature		3.000000	2.0000	2.000000
147		Apartment	NaN	NaN	
NaN	feature		1.000000	1.0000	0.000000
148		Apartment	NaN	NaN	
279,000	standard		1.000000	1.0000	0.000000
149		Unit	NaN	NaN	
500,000	feature		2.000000	2.0000	0.000000
150		Apartment	NaN	NaN	
280,000	standard		2.000000	1.0000	1.000000
151		Apartment	NaN	NaN	
1,250,000	feature		3.000000	2.0000	2.000000
152		Apartment	NaN	NaN	
800,000	standard		3.000000	2.0000	2.000000
153		Unit	92	92	
280,000 to	standard		2.000000	1.0000	1.000000
154		Apartment	NaN	NaN	
449,000	feature		3.000000	2.0000	1.000000
155		Apartment	NaN	NaN	
455,000	standard		2.000000	2.0000	2.000000
156		Apartment	NaN	NaN	
450,000 ONO	feature		2.000000	2.0000	
1.000000					
157		Unit	158	158	
685,000	standard		2.000000	2.0000	2.000000
158		Unit	NaN	NaN	
289,000	feature		2.000000	2.0000	1.000000
159		Apartment	NaN	NaN	
429,000	standard		2.000000	2.0000	2.000000
160		Apartment	172	172	
559,000	standard		2.000000	2.0000	1.000000
161		Studio	55	55	
210,000	standard		0.000000	1.0000	1.000000
162		Unit	54	54	
200,000-	feature		1.000000	1.0000	1.000000
163		Apartment	6,200	6,200	
300,000	standard		1.000000	1.0000	0.000000
164		Apartment	NaN	NaN	
450,000	feature		2.000000	2.0000	2.000000
165		Apartment	76	76	
300,000	feature		1.000000	1.0000	0.000000
166		Unit	98	98	
499,000	standard		2.000000	2.0000	1.000000
167		Apartment	NaN	NaN	
NaN	feature		4.000000	3.0000	2.000000
168		Unit	NaN	NaN	
480,000	standard		3.000000	2.0000	2.000000
169		Unit	78	78	

325,000	feature	2.000000	2.0000	2.000000
170	Unit	192	192	
NaN	standard	3.000000	2.0000	2.000000
171	Unit	NaN	NaN	
440,000	standard	1.000000	1.0000	1.000000
172	Unit	NaN	NaN	
NaN	feature	2.000000	2.0000	2.000000
173	Unit	NaN	NaN	
310,000	standard	2.000000	1.0000	0.000000
174	Unit	48	48	
200,000 -	standard	1.000000	1.0000	1.000000
175	Unit	NaN	198	
399,000	standard	1.000000	1.0000	2.000000
176	Unit	NaN	NaN	
430,000	feature	1.000000	1.0000	1.000000
177	Unit	12	12	
99,950	standard	0.000000	1.0000	1.000000
178	Apartment	259	259	
900,000	negotiable	standard	3.000000	2.0000
2.000000				
179	Apartment	248	248	
895,000!	standard	3.000000	2.0000	2.000000
180	Apartment	168	168	
990,000	standard	3.000000	2.0000	2.000000
181	Unit	114	114	
610,000	standard	2.000000	2.0000	2.000000
182	Unit	235	235	
1,199,000	standard	3.000000	2.0000	2.000000
183	Apartment	213.68	213.68	
1,100,000	standard	3.000000	2.0000	2.000000
184	House	NaN	940	
665,000	premiere	4.000000	2.0000	5.000000
185	Residential Land	NaN	NaN	
490,000	premiere	2.866598	1.7394	2.152017
186	House	NaN	NaN	
NaN	premiere	5.000000	2.0000	3.000000
187	House	NaN	878	
575,000	premiere	3.000000	2.0000	2.000000
188	House	NaN	NaN	
NaN	premiere	5.000000	2.0000	4.000000
189	House	NaN	NaN	
435,000	premiere	2.000000	1.0000	1.000000
190	House	NaN	NaN	
550,000	premiere	3.000000	2.0000	6.000000
191	House	NaN	1,010	
NaN	premiere	4.000000	4.0000	2.000000
192	Block Of Units	NaN	NaN	
1,200,000	premiere	8.000000	4.0000	4.000000
193	House	NaN	830	
NaN	premiere	3.000000	1.0000	1.000000

194	House	NaN	823	
475,000	standard	3.000000	1.0000	3.000000
195	Apartment	171	171	
320,000	premiere	3.000000	2.0000	2.000000
196	Townhouse	NaN	NaN	
365,000	premiere	2.000000	1.0000	1.000000
197	Unit	NaN	NaN	
310,000	premiere	2.000000	1.0000	1.000000
198	House	400	20200	
700,000	premiere	5.000000	2.0000	10.000000
199	House	173.11	302	
NaN	premiere	3.000000	2.0000	2.000000
200	House	NaN	383	
419,000	premiere	3.000000	1.0000	3.000000
201	Residential Land	NaN	NaN	
370,000	premiere	2.866598	1.7394	2.152017
202	House	NaN	NaN	
NaN	premiere	4.000000	2.0000	2.000000
203	House	287	826	
NaN	premiere	4.000000	2.0000	4.000000
204	Unit	98	98	
330,000	standard	2.000000	2.0000	2.000000
205	House	NaN	815	
560,000	premiere	3.000000	2.0000	2.000000
206	House	NaN	NaN	
NaN	premiere	4.000000	3.0000	4.000000
207	House	NaN	801	
460,000	premiere	2.000000	1.0000	3.000000
208	Unit	NaN	258	
290,000	premiere	2.000000	1.0000	2.000000
209	House	NaN	24500	
420,000	premiere	2.000000	1.0000	2.000000
210	Unit	NaN	458	
NaN	premiere	2.000000	1.0000	1.000000
211	House	NaN	797	
570,000	premiere	4.000000	2.0000	2.000000
212	House	NaN	NaN	
259,000	premiere	1.000000	1.0000	0.000000
213	House	NaN	450	
569,000	premiere	4.000000	2.0000	2.000000
214	Unit	201	201	
439,000	premiere	3.000000	2.0000	2.000000
215	Townhouse	NaN	NaN	
NaN	premiere	3.000000	1.0000	3.000000
216	House	241	508	
739,000	premiere	4.000000	2.0000	2.000000
217	House	NaN	NaN	
399,000	premiere	4.000000	1.0000	2.000000
218	House	NaN	NaN	
NaN	premiere	3.000000	2.0000	3.000000

219	House	NaN	880	
599,000	premiere	3.000000	1.0000	2.000000
220	House	NaN	821	
NaN	premiere	4.000000	3.0000	2.000000
221	Apartment	NaN	NaN	
660,000	premiere	3.000000	2.0000	3.000000
222	Apartment	135	135	
430,000	standard	2.000000	2.0000	2.000000
223	House	307	911	
NaN	premiere	4.000000	3.0000	5.000000
224	House	130	217	
NaN	premiere	2.000000	2.0000	2.000000
225	Unit	NaN	103	
250,000	premiere	1.000000	1.0000	2.000000
226	House	NaN	NaN	
NaN	premiere	5.000000	2.0000	6.000000
227	House	230	800	
800,000	standard	5.000000	3.0000	2.000000
228	House	NaN	996	
880,000	premiere	4.000000	2.0000	2.000000
229	House	NaN	343	
NaN	premiere	4.000000	2.0000	2.000000
230	House	268	490	
540,000	premiere	3.000000	2.0000	3.000000
231	Apartment	218	218	
825,000	premiere	3.000000	2.0000	2.000000
232	House	NaN	NaN	
399,000	premiere	3.000000	1.0000	2.000000
233	Unit	NaN	NaN	
820,000	premiere	3.000000	2.0000	2.000000
234	House	240	873	
549,000	premiere	4.000000	2.0000	4.000000
235	House	NaN	NaN	
NaN	premiere	5.000000	3.0000	2.000000
236	House	180	819	
370,000	premiere	3.000000	1.0000	4.000000
237	House	187	883	500,000 -
Offers by 6.30pm 22/6/22	premiere		4.000000	2.0000
5.000000				
238	Unit	NaN	256	
325,000	premiere	2.000000	1.0000	2.000000
239	Unit	NaN	NaN	
450,000	standard	2.000000	2.0000	2.000000
240	Apartment	135	135	
430,000	standard	2.000000	2.0000	2.000000
241	Unit	153	153	
450,000	premiere	2.000000	2.0000	2.000000
242	Unit	NaN	NaN	
470,000	premiere	3.000000	2.0000	2.000000
243	House	NaN	450	

612,300	premiere	4.000000	2.0000	2.000000
244	House	NaN	450	
592,000	premiere	4.000000	2.0000	2.000000
245	House	NaN	450	
614,000	premiere	4.000000	2.0000	2.000000
246	Residential Land	NaN	450	
218,000	premiere	2.866598	1.7394	2.152017
247	Residential Land	NaN	525	
255,000	premiere	2.866598	1.7394	2.152017
248	House	NaN	NaN	
425,000	premiere	3.000000	1.0000	1.000000
249	Apartment	NaN	NaN	
325,000	standard	2.000000	1.0000	1.000000
250	House	317	676	
779,000	premiere	5.000000	3.0000	3.000000
251	Unit	NaN	NaN	
450,000	premiere	2.000000	2.0000	1.000000
252	Apartment	NaN	NaN	
425,000	standard	2.000000	2.0000	2.000000
253	Unit	NaN	105	
369000	premiere	2.000000	1.0000	1.000000
254	House	NaN	963	
850,000	premiere	3.000000	1.0000	2.000000
255	House	NaN	817	
539,000	premiere	3.000000	1.0000	2.000000
256	Apartment	NaN	NaN	
395,000	premiere	1.000000	1.0000	2.000000
257	Unit	NaN	NaN	
340,000	premiere	2.000000	2.0000	2.000000
258	House	NaN	NaN	
NaN	premiere	5.000000	3.0000	4.000000
259	Unit	NaN	345	
475,000	premiere	2.000000	1.0000	2.000000
260	House	330	20200	
1,050,000	premiere	4.000000	2.0000	4.000000
261	House	NaN	829	
570,000	midtier	4.000000	2.0000	2.000000
262	House	NaN	419	
419,000	premiere	3.000000	2.0000	2.000000
263	Unit	64	64	
285,000	midtier	2.000000	1.0000	1.000000
264	Unit	NaN	NaN	
439,000	premiere	2.000000	2.0000	1.000000
265	House	NaN	800	
470,000	Negotiable	standard	3.000000	1.0000
3.000000				
266	Acreage	NaN	NaN	
NaN	premiere	2.000000	2.0000	10.000000
267	Unit	NaN	124	
365,000	premiere	2.000000	2.0000	2.000000

268		Unit	65	65	
299,000	premiere		2.000000	1.0000	1.000000
269		House	NaN	853	
499,000	premiere		3.000000	2.0000	2.000000
270		Unit	NaN	208	
420,000	premiere		2.000000	2.0000	2.000000
271		Unit	NaN	NaN	
270,000	premiere		2.000000	1.0000	0.000000
272		Unit	NaN	74	
280,000	premiere		2.000000	1.0000	1.000000
273		Unit	NaN	320	
275,000-	premiere		2.000000	1.0000	3.000000
274	Residential Land		NaN	627	
269,000	premiere		2.866598	1.7394	2.152017
275		Acreage	NaN	20200	
750,000	premiere		4.000000	2.0000	6.000000
276		Unit	NaN	174	
285,000	premiere		2.000000	1.0000	1.000000
277		House	243	766	
599,000	premiere		4.000000	2.0000	2.000000
278		Apartment	NaN	NaN	
455,000	premiere		2.000000	2.0000	1.000000
279		House	NaN	NaN	
NaN	premiere		3.000000	1.0000	2.000000
280		Unit	NaN	NaN	
NaN	premiere		1.000000	1.0000	0.000000
281		Unit	NaN	261	
575,000	premiere		3.000000	2.0000	3.000000
282		House	NaN	838	
NaN	premiere		4.000000	2.0000	3.000000
283		Apartment	NaN	NaN	
280,000	premiere		1.000000	1.0000	1.000000
284		House	NaN	NaN	
NaN	premiere		4.000000	3.0000	2.000000
285		House	NaN	450	
579,000	standard		4.000000	2.0000	2.000000
286		House	NaN	807	
NaN	premiere		4.000000	3.0000	2.000000
287		House	NaN	801	
530,000	premiere		3.000000	1.0000	2.000000
288		House	NaN	592	
NaN	premiere		4.000000	2.0000	2.000000
289		House	NaN	NaN	
NaN	premiere		5.000000	3.0000	3.000000
290		Townhouse	NaN	287	
NaN	premiere		3.000000	3.0000	3.000000
291		House	337	2000	
739,000	premiere		4.000000	2.0000	2.000000
292		House	356	850	
750,000	premiere		4.000000	2.0000	3.000000

293		House	225	796	
NaN	premiere	6.000000	2.0000	2.000000	
294		House	NaN	800	
535,000	premiere	4.000000	3.0000	6.000000	
295		House	NaN	3300	
629,000	premiere	3.000000	1.0000	4.000000	
296		Unit	NaN	124	
275,000	premiere	1.000000	1.0000	1.000000	
297		Unit	NaN	NaN	
NaN	premiere	3.000000	2.0000	2.000000	
298		House	NaN	NaN	
550,000	premiere	3.000000	1.0000	2.000000	
299		House	NaN	NaN	
639,000	premiere	3.000000	2.0000	1.000000	
300		Townhouse	NaN	442	
NaN	premiere	3.000000	2.0000	2.000000	
301		House	NaN	815	
650,000	premiere	4.000000	2.0000	2.000000	
302		House	NaN	NaN	
NaN	premiere	5.000000	4.0000	4.000000	
303		House	NaN	800	
NaN	premiere	3.000000	3.0000	6.000000	
304		Apartment	NaN	NaN	
NaN	premiere	1.000000	1.0000	1.000000	
305		Townhouse	NaN	45	
329,000	premiere	2.000000	1.0000	1.000000	
306		Apartment	NaN	NaN	
NaN	premiere	3.000000	2.0000	2.000000	
307		Apartment	184	184	
385,000	premiere	2.000000	2.0000	2.000000	
308		Apartment	167	167	
550,000	premiere	3.000000	2.0000	2.000000	
309		House	174	680	
549,000	premiere	5.000000	2.0000	4.000000	
310		Unit	83	83	
300,000	premiere	2.000000	1.0000	1.000000	
311		Apartment	NaN	NaN	
387,000	standard	2.000000	2.0000	1.000000	
312		House	NaN	818	
420,000	premiere	3.000000	1.0000	4.000000	
313		House	NaN	817	
NaN	premiere	3.000000	1.0000	2.000000	
314		Townhouse	NaN	NaN	
590,000	premiere	3.000000	3.0000	3.000000	
315		House	NaN	494	
489,000	premiere	3.000000	2.0000	2.000000	
316		House	NaN	485	
569,000	premiere	4.000000	2.0000	2.000000	
317		House	NaN	813	
435,000	premiere	3.000000	1.0000	2.000000	

318	House	275	1860	
1,650,000	premiere	4.000000	4.0000	10.000000
319	Residential Land	NaN	450	
293,000	premiere	2.866598	1.7394	2.152017
320	Residential Land	NaN	450	
293,000	premiere	2.866598	1.7394	2.152017
321	Residential Land	NaN	450	
293,000	premiere	2.866598	1.7394	2.152017
322	Duplex/Semi-detached	NaN	NaN	
495,000	standard	3.000000	1.0000	1.000000
323	Unit	173	173	
439,000	premiere	2.000000	2.0000	2.000000
324	Acreage	NaN	2000	
875,000	negotiable	standard	4.000000	2.0000
3.000000				
325	House	NaN	NaN	
NaN	premiere	3.000000	1.0000	3.000000
326	Apartment	NaN	NaN	
NaN	premiere	2.000000	2.0000	2.000000
327	Apartment	NaN	NaN	
380,000	standard	3.000000	2.0000	2.000000
328	Apartment	NaN	NaN	
240,000	standard	1.000000	1.0000	1.000000
329	Apartment	NaN	NaN	
315,000	standard	2.000000	2.0000	2.000000
330	House	2,461.93	806	
570,000	premiere	4.000000	3.0000	2.000000
331	House	NaN	NaN	
460,000	premiere	3.000000	2.0000	0.000000
332	House	NaN	811	
685,000	standard	3.000000	1.0000	5.000000
333	House	236	236	
775,000	premiere	3.000000	2.0000	2.000000
334	Other	190	NaN	
429,000	standard	3.000000	2.0000	2.000000
335	House	NaN	702	
635,000	standard	4.000000	2.0000	4.000000
336	Apartment	181	181	
625,000	premiere	3.000000	2.0000	2.000000
337	House	NaN	NaN	
580,000	premiere	4.000000	2.0000	0.000000
338	House	NaN	2000	
700,000	premiere	4.000000	2.0000	4.000000
339	House	187	646	
NaN	premiere	5.000000	3.0000	2.000000
340	House	NaN	NaN	
399,000	standard	3.000000	1.0000	1.000000
341	House	NaN	860	
750,000	premiere	5.000000	2.0000	2.000000
342	House	NaN	820	

480,000	premiere	3.000000		1.0000	2.000000
343	House		NaN		NaN
NaN	premiere	3.000000		1.0000	0.000000
344	House		228		2000
NaN	premiere	3.000000		1.0000	2.000000
345	Duplex/Semi-detached		NaN		394
529,000	premiere	3.000000		2.0000	2.000000
346	House		212		2320
NaN	premiere	3.000000		2.0000	2.000000
347	House		NaN		NaN
650,000	premiere	4.000000		2.0000	4.000000
348	Unit		NaN		NaN
599,000	premiere	2.000000		2.0000	2.000000
349	Townhouse		NaN		NaN
659,000	premiere	3.000000		2.0000	2.000000
350	Townhouse		NaN		NaN
NaN	premiere	2.000000		1.0000	2.000000
351	Apartment		69		69
490,000	premiere	1.000000		1.0000	1.000000
352	House		NaN		2020
500,000	premiere	3.000000		1.0000	2.000000
353	House		NaN		881
405,000	premiere	3.000000		1.0000	2.000000
354	House		189		641
545,000	premiere	3.000000		2.0000	2.000000
355	Unit		NaN		300
420,000	standard	3.000000		2.0000	2.000000
356	House		NaN		630
NaN	premiere	6.000000		3.0000	2.000000
357	House		400		2020
690,000	premiere	5.000000		2.0000	12.000000
358	House		NaN		713
NaN	premiere	5.000000		2.0000	4.000000
359	House		NaN		1,050
1,200,000	premiere	4.000000		2.0000	2.000000
360	House		NaN		NaN
NaN	premiere	5.000000		2.0000	2.000000
361	House		NaN		NaN
NaN	premiere	5.000000		3.0000	4.000000
362	House		243		840
510,000	premiere	3.000000		2.0000	2.000000
363	House		160		831
NaN	premiere	3.000000		1.0000	4.000000
364	Townhouse		NaN		302
750,000	premiere	3.000000		2.0000	2.000000
365	Unit		NaN		286
NaN	premiere	2.000000		1.0000	1.000000
366	Unit		62		62
337,500	premiere	1.000000		1.0000	0.000000
367	Unit		NaN		NaN

NaN	premiere	1.000000		1.0000	0.000000
368	House		138		138
439,000	premiere	2.000000		2.0000	1.000000
369	House		NaN		NaN
NaN	premiere	4.000000		2.0000	3.000000
370	Apartment		81		81
299,000	premiere	2.000000		1.0000	0.000000
371	Duplex/Semi-detached		NaN		375
490,000	premiere	3.000000		2.0000	2.000000
372	House		NaN		817
649,000	premiere	4.000000		2.0000	2.000000
373	House		NaN		804
NaN	premiere	4.000000		2.0000	4.000000
374	House		NaN		NaN
NaN	premiere	3.000000		2.0000	2.000000
375	Apartment		NaN		NaN
NaN	premiere	3.000000		2.0000	2.000000
376	House		141		2020
NaN	premiere	3.000000		1.0000	2.000000
377	Apartment		155		155
440,000	midtier	2.000000		2.0000	2.000000
378	Residential Land		NaN		977
NaN	premiere	2.866598		1.7394	2.152017
379	Unit		NaN		244
320,000	premiere	2.000000		1.0000	2.000000
380	House		NaN		NaN
490,000	premiere	3.000000		2.0000	2.000000
381	House		NaN		NaN
NaN	premiere	3.000000		2.0000	2.000000
382	Duplex/Semi-detached		NaN		NaN
489,000	premiere	3.000000		2.0000	2.000000
383	House		NaN		NaN
665,000	premiere	4.000000		2.0000	2.000000
384	House		NaN		1,100
63000	premiere	4.000000		2.0000	2.000000
385	Residential Land		NaN		2010
290,000	premiere	2.866598		1.7394	2.152017
386	Unit		NaN		122
298,000	premiere	2.000000		1.0000	2.000000
387	Unit		NaN		252
NaN	premiere	2.000000		1.0000	1.000000
388	House		NaN		766
660,000	premiere	4.000000		2.0000	2.000000
389	House		NaN		699
690,000	premiere	4.000000		2.0000	2.000000
390	House		NaN		480
590,000	premiere	4.000000		2.0000	2.000000
391	House		NaN		NaN
510,000	premiere	4.000000		2.0000	2.000000
392	Residential Land		NaN		818

400,000	midtier	2.866598	1.7394	2.152017
393	Unit	NaN	NaN	
420,000	standard	2.000000	2.0000	2.000000
394	Apartment	114	114	
640,000	premiere	2.000000	2.0000	2.000000
395	House	NaN	304	
320,000	premiere	2.000000	1.0000	1.000000
396	House	NaN	817	
695,000	premiere	4.000000	2.0000	2.000000
397	Apartment	NaN	NaN	
NaN	premiere	3.000000	2.0000	2.000000
398	House	NaN	817	
NaN	premiere	4.000000	2.0000	2.000000
399	Apartment	NaN	NaN	
275,000	standard	1.000000	1.0000	1.000000
400	Unit	NaN	NaN	
285,000	premiere	2.000000	1.0000	1.000000
401	House	NaN	842	
660,000	premiere	3.000000	1.0000	4.000000
402	Apartment	NaN	NaN	
435,000	premiere	2.000000	2.0000	2.000000
403	House	NaN	2040	
685,000 ONO	premiere	4.000000	2.0000	
4.000000				
404	House	273	1000	
950,000	premiere	4.000000	2.0000	7.000000
405	Apartment	NaN	NaN	
500,000	premiere	1.000000	1.0000	1.000000
406	House	NaN	810	
498,000	standard	3.000000	2.0000	5.000000
407	House	NaN	NaN	
740,000	premiere	6.000000	4.0000	10.000000
408	Townhouse	NaN	278	
450,000	premiere	3.000000	2.0000	2.000000
409	House	NaN	820	
700,000	premiere	4.000000	2.0000	2.000000
410	Unit	NaN	53	
305,000	premiere	1.000000	1.0000	1.000000
411	Unit	NaN	NaN	
295,000	premiere	1.000000	1.0000	1.000000
412	Unit	340	340	
795,000	premiere	3.000000	3.0000	4.000000
413	Unit	NaN	NaN	
425,000	premiere	2.000000	1.0000	2.000000
414	House	196	982	
700,000 -	premiere	4.000000	2.0000	4.000000
415	House	NaN	NaN	
485,000	premiere	3.000000	2.0000	4.000000
416	House	303	832	
NaN	premiere	4.000000	2.0000	3.000000

417		House	NaN		824	
649,000		premiere	3.000000	3.0000		2.000000
418		House	246		624	
665,000	ONO	premiere	4.000000		2.0000	
4.000000						
419		House	NaN		859	
NaN		premiere	5.000000	3.0000		2.000000
420		House	NaN		NaN	
215,000		feature	2.000000	1.0000		1.000000
421		House	NaN		766	
NaN		premiere	3.000000	1.0000		2.000000
422		House	NaN		649	
NaN		premiere	4.000000	2.0000		2.000000
423		Townhouse	NaN		255	
NaN		premiere	3.000000	2.0000		2.000000
424		Unit	120		120	
339,000		premiere	2.000000	2.0000		2.000000
425		Villa	NaN		235	
399,000		premiere	2.000000	1.0000		1.000000
426		Townhouse	NaN		283	
735,000		premiere	3.000000	2.0000		3.000000
427		Acreage	NaN		9710	
975,000		standard	5.000000	2.0000		4.000000
428		Unit	NaN		NaN	
295,000		premiere	2.000000	1.0000		1.000000
429		House	NaN		969	
NaN		premiere	5.000000	3.0000		2.000000
430		House	NaN		762	
NaN		premiere	5.000000	3.0000		4.000000
431		House	NaN		508	
725,000		premiere	4.000000	2.0000		2.000000
432		House	NaN		NaN	
485,000		premiere	3.000000	1.0000		2.000000
433		House	123		807	
485,000		premiere	3.000000	1.0000		4.000000
434		Unit	NaN		236	
950,000		premiere	3.000000	2.0000		2.000000
435		House	NaN		953	
NaN		premiere	4.000000	2.0000		2.000000
436		House	NaN		NaN	
610,000		standard	4.000000	2.0000		4.000000
437		House	NaN		NaN	
NaN		premiere	4.000000	2.0000		2.000000
438		House	NaN		652	
500,000		premiere	4.000000	2.0000		2.000000
439		House	NaN		785	
480,000		premiere	3.000000	2.0000		2.000000
440		House	NaN		882	
449,000		premiere	4.000000	1.0000		6.000000
441		House	NaN		NaN	

795,000	premiere	4.000000		2.0000	2.000000
442	House		NaN	948	
520,000	premiere	4.000000		2.0000	4.000000
443	Apartment		NaN	NaN	
620,000	premiere	3.000000		2.0000	2.000000
444	House		126	800	
NaN	premiere	3.000000		1.0000	4.000000
445	Unit		NaN	185	
NaN	premiere	3.000000		2.0000	2.000000
446	House		NaN	NaN	
NaN	premiere	5.000000		2.0000	4.000000
447	Townhouse		NaN	NaN	
NaN	premiere	2.000000		1.0000	1.000000
448	House		NaN	NaN	
NaN	premiere	3.000000		1.0000	2.000000
449	House		147	421	
NaN	premiere	3.000000		2.0000	2.000000
450	Other		NaN	NaN	
NaN	standard	0.000000		1.0000	0.000000
451	House		150	802	
550,000	midtier	5.000000		2.0000	2.000000
452	House		NaN	612	
1,490,000	premiere	4.000000		3.0000	4.000000
453	House		NaN	1,530	
NaN	premiere	4.000000		2.0000	2.000000
454	Unit		NaN	NaN	
292,000	premiere	2.000000		1.0000	1.000000
455	House		NaN	NaN	
NaN	premiere	3.000000		2.0000	4.000000
456	House		210	811	
475,000	premiere	3.000000		1.0000	2.000000
457	Unit		NaN	NaN	
399,000	premiere	1.000000		1.0000	1.000000
458	House		NaN	857	
520,000	premiere	3.000000		2.0000	2.000000
459	Unit		107	107	
NaN	premiere	2.000000		1.0000	2.000000
460	House		NaN	1,110	
820,000	premiere	4.000000		2.0000	4.000000
461	Duplex/Semi-detached		NaN	352	
460,000	premiere	3.000000		2.0000	4.000000
462	House		NaN	NaN	
449,000	premiere	3.000000		2.0000	1.000000
463	Unit		NaN	1,038	
220,000	standard	1.000000		1.0000	1.000000
464	House		283	632	
575,000	premiere	3.000000		2.0000	4.000000
465	Unit		NaN	116	
329,000	premiere	2.000000		1.0000	1.000000
466	House		NaN	798	

529,000	premiere	4.000000	2.0000	3.000000
467	Apartment	69	69	
349,000	premiere	2.000000	1.0000	1.000000
468	House	NaN	NaN	
485,000	premiere	2.000000	2.0000	2.000000
469	House	139	780	
389000	standard	3.000000	1.0000	1.000000
470	House	836	836	
NaN	premiere	4.000000	1.0000	2.000000
471	Unit	51	51	
250,000	premiere	1.000000	1.0000	1.000000
472	House	233	680	
695,000	premiere	4.000000	2.0000	4.000000
473	Other	144	8,150	
735,000	standard	3.000000	2.0000	8.000000
474	House	NaN	557	
760,000	premiere	4.000000	2.0000	2.000000
475	House	NaN	NaN	
535,000	premiere	2.000000	2.0000	1.000000
476	House	NaN	NaN	
559,000	premiere	4.000000	2.0000	2.000000
477	House	NaN	742	
630,000	standard	3.000000	1.0000	4.000000
478	House	NaN	2,170	
NaN	premiere	6.000000	2.0000	6.000000
479	Unit	165	165	
429,000	premiere	3.000000	2.0000	2.000000
480	House	NaN	715	
NaN	premiere	3.000000	2.0000	2.000000
481	Unit	NaN	NaN	
300,000	premiere	2.000000	1.0000	1.000000
482	Unit	135	135	
300,000	standard	2.000000	2.0000	1.000000
483	Unit	95	95	
220,000	premiere	2.000000	1.0000	1.000000
484	Other	NaN	NaN	
NaN	premiere	2.000000	1.0000	1.000000
485	House	212	640	
575,000	premiere	3.000000	2.0000	2.000000
486	House	266	1,030	
799,000	premiere	4.000000	2.0000	10.000000
487	House	NaN	827	
480,000	premiere	3.000000	1.0000	2.000000
488	Apartment	NaN	NaN	
549,000	premiere	2.000000	2.0000	2.000000
489	Apartment	48	48	
299,000	premiere	1.000000	1.0000	1.000000
490	House	NaN	812	
649,000	midtier	5.000000	2.0000	2.000000
491	Residential Land	NaN	8090	

525,000	premiere	2.866598	1.7394	2.152017
492	House	138	815	
380,000	premiere	3.000000	1.0000	1.000000
493	Apartment	NaN	NaN	
395,000	premiere	3.000000	1.0000	1.000000
494	House	NaN	NaN	
NaN	premiere	3.000000	2.0000	2.000000
495	House	NaN	651	
860,000	premiere	3.000000	2.0000	2.000000
496	Residential Land	NaN	782	
275,000	standard	2.866598	1.7394	2.152017
497	Unit	NaN	NaN	
NaN	premiere	1.000000	1.0000	1.000000
498	Unit	NaN	127	
475,000	premiere	2.000000	2.0000	2.000000
499	House	188	701	
485,000	standard	3.000000	2.0000	2.000000
500	Villa	NaN	307	
675,000	premiere	3.000000	2.0000	2.000000
501	House	NaN	800	
449,000	premiere	4.000000	1.0000	4.000000
502	Townhouse	NaN	465	
1,250,000	premiere	3.000000	2.0000	2.000000
503	House	NaN	625	
1,200,000	standard	3.000000	2.0000	2.000000
504	House	NaN	700	
850,000	premiere	3.000000	2.0000	2.000000
505	Unit	140	140	
NaN	premiere	2.000000	2.0000	2.000000
506	Unit	NaN	177	
295,000	standard	2.000000	1.0000	2.000000
507	Duplex/Semi-detached	NaN	NaN	
349,000	premiere	2.000000	1.0000	1.000000
508	House	NaN	817	
NaN	premiere	3.000000	1.0000	2.000000
509	Unit	NaN	173	
NaN	premiere	2.000000	2.0000	2.000000
510	Unit	NaN	238	
NaN	premiere	2.000000	2.0000	2.000000
511	Townhouse	NaN	NaN	
NaN	premiere	2.000000	1.0000	2.000000
512	House	254	603	
735,000	premiere	4.000000	2.0000	2.000000
513	Unit	356	356	
610,000	standard	4.000000	2.0000	1.000000
514	Residential Land	NaN	4,008	
625,000	premiere	2.866598	1.7394	2.152017
515	Residential Land	NaN	803	
355,700	premiere	2.866598	1.7394	2.152017
516	Residential Land	NaN	803	

355,700	premiere	2.866598	1.7394	2.152017
517	Residential Land	NaN	818	
359,000	premiere	2.866598	1.7394	2.152017
518	Residential Land	NaN	875	
370,990	premiere	2.866598	1.7394	2.152017
519	Apartment	NaN	NaN	
465,000	premiere	3.000000	2.0000	2.000000
520	Residential Land	NaN	1,000	
325,000	premiere	2.866598	1.7394	2.152017
521	Townhouse	NaN	NaN	
700,000	premiere	3.000000	2.0000	2.000000
522	House	NaN	NaN	
NaN	premiere	2.000000	2.0000	2.000000
523	House	NaN	NaN	
729,000	DHA lease	premiere	4.000000	2.0000
2.000000				
524	Unit	NaN	NaN	
NaN	premiere	3.000000	2.0000	2.000000
525	House	310	762	
620,000	standard	5.000000	3.0000	2.000000
526	House	1,370	1,370	
1,100,000	premiere	5.000000	4.0000	6.000000
527	House	NaN	NaN	
NaN	premiere	4.000000	2.0000	2.000000
528	House	NaN	NaN	
595,000	standard	4.000000	2.0000	2.000000
529	Apartment	NaN	NaN	
380,000	premiere	2.000000	1.0000	1.000000
530	House	NaN	800	
435,000	premiere	3.000000	1.0000	2.000000
531	Apartment	81	81	
465,000	premiere	1.000000	1.0000	1.000000
532	Duplex/Semi-detached	354	354	
NaN	premiere	4.000000	2.0000	2.000000
533	House	NaN	532	
859,000	premiere	4.000000	2.0000	4.000000
534	House	NaN	NaN	
NaN	premiere	6.000000	2.0000	6.000000
535	House	400	837	
800,000	premiere	5.000000	2.0000	5.000000
536	Unit	NaN	NaN	
NaN	premiere	2.000000	1.0000	1.000000
537	House	NaN	715	
450 000	premiere	3.000000	1.0000	2.000000
538	House	NaN	NaN	
80000	premiere	4.000000	1.0000	2.000000
539	House	NaN	2000	
500,000	ono	premiere	2.000000	1.0000
0.000000				
540	House	NaN	368	

600,000	premiere	3.000000	2.0000	2.000000
541	House	172	823	
NaN	premiere	3.000000	2.0000	2.000000
542	House	NaN	225	
NaN	premiere	2.000000	1.0000	1.000000
543	Apartment	NaN	NaN	
325,000	premiere	2.000000	1.0000	2.000000
544	Townhouse	NaN	NaN	
NaN	premiere	3.000000	2.0000	2.000000
545	House	NaN	807	
550,000	premiere	3.000000	1.0000	6.000000
546	House	170	481	
489,000	premiere	3.000000	2.0000	2.000000
547	Unit	94	94	
209,000	premiere	2.000000	1.0000	0.000000
548	Apartment	NaN	NaN	
370,000	premiere	2.000000	1.0000	1.000000
549	Apartment	55	55	
290,000	premiere	1.000000	1.0000	1.000000
550	House	NaN	NaN	
630,000	premiere	4.000000	2.0000	2.000000
551	Unit	104	104	
269,000	premiere	1.000000	1.0000	2.000000
552	Apartment	NaN	NaN	
316,000	premiere	3.000000	1.0000	1.000000
553	Unit	16	16	
115,000	standard	1.000000	1.0000	0.000000
554	Unit	NaN	153	
535,000	premiere	3.000000	2.0000	2.000000
555	House	NaN	700	
NaN	premiere	4.000000	3.0000	3.000000
556	Residential Land	NaN	NaN	
1,400,000	standard	2.866598	1.7394	2.152017
557	Unit	NaN	NaN	
NaN	premiere	2.000000	2.0000	2.000000
558	House	NaN	659	
NaN	premiere	4.000000	2.0000	2.000000
559	Unit	NaN	NaN	
418,000	standard	2.000000	1.0000	2.000000
560	Unit	NaN	NaN	
385,000	premiere	2.000000	1.0000	1.000000
561	House	NaN	400	
780,000	premiere	6.000000	3.0000	4.000000
562	Acreage	NaN	13350	
460,000	ONO premiere	3.000000	1.0000	
0.000000				
563	Unit	NaN	NaN	
410,000	premiere	3.000000	1.0000	1.000000
564	House	NaN	629	
819,000	feature	4.000000	2.0000	2.000000

565	Acreage	NaN	2000		
449,000	premiere	2.000000	2.0000	0.000000	
566	House	NaN	NaN		
NaN	premiere	4.000000	1.0000	2.000000	
567	House	NaN	969		
NaN	premiere	4.000000	2.0000	2.000000	
568	Apartment	NaN	NaN		
600,000	premiere	3.000000	2.0000	2.000000	
569	Acreage	NaN	2020		
NaN	standard	3.000000	1.0000	2.000000	
570	House	NaN	844		
695000	premiere	4.000000	3.0000	4.000000	
571	Unit	NaN	NaN		
339,000	premiere	2.000000	1.0000	3.000000	
572	Apartment	134	134		
NaN	premiere	2.000000	1.0000	2.000000	
573	Villa	NaN	355		
NaN	premiere	3.000000	2.0000	4.000000	
574	Unit	NaN	NaN		
430,000	standard	3.000000	2.0000	2.000000	
575	Apartment	235	235		
980,000	premiere	3.000000	2.0000	2.000000	
576	Apartment	NaN	NaN		
1,050,000	premiere	3.000000	2.0000	2.000000	
577	Unit	NaN	300		
NaN	premiere	2.000000	1.0000	1.000000	
578	Unit	NaN	NaN		
NaN	premiere	2.000000	1.0000	2.000000	
579	House	NaN	750		
540,000	premiere	3.000000	1.0000	5.000000	
580	Unit	NaN	NaN		
450,000	standard	2.000000	2.0000	2.000000	
581	House	NaN	NaN		
NaN	premiere	4.000000	2.0000	2.000000	
582	Townhouse	NaN	497		
830,000	premiere	3.000000	2.0000	2.000000	
583	House	NaN	412		
NaN	premiere	4.000000	2.0000	2.000000	
584	Unit	NaN	NaN		
375,000	premiere	3.000000	1.0000	2.000000	
585	House	NaN	690		
NaN	premiere	4.000000	2.0000	2.000000	
586	House	NaN	820		
515,000	premiere	3.000000	2.0000	3.000000	
587	Apartment	NaN	NaN		
NaN	premiere	3.000000	2.0000	2.000000	
588	Townhouse	NaN	275		
665,000	premiere	3.000000	3.0000	2.000000	
589	Unit	NaN	NaN		
345,000	standard	3.000000	2.0000	2.000000	

590		House	NaN		NaN	
505,000		premiere	3.000000		1.0000	4.000000
591		Townhouse	NaN		NaN	
525,000		premiere	2.000000		1.0000	1.000000
592		House	NaN		NaN	
NaN		premiere	4.000000		2.0000	2.000000
593		House	NaN		1,550	
670,000	Negotiable	standard		3.000000		2.0000
6.000000						
594		House	145		2000	
625,000		premiere	3.000000		1.0000	4.000000
595		House	81		81	
450,000		premiere	1.000000		1.0000	1.000000
596		House	NaN		NaN	
590,000		premiere	4.000000		2.0000	2.000000
597		Apartment	NaN		NaN	
749,000		premiere	3.000000		2.0000	2.000000
598		Apartment	NaN		NaN	
NaN		premiere	2.000000		1.0000	2.000000
599		Unit	NaN		NaN	
259,000		premiere	2.000000		1.0000	1.000000
600		Unit	NaN		194	
225,000		premiere	2.000000		1.0000	2.000000
601		House	167		797	
548,000		premiere	3.000000		1.0000	4.000000
602		House	NaN		NaN	
NaN		premiere	3.000000		1.0000	1.000000
603		Unit	199		199	
445,000		premiere	2.000000		1.0000	1.000000
604		House	NaN		NaN	
515,000		standard	3.000000		1.0000	2.000000
605	Duplex/Semi-detached		NaN		NaN	
349,000		standard	2.000000		1.0000	1.000000
606	Duplex/Semi-detached		NaN		296	
420,000		premiere	3.000000		2.0000	2.000000
607		House	NaN		2000	
950000 or nearest Offer		premiere			5.000000	3.0000
2.000000						
608		House	NaN		NaN	
NaN		premiere	5.000000		2.0000	3.000000
609		Townhouse	NaN		354	
646,000		premiere	3.000000		2.0000	2.000000
610		House	160		735	
485,000		premiere	3.000000		2.0000	2.000000
611		Unit	210		210	
510,000	each unit	feature	3.000000			2.0000
3.000000						
612	Residential Land		NaN		NaN	
220,000		premiere	2.866598		1.7394	2.152017
613		Unit	NaN		NaN	

390,000	premiere	2.000000	1.0000	2.000000
614	Apartment	NaN	NaN	
NaN	premiere	3.000000	3.0000	2.000000
615	House	NaN	798	
NaN	premiere	4.000000	2.0000	2.000000
616	Duplex/Semi-detached	NaN	NaN	
559,000	premiere	4.000000	2.0000	2.000000
617	House	NaN	505	
495,000	premiere	3.000000	2.0000	2.000000
618	House	NaN	NaN	
525,000	standard	2.000000	1.0000	4.000000
619	Residential Land	NaN	8090	
320,000	premiere	2.866598	1.7394	2.152017
620	House	NaN	967	
475,000	premiere	4.000000	2.0000	4.000000
621	House	NaN	963	
NaN	premiere	2.000000	1.0000	2.000000
622	House	NaN	332	
555,000	premiere	3.000000	2.0000	4.000000
623	House	NaN	813	
459,000	premiere	3.000000	2.0000	4.000000
624	Block Of Units	NaN	NaN	
NaN	premiere	1.000000	1.0000	1.000000
625	Apartment	69	69	
279,000	premiere	2.000000	1.0000	1.000000
626	House	176	433	
NaN	premiere	3.000000	2.0000	2.000000
627	House	155	636	
530,000	premiere	5.000000	2.0000	2.000000
628	Unit	NaN	NaN	
289,000	premiere	1.000000	1.0000	1.000000
629	House	NaN	NaN	
530,000	premiere	4.000000	2.0000	2.000000
630	Apartment	NaN	NaN	
490,000	premiere	2.000000	2.0000	2.000000
631	Townhouse	NaN	NaN	
NaN	premiere	3.000000	2.0000	2.000000
632	Apartment	NaN	NaN	
449,000	premiere	3.000000	2.0000	2.000000
633	House	NaN	838	
429000	standard	3.000000	1.0000	4.000000
634	House	NaN	800	
399,000	premiere	3.000000	1.0000	2.000000
635	Unit	NaN	NaN	
389,000	premiere	1.000000	1.0000	1.000000
636	House	NaN	1,200	
575,000	premiere	4.000000	2.0000	4.000000
637	House	NaN	804	
589,500	premiere	3.000000	2.0000	2.000000
638	House	NaN	NaN	

600,000	premiere	4.000000		2.0000	2.000000
639	House	160		480	
485,000	standard	3.000000		2.0000	2.000000
640	House	NaN		2020	
NaN	premiere	4.000000		2.0000	5.000000
641	Apartment	NaN		NaN	
NaN	premiere	3.000000		2.0000	2.000000
642	Unit	153		153	
NaN	premiere	3.000000		2.0000	2.000000
643	Townhouse	96		96	
NaN	premiere	2.000000		1.0000	0.000000
644	Acreage	NaN		2000	
850,000	premiere	6.000000		2.0000	3.000000
645	House	NaN		476	
NaN	standard	3.000000		2.0000	2.000000
646	Apartment	NaN		NaN	
NaN	premiere	2.000000		1.0000	1.000000
647	Unit	NaN		NaN	
165,000	premiere	1.000000		1.0000	1.000000
648	House	NaN		2,023	
355,000	premiere	3.000000		2.0000	5.000000
649	House	NaN		802	
399,000	premiere	3.000000		1.0000	2.000000
650	Unit	NaN		NaN	
565,000	premiere	2.000000		2.0000	2.000000
651	Unit	94		94	
NaN	premiere	3.000000		1.0000	2.000000
652	Unit	NaN		118	
330,000	premiere	2.000000		1.0000	1.000000
653	Duplex/Semi-detached	NaN		320	
440,000	premiere	3.000000		2.0000	2.000000
654	House	229		815	
650,000 -	premiere	5.000000		2.0000	2.000000
655	Apartment	130		130	
399,000	premiere	2.000000		2.0000	2.000000
656	Apartment	NaN		NaN	
479,000	premiere	2.000000		2.0000	2.000000
657	Apartment	NaN		NaN	
469,000	premiere	3.000000		2.0000	2.000000
658	Duplex/Semi-detached	NaN		405	
410,000	premiere	3.000000		2.0000	6.000000
659	House	124		862	
NaN	premiere	3.000000		1.0000	3.000000
660	House	NaN		NaN	
620,000	premiere	4.000000		2.0000	2.000000
661	House	111		1,050	
1,200,000	premiere	3.000000		1.0000	2.000000
662	House	NaN		926	
775,000	premiere	4.000000		2.0000	4.000000
663	House	NaN		837	

NaN	premiere	9.000000		4.0000	6.000000
664	House		NaN		822
580,000	premiere	3.000000		2.0000	2.000000
665	Unit		NaN		144
329,000	premiere	2.000000		1.0000	1.000000
666	Villa		80		80
NaN	premiere	2.000000		1.0000	2.000000
667	House		430		963
1200000	premiere	3.000000		2.0000	3.000000
668	House		NaN		NaN
660,000	premiere	5.000000		2.0000	4.000000
669	Apartment		NaN		NaN
649,000	premiere	4.000000		2.0000	2.000000
670	House		134		2400
899,000	premiere	3.000000		2.0000	4.000000
671	House		378		2000
1,100,000	premiere	5.000000		3.0000	6.000000
672	House		NaN		865
420,000	premiere	3.000000		1.0000	2.000000
673	Townhouse		NaN		NaN
335,000	standard	2.000000		1.0000	0.000000
674	House		NaN		2020
799,000	premiere	4.000000		2.0000	2.000000
675	House		NaN		1,040
NaN	premiere	3.000000		1.0000	1.000000
676	Unit		NaN		NaN
NaN	premiere	2.000000		1.0000	1.000000
677	House		NaN		814
639,000	premiere	4.000000		2.0000	2.000000
678	House		NaN		2,030
499,000	premiere	4.000000		2.0000	6.000000
679	House		NaN		749
1,800,000	premiere	4.000000		3.0000	3.000000
680	Unit		NaN		NaN
499,000	feature	1.000000		1.0000	1.000000
681	Apartment		NaN		NaN
NaN	premiere	3.000000		2.0000	2.000000
682	Apartment		NaN		NaN
400,000	premiere	2.000000		2.0000	1.000000
683	Unit		115		115
279,000	premiere	2.000000		1.0000	2.000000
684	House		237.83		769
695000	standard	4.000000		2.0000	4.000000
685	House		337		847
900,000	standard	3.000000		3.0000	2.000000
686	House		NaN		NaN
575,000	premiere	3.000000		2.0000	2.000000
687	Apartment		NaN		NaN
380,000	premiere	2.000000		2.0000	1.000000
688	Unit		NaN		NaN

345,000	ONO	premiere	2.000000	1.0000	
1.000000					
689		House	102	2020	
NaN	premiere		3.000000	1.0000	6.000000
690		House	NaN	695	
859,000	premiere		4.000000	2.0000	2.000000
691		House	NaN	NaN	
740,000	premiere		5.000000	2.0000	10.000000
692		House	NaN	720	
569,000	premiere		3.000000	2.0000	4.000000
693		House	NaN	NaN	
490,000	premiere		3.000000	1.0000	2.000000
694		House	NaN	664	
600,000	premiere		4.000000	2.0000	2.000000
695		House	NaN	751	
700,000	premiere		4.000000	2.0000	4.000000
696		Apartment	NaN	NaN	
290,000	premiere		1.000000	1.0000	1.000000
697		House	194	783	
599,000	premiere		4.000000	2.0000	3.000000
698		Apartment	NaN	NaN	
800,000	premiere		3.000000	2.0000	2.000000
699		House	189	800	
720,000	premiere		4.000000	2.0000	2.000000
700		House	NaN	NaN	
600,000	-	premiere	3.000000	1.0000	4.000000
701		House	NaN	833	
430,000	premiere		3.000000	1.0000	3.000000
702		House	NaN	NaN	
NaN	premiere		4.000000	2.0000	3.000000
703		Unit	93	93	
NaN	premiere		1.000000	1.0000	1.000000
704		House	NaN	916	
NaN	premiere		3.000000	1.0000	1.000000
705		House	210	739	
NaN	premiere		4.000000	2.0000	4.000000
706		House	NaN	974	
NaN	premiere		3.000000	2.0000	2.000000
707		Unit	193	193	
330,000	premiere		2.000000	2.0000	2.000000
708		House	NaN	715	
NaN	standard		3.000000	2.0000	4.000000
709		House	NaN	818	
580,000	premiere		3.000000	2.0000	3.000000
710		House	120	891	
400,000	premiere		3.000000	1.0000	2.000000
711		House	578	2100	
849,000	premiere		3.000000	3.0000	0.000000
712	Residential Land		NaN	405	
225,000	standard		2.866598	1.7394	2.152017

713	Residential Land		NaN	449	
250,000	standard	2.866598		1.7394	2.152017
714	Residential Land		NaN	741	
387,000	standard	2.866598		1.7394	2.152017
715	Residential Land		NaN	378	
210,000	standard	2.866598		1.7394	2.152017
716	House		230	641	
599,000	premiere	4.000000		2.0000	2.000000
717	Apartment		53	53	
299,000	premiere	1.000000		1.0000	1.000000
718	House		204	731	
NaN	premiere	3.000000		2.0000	4.000000
719	House		274	811	
475,000	premiere	3.000000		1.0000	2.000000
720	House		NaN	630	
679,000	premiere	4.000000		2.0000	2.000000
721	House		NaN	849	
560,000	premiere	3.000000		1.0000	4.000000
722	House		183	820	
475,000	premiere	3.000000		1.0000	4.000000
723	Unit		NaN	181	
319,000	premiere	2.000000		1.0000	2.000000
724	House		NaN	NaN	
520,000	premiere	4.000000		2.0000	2.000000
725	House		100	677	
639,000	premiere	3.000000		1.0000	3.000000
726	Townhouse		NaN	NaN	
750,000	premiere	4.000000		2.0000	2.000000
727	Residential Land		NaN	640	
334,000	standard	2.866598		1.7394	2.152017
728	Warehouse		NaN	359	
NaN	standard	0.000000		1.0000	8.000000
729	House		NaN	812	
NaN	premiere	4.000000		2.0000	4.000000
730	House		155	472	
460000	NEGOTIABLE		premiere	4.000000	1.0000
2.000000					
731	Unit		173	173	
439,000	standard	3.000000		2.0000	2.000000
732	House		186	428	
550,000	standard	3.000000		2.0000	2.000000
733	House		270	749	
580,000	standard	4.000000		2.0000	2.000000
734	Unit		NaN	74	
580,000	standard	1.000000		1.0000	1.000000
735	Apartment		138	138	
375,000	premiere	2.000000		2.0000	2.000000
736	Apartment		NaN	NaN	
495,000	feature	2.000000		2.0000	2.000000
737	House		NaN	1,020	545,000 (

over 1000sqm of land)		premiere	3.000000	1.0000
2.000000				
738	Townhouse	NaN	483	
429,000	feature	3.000000	1.0000	2.000000
739	House	NaN	8,093.71	
1,090,000	premiere	5.000000	4.0000	5.000000
740	House	NaN	NaN	
550,000	premiere	4.000000	1.0000	3.000000
741	House	141	712	
480,000	premiere	3.000000	2.0000	2.000000
742	Apartment	NaN	NaN	
489,000	feature	2.000000	2.0000	1.000000
743	House	247	1,160	
599,000	premiere	4.000000	2.0000	2.000000
744	House	NaN	NaN	
489,000	premiere	3.000000	2.0000	2.000000
745	Apartment	NaN	NaN	
550,000	standard	3.000000	2.0000	2.000000
746	Townhouse	NaN	NaN	
NaN	premiere	3.000000	3.0000	2.000000
747	Unit	NaN	220	
700,000	premiere	3.000000	2.0000	2.000000
748	Duplex/Semi-detached	NaN	368	
620,000	standard	3.000000	2.0000	2.000000
749	House	NaN	868	
399,000	feature	4.000000	1.0000	4.000000
750	House	NaN	815	
485,000	feature	4.000000	2.0000	3.000000
751	House	NaN	2020	
NaN	standard	4.000000	3.0000	2.000000
752	House	NaN	726	
620,000	premiere	4.000000	2.0000	2.000000
753	Unit	NaN	118	
390,000	premiere	2.000000	1.0000	1.000000
754	House	205	637	
620,000	standard	4.000000	2.0000	2.000000
755	Unit	NaN	NaN	
320,000	feature	2.000000	1.0000	2.000000
756	Unit	NaN	52	
195,000	premiere	1.000000	1.0000	1.000000
757	House	194	1,060	
435,000	premiere	3.000000	1.0000	2.000000
758	Townhouse	251	251	
895,000	premiere	4.000000	3.0000	3.000000
759	Apartment	NaN	NaN	
505,000	premiere	2.000000	2.0000	2.000000
760	House	253	631	
719,000!	feature	4.000000	2.0000	2.000000
761	House	155	330	
470,000	feature	3.000000	1.0000	2.000000

762		Unit	48		48	
149,000	premiere		1.000000	1.0000		1.000000
763		House	199		849	
480,000	premiere		3.000000	1.0000		1.000000
764		House	NaN		794	
789,000	premiere		4.000000	2.0000		6.000000
765		Apartment	NaN		NaN	
325,000	feature		2.000000	2.0000		2.000000
766		House	NaN		NaN	
495,000	standard		3.000000	1.0000		2.000000
767		Apartment	NaN		NaN	
539,000	negotiable	standard		2.000000		2.0000
1.000000						
768		House	130		737	
457,000	premiere		3.000000	1.0000		1.000000
769		Unit	100		100	
350,000	standard		2.000000	1.0000		1.000000
770		House	283		640	
600,000	standard		4.000000	2.0000		3.000000
771	Residential Land		NaN		660	
510,000	standard		2.866598	1.7394		2.152017
772		Apartment	NaN		NaN	
180,000	feature		1.000000	1.0000		0.000000
773		House	186.3		378	
600,000	standard		3.000000	2.0000		2.000000
774		House	NaN		920	
489,000	feature		5.000000	3.0000		2.000000
775		House	NaN		NaN	
499,000	feature		3.000000	2.0000		3.000000
776		House	NaN		NaN	
650,000	feature		4.000000	2.0000		2.000000
777		House	NaN		800	
NaN	premiere		3.000000	1.0000		2.000000
778	Residential Land		NaN		1,140	
420,000	premiere		2.866598	1.7394		2.152017
779		Unit	NaN		NaN	
NaN	premiere		3.000000	2.0000		2.000000
780		House	NaN		669	
830 000	feature		3.000000	1.0000		3.000000
781		Unit	NaN		NaN	
400,000	feature		2.000000	1.0000		1.000000
782		Townhouse	NaN		NaN	
NaN	premiere		3.000000	2.0000		2.000000
783		House	NaN		NaN	
450,000	feature		4.000000	2.0000		2.000000
784		Apartment	198		198	
NaN	premiere		3.000000	2.0000		2.000000
785	Residential Land		NaN		NaN	
380,000	premiere		2.866598	1.7394		2.152017
786		Townhouse	NaN		NaN	

299,000	standard	2.000000	1.0000	2.000000
787	House	NaN	508	
635,000	feature	4.000000	2.0000	2.000000
788	Block Of Units	377.44	377.44	
1,050,000	feature	3.000000	2.0000	2.000000
789	House	NaN	2000	
NaN	feature	3.000000	2.0000	3.000000
790	Apartment	NaN	NaN	
199,000	premiere	1.000000	1.0000	1.000000
791	House	213	659	
570,000	premiere	4.000000	2.0000	4.000000
792	House	NaN	807	
NaN	feature	4.000000	2.0000	2.000000
793	House	353	846	
899,000	feature	5.000000	2.0000	3.000000
794	House	NaN	893	
419,000	feature	3.000000	1.0000	2.000000
795	Unit	33	33	
145,000	standard	1.000000	1.0000	0.000000
796	House	NaN	640	
NaN	premiere	3.000000	2.0000	2.000000
797	Unit	52	52	
289,000	obo standard	1.000000	1.0000	
1.000000				
798	House	NaN	849	
499,000	premiere	4.000000	2.0000	4.000000
799	House	NaN	NaN	
595,000	premiere	4.000000	2.0000	2.000000
800	House	NaN	416	
499,000	premiere	3.000000	2.0000	1.000000
801	Apartment	NaN	NaN	
399,000	feature	3.000000	2.0000	2.000000
802	House	NaN	442	
NaN	premiere	3.000000	2.0000	2.000000
803	Apartment	NaN	NaN	
215,000	feature	1.000000	1.0000	1.000000
804	Apartment	NaN	NaN	
480,000	feature	3.000000	2.0000	2.000000
805	Apartment	NaN	NaN	
339,000	premiere	3.000000	2.0000	2.000000
806	House	NaN	964	
340,000	feature	3.000000	1.0000	4.000000
807	House	190	960	
490,000	feature	4.000000	2.0000	4.000000
808	Unit	NaN	NaN	
500,000	premiere	3.000000	2.0000	2.000000
809	Duplex/Semi-detached	NaN	336	
375,000	feature	3.000000	1.0000	2.000000
810	House	254	424	
462,500	premiere	3.000000	1.0000	2.000000

811		House	NaN	736	
NaN	standard		4.000000	2.0000	2.000000
812		Unit	NaN	215	
410,000	premiere		2.000000	1.0000	2.000000
813		House	208	480	
550,000	premiere		4.000000	2.0000	2.000000
814		House	172	706	
430,000	feature		3.000000	1.0000	2.000000
815		Unit	NaN	69	
320,000	premiere		2.000000	1.0000	2.000000
816		Apartment	NaN	NaN	
450,000	standard		2.000000	2.0000	1.000000
817		Unit	NaN	NaN	
430,000	feature		2.000000	2.0000	2.000000
818		Apartment	255	255	
865,000	standard		3.000000	2.0000	2.000000
819		House	240	875	
740,000	premiere		4.000000	2.0000	3.000000
820		House	244	530	
895,000	premiere		4.000000	3.0000	2.000000
821		Unit	NaN	NaN	
255,000	premiere		2.000000	1.0000	0.000000
822		House	NaN	606	
775,000	premiere		4.000000	2.0000	2.000000
823		Apartment	NaN	NaN	
400,000	premiere		2.000000	2.0000	1.000000
824		House	NaN	806	
400,000	feature		4.000000	1.0000	0.000000
825		House	223	776	
449,000	feature		3.000000	1.0000	0.000000
826		House	NaN	NaN	
780,000	feature		3.000000	2.0000	0.000000
827		House	NaN	2070	
1,200,000	feature		6.000000	5.0000	6.000000
828		Unit	NaN	154	
369,000	premiere		2.000000	2.0000	2.000000
829		House	NaN	808	
NaN	premiere		3.000000	1.0000	4.000000
830		Unit	NaN	69	
260,000	feature		2.000000	1.0000	1.000000
831		House	NaN	415	
525,000	standard		3.000000	2.0000	1.000000
832		Townhouse	NaN	393	
765,000	premiere		3.000000	2.0000	2.000000
833		Block Of Units	NaN	812	
NaN	feature		8.000000	4.0000	0.000000
834		Apartment	66	66	
350,000	feature		1.000000	1.0000	1.000000
835		Unit	NaN	NaN	
549,000	premiere		3.000000	2.0000	2.000000

836		House	155		487	
NaN	premiere	3.000000		2.0000		2.000000
837		Apartment	NaN		NaN	
539,000	standard	2.000000		2.0000		1.000000
838		House	NaN		NaN	
NaN	premiere	5.000000		2.0000		4.000000
839		Apartment	83		83	
NaN	premiere	1.000000		1.0000		0.000000
840		House	222		572	
NaN	feature	4.000000		2.0000		2.000000
841		Apartment	110		110	
490,000	premiere	2.000000		2.0000		1.000000
842		Residential Land	NaN		820	
NaN	premiere	2.866598		1.7394		2.152017
843		House	154		805	
550,000	feature	5.000000		2.0000		5.000000
844		House	NaN		NaN	
480,000	feature	3.000000		1.0000		2.000000
845		Unit	166		166	
289,000	premiere	1.000000		1.0000		1.000000
846		House	245		664	
NaN	premiere	4.000000		2.0000		4.000000
847		Apartment	NaN		NaN	
209,000	Negotiate	feature		1.000000		1.0000
1.000000						
848		House	338		723	
849,000	premiere	6.000000		4.0000		6.000000
849		Residential Land	NaN		1,170	
770,000	premiere	2.866598		1.7394		2.152017
850		House	NaN		NaN	
525,000	feature	4.000000		2.0000		2.000000
851		Unit	NaN		388	
NaN	premiere	3.000000		1.0000		2.000000
852		Apartment	NaN		NaN	
420,000	premiere	2.000000		2.0000		2.000000
853		Unit	150		150	
NaN	standard	2.000000		2.0000		2.000000
854		Unit	NaN		153	
510,000	standard	3.000000		2.0000		2.000000
855		Unit	NaN		NaN	
NaN	premiere	3.000000		2.0000		2.000000
856		House	NaN		NaN	
570,000	premiere	3.000000		2.0000		2.000000
857		House	NaN		NaN	
549,000	feature	3.000000		2.0000		2.000000
858		House	NaN		523	
730,000	premiere	4.000000		2.0000		2.000000
859		House	NaN		630	
590,000	feature	3.000000		2.0000		0.000000
860		House	244		640	

NaN	premiere	4.000000		2.0000	2.000000
861	Unit		NaN		NaN
575,000	feature	3.000000		2.0000	2.000000
862	Unit		NaN		NaN
350,000	standard	2.000000		1.0000	2.000000
863	House		NaN		NaN
500,000	premiere	3.000000		2.0000	2.000000
864	Unit		NaN		NaN
535,000	premiere	2.000000		2.0000	2.000000
865	Unit		NaN		NaN
325,000	premiere	2.000000		1.0000	1.000000
866	House		NaN		NaN
NaN	premiere	3.000000		1.0000	2.000000
867	Unit		NaN		66
335,000	feature	1.000000		1.0000	1.000000
868	Apartment		153		153
NaN	premiere	2.000000		2.0000	1.000000
869	Apartment		260		260
780,000	Invited feature	3.000000			2.0000
3.000000					
870	Apartment		NaN		NaN
850,000	feature	4.000000		2.0000	2.000000
871	House		NaN		642
750,000	feature	4.000000		2.0000	2.000000
872	Apartment		NaN		NaN
510,000	feature	3.000000		2.0000	2.000000
873	House		NaN		NaN
560,000	premiere	5.000000		2.0000	4.000000
874	Unit		NaN		NaN
NaN	premiere	3.000000		2.0000	2.000000
875	Unit		NaN		NaN
440,000	feature	3.000000		2.0000	2.000000
876	Unit		NaN		206
295,000	feature	2.000000		1.0000	2.000000
877	Duplex/Semi-detached		356		356
610,000	standard	4.000000		2.0000	2.000000
878	Townhouse		NaN		432
370,000	premiere	3.000000		1.0000	2.000000
879	Duplex/Semi-detached		NaN		283
359,000	premiere	3.000000		2.0000	1.000000
880	House		NaN		864
NaN	premiere	4.000000		2.0000	2.000000
881	Unit		NaN		NaN
NaN	premiere	2.000000		2.0000	2.000000
882	House		311		660
NaN	premiere	4.000000		3.0000	2.000000
883	House		160		607
NaN	premiere	4.000000		2.0000	2.000000
884	House		190		360
595,000	premiere	4.000000		2.0000	2.000000

885		House	NaN		700	
NaN	premiere		4.000000	2.0000		2.000000
886		Unit	NaN		242	
1,300,000		premiere	3.000000		2.0000	2.000000
887		Unit	66		66	
277,500		premiere	2.000000	1.0000		1.000000
888		House	815		5,790	
NaN	premiere		7.000000	5.0000		10.000000
889		House	182		1,160	
NaN	premiere		4.000000	2.0000		2.000000
890	Duplex/Semi-detached				197	
NaN	premiere		4.000000	2.0000		2.000000
891		House	NaN		326	
NaN	feature		2.000000	2.0000		2.000000
892		House	NaN		369	
650,000		feature	6.000000	3.0000		3.000000
893		Apartment	87		87	
200,000		feature	2.000000	1.0000		0.000000
894		House	NaN		NaN	
385,000		feature	2.000000	1.0000		1.000000
895		House	NaN		NaN	
500,000		feature	4.000000	2.0000		2.000000
896		House	1,904.51		1,170	
570000 neg		standard	3.000000		2.0000	7.000000
897		House	NaN		NaN	
625,000		feature	5.000000	2.0000		4.000000
898		House	NaN		640	
520,000		feature	3.000000	2.0000		0.000000
899		House	272		800	
500,000		feature	4.000000	3.0000		0.000000
900		Apartment	NaN		NaN	
345,000		premiere	2.000000	2.0000		2.000000
901		House	NaN		782	
475,000		feature	3.000000	2.0000		4.000000
902	Duplex/Semi-detached		NaN		NaN	
360,000		feature	3.000000	2.0000		2.000000
903		House	NaN		351	
399,000		feature	3.000000	1.0000		0.000000
904	Block Of Units		NaN		NaN	
1,100,000		premiere	6.000000	4.0000		4.000000
905		Unit	80		80	
580,000		premiere	2.000000	2.0000		2.000000
906		Townhouse	NaN		242	
409,000		premiere	3.000000	2.0000		2.000000
907		House	NaN		2,023	
470,000 ONO		feature	3.000000		2.0000	
2.000000						
908		Unit	86		86	
283,000		premiere	1.000000	1.0000		1.000000
909		House	250		1,020	

NaN	premiere	4.000000		2.0000	2.000000
910	House		NaN		NaN
699,000	standard	4.000000		2.0000	2.000000
911	House		NaN		NaN
NaN	premiere	4.000000		2.0000	2.000000
912	Townhouse		103		103
390,000	standard	3.000000		2.0000	2.000000
913	House		NaN		838
615,000	premiere	3.000000		1.0000	2.000000
914	Townhouse		NaN		284
645,000	premiere	3.000000		3.0000	2.000000
915	House		NaN		852
599,000	feature	4.000000		2.0000	6.000000
916	Unit		189		189
NaN	feature	3.000000		2.0000	2.000000
917	House		227		876
615,000	standard	4.000000		2.0000	2.000000
918	House		NaN		834
370,000	premiere	1.000000		1.0000	3.000000
919	House		149		804
515,000	premiere	4.000000		2.0000	2.000000
920	House		224		720
675,000	premiere	4.000000		2.0000	2.000000
921	House		NaN		NaN
289,000	standard	2.000000		2.0000	2.000000
922	House		NaN		823
480,000	standard	3.000000		2.0000	3.000000
923	Unit		188		188
500,000	premiere	3.000000		2.0000	2.000000
924	Unit		NaN		158
NaN	premiere	2.000000		2.0000	2.000000
925	Unit		93		93
299,000	premiere	2.000000		2.0000	1.000000
926	House		215		634
615,000	standard	4.000000		2.0000	2.000000
927	House		193		754
NaN	premiere	4.000000		2.0000	2.000000
928	Unit		66		66
260,000	premiere	2.000000		1.0000	1.000000
929	House		170		974
675,000	standard	4.000000		3.0000	2.000000
930	House		NaN		708
515,000	feature	3.000000		2.0000	2.000000
931	House		NaN		NaN
NaN	premiere	6.000000		2.0000	4.000000
932	House		171		316
545,000	standard	3.000000		2.0000	2.000000
933	Unit		NaN		NaN
NaN	premiere	1.000000		1.0000	1.000000
934	Apartment		NaN		NaN

470,000	feature	3.000000	2.0000	1.000000
935	Apartment	NaN	NaN	
539,000	feature	2.000000	2.0000	1.000000
936	House	NaN	NaN	
475,000	premiere	3.000000	1.0000	2.000000
937	Duplex/Semi-detached	NaN	397	
NaN	standard	3.000000	2.0000	2.000000
938	Apartment	NaN	NaN	
360,000	feature	3.000000	1.0000	1.000000
939	House	NaN	827	
449,000	feature	3.000000	1.0000	2.000000
940	House	NaN	312	
479,000	feature	3.000000	1.0000	2.000000
941	Unit	NaN	NaN	
370,000	feature	2.000000	1.0000	2.000000
942	Unit	NaN	NaN	
519,000	premiere	2.000000	2.0000	2.000000
943	House	NaN	NaN	
540,000	feature	4.000000	2.0000	2.000000
944	Unit	NaN	50	
219,000	premiere	1.000000	1.0000	1.000000
945	Residential Land	NaN	815	
385,000	standard	2.866598	1.7394	2.152017
946	House	NaN	1990	
700,000	feature	4.000000	2.0000	4.000000
947	House	NaN	783	
499,000	feature	3.000000	1.0000	0.000000
948	House	1,000	2020	
1,200,000	feature	5.000000	3.0000	8.000000
949	Lifestyle	NaN	3640	
NaN	premiere	5.000000	2.0000	4.000000
950	House	NaN	804	
539,000	feature	3.000000	1.0000	2.000000
951	House	NaN	NaN	
600,000	feature	4.000000	2.0000	2.000000
952	Apartment	NaN	NaN	
235,000	feature	1.000000	1.0000	1.000000
953	House	NaN	NaN	
499,000	feature	2.000000	1.0000	0.000000
954	House	360	9710	
1150000	feature	3.000000	2.0000	12.000000
955	Townhouse	NaN	NaN	
699,000	standard	3.000000	2.0000	2.000000
956	Unit	NaN	126	
395,000	feature	2.000000	1.0000	2.000000
957	Unit	NaN	322	
645000	premiere	3.000000	3.0000	3.000000
958	Unit	NaN	NaN	
269,000	standard	2.000000	1.0000	1.000000
959	Block Of Units	NaN	NaN	

3,990,000	standard	2.000000	1.0000	1.000000
960	Unit	133	133	
419,000	standard	2.000000	2.0000	2.000000
961	Unit	NaN	NaN	
380,000	feature	2.000000	1.0000	2.000000
962	Apartment	135	135	
430,000	standard	2.000000	2.0000	2.000000
963	House	NaN	124	
244,000	premiere	2.000000	1.0000	2.000000
964	House	NaN	NaN	
599,000	standard	3.000000	2.0000	2.000000
965	Apartment	NaN	NaN	
480,000	premiere	2.000000	2.0000	2.000000
966	House	186.3	360	
560,000	standard	3.000000	2.0000	2.000000
967	Apartment	NaN	NaN	
315,000	feature	1.000000	1.0000	1.000000
968	Apartment	NaN	NaN	
585,000 &	feature	3.000000	2.0000	2.000000
969	Acreage	260	17400	
1,550,000	standard	4.000000	4.0000	8.000000
970	Unit	NaN	NaN	
450,000	feature	3.000000	2.0000	2.000000
971	House	NaN	NaN	
NaN	premiere	4.000000	2.0000	2.000000
972	House	NaN	800	
630,000	standard	5.000000	2.0000	2.000000
973	House	NaN	801	
300,000	feature	3.000000	1.0000	0.000000
974	House	288	2020	
685,000	standard	3.000000	1.0000	10.000000
975	Apartment	NaN	NaN	
NaN	premiere	1.000000	1.0000	2.000000
976	House	208	309	
469,000	premiere	3.000000	2.0000	2.000000
977	Apartment	200	200	
NaN	standard	3.000000	2.0000	2.000000
978	Apartment	NaN	NaN	
439,000	feature	3.000000	2.0000	2.000000
979	Apartment	91.3	91.3	
299,000	Negotiable	feature	2.000000	2.0000
1.000000				
980	Apartment	NaN	NaN	
380,000	standard	2.000000	2.0000	0.000000
981	House	NaN	2020	
NaN	standard	5.000000	3.0000	10.000000
982	Townhouse	84	84	
339,000	feature	2.000000	1.0000	1.000000
983	Apartment	NaN	NaN	
275,000	feature	2.000000	1.0000	1.000000

984		House	NaN	NaN	
425,000	standard		3.000000	2.0000	2.000000
985		Townhouse	NaN	NaN	
370,000	feature		2.000000	2.0000	0.000000
986		House	165	819	
415,000	feature		3.000000	1.0000	2.000000
987		House	NaN	817	
550,000	standard		4.000000	2.0000	5.000000
988		Apartment	NaN	NaN	
1,070,000	feature		4.000000	2.0000	2.000000
989		House	NaN	812	
740,000	feature		5.000000	2.0000	6.000000
990		Unit	NaN	160	
NaN	feature		2.000000	1.0000	2.000000
991		Unit	NaN	NaN	
270,000	feature		1.000000	1.0000	1.000000
992		Unit	NaN	NaN	
390,000	feature		2.000000	2.0000	2.000000
993		House	NaN	NaN	
495,000	feature		4.000000	2.0000	2.000000
994		Unit	NaN	NaN	
NaN	standard		2.000000	1.0000	2.000000
995		House	NaN	9170	
NaN	feature		4.000000	3.0000	6.000000
996		House	203	600	
601,000	standard		4.000000	2.0000	2.000000
997		House	209.6	800	
655,000	standard		4.000000	2.0000	2.000000
998		House	180	450	
675,000	standard		4.000000	2.0000	3.000000
999		Unit	120	120	
399,000	feature		2.000000	2.0000	2.000000

dataset.info()

```

<class 'pandas.core.frame.DataFrame'>
RangeIndex: 1000 entries, 0 to 999
Data columns (total 8 columns):
 #   Column                Non-Null Count  Dtype
---  -
 0   property_type         1000 non-null   object
 1   building_size         280 non-null   object
 2   preferred_size        609 non-null   object
 3   price                 775 non-null   object
 4   product_depth         1000 non-null  object
 5   bedroom_count        1000 non-null  float64
 6   bathroom_count       1000 non-null  float64
 7   parking_count        1000 non-null  float64
dtypes: float64(3), object(5)
memory usage: 62.6+ KB

```

```
dataset["price"]=dataset.price.str.split(' ').str[0]
dataset = dataset.replace(',',' ', regex=True)
dataset["price"]=dataset.price.str.split('-').str[0]
dataset["price"]=dataset.price.str.split('!').str[0]
```

#one hot encoding the dataset

```
encoded_data = pd.get_dummies(dataset, columns =
['property_type','product_depth'])
encoded_data.info()
```

```
<class 'pandas.core.frame.DataFrame'>
```

```
RangeIndex: 1000 entries, 0 to 999
```

```
Data columns (total 23 columns):
```

#	Column	Non-Null Count	Dtype
0	building_size	280 non-null	object
1	preferred_size	609 non-null	object
2	price	775 non-null	object
3	bedroom_count	1000 non-null	float64
4	bathroom_count	1000 non-null	float64
5	parking_count	1000 non-null	float64
6	property_type_Acreage	1000 non-null	uint8
7	property_type_Apartment	1000 non-null	uint8
8	property_type_Block Of Units	1000 non-null	uint8
9	property_type_Duplex/Semi-detached	1000 non-null	uint8
10	property_type_House	1000 non-null	uint8
11	property_type_Lifestyle	1000 non-null	uint8
12	property_type_Other	1000 non-null	uint8
13	property_type_Residential Land	1000 non-null	uint8
14	property_type_Studio	1000 non-null	uint8
15	property_type_Townhouse	1000 non-null	uint8
16	property_type_Unit	1000 non-null	uint8
17	property_type_Villa	1000 non-null	uint8
18	property_type_Warehouse	1000 non-null	uint8
19	product_depth_feature	1000 non-null	uint8
20	product_depth_midtier	1000 non-null	uint8
21	product_depth_premiere	1000 non-null	uint8
22	product_depth_standard	1000 non-null	uint8

```
dtypes: float64(3), object(3), uint8(17)
```

```
memory usage: 63.6+ KB
```

convert all columns of DataFrame

```
encoded_data = encoded_data.apply(pd.to_numeric) # convert all columns
of DataFrame
```

```
encoded_data.info()
```

```
<class 'pandas.core.frame.DataFrame'>
```

```
RangeIndex: 1000 entries, 0 to 999
```

```
Data columns (total 23 columns):
```

#	Column	Non-Null Count	Dtype
---	--------	----------------	-------

```

----
0  building_size          280 non-null    float64
1  preferred_size        609 non-null    float64
2  price                  775 non-null    float64
3  bedroom_count         1000 non-null   float64
4  bathroom_count        1000 non-null   float64
5  parking_count         1000 non-null   float64
6  property_type_Acreage  1000 non-null   uint8
7  property_type_Apartment  1000 non-null   uint8
8  property_type_Block Of Units  1000 non-null   uint8
9  property_type_Duplex/Semi-detached  1000 non-null   uint8
10 property_type_House    1000 non-null   uint8
11 property_type_Lifestyle  1000 non-null   uint8
12 property_type_Other     1000 non-null   uint8
13 property_type_Residential Land  1000 non-null   uint8
14 property_type_Studio    1000 non-null   uint8
15 property_type_Townhouse  1000 non-null   uint8
16 property_type_Unit      1000 non-null   uint8
17 property_type_Villa     1000 non-null   uint8
18 property_type_Warehouse  1000 non-null   uint8
19 product_depth_feature   1000 non-null   uint8
20 product_depth_midtier   1000 non-null   uint8
21 product_depth_premiere  1000 non-null   uint8
22 product_depth_standard  1000 non-null   uint8

```

dtypes: float64(6), uint8(17)

memory usage: 63.6 KB

#finding the mean of the bedroom_count column

```

building_sizeMean = encoded_data["building_size"].mean()
preferred_sizeMean = encoded_data["preferred_size"].mean()
priceMean = encoded_data["price"].mean()

```

```

encoded_data["building_size"].fillna(building_sizeMean, inplace=True)
encoded_data["preferred_size"].fillna(preferred_sizeMean,
inplace=True)
encoded_data["price"].fillna(priceMean, inplace=True)

```

df=encoded_data

df

```

      building_size  preferred_size      price  bedroom_count \
0      224.357357      889.903432  435000.000000      2.0
1      171.000000      171.000000  320000.000000      3.0
2      224.357357      889.903432  310000.000000      2.0
3      224.357357      889.903432  259000.000000      1.0
4      201.000000      201.000000  439000.000000      3.0
..              ...
995     224.357357     9170.000000  522456.215484      4.0
996     203.000000      600.000000  601000.000000      4.0
997     209.600000      800.000000  655000.000000      4.0
998     180.000000      450.000000  675000.000000      4.0

```

999 120.000000 120.000000 399000.000000 2.0

	bathroom_count	parking_count	property_type_Acreage	\
0	1.0	1.0	0	
1	2.0	2.0	0	
2	1.0	1.0	0	
3	1.0	0.0	0	
4	2.0	2.0	0	
..	
995	3.0	6.0	0	
996	2.0	2.0	0	
997	2.0	2.0	0	
998	2.0	3.0	0	
999	2.0	2.0	0	

	property_type_Apartment	property_type_Block Of Units	\
0	0	0	
1	1	0	
2	0	0	
3	0	0	
4	0	0	
..	
995	0	0	
996	0	0	
997	0	0	
998	0	0	
999	0	0	

	property_type_Duplex/Semi-detached	...
property_type_Residential Land	\	
0	0	...
0		
1	0	...
0		
2	0	...
0		
3	0	...
0		
4	0	...
0		
..
...		
995	0	...
0		
996	0	...
0		
997	0	...
0		
998	0	...
0		

999 0 ...

	property_type_Studio	property_type_Townhouse	property_type_Unit
\			
0	0	0	0
1	0	0	0
2	0	0	1
3	0	0	0
4	0	0	1
..
995	0	0	0
996	0	0	0
997	0	0	0
998	0	0	0
999	0	0	1

	property_type_Villa	property_type_Warehouse
product_depth_feature \		
0	0	0
0		
1	0	0
0		
2	0	0
0		
3	0	0
0		
4	0	0
0		
..
..		
995	0	0
1		
996	0	0
0		
997	0	0
0		
998	0	0


```

0
999          0          0
1
      product_depth_midtier  product_depth_premiere
product_depth_standard
0          0          1
0
1          0          1
0
2          0          1
0
3          0          1
0
4          0          1
0
..          ...          ...
...
995         0          0
0
996         0          0
1
997         0          0
1
998         0          0
1
999         0          0
0

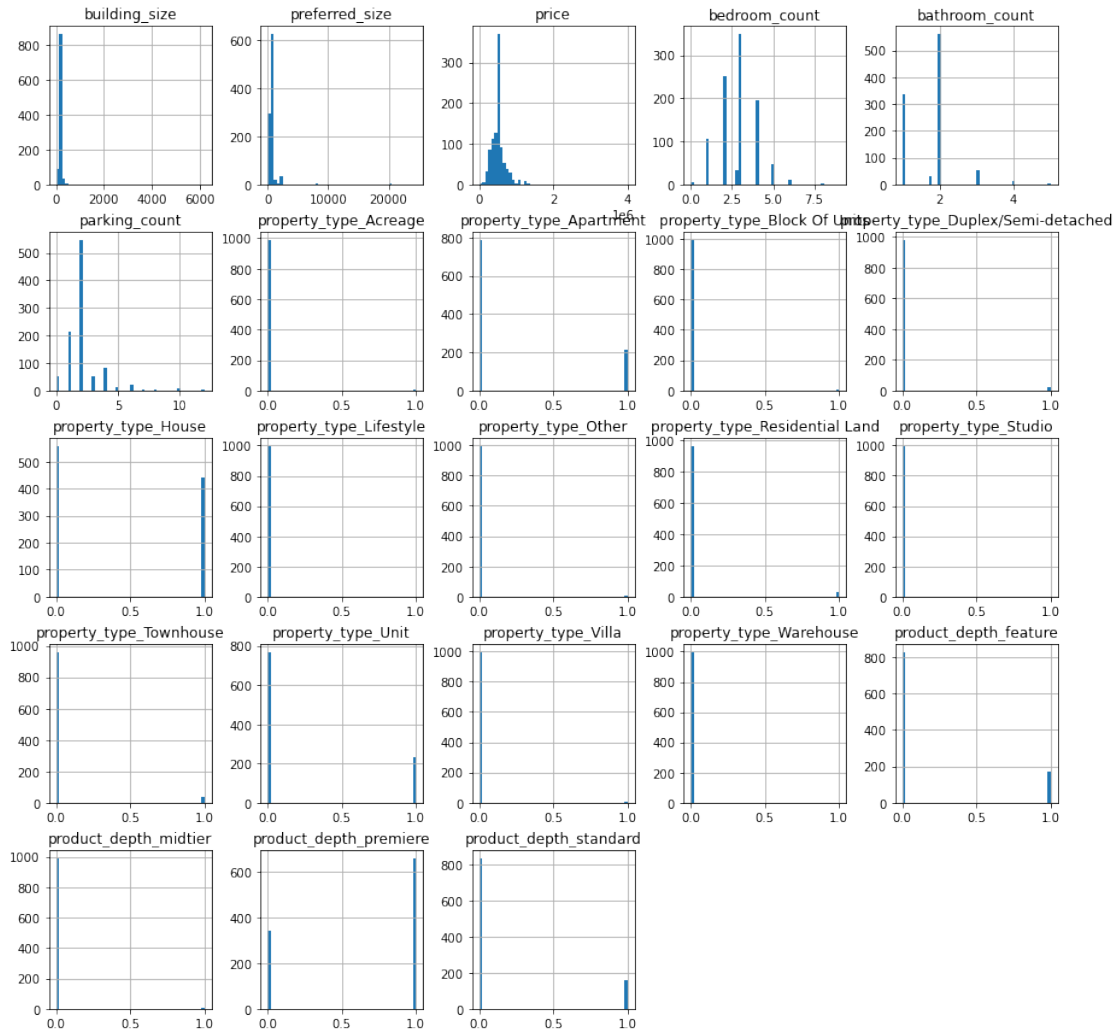
```

[1000 rows x 23 columns]

```

import matplotlib.pyplot as plt
df.hist(bins=50, figsize=(15,15))
plt.show()

```



now all the columns are numeric. we can use the processed data for machine learning

in X, we are storing age, sex, bmi, children, smoker and region columns by dropping charges

```
X=df.drop(columns="price")
```

in y, we are saving charges only

```
y= df["price"]
```

we are splitting the data into 4 parts.

```
from sklearn.model_selection import train_test_split
X_train, X_test, y_train, y_test = train_test_split(X,y,
test_size=0.05, random_state=0)
```

```
from sklearn.preprocessing import StandardScaler
sc = StandardScaler()
```

```

X_train = sc.fit_transform(X_train)
X_test = sc.transform(X_test)

X_train
array([[ -0.00475909, -0.00927156,  0.10397331, ..., -0.08615752,
         0.72279727, -0.44325337],
       [ -0.00475909,  1.39576451,  0.10397331, ..., -0.08615752,
         0.72279727, -0.44325337],
       [ -0.00475909, -0.28379844,  0.10397331, ..., -0.08615752,
         0.72279727, -0.44325337],
       ...,
       [ -0.00475909, -0.00927156,  0.98377769, ..., -0.08615752,
         0.72279727, -0.44325337],
       [ -0.00475909, -0.00927156, -0.77583107, ..., -0.08615752,
        -1.3835138 ,  2.25604601],
       [  0.05474617, -0.07975574,  0.98377769, ..., -0.08615752,
        -1.3835138 ,  2.25604601]])

X_test
array([[ -0.00475909, -0.00927156,  0.98377769, ..., -0.08615752,
        -1.3835138 , -0.44325337],
       [ -0.00475909, -0.16078984,  0.10397331, ..., -0.08615752,
        -1.3835138 , -0.44325337],
       [ -0.00475909, -0.00927156,  0.10397331, ..., -0.08615752,
         0.72279727, -0.44325337],
       ...,
       [ -0.55843087, -0.47035177, -0.77583107, ..., -0.08615752,
        -1.3835138 , -0.44325337],
       [ -0.00475909, -0.24532182,  0.98377769, ..., -0.08615752,
         0.72279727, -0.44325337],
       [ -0.00475909, -0.00927156,  0.10397331, ..., -0.08615752,
         0.72279727, -0.44325337]])

# initializing linear regression model
from sklearn.linear_model import LinearRegression
lr = LinearRegression()
lr

LinearRegression()

# training the model lr using X_train and y_train values
lr.fit(X_train, y_train)

LinearRegression()

# predicting the charges by giving X_test
y_pred = lr.predict(X_test)

y_pred

```

```
array([ 556794.3764074 , 485897.69440373, 467467.37611102,
        356977.5861787 , 467271.19485493, 581896.04920216,
        507323.68440668, 558364.97159194, 563697.34386864,
        550541.14359681, 428331.23397563, 580077.06595677,
        558083.67996115, 516411.53164731, 398046.25301467,
        340522.48930939, 594699.74661662, 396532.26503378,
        557844.58207498, 373733.67924659, 391112.00090294,
        379630.32569978, 372399.23491525, 549218.02209524,
        579269.25395934, 1306779.36464529, 347612.93427853,
        500997.11862401, 554932.02735814, 557703.93625958,
        513264.02513249, 466830.36578396, 646108.62553852,
        398835.35204135, 594983.34308076, 506578.27965263,
        608828.3738336 , 321670.55996677, 421408.13126097,
        474423.99287475, 565414.28675833, 615434.14395031,
        347612.93427853, 563697.34386864, 462041.60736966,
        556794.3764074 , 600291.35155462, 462740.36754294,
        578706.34971339, 563697.34386864])
```

*# we are creating a new dataset where we can check actual charges,
 predicted charges and difference between them
 #so that we can understand more clearly*

```
actual_pred_df = pd.DataFrame({"ActualCharges":y_test,
  "PredictedCharges":y_pred, "Difference":y_test - y_pred})
actual_pred_df
```

	ActualCharges	PredictedCharges	Difference
993	4.950000e+05	5.567944e+05	-61794.376407
859	5.900000e+05	4.858977e+05	104102.305596
298	5.500000e+05	4.674674e+05	82532.623889
553	1.150000e+05	3.569776e+05	-241977.586179
672	4.200000e+05	4.672712e+05	-47271.194855
971	5.224562e+05	5.818960e+05	-59439.833718
27	9.500000e+05	5.073237e+05	442676.315593
231	8.250000e+05	5.583650e+05	266635.028408
306	5.224562e+05	5.636973e+05	-41241.128385
706	5.224562e+05	5.505411e+05	-28084.928113
496	2.750000e+05	4.283312e+05	-153331.233976
558	5.224562e+05	5.800771e+05	-57620.850473
784	5.224562e+05	5.580837e+05	-35627.464477
239	4.500000e+05	5.164115e+05	-66411.531647
578	5.224562e+05	3.980463e+05	124409.962469
55	5.224562e+05	3.405225e+05	181933.726174
906	4.090000e+05	5.946997e+05	-185699.746617
175	3.990000e+05	3.965323e+05	2467.734966
14	6.250000e+05	5.578446e+05	67155.417925
77	2.090000e+05	3.737337e+05	-164733.679247
31	2.990000e+05	3.911120e+05	-92112.000903
481	3.000000e+05	3.796303e+05	-79630.325700
310	3.000000e+05	3.723992e+05	-72399.234915

```

311 3.870000e+05 5.492180e+05 -162218.022095
883 5.224562e+05 5.792693e+05 -56813.038475
788 1.050000e+06 1.306779e+06 -256779.364645
45 2.890000e+05 3.476129e+05 -58612.934279
103 5.500000e+05 5.009971e+05 49002.881376
760 7.190000e+05 5.549320e+05 164067.972642
1 3.200000e+05 5.577039e+05 -237703.936260
823 4.000000e+05 5.132640e+05 -113264.025132
710 4.000000e+05 4.668304e+05 -66830.365784
614 5.224562e+05 6.461086e+05 -123652.410055
790 1.990000e+05 3.988354e+05 -199835.352041
408 4.500000e+05 5.949833e+05 -144983.343081
736 4.950000e+05 5.065783e+05 -11578.279653
957 6.450000e+05 6.088284e+05 36171.626166
366 3.375000e+05 3.216706e+05 15829.440033
918 3.700000e+05 4.214081e+05 -51408.131261
267 3.650000e+05 4.744240e+05 -109423.992875
230 5.400000e+05 5.654143e+05 -25414.286758
996 6.010000e+05 6.154341e+05 -14434.143950
635 3.890000e+05 3.476129e+05 41387.065721
698 8.000000e+05 5.636973e+05 236302.656131
251 4.500000e+05 4.620416e+05 -12041.607370
783 4.500000e+05 5.567944e+05 -106794.376407
819 7.400000e+05 6.002914e+05 139708.648445
141 3.700000e+05 4.627404e+05 -92740.367543
316 5.690000e+05 5.787063e+05 -9706.349713
587 5.224562e+05 5.636973e+05 -41241.128385

```

```
# printing y-intercept
```

```
lr.intercept_
```

```
524352.7929779288
```

```
#printing the coeficents
```

```
lr.coef_
```

```

array([ 1400.78240609, 13512.79791241, 36391.48912987,
51866.84960275,
        27884.86169165, 9675.49091368, 7697.22022322,
57180.36572408,
        -9683.3922739 , 2568.57905193, -4695.01914211,
1673.27240145,
        -23189.88721687, -9358.18504774, 10519.37660769, -
13511.44940185,
        2780.20756762, 452.06009318, -10247.31505434, -
3710.98071077,
        -986.80559443, 12549.72963316])

```

```
# we are finding the root mean squared error
import math
from sklearn.metrics import mean_squared_error
mse = mean_squared_error(y_test, y_pred)
rmse = math.sqrt(mse)
rmse
```

135431.3688666593

```
# finding the accuracy of the model
from sklearn.metrics import r2_score
r2_score(y_test, y_pred)
```

0.42618809856454165