

```
<!doctype html> <html lang="en"><head><meta http-equiv="Content-type" content="text/html; charset=utf-8"><title>properties in Kondapur:Makaan.com</title><meta name="theme-color" content="#ffff" id="themeColor"><meta content="origin" name="referrer"><meta name="p:domain_verify" content="55ce01b3ca93c05fd5a41439a23dd0d9"><meta name="fb:pages" content="155462194517712"><meta name="viewport" content="minimum-scale=1.0, width=device-width, initial-scale=1.0, maximum-scale=5.0, user-scalable=no"><link rel="preload" href="//static.makaan.com/scripts/vendor/require.min.js" as="script"><link rel="preload" href="//static.makaan.com/scripts/main.78506434.js" as="script"><link rel="preload" href="//static.makaan.com/scripts/infra.a7ac1784.js" as="script"><link rel="preload" href="//static.makaan.com/scripts/dependency/commonBundle.4610cbcc.js" as="script"><link rel="preload" href="//static.makaan.com/scripts/app.7d0dcfaa.js" as="script"><meta name="twitter:card" content="summary"><meta name="twitter:site" content="@Makaan"><meta name="twitter:creator" content="@Makaan"><meta itemprop="name" content="Makaan"><meta itemprop="description"><meta itemprop="image"><link rel="apple-touch-icon-precomposed" sizes="180x180" href="//static.makaan.com/apple-touch-icon-precomposed.png"><link rel="apple-touch-icon-precomposed" sizes="152x152" href="//static.makaan.com/apple-touch-icon-152x152-precomposed.png"><link rel="apple-touch-icon-precomposed" sizes="120x120" href="//static.makaan.com/apple-touch-icon-120x120-precomposed.png"><link rel="apple-touch-icon-precomposed" sizes="76x76" href="//static.makaan.com/apple-touch-icon-76x76-precomposed.png"><link rel="apple-touch-icon-precomposed" sizes="72x72" href="//static.makaan.com/apple-touch-icon-72x72-precomposed.png"><link rel="shortcut icon" href="//static.makaan.com/apple-touch-icon.png"><link href="//content.makaan.com" rel="preconnect"><link href="//www.google-analytics.com" rel="preconnect"><link href="//static.makaan.com" rel="preconnect"><link href="//static.makaan.com" rel="preconnect"><link href="//http://www.makaan.com/listings?page=2&rel="canonical"><link href="//http://www.makaan.com" hreflang="en"
```

In [360]: `soup = BeautifulSoup(html_code)`

```
print(soup.prettify())
```

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta content="text/html; charset=utf-8" http-equiv="Content-type"/>
    <title>
      properties in Kondapur:Makaan.com
    </title>
    <meta content="#fff" id="themeColor" name="theme-color"/>
    <meta content="origin" name="referrer"/>
    <meta content="55ce01b3ca93c05fd5a41439a23dd0d9" name="p:domain_verify"/>
    <meta content="155462194517712" name="fb:pages"/>
    <meta content="minimum-scale=1.0, width=device-width, initial-scale=1.0, maximum-scale=5.0, user-scalable=
no" name="viewport"/>
    <link as="script" href="//static.makaan.com/scripts/vendor/require.min.js" rel="preload"/>
    <link as="script" href="//static.makaan.com/scripts/main.78506434.js" rel="preload"/>
    <link as="script" href="//static.makaan.com/scripts/infra.a7ac1784.js" rel="preload"/>
    <link as="script" href="//static.makaan.com/scripts/dependency/commonBundle.4610cbcc.js" rel="preload"/>
    <link as="script" href="//static.makaan.com/scripts/app.7d0dcfaa.js" rel="preload"/>
    <meta content="summary" name="twitter:card"/>
    <meta content="Makaan" name="twitter:site"/>
```

```
In [361]: for i in range(2,11):  
           print('https://www.makaan.com/listings?listingType=buy&pageType=LOCALITY_URLS&localityName=Kondapur&local:')
```

https://www.makaan.com/listings?listingType=buy&pageType=LOCALITY_URLS&localityName=Kondapur&localityId=51242&cityId=12&templateId=MAKAAN_LOCALITY_LISTING_BUY&_1672856078645&page=2

(https://www.makaan.com/listings?listingType=buy&pageType=LOCALITY_URLS&localityName=Kondapur&localityId=51242&cityId=12&templateId=MAKAAN_LOCALITY_LISTING_BUY&_1672856078645&page=3)

(https://www.makaan.com/listings?listingType=buy&pageType=LOCALITY_URLS&localityName=Kondapur&localityId=51242&cityId=12&templateId=MAKAAN_LOCALITY_LISTING_BUY&_1672856078645&page=4)

(https://www.makaan.com/listings?listingType=buy&pageType=LOCALITY_URLS&localityName=Kondapur&localityId=51242&cityId=12&templateId=MAKAAN_LOCALITY_LISTING_BUY&_1672856078645&page=5)

(https://www.makaan.com/listings?listingType=buy&pageType=LOCALITY_URLS&localityName=Kondapur&localityId=51242&cityId=12&templateId=MAKAAN_LOCALITY_LISTING_BUY&_1672856078645&page=6)

(https://www.makaan.com/listings?listingType=buy&pageType=LOCALITY_URLS&localityName=Kondapur&localityId=51242&cityId=12&templateId=MAKAAN_LOCALITY_LISTING_BUY&_1672856078645&page=7)

(https://www.makaan.com/listings?listingType=buy&pageType=LOCALITY_URLS&localityName=Kondapur&localityId=51242&cityId=12&templateId=MAKAAN_LOCALITY_LISTING_BUY&_1672856078645&page=8)

(https://www.makaan.com/listings?listingType=buy&pageType=LOCALITY_URLS&localityName=Kondapur&localityId=51242&cityId=12&templateId=MAKAAN_LOCALITY_LISTING_BUY&_1672856078645&page=9)

(https://www.makaan.com/listings?listingType=buy&pageType=LOCALITY_URLS&localityName=Kondapur&localityId=51242&cityId=12&templateId=MAKAAN_LOCALITY_LISTING_BUY&_1672856078645&page=10)

```
CALITTV LISTING DIVE _167785607864580300-10\
```

```
In [362]: %%time

title = []

status = []

agent = []

area = []

total_price_row = []

for i in range(2,32):

    url = 'https://www.makaan.com/listings?listingType=buy&pageType=LOCALITY_URLS&localityName=Kondapur&local:

    page = requests.get(url)

    html_code = page.text

    soup = BeautifulSoup(html_code)

    for x in soup.find_all('div' , attrs = {'class' : 'cardLayout clearfix'}):

        # titles means title

        titles = soup.find('div' ,attrs = {'class','title-line-wrap'})

        if titles is None:
            title.append(np.NaN)
        else:
            title.append(titles.text)

        # update means status

        update = x.find('tr' , attrs ={'class':'hcol w44'})

        if update is None:
            status.append(np.NaN)
        else:
```

```
        status.append(update.text)

# agents means agent

agents = x.find('div' , attrs = {'class' : 'seller-info'})

if agents is None:
    agent.append(np.NaN)
else:
    agent.append(agents.text)

#location is a area

location = x.find('span' , attrs ={'class':'locName'})

if location is None:
    area.append(np.NaN)
else:
    area.append(location.text)

# price means means total_price_row

price = x.find('table' , attrs = {'class':'listing-highlights'})

if price is None:
    total_price_row.append(np.NaN)
else:
    total_price_row.append(price.text)
```

Wall time: 57.9 s

```
In [363]: print(len(title))
          print(len(area))
          print(len(agent))
          print(len(status))
          print(len(total_price_row))
```

```
600
600
600
600
600
```

DataFrame

Import The Libraries for performing Mathematical Computation and Manipulation DataFrame and Anlysis

using libraries: numpy , pandas

```
In [364]: import numpy as np
          import pandas as pd
```

```
In [365]: df = pd.DataFrame({'villa_name':title , 'price':total_price_row , 'agents':agent, 'position':status,'locality'
```

```
In [366]: df.villa_name.head(250)
```

```
Out[366]: 0      2 BHK Apartment in My Home MangalaKondapur, Hy...
1      2 BHK Apartment in My Home MangalaKondapur, Hy...
2      2 BHK Apartment in My Home MangalaKondapur, Hy...
3      2 BHK Apartment in My Home MangalaKondapur, Hy...
4      2 BHK Apartment in My Home MangalaKondapur, Hy...
...
245    2 BHK Apartment in Aparna Serene ParkKondapur,...
246    2 BHK Apartment in Aparna Serene ParkKondapur,...
247    2 BHK Apartment in Aparna Serene ParkKondapur,...
248    2 BHK Apartment in Aparna Serene ParkKondapur,...
249    2 BHK Apartment in Aparna Serene ParkKondapur,...
Name: villa_name, Length: 250, dtype: object
```

```
In [ ]:
```

```
In [367]: df.head()
```

```
Out[367]:
```

	villa_name	price	agents	position	locality
0	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 1.5 Cr9,375 / sq ft1600 Area in...	Vivek AssociatesAGENT0	Ready to moveConstruction Status	Kondapur, Hyderabad
1	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 1.35 Cr7,485 / sq ft1815 Area i...	BestpropinAGENT0	Ready to moveConstruction Status	Kondapur, Hyderabad
2	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 1.55 Cr7,948 / sq ft1950 Area i...	Sahara Real Estate ConsultantsAGENT0	Ready to moveConstruction Status	Kondapur, Hyderabad
3	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 1.37 Cr7,002 / sq ft1964 Area i...	YugandharAGENT0	Under ConstructionConstruction Status	Kondapur, Hyderabad
4	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 2.14 Cr7,919 / sq ft2710 Area i...	RamanaAGENT0	Under ConstructionConstruction Status	Kondapur, Hyderabad

In [368]: `df.tail()`

Out[368]:

	villa_name	price	agents	position	locality
595	4 BHK Apartment in SMR Vinay Iconia Phase II B...	Specifications 1.96 Cr10,017 / sq ft1965 Area ...	BSCPL Infrastructure LtdBUILDER0	Under ConstructionConstruction Status	Kondapur, Hyderabad
596	4 BHK Apartment in SMR Vinay Iconia Phase II B...	Specifications 1.96 Cr10,017 / sq ft1965 Area ...	BSCPL Infrastructure LtdBUILDER0	Under ConstructionConstruction Status	Kondapur, Hyderabad
597	4 BHK Apartment in SMR Vinay Iconia Phase II B...	Specifications 2.31 Cr10,123 / sq ft2290 Area ...	BSCPL Infrastructure LtdBUILDER0	Under ConstructionConstruction Status	Kondapur, Hyderabad
598	4 BHK Apartment in SMR Vinay Iconia Phase II B...	Specifications 2.31 Cr10,123 / sq ft2290 Area ...	BSCPL Infrastructure LtdBUILDER0	Under ConstructionConstruction Status	Kondapur, Hyderabad
599	4 BHK Apartment in SMR Vinay Iconia Phase II B...	Specifications 1.96 Cr10,017 / sq ft1965 Area ...	BSCPL Infrastructure LtdBUILDER0	Under ConstructionConstruction Status	Kondapur, Hyderabad

In [369]: `df.info()`

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 600 entries, 0 to 599
Data columns (total 5 columns):
#   Column      Non-Null Count  Dtype
---  -
0   villa_name   600 non-null    object
1   price        600 non-null    object
2   agents       600 non-null    object
3   position     600 non-null    object
4   locality     600 non-null    object
dtypes: object(5)
memory usage: 23.6+ KB
```

Above DataFrame save it into csv_file

In [370]: `df.to_csv('KondapurRealestate_Deatils.csv')`

In [371]: `df.head(5)`

Out[371]:

	villa_name	price	agents	position	locality
0	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 1.5 Cr9,375 / sq ft1600 Area in...	Vivek AssociatesAGENT0	Ready to moveConstruction Status	Kondapur, Hyderabad
1	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 1.35 Cr7,485 / sq ft1815 Area i...	BestpropinAGENT0	Ready to moveConstruction Status	Kondapur, Hyderabad
2	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 1.55 Cr7,948 / sq ft1950 Area i...	Sahara Real Estate ConsultantsAGENT0	Ready to moveConstruction Status	Kondapur, Hyderabad
3	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 1.37 Cr7,002 / sq ft1964 Area i...	YugandharAGENT0	Under ConstructionConstruction Status	Kondapur, Hyderabad
4	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 2.14 Cr7,919 / sq ft2710 Area i...	RamanaAGENT0	Under ConstructionConstruction Status	Kondapur, Hyderabad

In [372]: `df.shape`

Out[372]: (600, 5)

In [373]: `df.isnull().sum()`

Out[373]:

villa_name	0
price	0
agents	0
position	0
locality	0
dtype:	int64

Extracting the details using regex

In [374]: `import re`

```
In [375]: df.head()
```

```
Out[375]:
```

	villa_name	price	agents	position	locality
0	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 1.5 Cr9,375 / sq ft1600 Area in...	Vivek AssociatesAGENT0	Ready to moveConstruction Status	Kondapur, Hyderabad
1	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 1.35 Cr7,485 / sq ft1815 Area i...	BestpropinAGENT0	Ready to moveConstruction Status	Kondapur, Hyderabad
2	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 1.55 Cr7,948 / sq ft1950 Area i...	Sahara Real Estate ConsultantsAGENT0	Ready to moveConstruction Status	Kondapur, Hyderabad
3	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 1.37 Cr7,002 / sq ft1964 Area i...	YugandharAGENT0	Under ConstructionConstruction Status	Kondapur, Hyderabad
4	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 2.14 Cr7,919 / sq ft2710 Area i...	RamanaAGENT0	Under ConstructionConstruction Status	Kondapur, Hyderabad

```
In [376]: regex = r'\s[\d+.] + [a-zA-Z]+'  
df['villa_price']=df['price'].apply(lambda x : re.findall (regex,x))
```

In [377]: `df.head()`

Out[377]:

	villa_name	price	agents	position	locality	villa_price
0	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 1.5 Cr9,375 / sq ft1600 Area in...	Vivek AssociatesAGENT0	Ready to moveConstruction Status	Kondapur, Hyderabad	[1.5 Cr]
1	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 1.35 Cr7,485 / sq ft1815 Area i...	BestpropinAGENT0	Ready to moveConstruction Status	Kondapur, Hyderabad	[1.35 Cr]
2	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 1.55 Cr7,948 / sq ft1950 Area i...	Sahara Real Estate ConsultantsAGENT0	Ready to moveConstruction Status	Kondapur, Hyderabad	[1.55 Cr]
3	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 1.37 Cr7,002 / sq ft1964 Area i...	YugandharAGENT0	ConstructionUnder Construction Status	Kondapur, Hyderabad	[1.37 Cr]
4	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 2.14 Cr7,919 / sq ft2710 Area i...	RamanaAGENT0	ConstructionUnder Construction Status	Kondapur, Hyderabad	[2.14 Cr]

In [378]: `regex = r'\d+\s[a-zA-Z]+\s[Villa|Studio|Apartment]+\sApartment'`
`df['type_of_villa']=df['villa_name'].apply(lambda x : re.findall(regex , x))`

In [379]: `df.head()`

Out[379]:

	villa_name	price	agents	position	locality	villa_price	type_of_villa
0	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 1.5 Cr9,375 / sq ft1600 Area in...	Vivek AssociatesAGENT0	Ready to moveConstruction Status	Kondapur, Hyderabad	[1.5 Cr]	[2 BHK Apartment]
1	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 1.35 Cr7,485 / sq ft1815 Area i...	BestpropinAGENT0	Ready to moveConstruction Status	Kondapur, Hyderabad	[1.35 Cr]	[2 BHK Apartment]
2	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 1.55 Cr7,948 / sq ft1950 Area i...	Sahara Real Estate ConsultantsAGENT0	Ready to moveConstruction Status	Kondapur, Hyderabad	[1.55 Cr]	[2 BHK Apartment]
3	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 1.37 Cr7,002 / sq ft1964 Area i...	YugandharAGENT0	ConstructionConstruction Status	Kondapur, Hyderabad	[1.37 Cr]	[2 BHK Apartment]
4	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 2.14 Cr7,919 / sq ft2710 Area i...	RamanaAGENT0	ConstructionConstruction Status	Kondapur, Hyderabad	[2.14 Cr]	[2 BHK Apartment]

In [380]: `regex = r'(\d+,\d+)'`
`df['villa_price_sq_ft']=df['price'].apply(lambda x : re.findall(regex , x))`

In [381]: `df.head()`

Out[381]:

	villa_name	price	agents	position	locality	villa_price	type_of_villa	villa_price_sq_ft
0	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 1.5 Cr9,375 / sq ft1600 Area in...	Vivek AssociatesAGENT0	Ready to moveConstruction	Kondapur, Hyderabad	[1.5 Cr]	[2 BHK Apartment]	[9,375]
1	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 1.35 Cr7,485 / sq ft1815 Area i...	BestpropinAGENT0	Ready to moveConstruction	Kondapur, Hyderabad	[1.35 Cr]	[2 BHK Apartment]	[7,485]
2	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 1.55 Cr7,948 / sq ft1950 Area i...	Sahara Real Estate ConsultantsAGENT0	Ready to moveConstruction	Kondapur, Hyderabad	[1.55 Cr]	[2 BHK Apartment]	[7,948]
3	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 1.37 Cr7,002 / sq ft1964 Area i...	YugandharAGENT0	Under ConstructionConstruction Status	Kondapur, Hyderabad	[1.37 Cr]	[2 BHK Apartment]	[7,002]
4	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 2.14 Cr7,919 / sq ft2710 Area i...	RamanaAGENT0	Under ConstructionConstruction Status	Kondapur, Hyderabad	[2.14 Cr]	[2 BHK Apartment]	[7,919]

In [382]: `regex = r'ft(\d+)'`
`df['villa_area']=df['price'].apply(lambda x : re.findall(regex , x))`

In [383]: `df.head()`

Out[383]:

	villa_name	price	agents	position	locality	villa_price	type_of_villa	villa_price_sq_ft	vill
0	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 1.5 Cr9,375 / sq ft1600 Area in...	Vivek AssociatesAGENT0	Ready to moveConstruction	Status Kondapur, Hyderabad	[1.5 Cr]	[2 BHK Apartment]	[9,375]	
1	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 1.35 Cr7,485 / sq ft1815 Area i...	BestpropinAGENT0	Ready to moveConstruction	Status Kondapur, Hyderabad	[1.35 Cr]	[2 BHK Apartment]	[7,485]	
2	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 1.55 Cr7,948 / sq ft1950 Area i...	Sahara Real Estate ConsultantsAGENT0	Ready to moveConstruction	Status Kondapur, Hyderabad	[1.55 Cr]	[2 BHK Apartment]	[7,948]	
3	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 1.37 Cr7,002 / sq ft1964 Area i...	YugandharAGENT0	Under ConstructionConstruction	Status Kondapur, Hyderabad	[1.37 Cr]	[2 BHK Apartment]	[7,002]	
4	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 2.14 Cr7,919 / sq ft2710 Area i...	RamanaAGENT0	Under ConstructionConstruction	Status Kondapur, Hyderabad	[2.14 Cr]	[2 BHK Apartment]	[7,919]	

In [384]: `regex = r'^[\d]'`
`df['type_of_BHK'] = df['villa_name'].apply(lambda x : re.findall(regex , x))`

In [385]: `df.head()`

Out[385]:

	villa_name	price	agents	position	locality	villa_price	type_of_villa	villa_price_sq_ft	vill
0	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 1.5 Cr9,375 / sq ft1600 Area in...	Vivek AssociatesAGENT0	Ready to moveConstruction	Status Kondapur, Hyderabad	[1.5 Cr]	[2 BHK Apartment]	[9,375]	
1	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 1.35 Cr7,485 / sq ft1815 Area i...	BestpropinAGENT0	Ready to moveConstruction	Status Kondapur, Hyderabad	[1.35 Cr]	[2 BHK Apartment]	[7,485]	
2	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 1.55 Cr7,948 / sq ft1950 Area i...	Sahara Real Estate ConsultantsAGENT0	Ready to moveConstruction	Status Kondapur, Hyderabad	[1.55 Cr]	[2 BHK Apartment]	[7,948]	
3	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 1.37 Cr7,002 / sq ft1964 Area i...	YugandharAGENT0	Under ConstructionConstruction	Status Kondapur, Hyderabad	[1.37 Cr]	[2 BHK Apartment]	[7,002]	
4	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 2.14 Cr7,919 / sq ft2710 Area i...	RamanaAGENT0	Under ConstructionConstruction	Status Kondapur, Hyderabad	[2.14 Cr]	[2 BHK Apartment]	[7,919]	

In [386]: `regex=r'in\s[a-zA-Z\s]+(?:Kondapur)|Kondapur'`

`df['street'] = df['villa_name'].apply(lambda x : re.findall(regex, x))`

In [387]: `df.head()`

Out[387]:

	villa_name	price	agents	position	locality	villa_price	type_of_villa	villa_price_sq_ft	vill
0	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 1.5 Cr9,375 / sq ft1600 Area in...	Vivek AssociatesAGENT0	Ready to moveConstruction	Status Kondapur, Hyderabad	[1.5 Cr]	[2 BHK Apartment]	[9,375]	
1	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 1.35 Cr7,485 / sq ft1815 Area i...	BestpropinAGENT0	Ready to moveConstruction	Status Kondapur, Hyderabad	[1.35 Cr]	[2 BHK Apartment]	[7,485]	
2	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 1.55 Cr7,948 / sq ft1950 Area i...	Sahara Real Estate ConsultantsAGENT0	Ready to moveConstruction	Status Kondapur, Hyderabad	[1.55 Cr]	[2 BHK Apartment]	[7,948]	
3	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 1.37 Cr7,002 / sq ft1964 Area i...	YugandharAGENT0	Under ConstructionConstruction	Status Kondapur, Hyderabad	[1.37 Cr]	[2 BHK Apartment]	[7,002]	
4	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 2.14 Cr7,919 / sq ft2710 Area i...	RamanaAGENT0	Under ConstructionConstruction	Status Kondapur, Hyderabad	[2.14 Cr]	[2 BHK Apartment]	[7,919]	

In [388]: `regex =r'(.*)(:BUILDER0|AGENT0)'`

`df['agent']=df['agents'].apply(lambda x : re.findall(regex ,x))`

In [389]: `df.head()`

Out[389]:

	villa_name	price	agents	position	locality	villa_price	type_of_villa	villa_price_sq_ft	vill
0	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 1.5 Cr9,375 / sq ft1600 Area in...	Vivek AssociatesAGENT0	Ready to moveConstruction	Kondapur, Hyderabad	[1.5 Cr]	[2 BHK Apartment]	[9,375]	
1	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 1.35 Cr7,485 / sq ft1815 Area i...	BestpropinAGENT0	Ready to moveConstruction	Kondapur, Hyderabad	[1.35 Cr]	[2 BHK Apartment]	[7,485]	
2	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 1.55 Cr7,948 / sq ft1950 Area i...	Sahara Real Estate ConsultantsAGENT0	Ready to moveConstruction	Kondapur, Hyderabad	[1.55 Cr]	[2 BHK Apartment]	[7,948]	
3	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 1.37 Cr7,002 / sq ft1964 Area i...	YugandharAGENT0	Under ConstructionConstruction Status	Kondapur, Hyderabad	[1.37 Cr]	[2 BHK Apartment]	[7,002]	
4	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 2.14 Cr7,919 / sq ft2710 Area i...	RamanaAGENT0	Under ConstructionConstruction Status	Kondapur, Hyderabad	[2.14 Cr]	[2 BHK Apartment]	[7,919]	

```
In [390]: regex = r'(.*)?(:Construction Status|\\Resale)'
```

```
df['status']=df['position'].apply(lambda x : re.findall(regex ,x))
```

```
df.head()
```

Out[390]:

	villa_name	price	agents	position	locality	villa_price	type_of_villa	villa_price_sq_ft	vill
0	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 1.5 Cr9,375 / sq ft1600 Area in...	Vivek AssociatesAGENT0	Ready to moveConstruction	Status Kondapur, Hyderabad	[1.5 Cr]	[2 BHK Apartment]	[9,375]	
1	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 1.35 Cr7,485 / sq ft1815 Area i...	BestpropinAGENT0	Ready to moveConstruction	Status Kondapur, Hyderabad	[1.35 Cr]	[2 BHK Apartment]	[7,485]	
2	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 1.55 Cr7,948 / sq ft1950 Area i...	Sahara Real Estate ConsultantsAGENT0	Ready to moveConstruction	Status Kondapur, Hyderabad	[1.55 Cr]	[2 BHK Apartment]	[7,948]	
3	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 1.37 Cr7,002 / sq ft1964 Area i...	YugandharAGENT0	Under Construction	Construction Status Kondapur, Hyderabad	[1.37 Cr]	[2 BHK Apartment]	[7,002]	
4	2 BHK Apartment in My Home MangalaKondapur, Hy...	Specifications 2.14 Cr7,919 / sq ft2710 Area i...	RamanaAGENT0	Under Construction	Construction Status Kondapur, Hyderabad	[2.14 Cr]	[2 BHK Apartment]	[7,919]	

Remove UnWanted Columns

```
In [391]: df.drop('villa_name', axis=1,inplace = True)
```

In [392]: `df.head()`

Out[392]:

	price	agents	position	locality	villa_price	type_of_villa	villa_price_sq_ft	villa_area	type_of_BI
0	Specifications 1.5 Cr9,375 / sq ft1600 Area in...	Vivek AssociatesAGENT0	Ready to moveConstruction	Kondapur, Hyderabad	[1.5 Cr]	[2 BHK Apartment]	[9,375]	[1600]	
1	Specifications 1.35 Cr7,485 / sq ft1815 Area i...	BestpropinAGENT0	Ready to moveConstruction	Kondapur, Hyderabad	[1.35 Cr]	[2 BHK Apartment]	[7,485]	[1815]	
2	Specifications 1.55 Cr7,948 / sq ft1950 Area i...	Sahara Real Estate ConsultantsAGENT0	Ready to moveConstruction	Kondapur, Hyderabad	[1.55 Cr]	[2 BHK Apartment]	[7,948]	[1950]	
3	Specifications 1.37 Cr7,002 / sq ft1964 Area i...	YugandharAGENT0	Under ConstructionConstruction Status	Kondapur, Hyderabad	[1.37 Cr]	[2 BHK Apartment]	[7,002]	[1964]	
4	Specifications 2.14 Cr7,919 / sq ft2710 Area i...	RamanaAGENT0	Under ConstructionConstruction Status	Kondapur, Hyderabad	[2.14 Cr]	[2 BHK Apartment]	[7,919]	[2710]	

In [393]: `df.drop('price', axis=1,inplace = True)`

In [394]: `df.head()`

Out[394]:

	agents	position	locality	villa_price	type_of_villa	villa_price_sq_ft	villa_area	type_of_BHK	
0	Vivek AssociatesAGENT0	Ready to moveConstruction Status	Kondapur, Hyderabad	[1.5 Cr]	[2 BHK Apartment]	[9,375]	[1600]	[2]	[in M MangalaKo
1	BestpropinAGENT0	Ready to moveConstruction Status	Kondapur, Hyderabad	[1.35 Cr]	[2 BHK Apartment]	[7,485]	[1815]	[2]	[in M MangalaKo
2	Sahara Real Estate ConsultantsAGENT0	Ready to moveConstruction Status	Kondapur, Hyderabad	[1.55 Cr]	[2 BHK Apartment]	[7,948]	[1950]	[2]	[in M MangalaKo
3	YugandharAGENT0	Under ConstructionConstruction Status	Kondapur, Hyderabad	[1.37 Cr]	[2 BHK Apartment]	[7,002]	[1964]	[2]	[in M MangalaKo
4	RamanaAGENT0	Under ConstructionConstruction Status	Kondapur, Hyderabad	[2.14 Cr]	[2 BHK Apartment]	[7,919]	[2710]	[2]	[in M MangalaKo

In [395]: `df.drop('agents', axis=1,inplace = True)`

In [396]: `df.head()`

Out[396]:

	position	locality	villa_price	type_of_villa	villa_price_sq_ft	villa_area	type_of_BHK	street	agent
0	Ready to moveConstruction Status	Kondapur, Hyderabad	[1.5 Cr]	[2 BHK Apartment]	[9,375]	[1600]	[2]	[in My Home MangalaKondapur]	[Vivek Associates]
1	Ready to moveConstruction Status	Kondapur, Hyderabad	[1.35 Cr]	[2 BHK Apartment]	[7,485]	[1815]	[2]	[in My Home MangalaKondapur]	[Bestpropin]
2	Ready to moveConstruction Status	Kondapur, Hyderabad	[1.55 Cr]	[2 BHK Apartment]	[7,948]	[1950]	[2]	[in My Home MangalaKondapur]	[Sahara Real Estate Consultants]
3	Under ConstructionConstruction Status	Kondapur, Hyderabad	[1.37 Cr]	[2 BHK Apartment]	[7,002]	[1964]	[2]	[in My Home MangalaKondapur]	[Yugandhar]
4	Under ConstructionConstruction Status	Kondapur, Hyderabad	[2.14 Cr]	[2 BHK Apartment]	[7,919]	[2710]	[2]	[in My Home MangalaKondapur]	[Ramana]

```
In [397]: df.drop('position', axis=1,inplace = True)
```

```
In [398]: df.head()
```

```
Out[398]:
```

	locality	villa_price	type_of_villa	villa_price_sq_ft	villa_area	type_of_BHK	street	agent	status
0	Kondapur, Hyderabad	[1.5 Cr]	[2 BHK Apartment]	[9,375]	[1600]	[2]	[in My Home MangalaKondapur]	[Vivek Associates]	[Ready to move]
1	Kondapur, Hyderabad	[1.35 Cr]	[2 BHK Apartment]	[7,485]	[1815]	[2]	[in My Home MangalaKondapur]	[Bestpropin]	[Ready to move]
2	Kondapur, Hyderabad	[1.55 Cr]	[2 BHK Apartment]	[7,948]	[1950]	[2]	[in My Home MangalaKondapur]	[Sahara Real Estate Consultants]	[Ready to move]
3	Kondapur, Hyderabad	[1.37 Cr]	[2 BHK Apartment]	[7,002]	[1964]	[2]	[in My Home MangalaKondapur]	[Yugandhar]	[Under Construction]
4	Kondapur, Hyderabad	[2.14 Cr]	[2 BHK Apartment]	[7,919]	[2710]	[2]	[in My Home MangalaKondapur]	[Ramana]	[Under Construction]

Total Scrapped the data

```
In [399]: df.head()
```

```
Out[399]:
```

	locality	villa_price	type_of_villa	villa_price_sq_ft	villa_area	type_of_BHK	street	agent	status
0	Kondapur, Hyderabad	[1.5 Cr]	[2 BHK Apartment]	[9,375]	[1600]	[2]	[in My Home MangalaKondapur]	[Vivek Associates]	[Ready to move]
1	Kondapur, Hyderabad	[1.35 Cr]	[2 BHK Apartment]	[7,485]	[1815]	[2]	[in My Home MangalaKondapur]	[Bestpropin]	[Ready to move]
2	Kondapur, Hyderabad	[1.55 Cr]	[2 BHK Apartment]	[7,948]	[1950]	[2]	[in My Home MangalaKondapur]	[Sahara Real Estate Consultants]	[Ready to move]
3	Kondapur, Hyderabad	[1.37 Cr]	[2 BHK Apartment]	[7,002]	[1964]	[2]	[in My Home MangalaKondapur]	[Yugandhar]	[Under Construction]
4	Kondapur, Hyderabad	[2.14 Cr]	[2 BHK Apartment]	[7,919]	[2710]	[2]	[in My Home MangalaKondapur]	[Ramana]	[Under Construction]

All columns data having the List.So remove the list

```
In [400]: df.villa_price = df.villa_price.apply(lambda x : ''.join(x))

df.type_of_villa = df.type_of_villa.apply(lambda x : ''.join(x))

df.villa_price_sq_ft = df.villa_price_sq_ft.apply(lambda x : ''.join(x))

df.villa_area = df.villa_area.apply(lambda x : ''.join(x))

df.type_of_BHK = df.type_of_BHK.apply(lambda x : ''.join(x))

df.street = df.street.apply(lambda x : ''.join(x))

df.agent = df.agent.apply(lambda x : ''.join(x))

df.status = df.status.apply(lambda x : ''.join(x))
```

```
In [401]: df.head()
```

Out[401]:

	locality	villa_price	type_of_villa	villa_price_sq_ft	villa_area	type_of_BHK	street	agent	status
0	Kondapur, Hyderabad	1.5 Cr	2 BHK Apartment	9,375	1600	2	in My Home MangalaKondapur	Vivek Associates	Ready to move
1	Kondapur, Hyderabad	1.35 Cr	2 BHK Apartment	7,485	1815	2	in My Home MangalaKondapur	Bestpropin	Ready to move
2	Kondapur, Hyderabad	1.55 Cr	2 BHK Apartment	7,948	1950	2	in My Home MangalaKondapur	Sahara Real Estate Consultants	Ready to move
3	Kondapur, Hyderabad	1.37 Cr	2 BHK Apartment	7,002	1964	2	in My Home MangalaKondapur	Yugandhar	Under Construction
4	Kondapur, Hyderabad	2.14 Cr	2 BHK Apartment	7,919	2710	2	in My Home MangalaKondapur	Ramana	Under Construction

In [402]: `df.tail()`

Out[402]:

	locality	villa_price	type_of_villa	villa_price_sq_ft	villa_area	type_of_BHK	street	agent	status
595	Kondapur, Hyderabad	1.96 Cr	4 BHK Apartment	10,017	1965	4	Kondapur	BSCPL Infrastructure Ltd	Under Construction
596	Kondapur, Hyderabad	1.96 Cr	4 BHK Apartment	10,017	1965	4	Kondapur	BSCPL Infrastructure Ltd	Under Construction
597	Kondapur, Hyderabad	2.31 Cr	4 BHK Apartment	10,123	2290	4	Kondapur	BSCPL Infrastructure Ltd	Under Construction
598	Kondapur, Hyderabad	2.31 Cr	4 BHK Apartment	10,123	2290	4	Kondapur	BSCPL Infrastructure Ltd	Under Construction
599	Kondapur, Hyderabad	1.96 Cr	4 BHK Apartment	10,017	1965	4	Kondapur	BSCPL Infrastructure Ltd	Under Construction

Cleaning the Data

In [403]: `df.info()`

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 600 entries, 0 to 599
Data columns (total 9 columns):
#   Column                Non-Null Count  Dtype
---  -
0   locality              600 non-null   object
1   villa_price           600 non-null   object
2   type_of_villa         600 non-null   object
3   villa_price_sq_ft     600 non-null   object
4   villa_area            600 non-null   object
5   type_of_BHK           600 non-null   object
6   street                600 non-null   object
7   agent                 600 non-null   object
8   status                600 non-null   object
dtypes: object(9)
memory usage: 42.3+ KB
```


In [404]: *# Checking the missing values*

```
df.isnull().sum()
```

Out[404]:

locality	0
villa_price	0
type_of_villa	0
villa_price_sq_ft	0
villa_area	0
type_of_BHK	0
street	0
agent	0
status	0
dtype:	int64

In [405]: `type(df.type_of_BHK.isnull().sum())`

Out[405]: `numpy.int64`

In [406]: `type(df.locality.isnull().sum())`

Out[406]: `numpy.int64`

In [407]: `type(df.villa_price_sq_ft.isnull().sum())`

Out[407]: `numpy.int64`

In [410]: `type(df.villa_price[0])`

Out[410]: `str`

In [411]:

```
df['villa_price'] = df['villa_price'].apply(lambda x : float(x.replace('L',''))*100000 if 'L' in x else
                                           float(x.replace('Cr',''))*10000000 if 'Cr' in x else float(x))

df['villa_price'] = df['villa_price'].astype(float)
```

In [412]: `df.head()`

Out[412]:

	locality	villa_price	type_of_villa	villa_price_sq_ft	villa_area	type_of_BHK	street	agent	status
0	Kondapur, Hyderabad	15000000.0	2 BHK Apartment	9,375	1600	2	in My Home MangalaKondapur	Vivek Associates	Ready to move
1	Kondapur, Hyderabad	13500000.0	2 BHK Apartment	7,485	1815	2	in My Home MangalaKondapur	Bestpropin	Ready to move
2	Kondapur, Hyderabad	15500000.0	2 BHK Apartment	7,948	1950	2	in My Home MangalaKondapur	Sahara Real Estate Consultants	Ready to move
3	Kondapur, Hyderabad	13700000.0	2 BHK Apartment	7,002	1964	2	in My Home MangalaKondapur	Yugandhar	Under Construction
4	Kondapur, Hyderabad	21400000.0	2 BHK Apartment	7,919	2710	2	in My Home MangalaKondapur	Ramana	Under Construction

In [413]: `df.tail()`

Out[413]:

	locality	villa_price	type_of_villa	villa_price_sq_ft	villa_area	type_of_BHK	street	agent	status
595	Kondapur, Hyderabad	19600000.0	4 BHK Apartment	10,017	1965	4	Kondapur	BSCPL Infrastructure Ltd	Under Construction
596	Kondapur, Hyderabad	19600000.0	4 BHK Apartment	10,017	1965	4	Kondapur	BSCPL Infrastructure Ltd	Under Construction
597	Kondapur, Hyderabad	23100000.0	4 BHK Apartment	10,123	2290	4	Kondapur	BSCPL Infrastructure Ltd	Under Construction
598	Kondapur, Hyderabad	23100000.0	4 BHK Apartment	10,123	2290	4	Kondapur	BSCPL Infrastructure Ltd	Under Construction
599	Kondapur, Hyderabad	19600000.0	4 BHK Apartment	10,017	1965	4	Kondapur	BSCPL Infrastructure Ltd	Under Construction

In [414]: `type(df.villa_price[0])`

Out[414]: `numpy.float64`

```
In [415]: df.villa_price_sq_ft = df.villa_price_sq_ft.apply(lambda x : x.replace(',',' '))

df.villa_price_sq_ft =df.villa_price_sq_ft.astype(float)
```

```
In [416]: df.head()
```

Out[416]:

	locality	villa_price	type_of_villa	villa_price_sq_ft	villa_area	type_of_BHK	street	agent	status
0	Kondapur, Hyderabad	15000000.0	2 BHK Apartment	9375.0	1600	2	in My Home MangalaKondapur	Vivek Associates	Ready to move
1	Kondapur, Hyderabad	13500000.0	2 BHK Apartment	7485.0	1815	2	in My Home MangalaKondapur	Bestpropin	Ready to move
2	Kondapur, Hyderabad	15500000.0	2 BHK Apartment	7948.0	1950	2	in My Home MangalaKondapur	Sahara Real Estate Consultants	Ready to move
3	Kondapur, Hyderabad	13700000.0	2 BHK Apartment	7002.0	1964	2	in My Home MangalaKondapur	Yugandhar	Under Construction
4	Kondapur, Hyderabad	21400000.0	2 BHK Apartment	7919.0	2710	2	in My Home MangalaKondapur	Ramana	Under Construction

```
In [417]: df.villa_area =df.villa_area.astype(float)
```

In [418]: `df.head()`

Out[418]:

	locality	villa_price	type_of_villa	villa_price_sq_ft	villa_area	type_of_BHK	street	agent	status
0	Kondapur, Hyderabad	15000000.0	2 BHK Apartment	9375.0	1600.0	2	in My Home MangalaKondapur	Vivek Associates	Ready to move
1	Kondapur, Hyderabad	13500000.0	2 BHK Apartment	7485.0	1815.0	2	in My Home MangalaKondapur	Bestpropin	Ready to move
2	Kondapur, Hyderabad	15500000.0	2 BHK Apartment	7948.0	1950.0	2	in My Home MangalaKondapur	Sahara Real Estate Consultants	Ready to move
3	Kondapur, Hyderabad	13700000.0	2 BHK Apartment	7002.0	1964.0	2	in My Home MangalaKondapur	Yugandhar	Under Construction
4	Kondapur, Hyderabad	21400000.0	2 BHK Apartment	7919.0	2710.0	2	in My Home MangalaKondapur	Ramana	Under Construction

In [419]: `df.type_of_BHK = df.type_of_BHK.astype(int)`

In [420]: `df.head()`

Out[420]:

	locality	villa_price	type_of_villa	villa_price_sq_ft	villa_area	type_of_BHK	street	agent	status
0	Kondapur, Hyderabad	15000000.0	2 BHK Apartment	9375.0	1600.0	2	in My Home MangalaKondapur	Vivek Associates	Ready to move
1	Kondapur, Hyderabad	13500000.0	2 BHK Apartment	7485.0	1815.0	2	in My Home MangalaKondapur	Bestpropin	Ready to move
2	Kondapur, Hyderabad	15500000.0	2 BHK Apartment	7948.0	1950.0	2	in My Home MangalaKondapur	Sahara Real Estate Consultants	Ready to move
3	Kondapur, Hyderabad	13700000.0	2 BHK Apartment	7002.0	1964.0	2	in My Home MangalaKondapur	Yugandhar	Under Construction
4	Kondapur, Hyderabad	21400000.0	2 BHK Apartment	7919.0	2710.0	2	in My Home MangalaKondapur	Ramana	Under Construction

```
In [421]: df.villa_price.head()
```

```
Out[421]: 0    15000000.0
          1    13500000.0
          2    15500000.0
          3    13700000.0
          4    21400000.0
          Name: villa_price, dtype: float64
```

```
In [422]: df.type_of_BHK.dtype
```

```
Out[422]: dtype('int32')
```

```
In [423]: df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 600 entries, 0 to 599
Data columns (total 9 columns):
 #   Column                Non-Null Count  Dtype  
---  -
 0   locality              600 non-null   object 
 1   villa_price           600 non-null   float64
 2   type_of_villa         600 non-null   object 
 3   villa_price_sq_ft     600 non-null   float64
 4   villa_area            600 non-null   float64
 5   type_of_BHK           600 non-null   int32   
 6   street                600 non-null   object 
 7   agent                 600 non-null   object 
 8   status                600 non-null   object 
dtypes: float64(3), int32(1), object(5)
memory usage: 40.0+ KB
```

Data Visulaization

```
In [424]: import matplotlib.pyplot as plt
          import seaborn as sns
```

```
In [425]: import warnings
warnings.filterwarnings('ignore')
```

```
In [426]: df.columns
```

```
Out[426]: Index(['locality', 'villa_price', 'type_of_villa', 'villa_price_sq_ft',
               'villa_area', 'type_of_BHK', 'street', 'agent', 'status'],
              dtype='object')
```

```
In [427]: df.shape
```

```
Out[427]: (600, 9)
```

```
In [ ]:
```

```
In [428]: df.describe(percentiles=[0.02,0.10,0.20,0.30,0.45,0.80,0.95],include='all')
```

Out[428]:

	locality	villa_price	type_of_villa	villa_price_sq_ft	villa_area	type_of_BHK	street	agent	status
count	600	6.000000e+02	600	600.000000	600.000000	600.000000	600	600	600
unique	1	NaN	5	NaN	NaN	NaN	13	83	4
top	Kondapur, Hyderabad	NaN	3 BHK Apartment	NaN	NaN	NaN	Kondapur	Proptiger	Under Construction
freq	600	NaN	340	NaN	NaN	NaN	280	103	381
mean	NaN	1.616730e+07	NaN	7721.841667	1874.531667	2.700000	NaN	NaN	NaN
std	NaN	2.015233e+07	NaN	2859.154547	1070.640332	0.737727	NaN	NaN	NaN
min	NaN	3.000000e+06	NaN	2480.000000	244.000000	1.000000	NaN	NaN	NaN
2%	NaN	3.300000e+06	NaN	3884.320000	365.000000	1.000000	NaN	NaN	NaN
10%	NaN	7.200000e+06	NaN	5697.000000	1200.000000	2.000000	NaN	NaN	NaN
20%	NaN	8.240000e+06	NaN	6078.200000	1250.000000	2.000000	NaN	NaN	NaN
30%	NaN	8.797000e+06	NaN	6500.000000	1407.000000	2.000000	NaN	NaN	NaN
45%	NaN	1.070000e+07	NaN	7200.000000	1533.000000	3.000000	NaN	NaN	NaN
50%	NaN	1.160000e+07	NaN	7300.000000	1600.500000	3.000000	NaN	NaN	NaN
80%	NaN	1.800000e+07	NaN	8500.000000	2125.000000	3.000000	NaN	NaN	NaN
95%	NaN	3.750000e+07	NaN	11176.500000	3415.250000	4.000000	NaN	NaN	NaN
max	NaN	2.084000e+08	NaN	31864.000000	10422.000000	5.000000	NaN	NaN	NaN

```
In [429]: df["type_of_BHK"].value_counts()
```

Out[429]:

```
3    340
2    200
1     20
5     20
4     20
Name: type_of_BHK, dtype: int64
```

```
In [430]: df["villa_price"].value_counts().head(257)
```

```
Out[430]: 8700000.0    22
          10000000.0   20
          65900000.0   14
          18300000.0   11
          15000000.0    9
          ..
          7300000.0     1
          3250000.0     1
          8040000.0     1
          7010000.0     1
          7156000.0     1
          Name: villa_price, Length: 257, dtype: int64
```

```
In [431]: df["villa_price_sq_ft"].value_counts().head(270)
```

```
Out[431]: 7499.0     26
          7300.0     26
          8250.0     22
          8500.0     20
          7200.0     19
          ..
          7491.0      1
          5967.0      1
          6022.0      1
          7221.0      1
          9510.0      1
          Name: villa_price_sq_ft, Length: 270, dtype: int64
```

```
In [432]: df["status"].value_counts().head(257)
```

```
Out[432]: Under Construction    381
          Ready to move         209
          NewNew                 6
          ResaleNew              4
          Name: status, dtype: int64
```



```
In [433]: df["villa_area"].value_counts().head(10)
```

```
Out[433]: 1165.0    17
          5999.0    14
          1200.0    12
          1500.0    12
          1600.0    11
          1815.0    10
          1475.0    10
          2125.0    10
          2080.0    10
          1770.0    10
          Name: villa_area, dtype: int64
```

```
In [434]: df["locality"].value_counts().head()
```

```
Out[434]: Kondapur, Hyderabad    600
          Name: locality, dtype: int64
```

```
In [435]: df["street"].value_counts().head()
```

```
Out[435]: Kondapur    280
          in Lansum Eden GardensKondapur    40
          in BSCPL Bollineni BionKondapur    40
          in AR Green ValleyKondapur    40
          in Pristine FernKondapur    40
          Name: street, dtype: int64
```

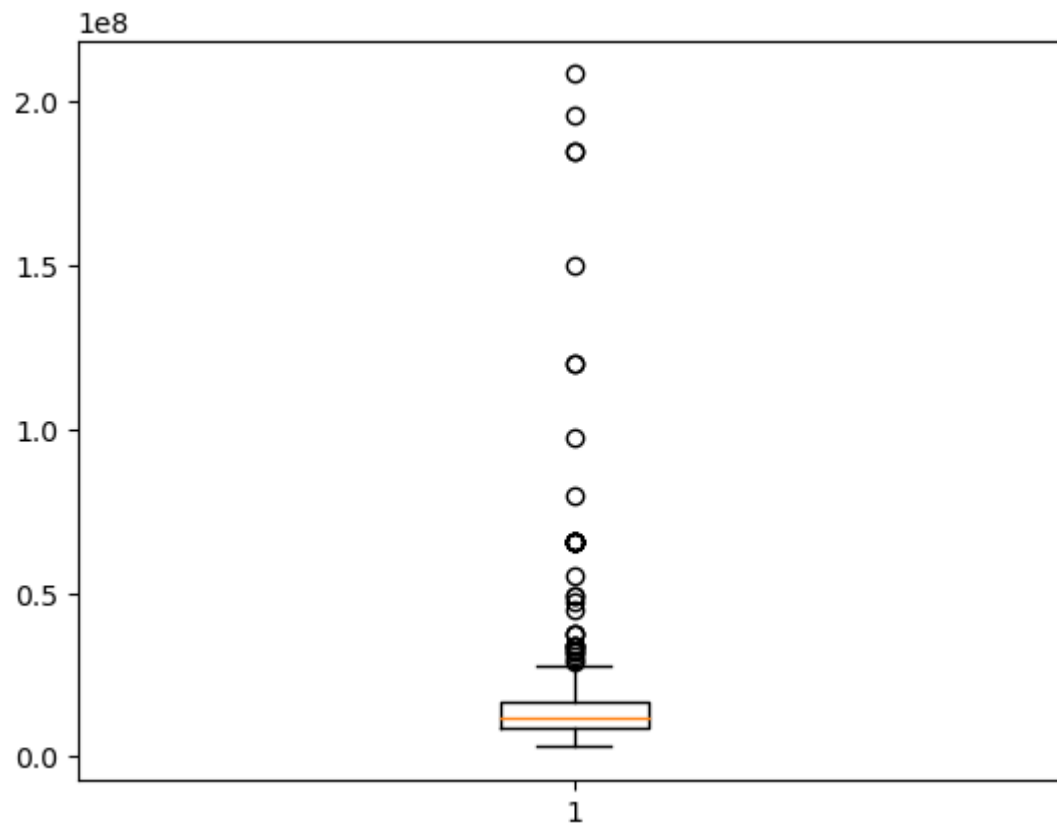
```
In [436]: # visulaize the type_of_BHK
```

In [437]: `df.head()`

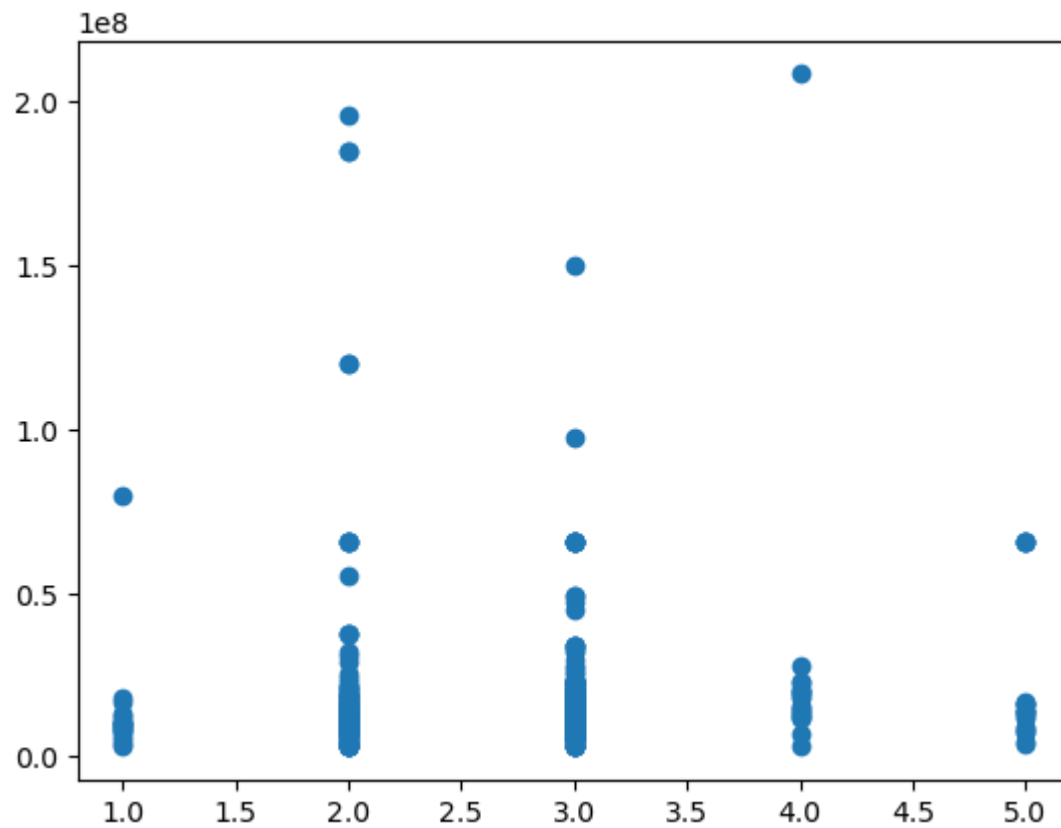
Out[437]:

	locality	villa_price	type_of_villa	villa_price_sq_ft	villa_area	type_of_BHK	street	agent	status
0	Kondapur, Hyderabad	15000000.0	2 BHK Apartment	9375.0	1600.0	2	in My Home MangalaKondapur	Vivek Associates	Ready to move
1	Kondapur, Hyderabad	13500000.0	2 BHK Apartment	7485.0	1815.0	2	in My Home MangalaKondapur	Bestpropin	Ready to move
2	Kondapur, Hyderabad	15500000.0	2 BHK Apartment	7948.0	1950.0	2	in My Home MangalaKondapur	Sahara Real Estate Consultants	Ready to move
3	Kondapur, Hyderabad	13700000.0	2 BHK Apartment	7002.0	1964.0	2	in My Home MangalaKondapur	Yugandhar	Under Construction
4	Kondapur, Hyderabad	21400000.0	2 BHK Apartment	7919.0	2710.0	2	in My Home MangalaKondapur	Ramana	Under Construction

```
In [438]: # Univariate Analysis  
plt.boxplot(df.villa_price)  
plt.show()
```

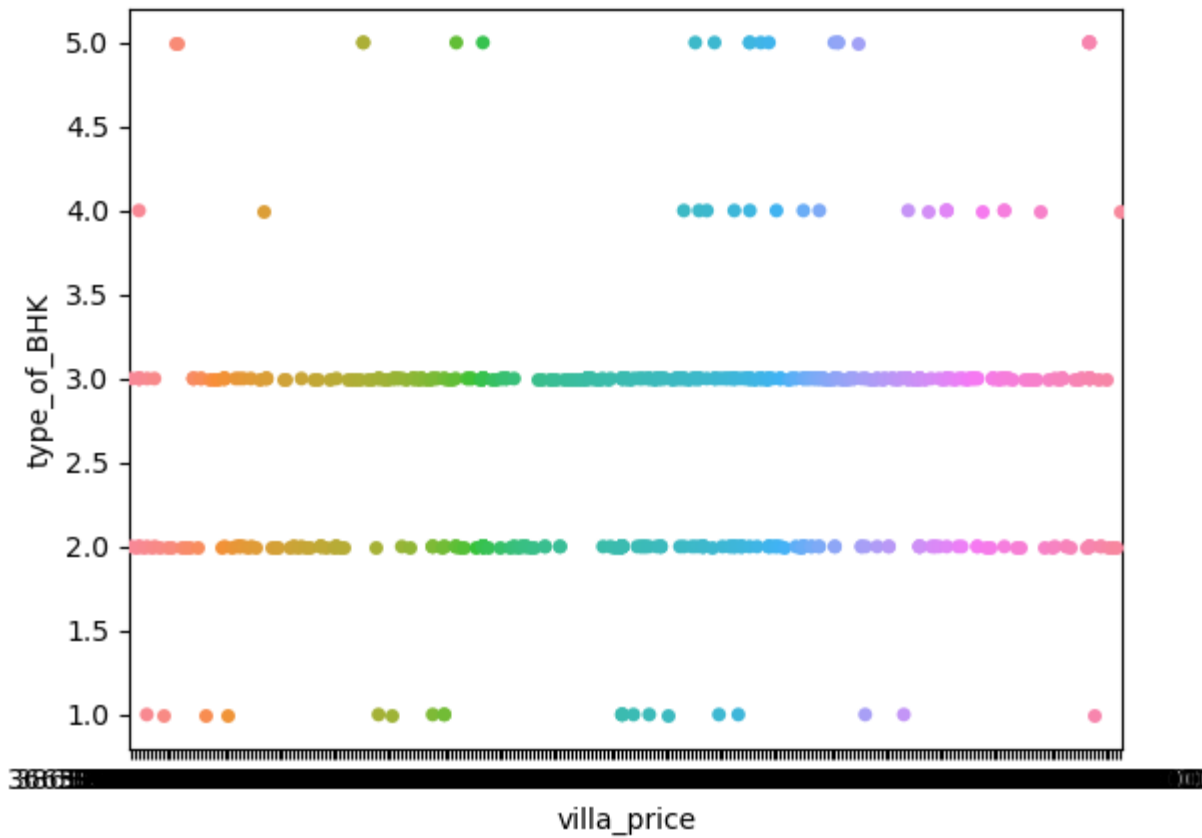


```
In [439]: # Bivariate Analysis  
plt.scatter(df.type_of_BHK,df.villa_price)  
plt.show()
```



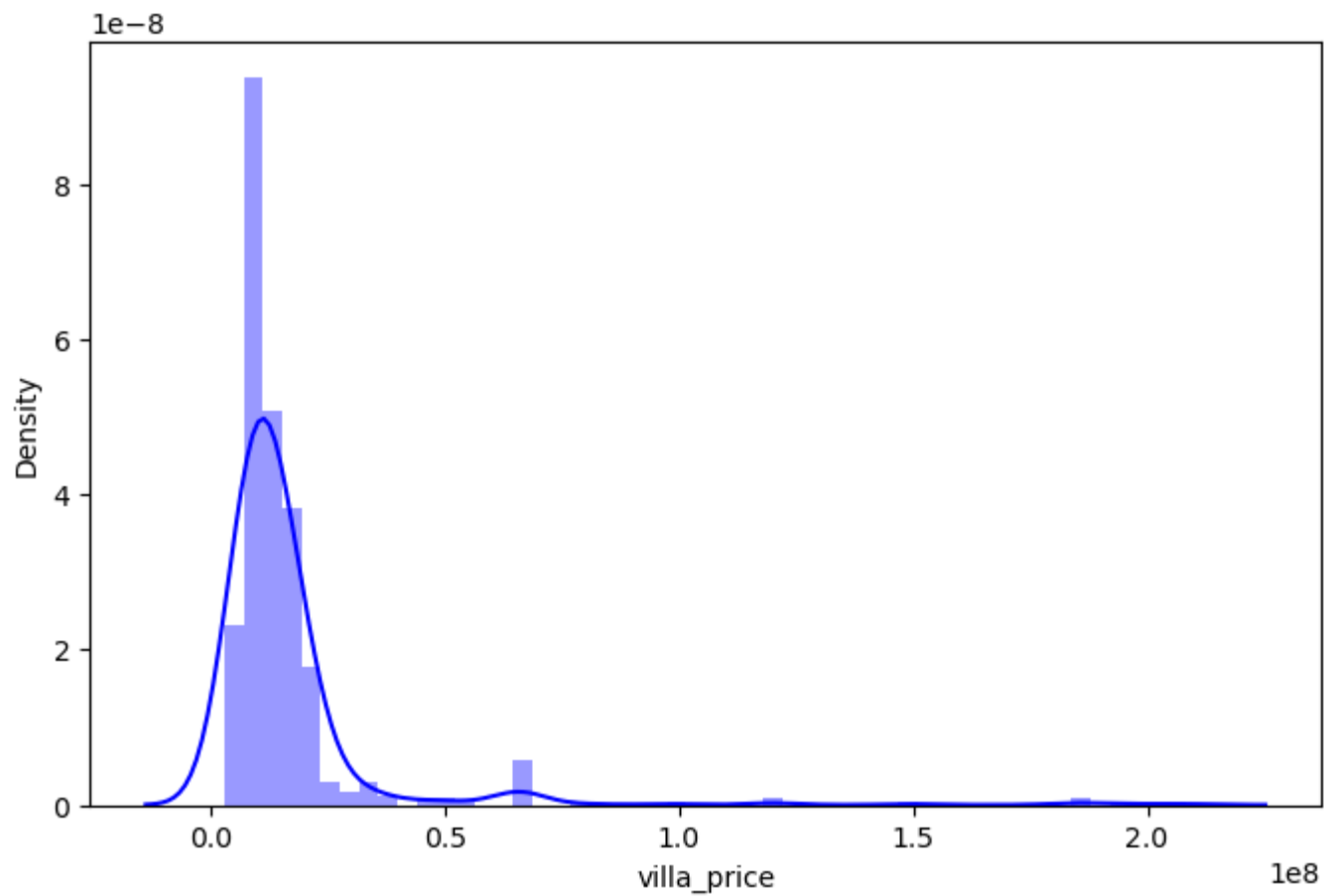
```
In [440]: sns.stripplot(data=df,x='villa_price',y='type_of_BHK')
```

```
Out[440]: <AxesSubplot:xlabel='villa_price', ylabel='type_of_BHK'>
```



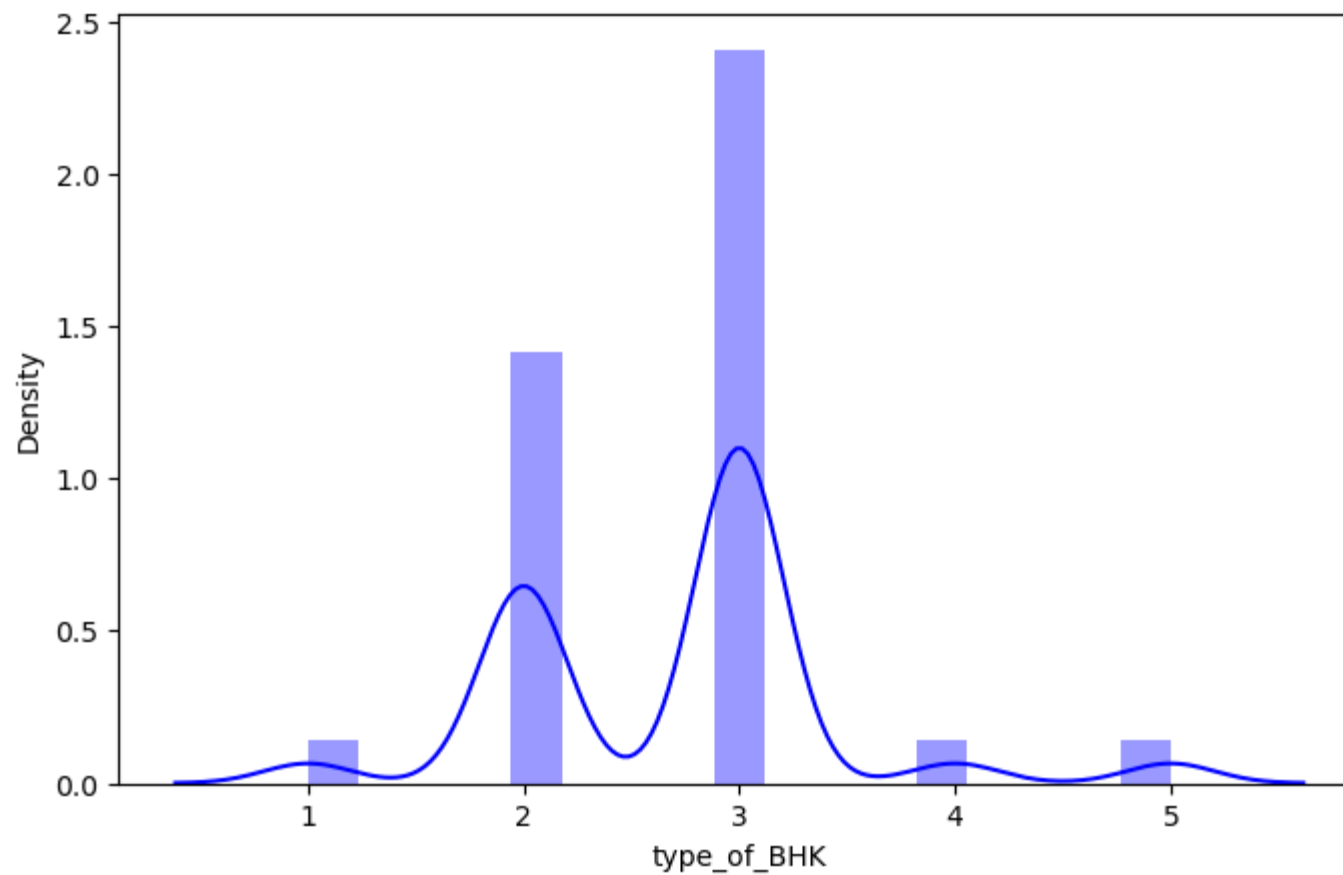
```
In [441]: fig = plt.subplots(figsize=(8,5))  
          sns.distplot(df['villa_price'], hist=True, rug=False, color="b")
```

```
Out[441]: <AxesSubplot:xlabel='villa_price', ylabel='Density'>
```



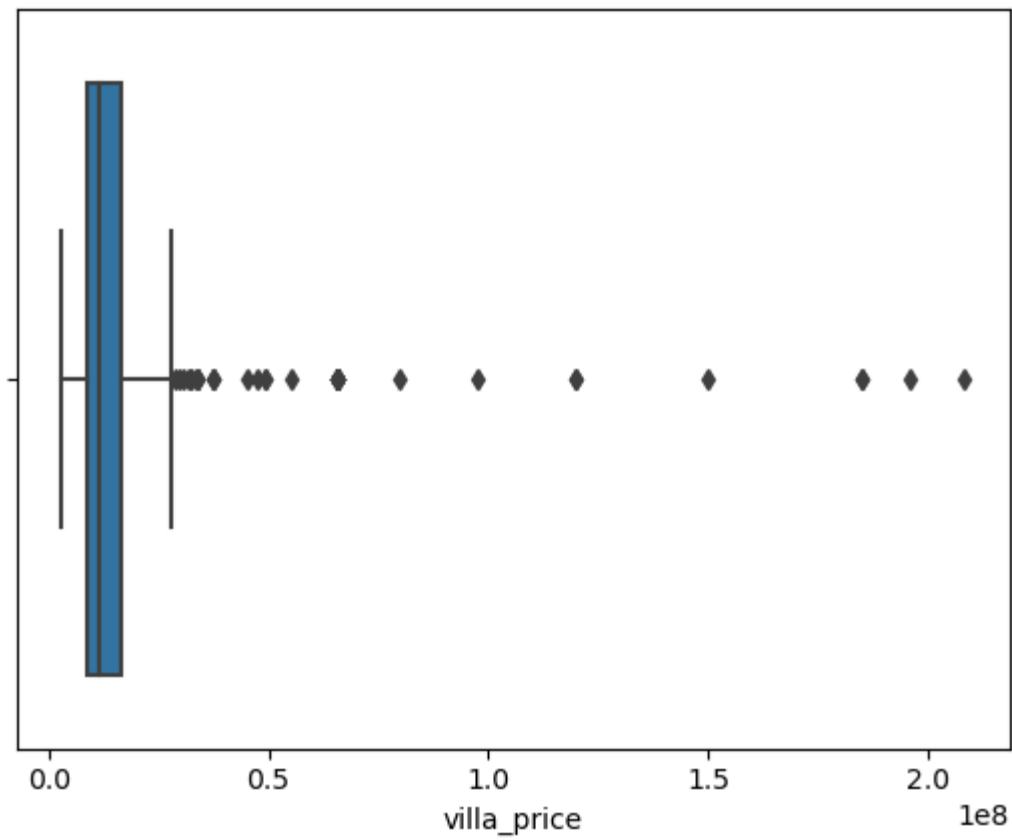
```
In [444]: fig = plt.subplots(figsize=(8,5))  
sns.distplot(df['type_of_BHK'], hist=True, rug=False,color="b")
```

Out[444]: <AxesSubplot:xlabel='type_of_BHK', ylabel='Density'>



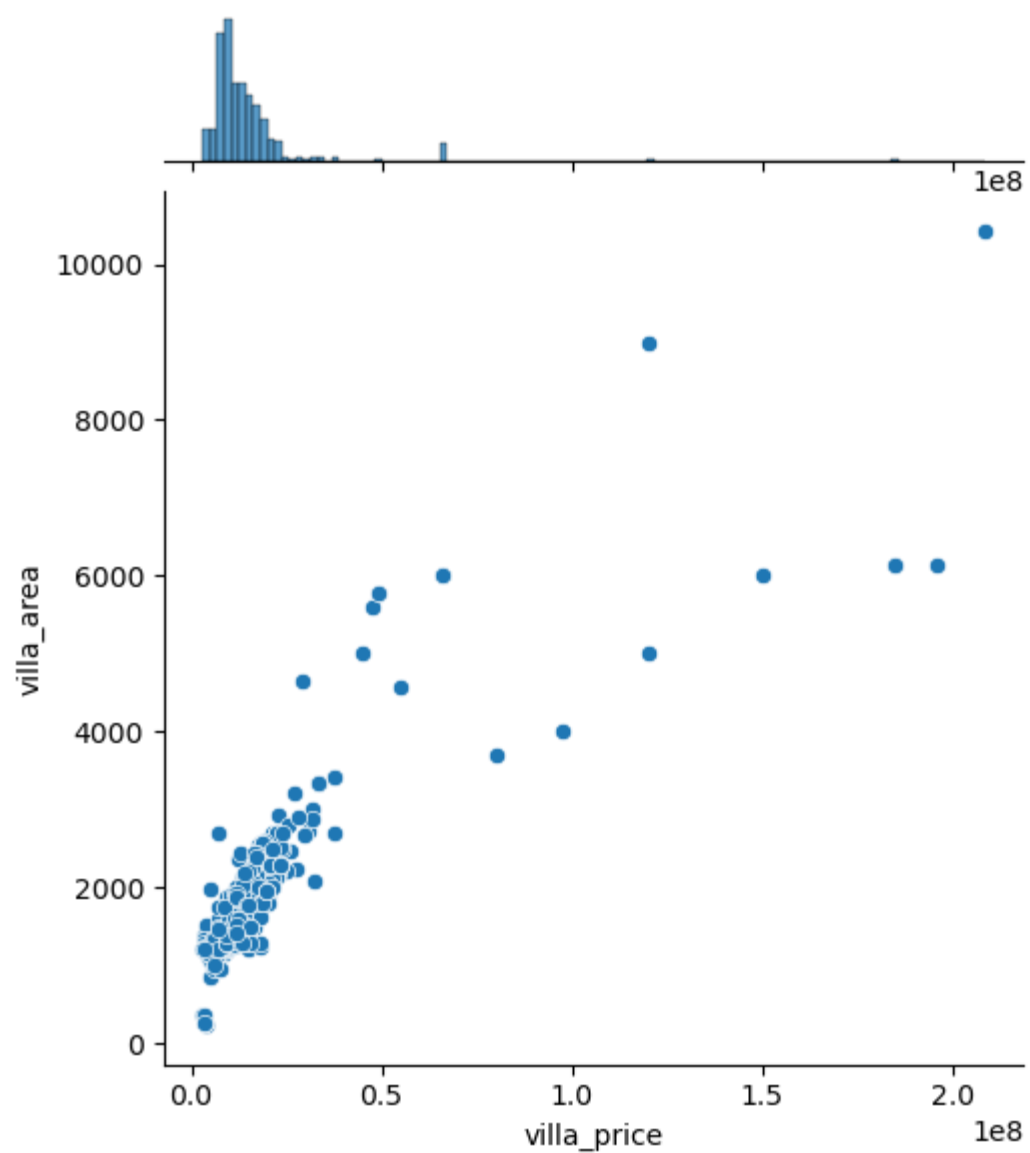
```
In [445]: sns.boxplot(df.villa_price)
```

```
Out[445]: <AxesSubplot:xlabel='villa_price'>
```



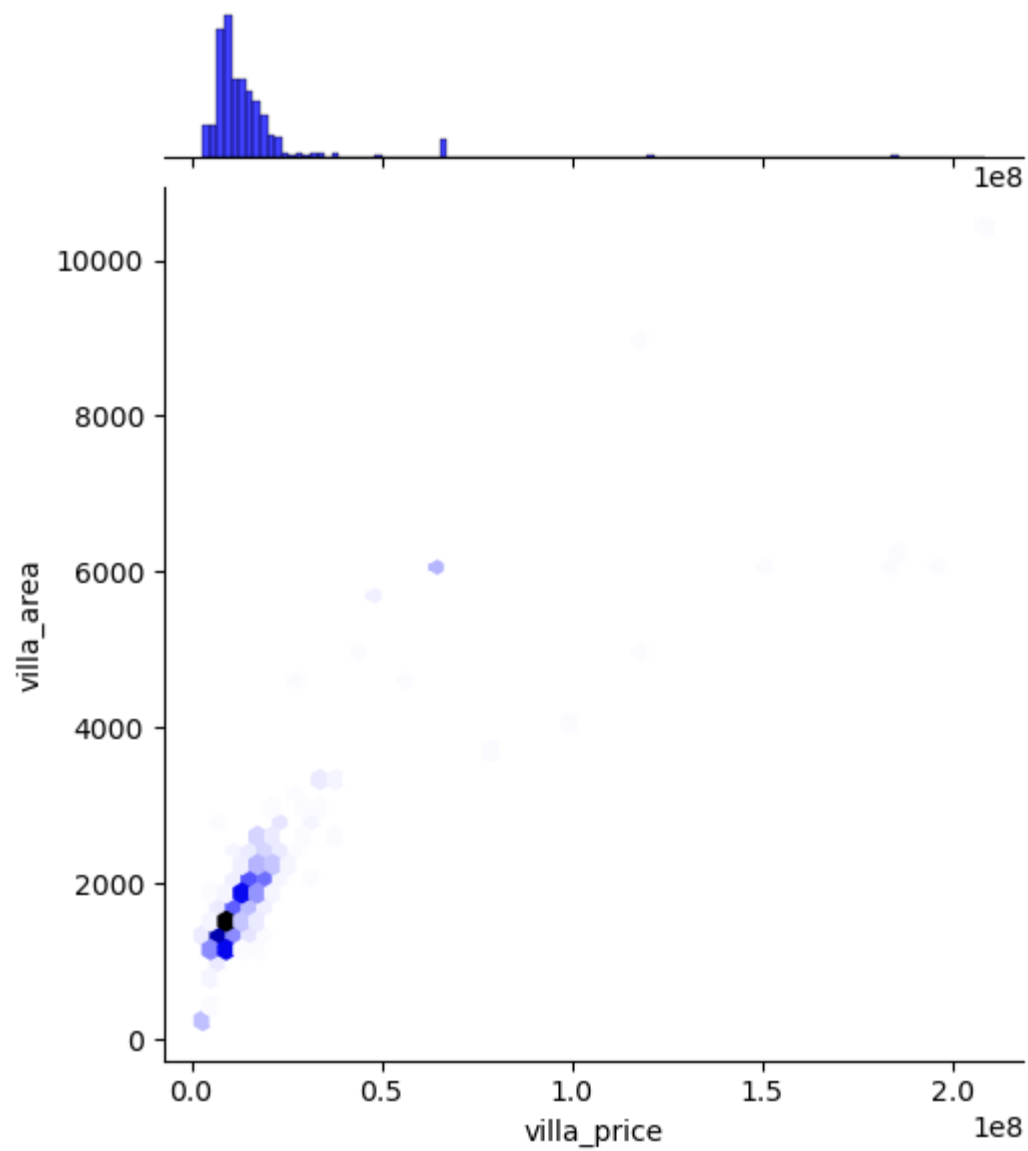

```
In [446]: sns.jointplot(data=df,x='villa_price',y='villa_area',kind='scatter')
```

```
Out[446]: <seaborn.axisgrid.JointGrid at 0x1d15531aa60>
```



```
In [447]: sns.jointplot(x='villa_price',y='villa_area',data=df,kind='hex',color='b')
```

```
Out[447]: <seaborn.axisgrid.JointGrid at 0x1d15f3d0c10>
```



```
In [448]: print(df.villa_price.max())  
          print(df.villa_price.min())
```

```
208400000.0  
3000000.0
```

Observations:--

The Above plot observing the there are 1Bhk plot is there.

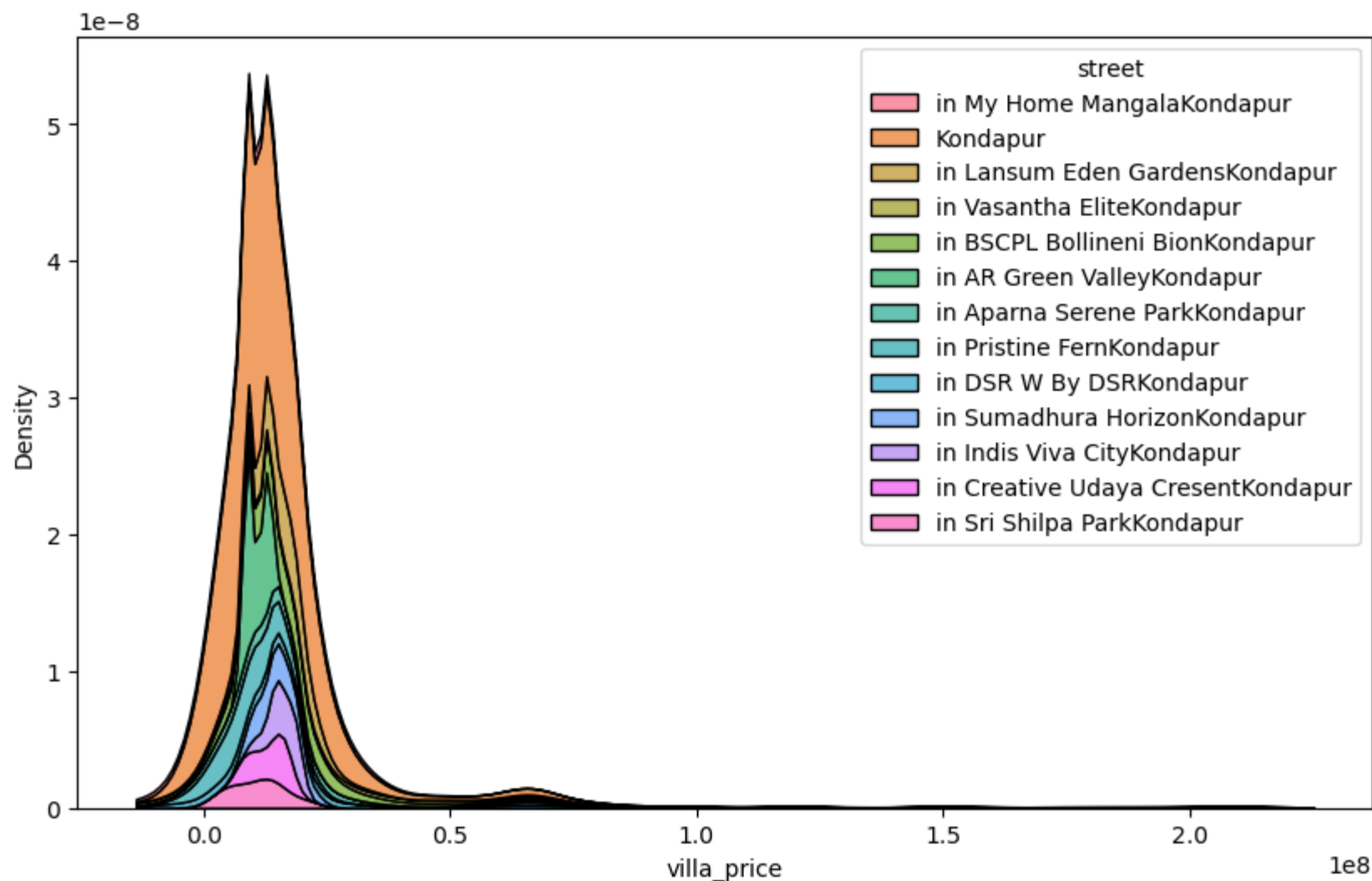
Density was very low. That means there is less 1bhk's.

2bhk is also very low compare to the 3bhks's.

In that type_of_BHK There is 3Bhk frequency is very high.that means most of bhk's are 3bhk's Only.

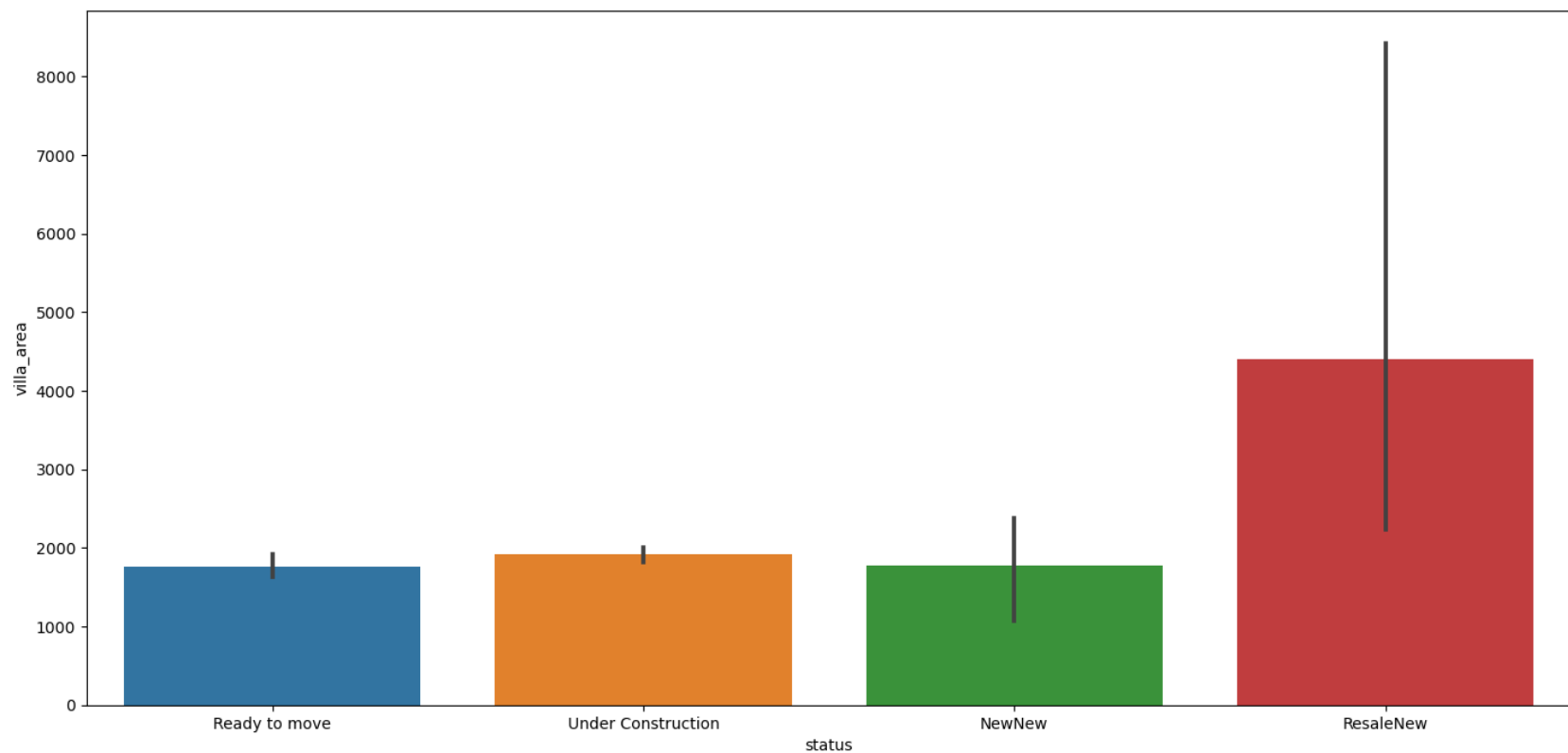
```
In [449]: fig = plt.subplots(figsize=(10,6))  
sns.kdeplot(data=df ,x='villa_price',hue='street',multiple ='stack')
```

```
Out[449]: <AxesSubplot:xlabel='villa_price', ylabel='Density'>
```



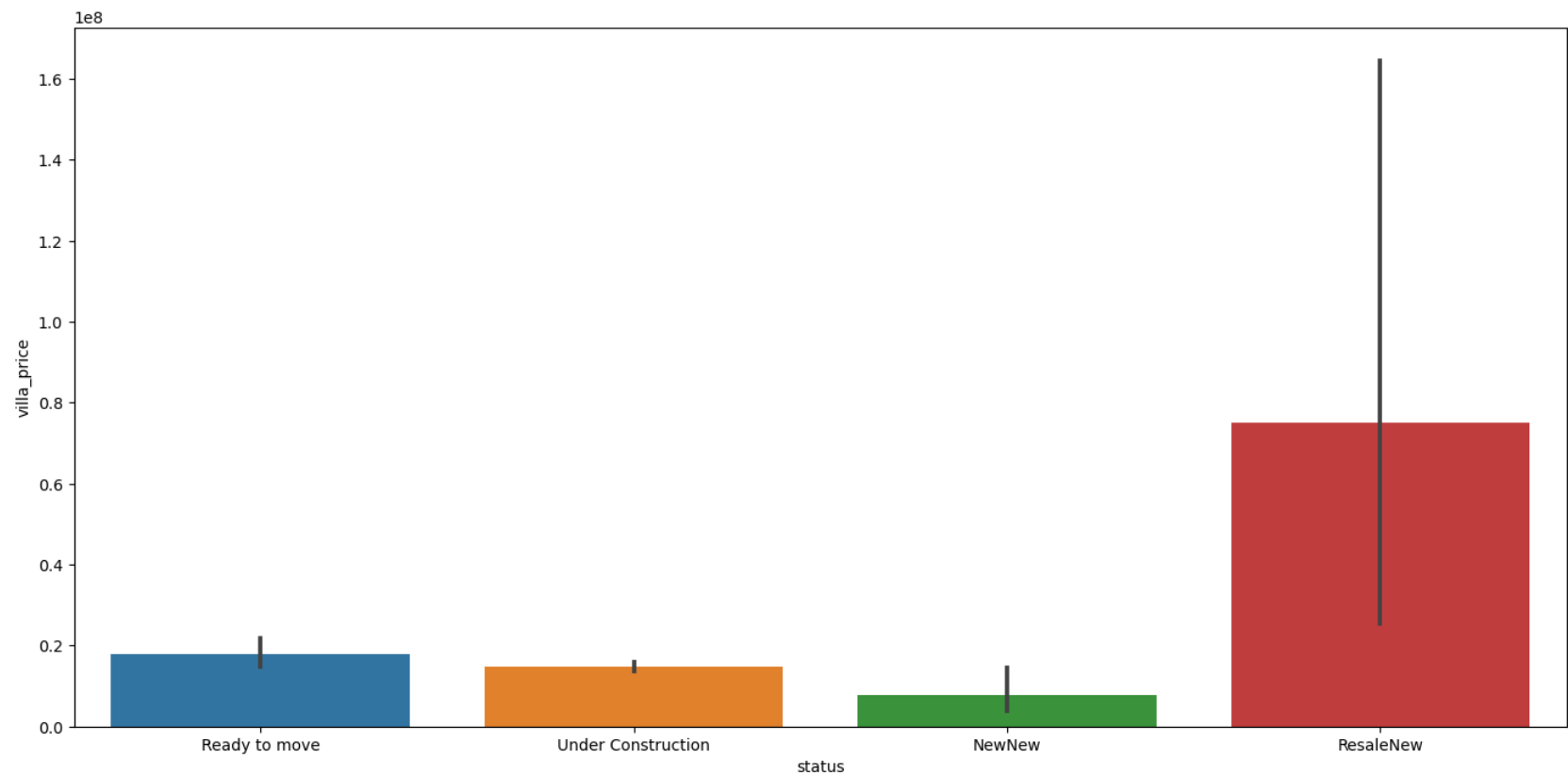
```
In [450]: # Checking the which one having more place  
fig = plt.subplots(figsize=(17,8))  
  
sns.barplot(x='status',y='villa_area',data=df)
```

```
Out[450]: <AxesSubplot:xlabel='status', ylabel='villa_area'>
```



```
In [451]: # Checking the which one have most cost  
fig = plt.subplots(figsize=(17,8))  
  
sns.barplot(x='status',y='villa_price',data=df)
```

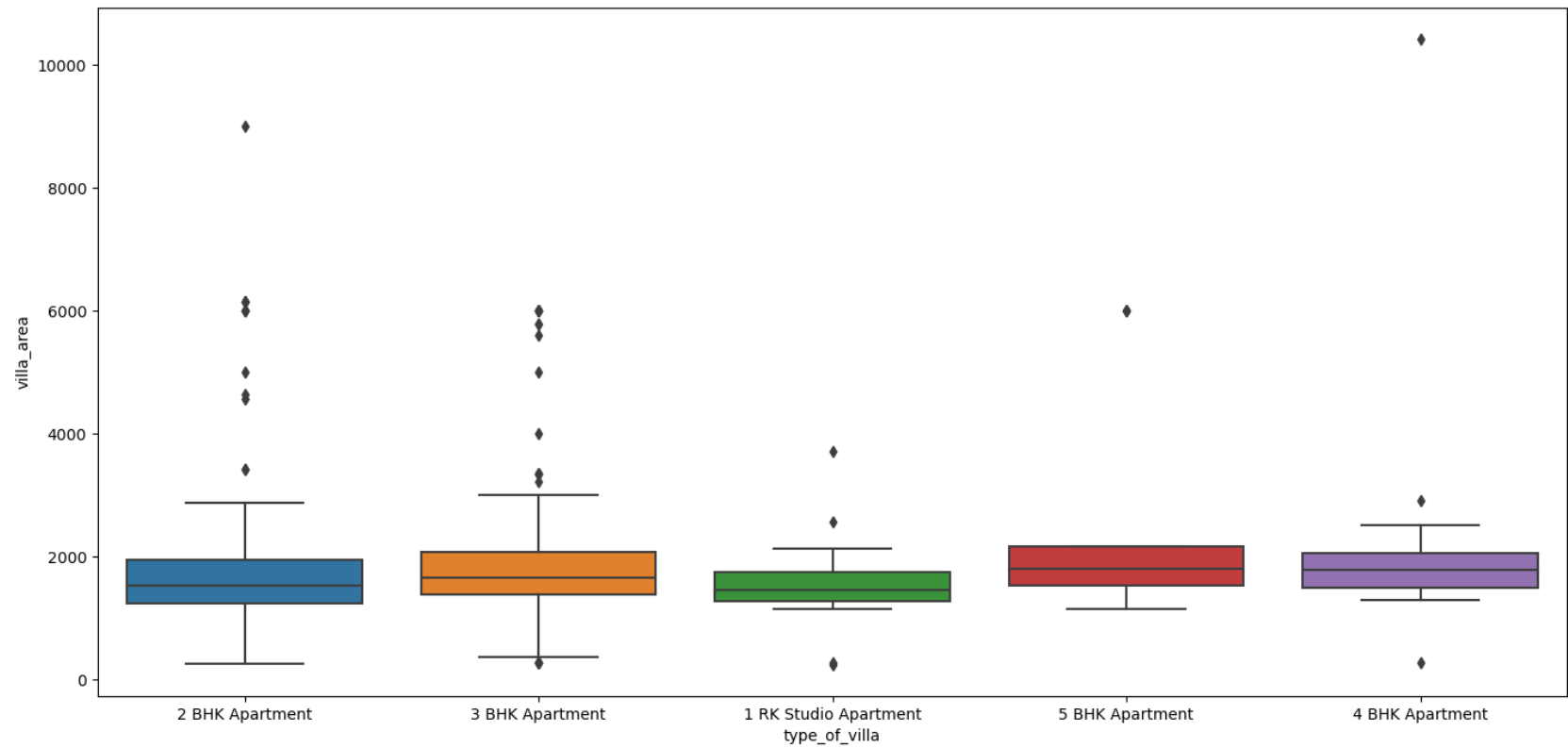
Out[451]: <AxesSubplot:xlabel='status', ylabel='villa_price'>



In []:

```
In [454]: fig = plt.subplots(figsize=(17,8))  
sns.boxplot(x='type_of_villa', y='villa_area', data=df)
```

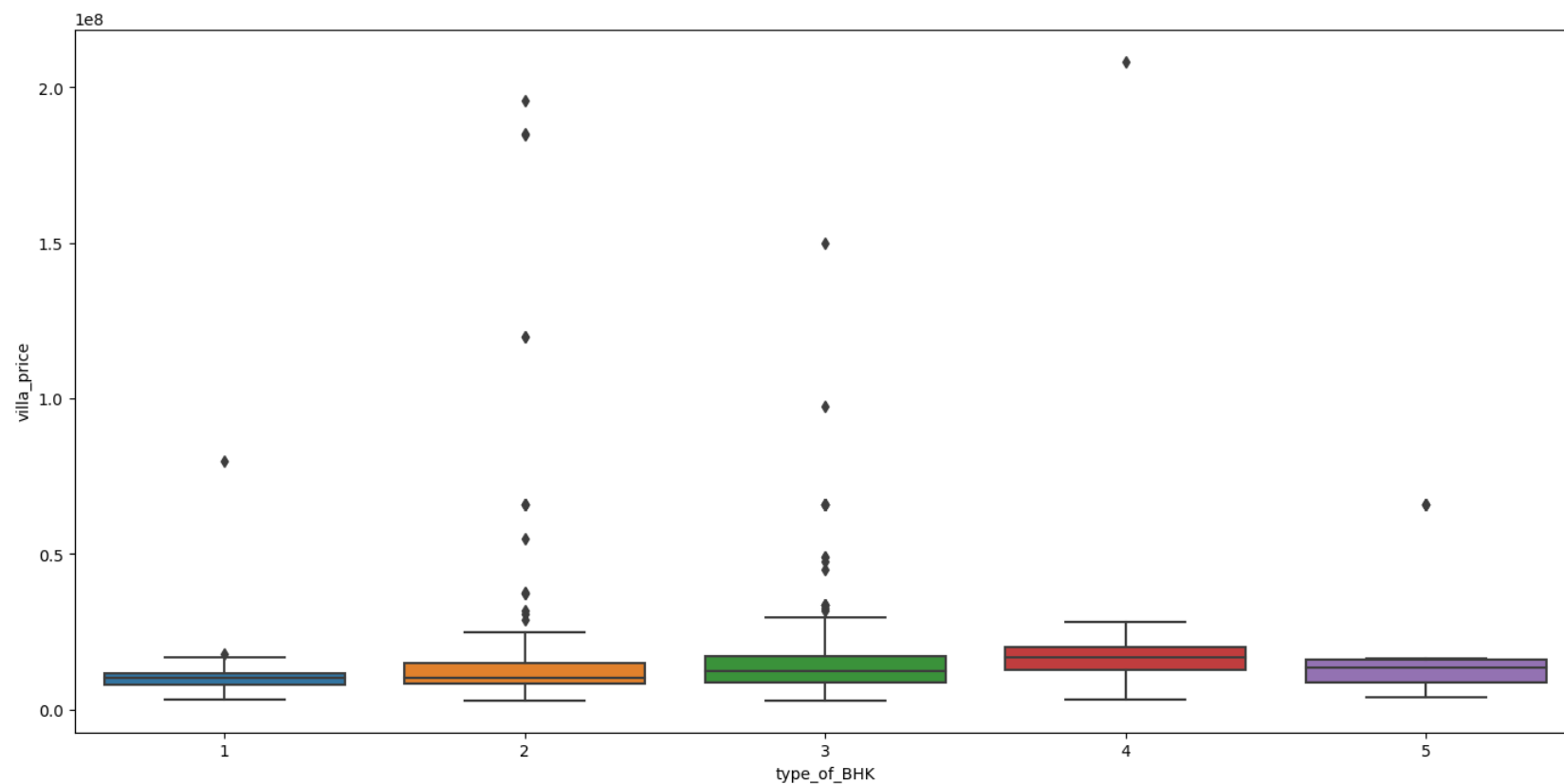
Out[454]: <AxesSubplot:xlabel='type_of_villa', ylabel='villa_area'>



In [455]: *# plot the willa_price and type_of_bhk*

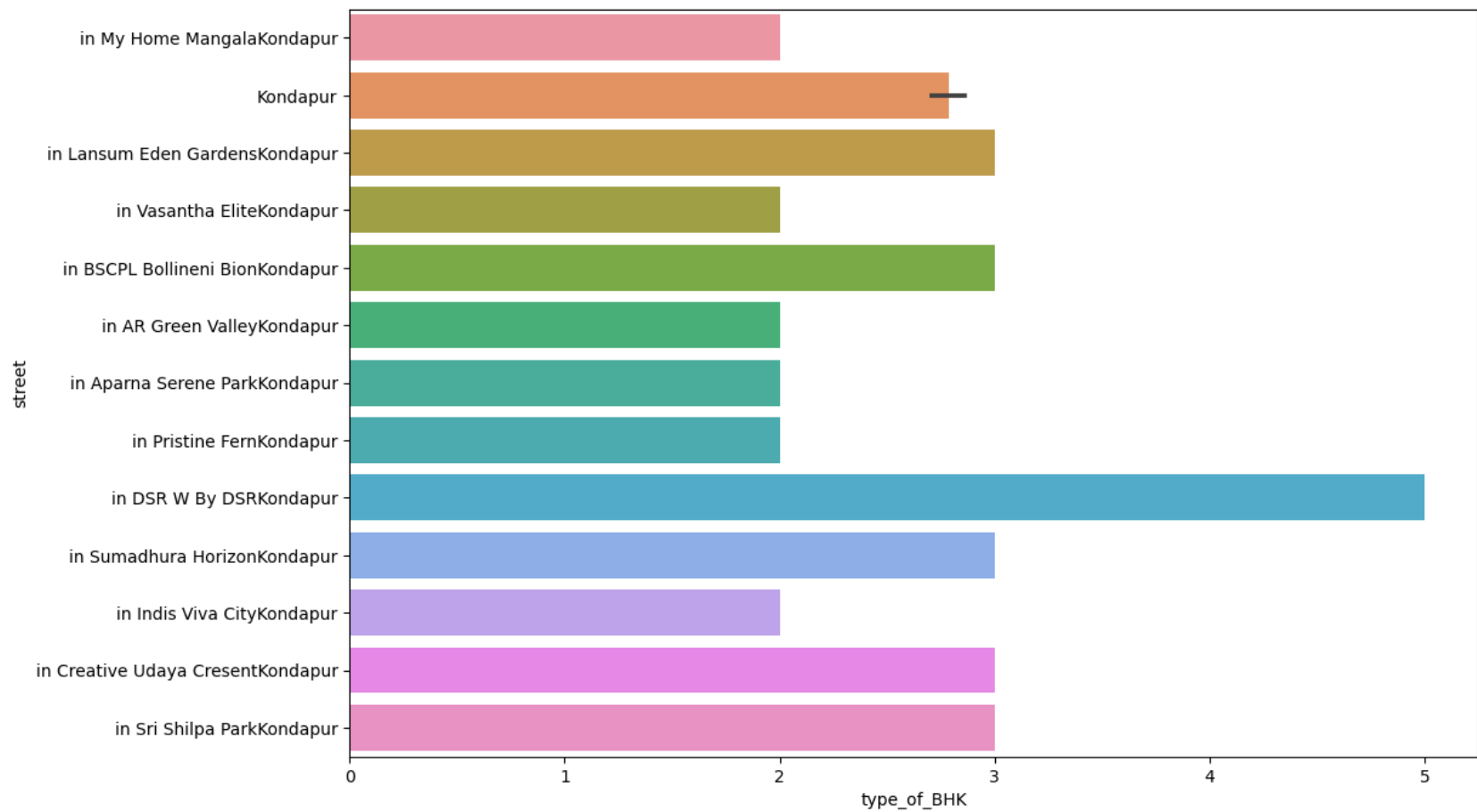
```
fig = plt.subplots(figsize=(17,8))  
sns.boxplot(x='type_of_BHK', y='villa_price', data=df)
```

Out[455]: <AxesSubplot:xlabel='type_of_BHK', ylabel='villa_price'>




```
In [456]: fig = plt.subplots(figsize=(12,8))  
sns.barplot(x = "type_of_BHK", y = "street", data=df)
```

```
Out[456]: <AxesSubplot:xlabel='type_of_BHK', ylabel='street'>
```



In [457]: `df.head()`

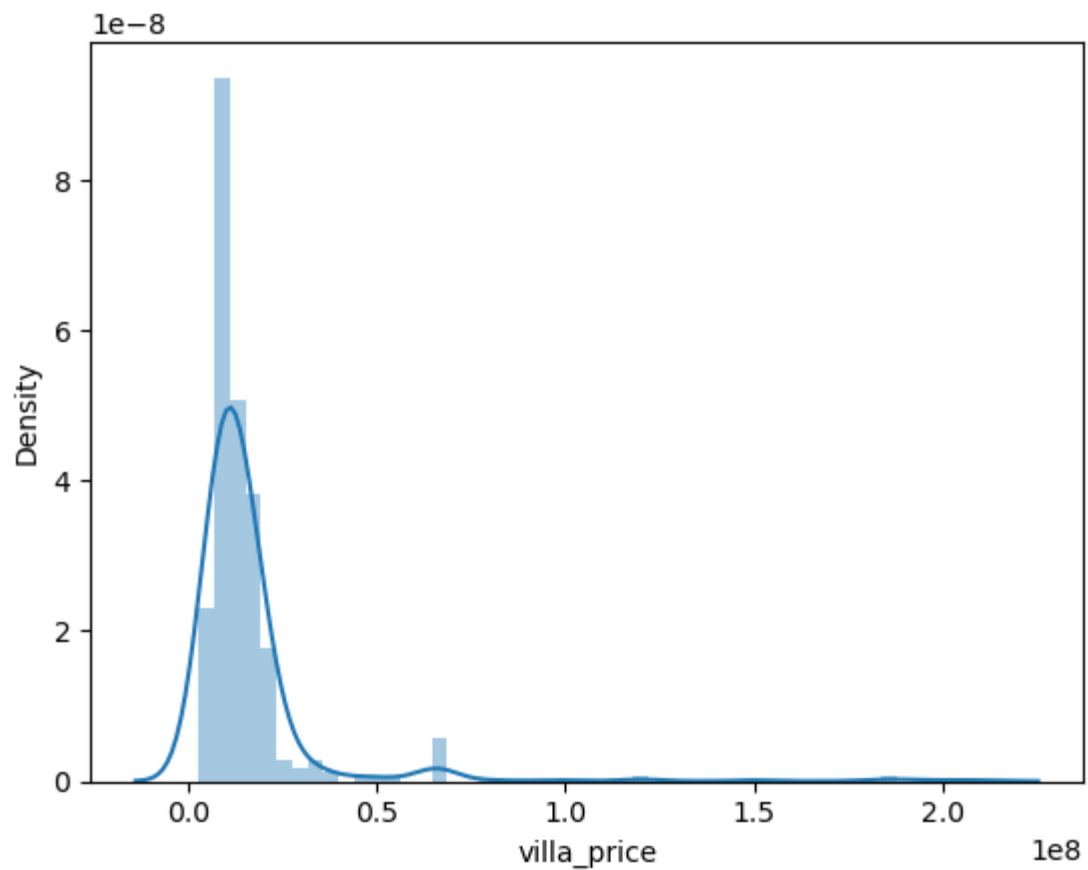
Out[457]:

	locality	villa_price	type_of_villa	villa_price_sq_ft	villa_area	type_of_BHK	street	agent	status
0	Kondapur, Hyderabad	15000000.0	2 BHK Apartment	9375.0	1600.0	2	in My Home MangalaKondapur	Vivek Associates	Ready to move
1	Kondapur, Hyderabad	13500000.0	2 BHK Apartment	7485.0	1815.0	2	in My Home MangalaKondapur	Bestpropin	Ready to move
2	Kondapur, Hyderabad	15500000.0	2 BHK Apartment	7948.0	1950.0	2	in My Home MangalaKondapur	Sahara Real Estate Consultants	Ready to move
3	Kondapur, Hyderabad	13700000.0	2 BHK Apartment	7002.0	1964.0	2	in My Home MangalaKondapur	Yugandhar	Under Construction
4	Kondapur, Hyderabad	21400000.0	2 BHK Apartment	7919.0	2710.0	2	in My Home MangalaKondapur	Ramana	Under Construction

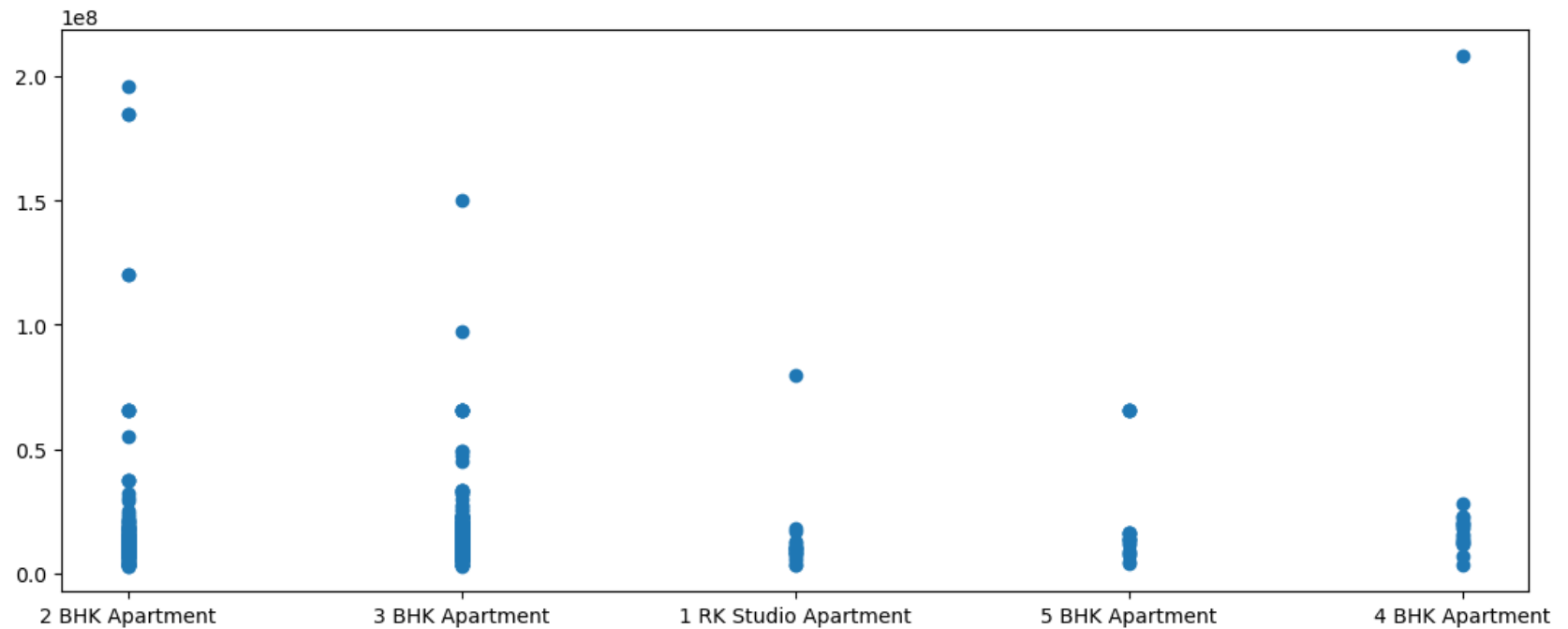
In []:

```
In [458]: sns.distplot(df.villa_price)
```

```
Out[458]: <AxesSubplot:xlabel='villa_price', ylabel='Density'>
```

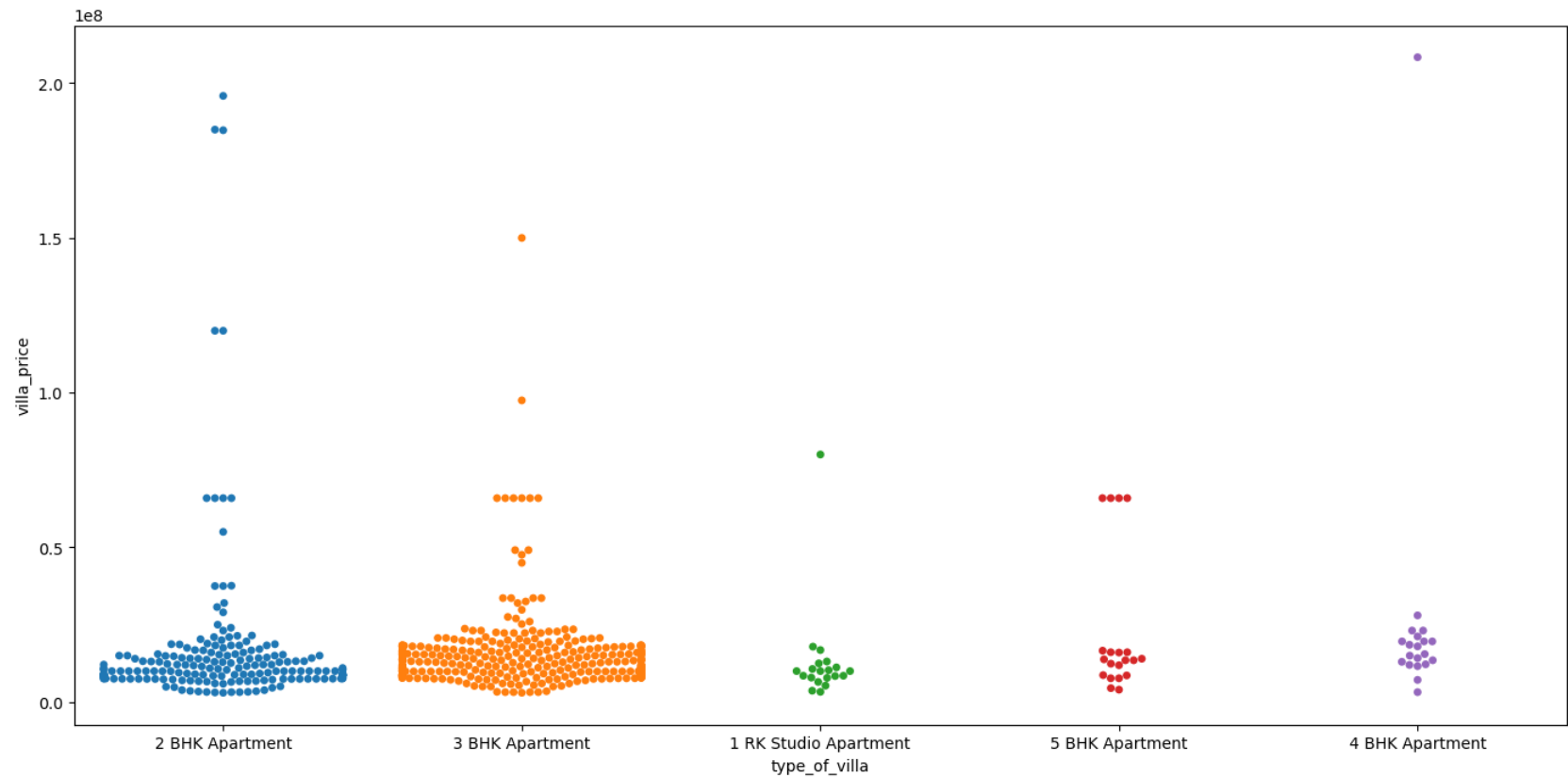


```
In [459]: # Scatter plot between villa_price and type_of_villa  
fig = plt.subplots(figsize=(13,5))  
plt.scatter(df.type_of_villa,df.villa_price)  
plt.show()
```



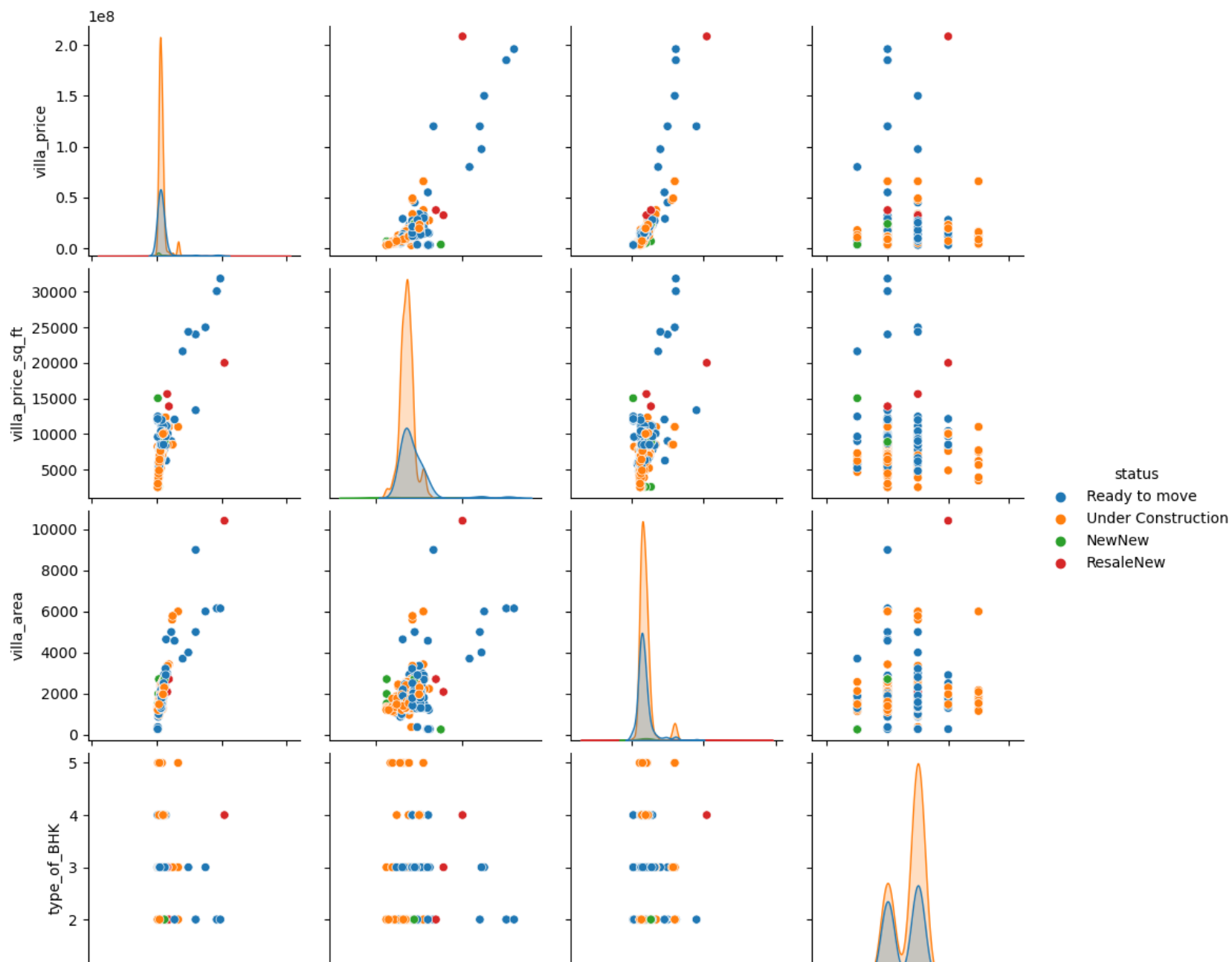
```
In [460]: # The above plots is not clear so using Swarm plot  
fig = plt.subplots(figsize=(17,8))  
  
sns.swarmplot(data=df , x ='type_of_villa',y='villa_price')
```

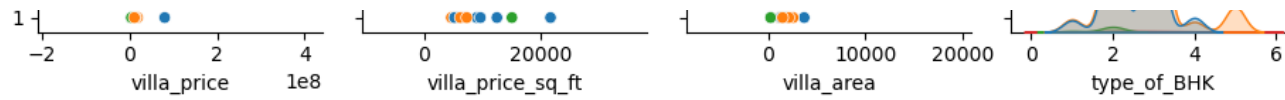
Out[460]: <AxesSubplot:xlabel='type_of_villa', ylabel='villa_price'>



```
In [461]: sns.pairplot(df,hue='status')
```

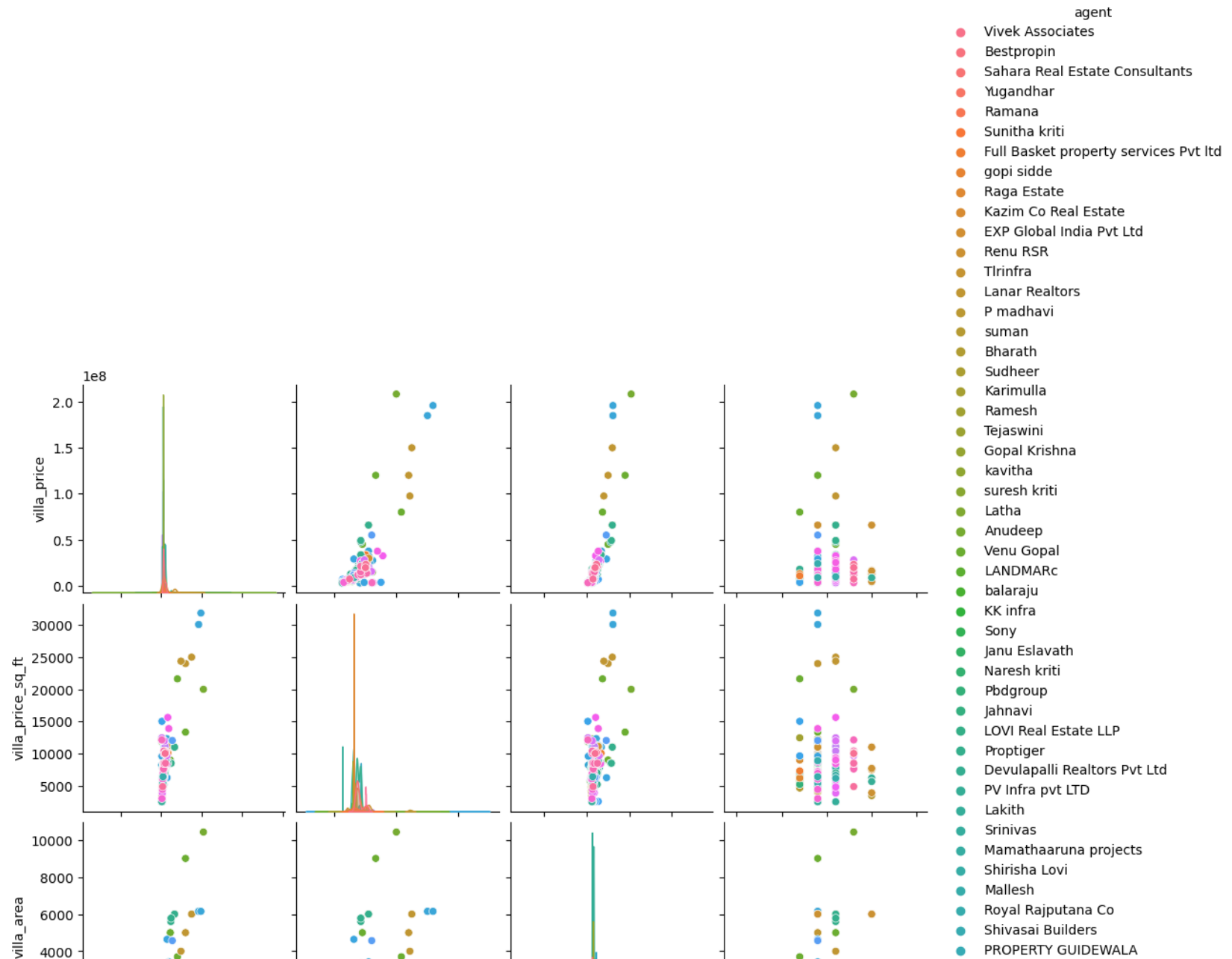
```
Out[461]: <seaborn.axisgrid.PairGrid at 0x1d160923760>
```

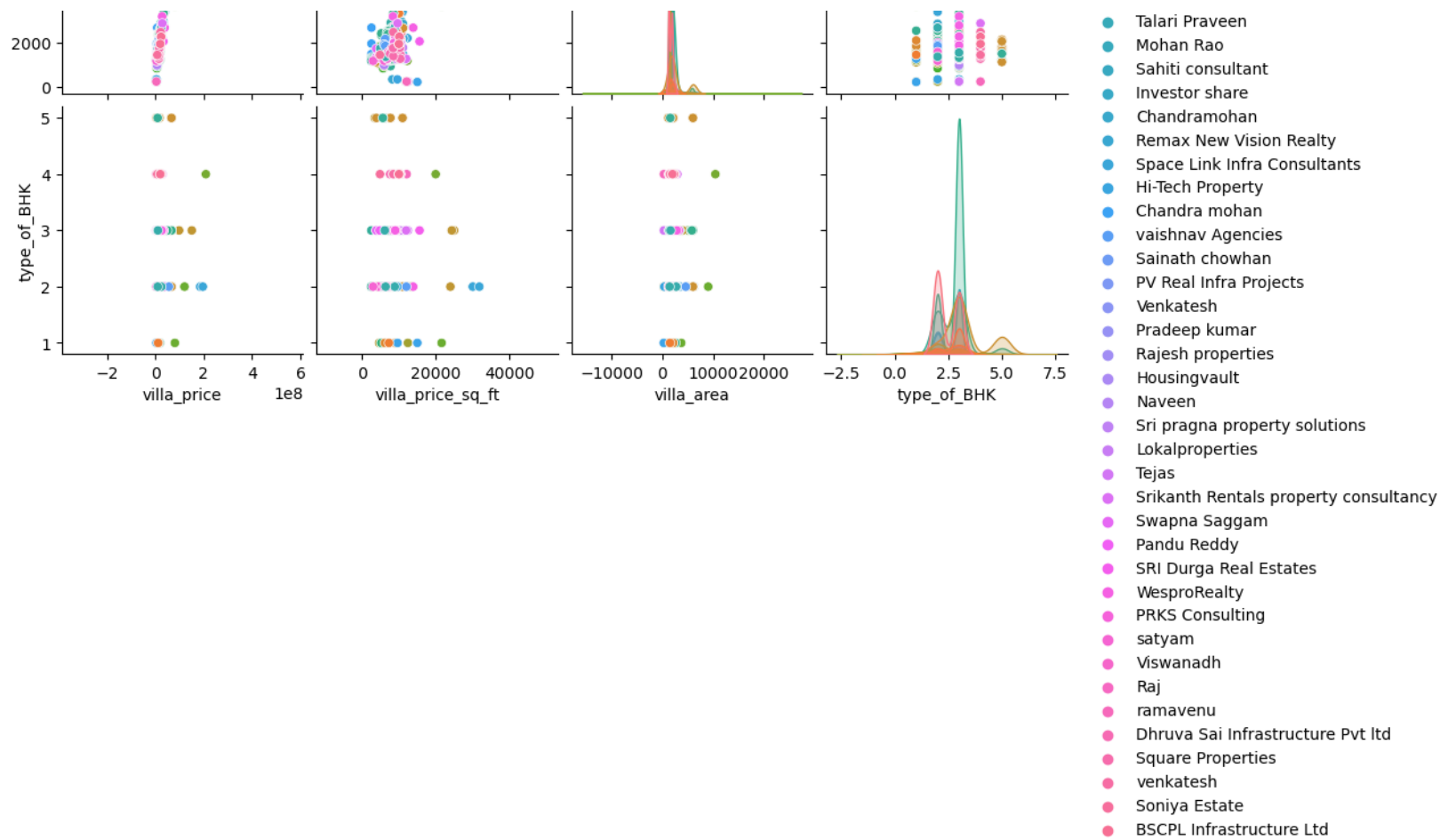




```
In [462]: sns.pairplot(df,hue='agent')
```

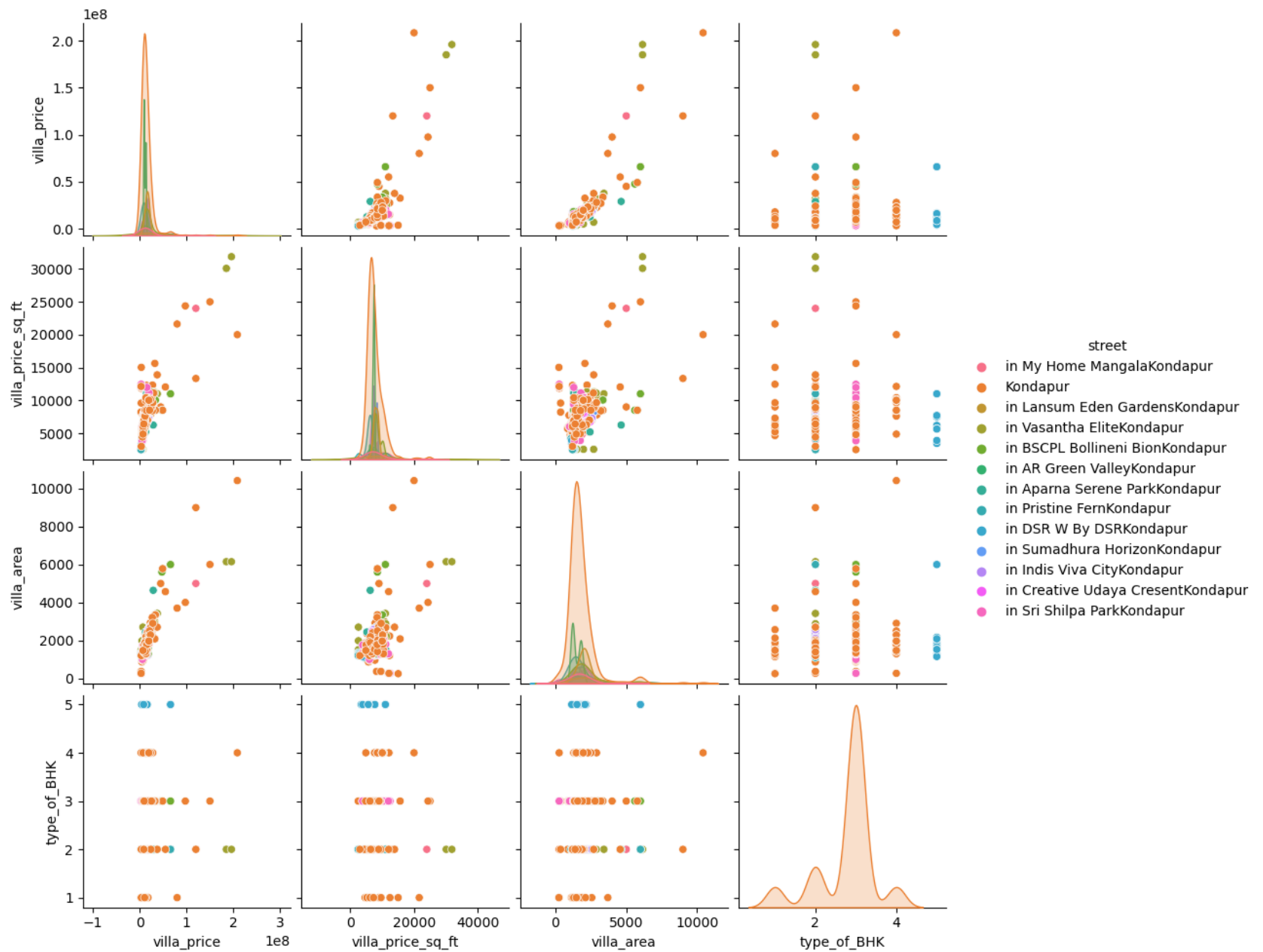
```
Out[462]: <seaborn.axisgrid.PairGrid at 0x1d160820220>
```





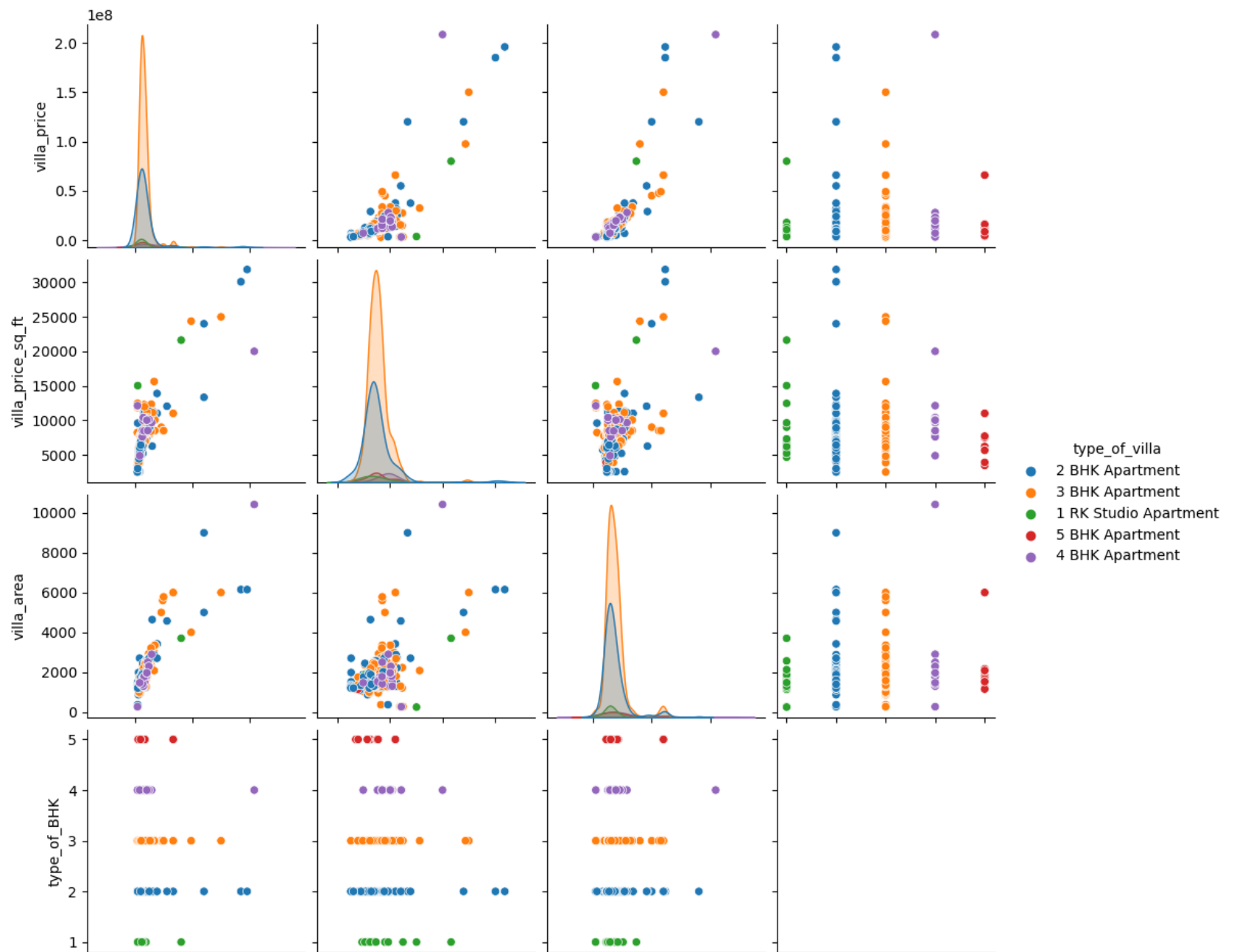
```
In [463]: sns.pairplot(df,hue='street')
```

```
Out[463]: <seaborn.axisgrid.PairGrid at 0x1d1614cc100>
```



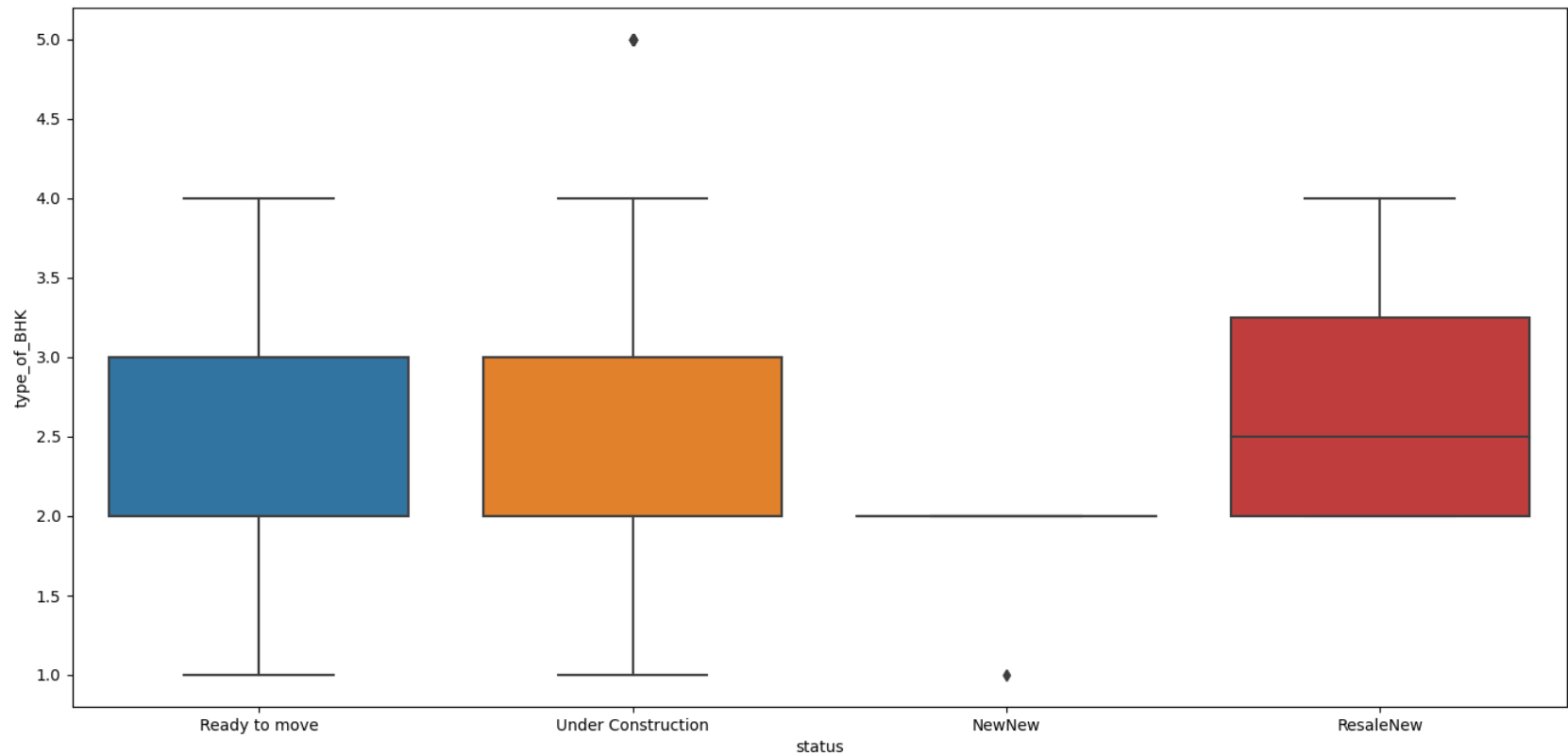
```
In [464]: sns.pairplot(df,hue='type_of_villa')
```

```
Out[464]: <seaborn.axisgrid.PairGrid at 0x1d16169f850>
```



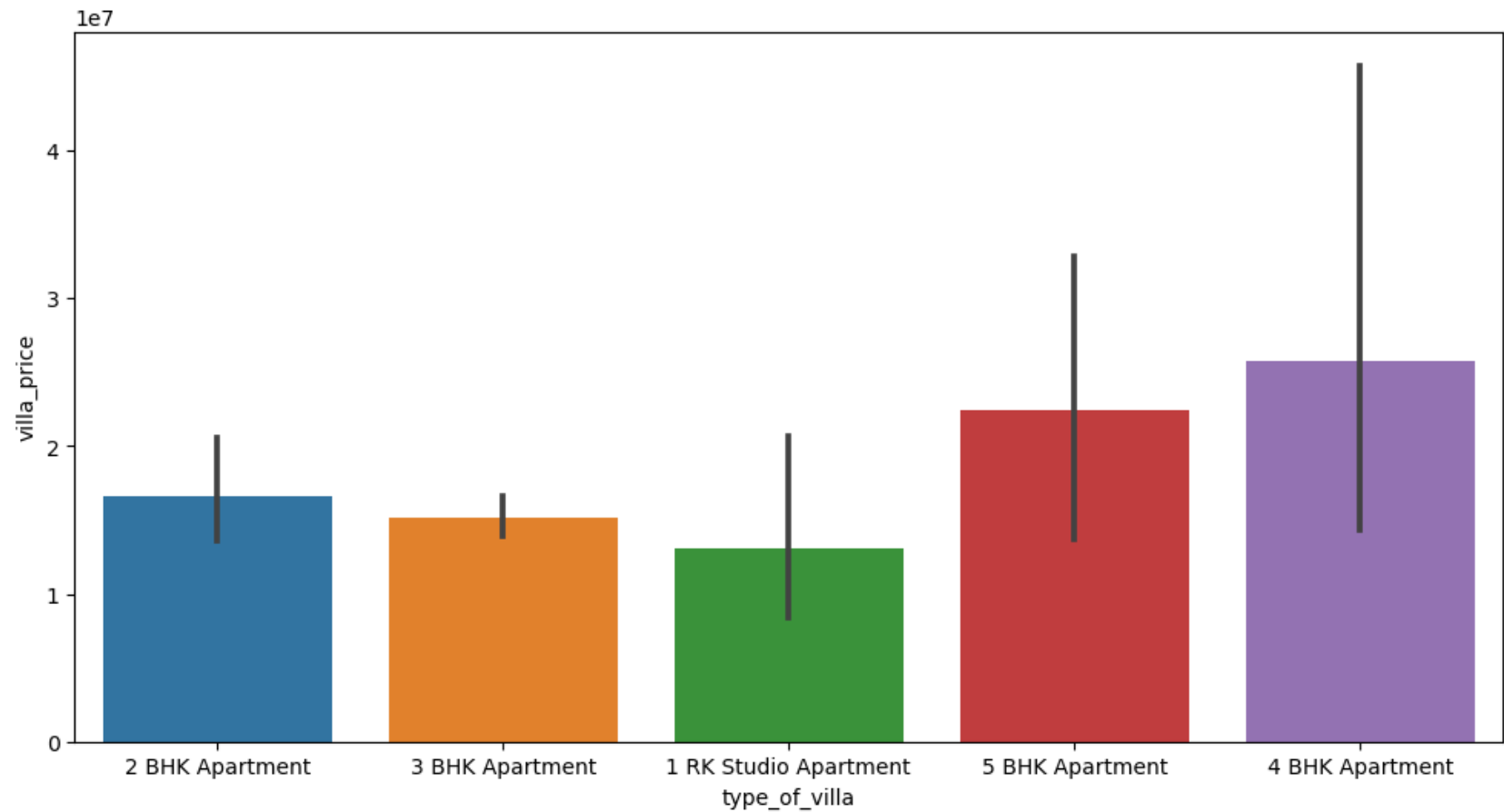
```
0    1    2    0    10000 20000 30000    0    5000 10000    1    2    3    4    5
 villa_price villa_price_sq_ft villa_area type_of_BHK
In [465]: plt.figure(figsize=(17,8))
sns.boxplot(x=df.status,y=df.type_of_BHK)
```

Out[465]: <AxesSubplot:xlabel='status', ylabel='type_of_BHK'>



```
In [466]: plt.figure(figsize=(12,6))  
sns.barplot(x=df.type_of_villa,y=df.villa_price)
```

```
Out[466]: <AxesSubplot:xlabel='type_of_villa', ylabel='villa_price'>
```



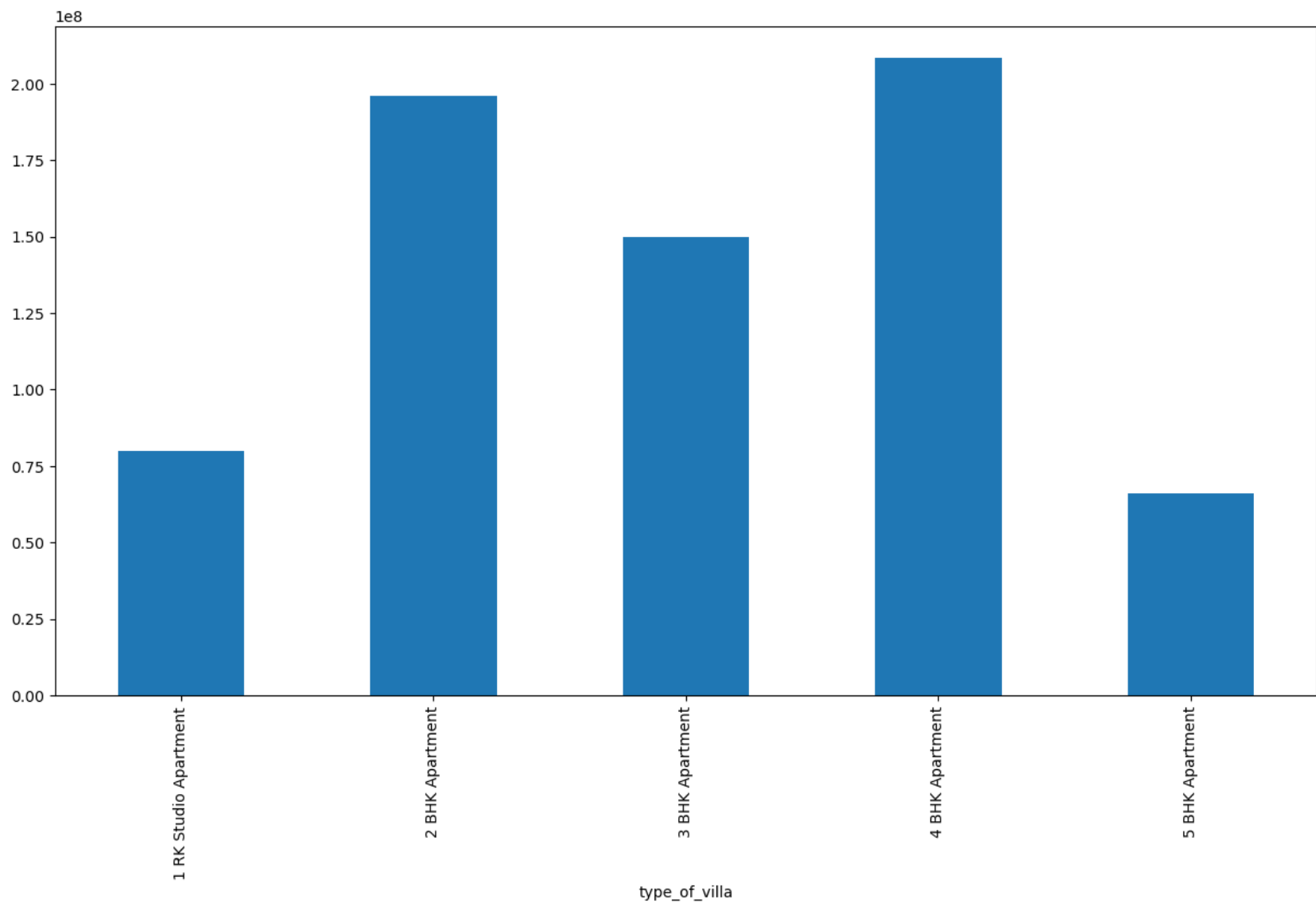
```
In [467]: df.groupby(['type_of_villa']).agg({'villa_price' : ['min', 'max', 'mean']})
```

Out[467]:

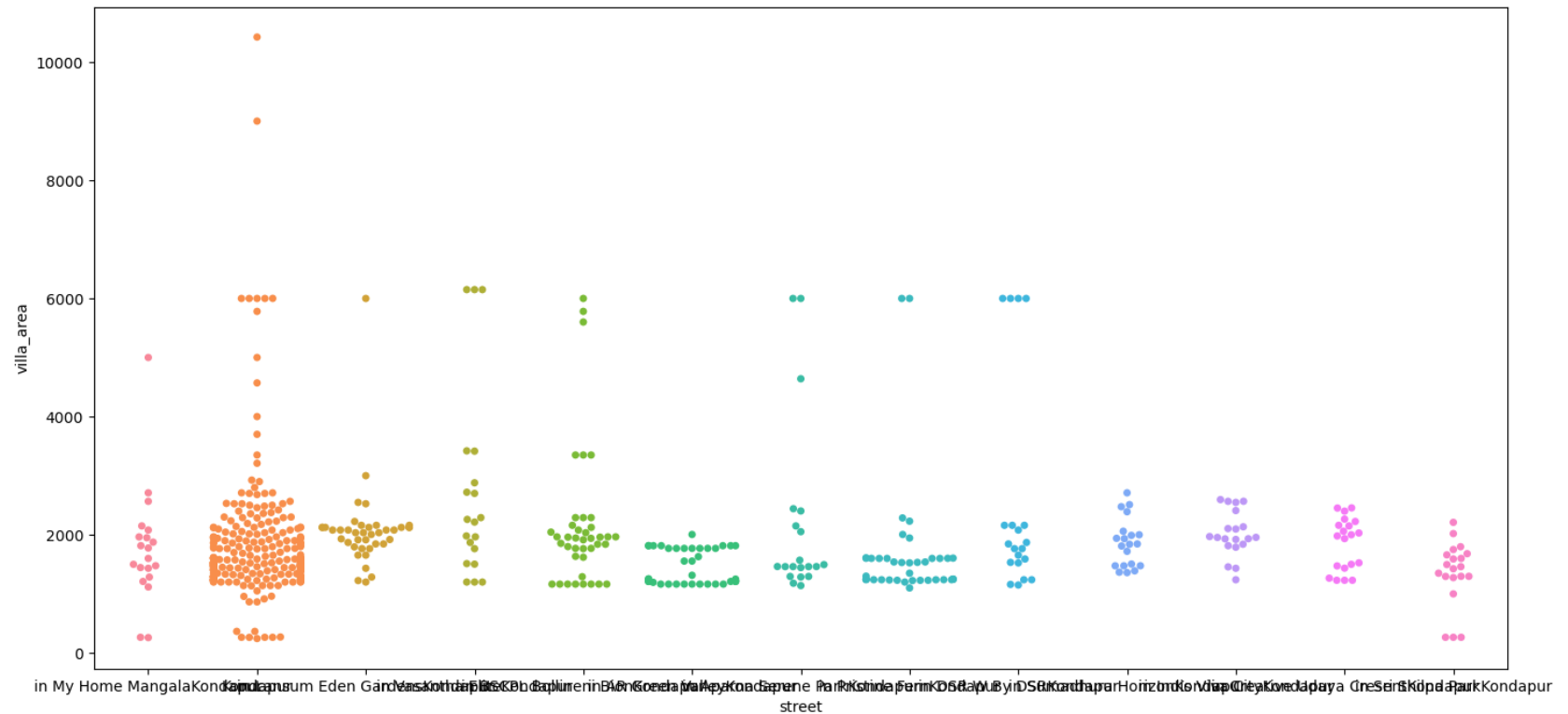
	villa_price		
	min	max	mean
type_of_villa			
1 RK Studio Apartment	3300000.0	80000000.0	1.311820e+07
2 BHK Apartment	3000000.0	195900000.0	1.661172e+07
3 BHK Apartment	3000000.0	150000000.0	1.514873e+07
4 BHK Apartment	3200000.0	208400000.0	2.582280e+07
5 BHK Apartment	4000000.0	65900000.0	2.243235e+07

```
In [468]: plt.figure(figsize=(15, 8))  
df.groupby(['type_of_villa'])['villa_price'].max().plot(kind = 'bar')
```

Out[468]: <AxesSubplot:xlabel='type_of_villa'>



```
Out[469]: <AxesSubplot:xlabel='street', ylabel='villa_area'>
```



A person wants a Villa

Here we will give information about villas with their priorities

In [470]:

```
# person wants to 4BHK in Kondapur

df_v=df[(df["type_of_villa"]=="4 BHK Apartment")]

df_v
```

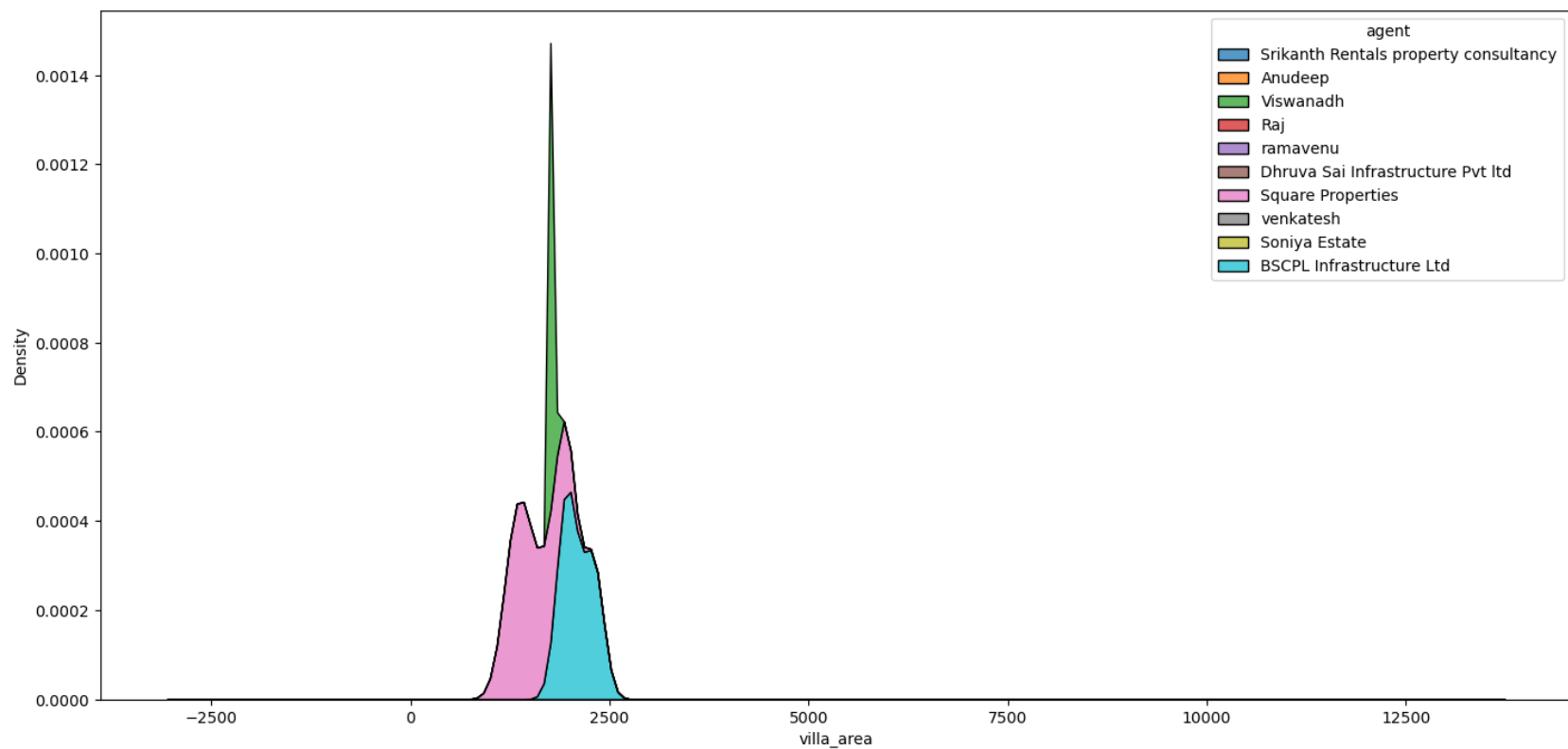
Out[470]:

	locality	villa_price	type_of_villa	villa_price_sq_ft	villa_area	type_of_BHK	street	agent	status
580	Kondapur, Hyderabad	28000000.0	4 BHK Apartment	9655.0	2900.0	4	Kondapur	Srikanth Rentals property consultancy	Ready to move
581	Kondapur, Hyderabad	208400000.0	4 BHK Apartment	20000.0	10422.0	4	Kondapur	Anudeep	ResaleNew
582	Kondapur, Hyderabad	14200000.0	4 BHK Apartment	8049.0	1765.0	4	Kondapur	Viswanadh	Under Construction
583	Kondapur, Hyderabad	18000000.0	4 BHK Apartment	10011.0	1798.0	4	Kondapur	Viswanadh	Ready to move
584	Kondapur, Hyderabad	12200000.0	4 BHK Apartment	7686.0	1590.0	4	Kondapur	Raj	Ready to move
585	Kondapur, Hyderabad	3200000.0	4 BHK Apartment	12121.0	264.0	4	Kondapur	ramavenu	Ready to move
586	Kondapur, Hyderabad	11600000.0	4 BHK Apartment	7606.0	1525.0	4	Kondapur	Dhruva Sai Infrastructure Pvt Ltd	Under Construction
587	Kondapur, Hyderabad	15500000.0	4 BHK Apartment	10360.0	1496.0	4	Kondapur	Square Properties	Ready to move
588	Kondapur, Hyderabad	18500000.0	4 BHK Apartment	10289.0	1798.0	4	Kondapur	Square Properties	Ready to move
589	Kondapur, Hyderabad	13000000.0	4 BHK Apartment	10023.0	1297.0	4	Kondapur	Square Properties	Ready to move
590	Kondapur, Hyderabad	13500000.0	4 BHK Apartment	10408.0	1297.0	4	Kondapur	Square Properties	Ready to move
591	Kondapur, Hyderabad	12000000.0	4 BHK Apartment	8510.0	1410.0	4	Kondapur	Square Properties	Ready to move
592	Kondapur, Hyderabad	15000000.0	4 BHK Apartment	8450.0	1775.0	4	Kondapur	Square Properties	Ready to move

	locality	villa_price	type_of_villa	villa_price_sq_ft	villa_area	type_of_BHK	street	agent	status
593	Kondapur, Hyderabad	21200000.0	4 BHK Apartment	8500.0	2500.0	4	Kondapur	venkatesh	Ready to move
594	Kondapur, Hyderabad	7156000.0	4 BHK Apartment	4868.0	1470.0	4	Kondapur	Soniya Estate	Under Construction
595	Kondapur, Hyderabad	19600000.0	4 BHK Apartment	10017.0	1965.0	4	Kondapur	BSCPL Infrastructure Ltd	Under Construction
596	Kondapur, Hyderabad	19600000.0	4 BHK Apartment	10017.0	1965.0	4	Kondapur	BSCPL Infrastructure Ltd	Under Construction
597	Kondapur, Hyderabad	23100000.0	4 BHK Apartment	10123.0	2290.0	4	Kondapur	BSCPL Infrastructure Ltd	Under Construction
598	Kondapur, Hyderabad	23100000.0	4 BHK Apartment	10123.0	2290.0	4	Kondapur	BSCPL Infrastructure Ltd	Under Construction
599	Kondapur,	19600000.0	4 BHK	10017.0	1965.0	4	Kondapur	BSCPL	Under

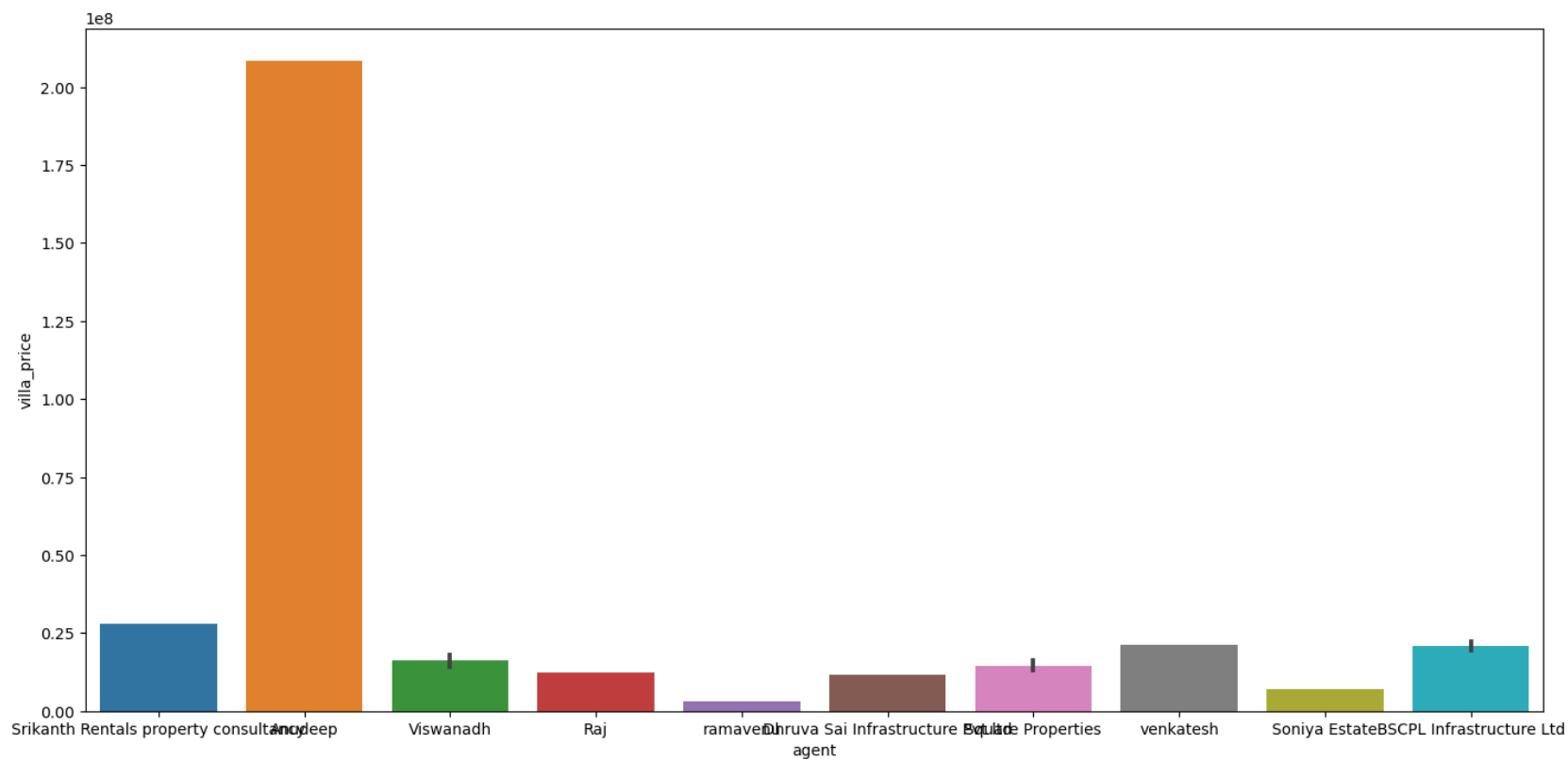
```
In [471]: fig = plt.subplots(figsize=(17,8))  
sns.kdeplot(data=df_v, x="villa_area", hue="agent", multiple="stack")
```

Out[471]: <AxesSubplot:xlabel='villa_area', ylabel='Density'>



```
In [472]: figure = plt.subplots(figsize=(17,8))  
sns.barplot(x='agent',y='villa_price',data=df_v)
```

```
Out[472]: <AxesSubplot:xlabel='agent', ylabel='villa_price'>
```



```
In [473]: df_v1=df_v[(df_v["villa_area"]>=1800)&(df_v["villa_area"]<=6000)]
df_v1
```

Out[473]:

	locality	villa_price	type_of_villa	villa_price_sq_ft	villa_area	type_of_BHK	street	agent	status
580	Kondapur, Hyderabad	28000000.0	4 BHK Apartment	9655.0	2900.0	4	Kondapur	Srikanth Rentals property consultancy	Ready to move
593	Kondapur, Hyderabad	21200000.0	4 BHK Apartment	8500.0	2500.0	4	Kondapur	venkatesh	Ready to move
595	Kondapur, Hyderabad	19600000.0	4 BHK Apartment	10017.0	1965.0	4	Kondapur	BSCPL Infrastructure Ltd	Under Construction
596	Kondapur, Hyderabad	19600000.0	4 BHK Apartment	10017.0	1965.0	4	Kondapur	BSCPL Infrastructure Ltd	Under Construction
597	Kondapur, Hyderabad	23100000.0	4 BHK Apartment	10123.0	2290.0	4	Kondapur	BSCPL Infrastructure Ltd	Under Construction
598	Kondapur, Hyderabad	23100000.0	4 BHK Apartment	10123.0	2290.0	4	Kondapur	BSCPL Infrastructure Ltd	Under Construction
599	Kondapur, Hyderabad	19600000.0	4 BHK Apartment	10017.0	1965.0	4	Kondapur	BSCPL Infrastructure Ltd	Under Construction

```
In [474]: df_v2=df_v1[(df_v1["villa_price"]>=20000000)&(df_v1["villa_price"]<=40000000)]
df_v2
```

Out[474]:

	locality	villa_price	type_of_villa	villa_price_sq_ft	villa_area	type_of_BHK	street	agent	status
580	Kondapur, Hyderabad	28000000.0	4 BHK Apartment	9655.0	2900.0	4	Kondapur	Srikanth Rentals property consultancy	Ready to move
593	Kondapur, Hyderabad	21200000.0	4 BHK Apartment	8500.0	2500.0	4	Kondapur	venkatesh	Ready to move
597	Kondapur, Hyderabad	23100000.0	4 BHK Apartment	10123.0	2290.0	4	Kondapur	BSCPL Infrastructure Ltd	Under Construction
598	Kondapur, Hyderabad	23100000.0	4 BHK Apartment	10123.0	2290.0	4	Kondapur	BSCPL Infrastructure Ltd	Under Construction

A person wants a Apartment

Here we will give information about Apartments with their priorities

```
In [475]: df_A=df[(df["type_of_villa"]=="3 BHK Apartment")]
df_A.head()
```

Out[475]:

	locality	villa_price	type_of_villa	villa_price_sq_ft	villa_area	type_of_BHK	street	agent	status
20	Kondapur, Hyderabad	11000000.0	3 BHK Apartment	6111.0	1800.0	3	Kondapur	Tejaswini	Ready to move
21	Kondapur, Hyderabad	10000000.0	3 BHK Apartment	6893.0	1460.0	3	Kondapur	Gopal Krishna	Under Construction
22	Kondapur, Hyderabad	8400000.0	3 BHK Apartment	5936.0	1415.0	3	Kondapur	kavitha	Ready to move
23	Kondapur, Hyderabad	12000000.0	3 BHK Apartment	7868.0	1525.0	3	Kondapur	suresh kriti	Under Construction
24	Kondapur, Hyderabad	5000000.0	3 BHK Apartment	4761.0	1050.0	3	Kondapur	Latha	Ready to move

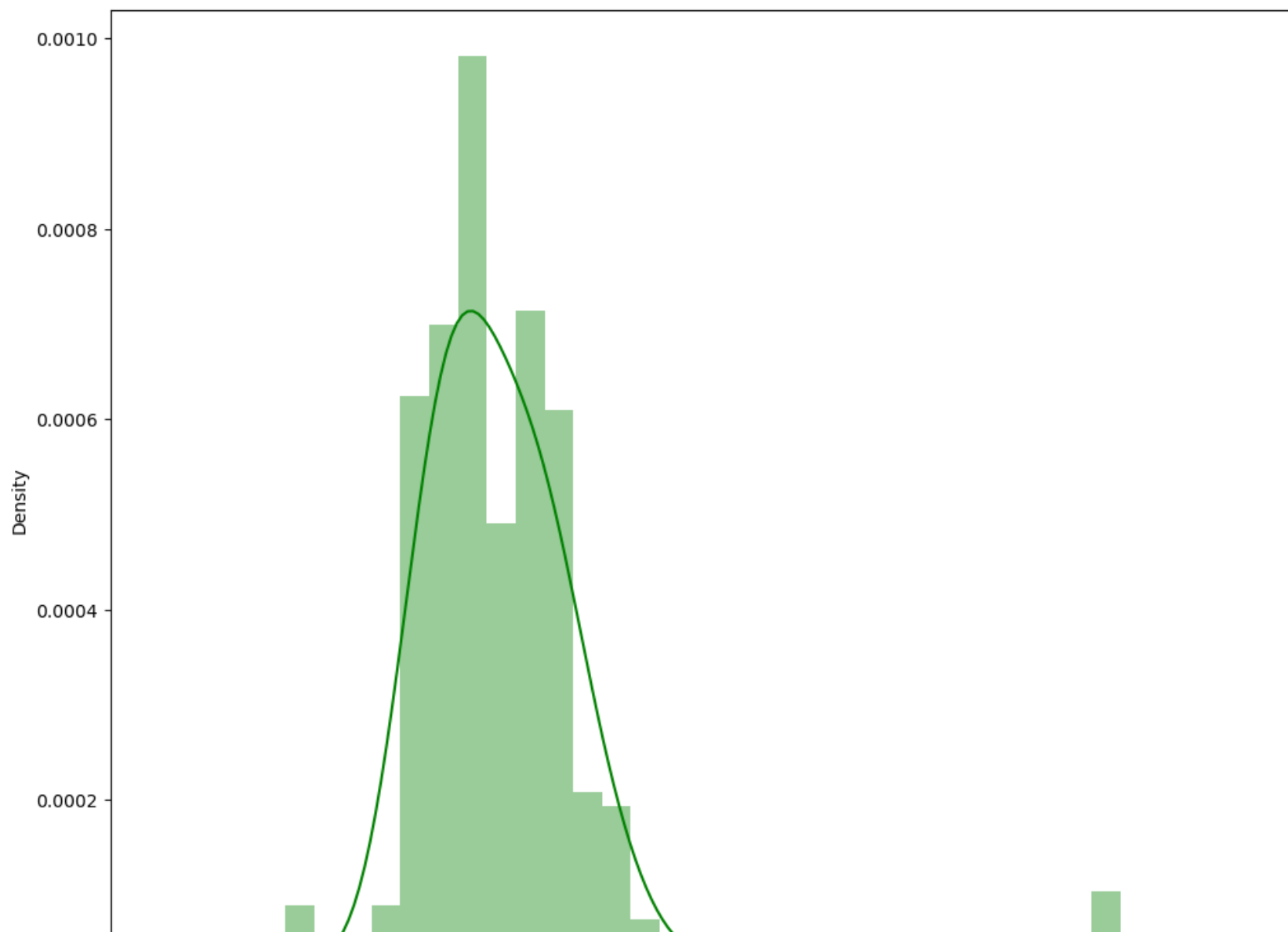
```
In [476]: df_A1=df_A[(df_A["villa_price"]>=20000000)&(df_A["villa_price"]<=50000000)]
df_A1.head()
```

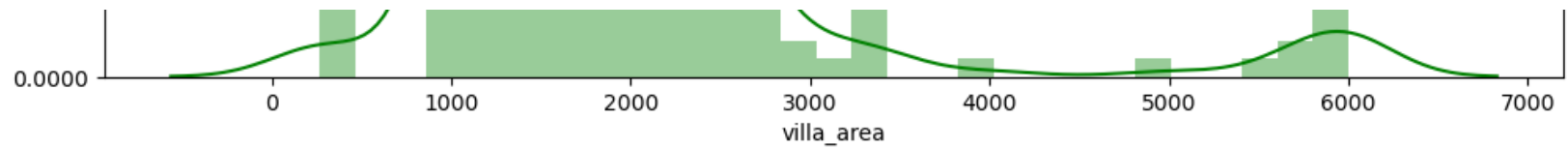
Out[476]:

	locality	villa_price	type_of_villa	villa_price_sq_ft	villa_area	type_of_BHK	street	agent	status
27	Kondapur, Hyderabad	45000000.0	3 BHK Apartment	9000.0	5000.0	3	Kondapur	Venu Gopal	Ready to move
43	Kondapur, Hyderabad	22800000.0	3 BHK Apartment	7800.0	2925.0	3	Kondapur	Shirisha Lovi	Ready to move
54	Kondapur, Hyderabad	27500000.0	3 BHK Apartment	12331.0	2230.0	3	Kondapur	Space Link Infra Consultants	Under Construction
56	Kondapur, Hyderabad	20300000.0	3 BHK Apartment	10500.0	1940.0	3	Kondapur	Bestpropin	Ready to move
57	Kondapur, Hyderabad	22500000.0	3 BHK Apartment	8302.0	2710.0	3	Kondapur	EXP Global India Pvt Ltd	Under Construction

```
In [477]: fig = plt.subplots(figsize=(12,10))  
sns.distplot(df_A['villa_area'], kde=True, rug=False,color="green")
```

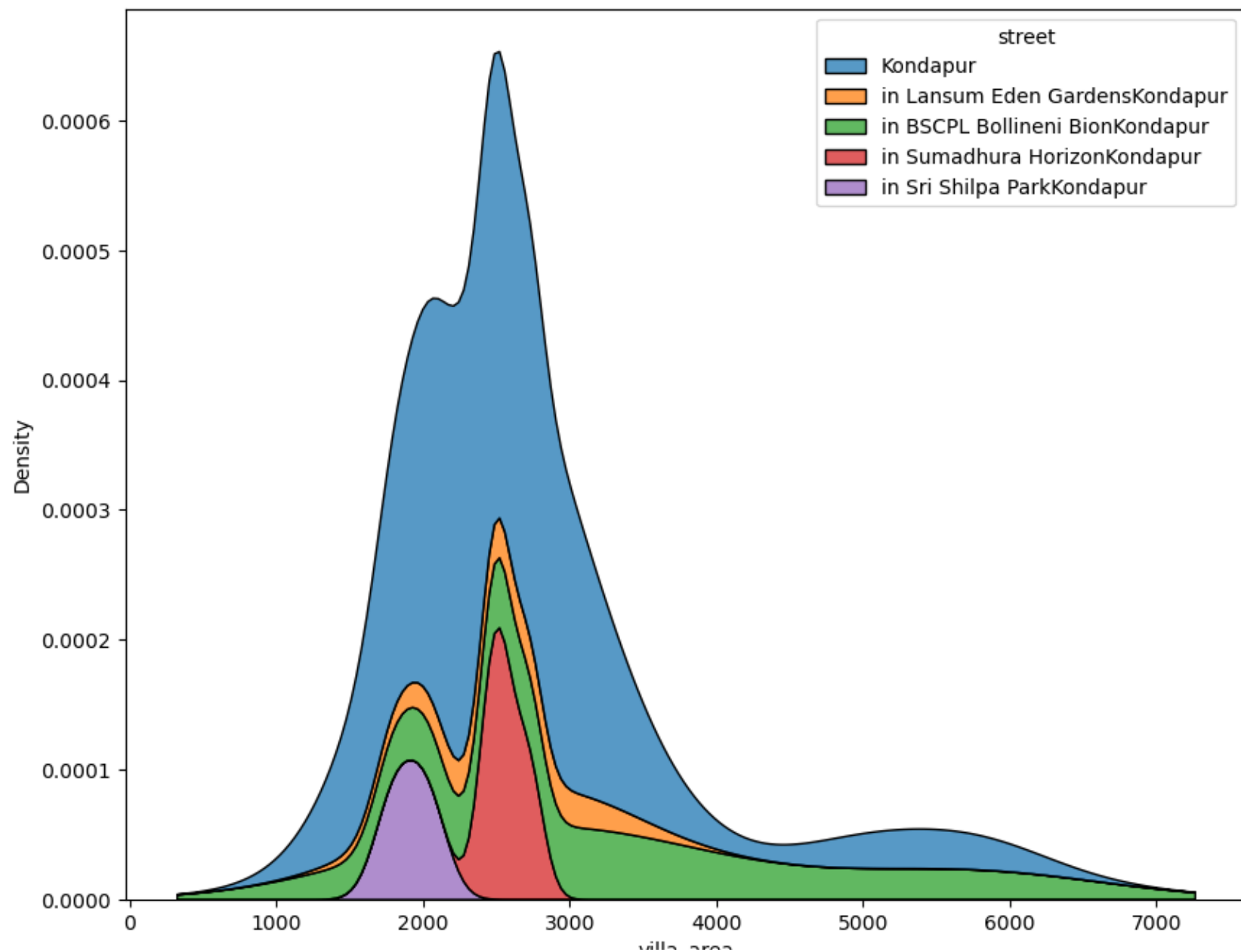
Out[477]: <AxesSubplot:xlabel='villa_area', ylabel='Density'>





```
In [478]: fig = plt.subplots(figsize=(10,8))  
sns.kdeplot(data=df_A1, x="villa_area", hue="street", multiple="stack")
```

```
Out[478]: <AxesSubplot:xlabel='villa_area', ylabel='Density'>
```



villa_area

```
In [480]: df_A2=df_A1[(df_A1["villa_area"]>=2500)&(df_A1["villa_area"]<=4000)]
df_A2.head()
```

Out[480]:

	locality	villa_price	type_of_villa	villa_price_sq_ft	villa_area	type_of_BHK	street	agent	status
43	Kondapur, Hyderabad	22800000.0	3 BHK Apartment	7800.0	2925.0	3	Kondapur	Shirisha Lovi	Ready to move
57	Kondapur, Hyderabad	22500000.0	3 BHK Apartment	8302.0	2710.0	3	Kondapur	EXP Global India Pvt Ltd	Under Construction
96	Kondapur, Hyderabad	32000000.0	3 BHK Apartment	10666.0	3000.0	3	in Lansum Eden GardensKondapur	Chandramohan	Ready to move
126	Kondapur, Hyderabad	33600000.0	3 BHK Apartment	10052.0	3350.0	3	in BSCPL Bollineni BionKondapur	Full Basket property services Pvt ltd	Ready to move
127	Kondapur, Hyderabad	33600000.0	3 BHK Apartment	10052.0	3350.0	3	in BSCPL Bollineni BionKondapur	Full Basket property services Pvt ltd	Ready to move

```
In [481]: df_A3=df_A2[df_A2["villa_price_sq_ft"]>=10000]
df_A3
```

Out[481]:

	locality	villa_price	type_of_villa	villa_price_sq_ft	villa_area	type_of_BHK	street	agent	status
96	Kondapur, Hyderabad	32000000.0	3 BHK Apartment	10666.0	3000.0	3	in Lansum Eden GardensKondapur	Chandramohan	Ready to move
126	Kondapur, Hyderabad	33600000.0	3 BHK Apartment	10052.0	3350.0	3	in BSCPL Bollineni BionKondapur	Full Basket property services Pvt ltd	Ready to move
127	Kondapur, Hyderabad	33600000.0	3 BHK Apartment	10052.0	3350.0	3	in BSCPL Bollineni BionKondapur	Full Basket property services Pvt ltd	Ready to move
209	Kondapur, Hyderabad	29800000.0	3 BHK Apartment	11119.0	2680.0	3	Kondapur	EXP Global India Pvt Ltd	Ready to move

In []:

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