In [2]:
```
import numpy as np
import pandas as pd
from sklearn.linear_model import LinearRegression
from sklearn.model_selection import train_test_split
from sklearn.metrics import r2_score
from sklearn.preprocessing import LabelEncoder
from sklearn.preprocessing import StandardScaler
import matplotlib.pyplot as plt
import seaborn as sns
```

In [5]:
```
df = pd.read_csv(".\dataset\Cleanned_data.csv")
df.head()
```

Out[5]:

	location	BHK	sqft	price
0	1st Block Jayanagar	4	2850.0	428.0
1	1st Block Jayanagar	3	1630.0	194.0
2	1st Block Jayanagar	6	1200.0	125.0
3	1st Block Jayanagar	3	1875.0	235.0
4	1st Block Jayanagar	3	930.0	85.0

In [9]:
```
location_value = list(df['location'].unique())
```

In [248…
```
data = df
location = pd.get_dummies(data.location)
data = pd.concat([data,location],axis='columns')
```

In [249…
```
data.shape
```

Out[249…
```
(8625, 244)
```

In [250…
```
data1 = data.drop('location',axis = 1)
data1.reset_index(drop = True)
x=data1.drop("price",axis=1)
y=data1["price"]
```

In [251…
```
x_train, x_test, y_train, y_test=train_test_split(x,y,test_size=0.3,random_state=10)
linear = LinearRegression()
linear.fit(x_train,y_train)
pred = linear.predict(x_test)
r2_score(y_test,pred)
```

Out[251…
```
0.827442920868495
```

In [254…
```
loc = 0
dumLoc = [1 if loc == x else 0 for x in range(240)]
val = [3,1630]
val.extend(dumLoc)
test = np.array([val])
result = linear.predict(test)
r = int(round(result[0],0))
print(r)
print(r*val[1])
```

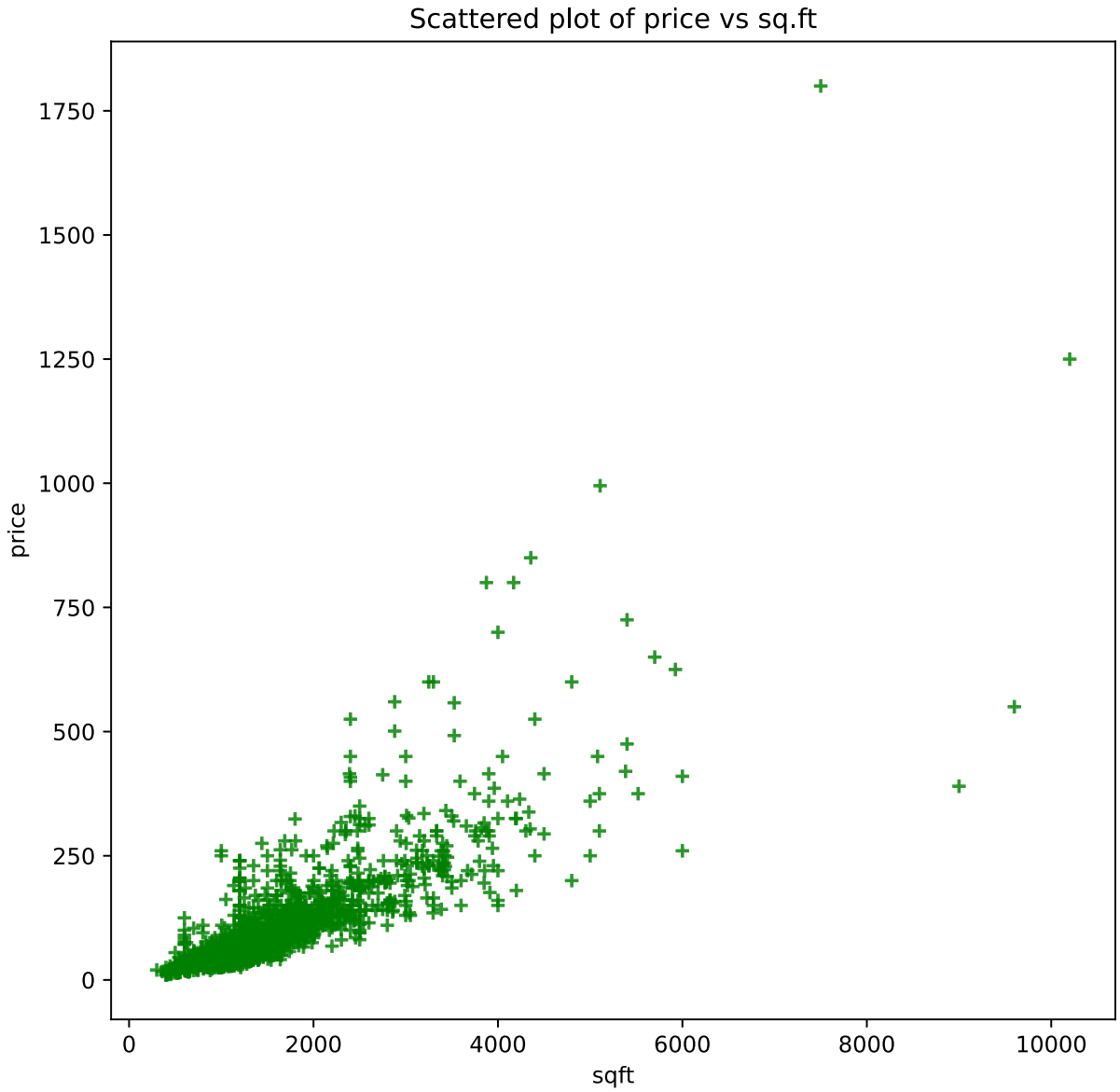
```
223
363490
```

In [255…
```
import joblib
joblib.dump(linear,"house_price.ml")
```

Out[255…
```
['house_price.ml']
```

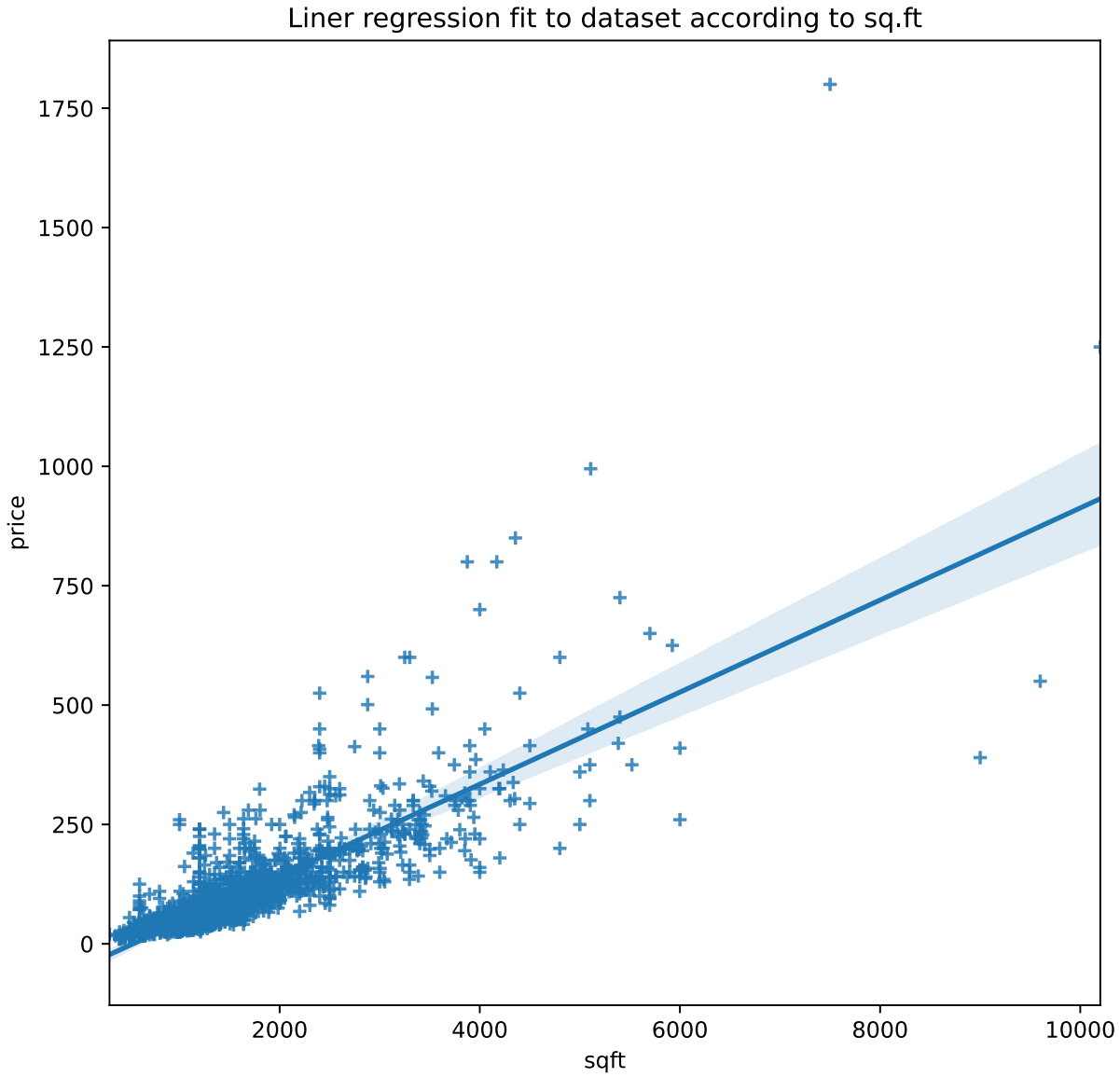
In [256…
```
plot = "sqft"
plt.figure(figsize=(8, 8))
sns.regplot(x_test[plot],y_test,fit_reg=False,marker="+",color="g")
plt.title("Scattered plot of price vs sq.ft")
```

Out[256…
```
Text(0.5, 1.0, 'Scattered plot of price vs sq.ft')
```



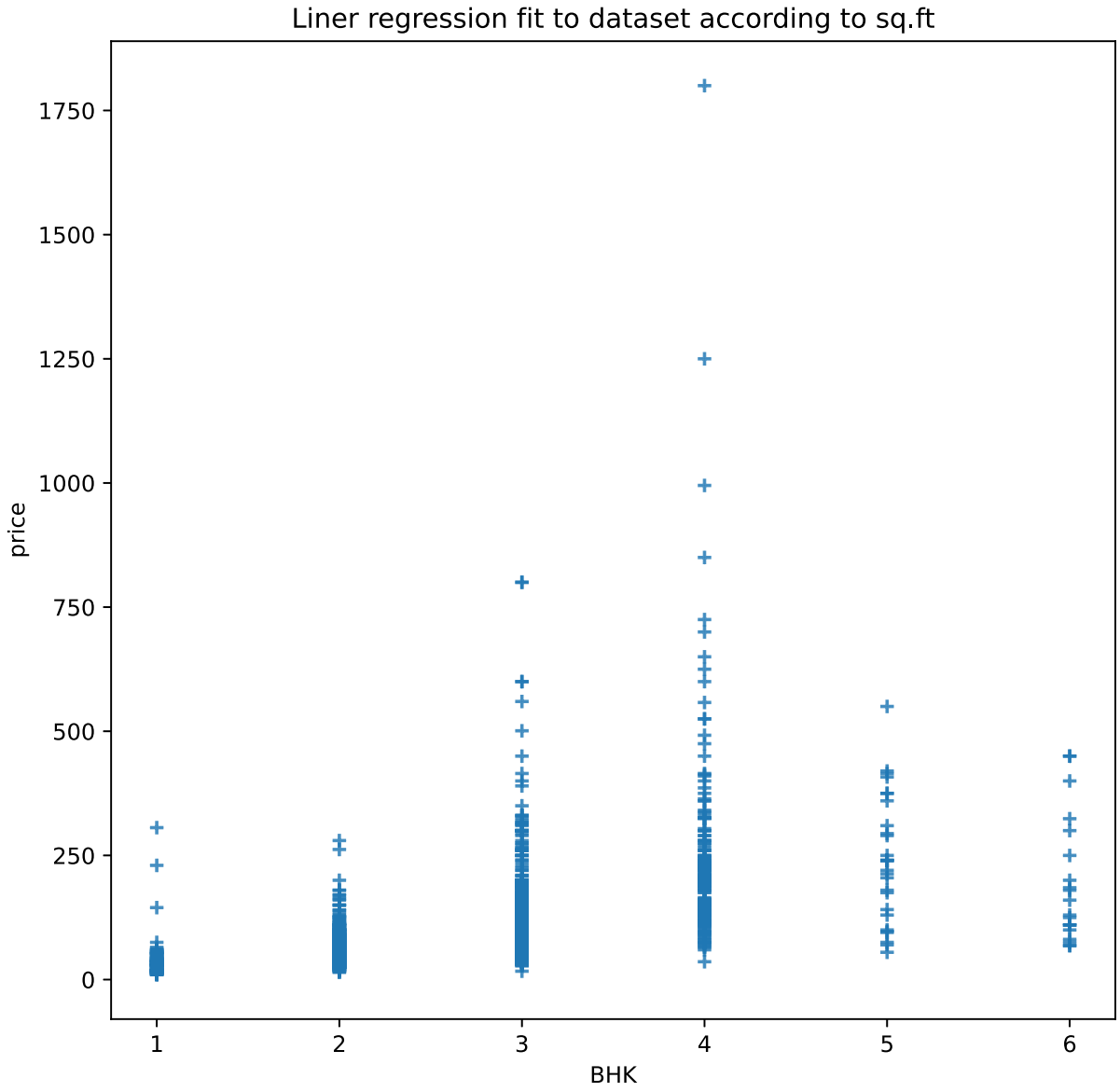
In [257…
```
plot="sqft"
plt.figure(figsize=(8, 8))
sns.regplot(x_test[plot],y_test,fit_reg=True,marker="+")
plt.title("Liner regression fit to dataset according to sq.ft")
```

Out[257…
```
Text(0.5, 1.0, 'Liner regression fit to dataset according to sq.ft')
```



In [258…
```
plot="BHK"
plt.figure(figsize=(8, 8))
sns.regplot(x_test[plot],y_test,fit_reg=False,marker="+")
plt.title("Liner regression fit to dataset according to sq.ft")
```

Out[258…
```
Text(0.5, 1.0, 'Liner regression fit to dataset according to sq.ft')
```


Liner regression fit to dataset according to sq.ft
price
BHK
0
250
500
750
1000
1250
1500
1750
1
2
3
4
5
6