In [5]:
```
import pandas as pd
import seaborn as sns
from sklearn.linear_model import LinearRegression
import matplotlib.pyplot as plt
```

In [6]:
```
df=pd.read_csv("https://s3.ap-south-1.amazonaws.com/mru.ml.demo/ca11-03homes.csv")
df
```

Out[6]:

	Obs	Price	SqFt	BedRooms	Baths	Garage	Zip
0	1	52900	932	1	1.0	0	4
1	2	61500	780	3	1.0	0	5
2	3	62000	1500	3	1.0	0	9
3	4	62900	760	2	1.0	0	4
4	5	64900	900	2	1.0	0	4
...	...	...	...	...	...	...	...
499	500	490000	3900	4	3.5	3	5
500	501	535000	3331	5	3.5	3	6
501	502	549000	3615	4	4.5	3	5
502	503	625000	4840	4	4.0	3	6
503	504	830000	8805	5	6.5	3	5

504 rows × 7 columns

In [7]:
```
df.isnull().sum()
```

Out[7]:
```
Obs         0
Price       0
SqFt        0
BedRooms    0
Baths       0
Garage      0
Zip         0
dtype: int64
```

In [8]:
```
reg=LinearRegression()
reg.fit(df[['SqFt','BedRooms','Baths']],df['Price'])
```

Out[8]:
```
LinearRegression()
```

In [9]:
```
reg.coef_
```

Out[9]:
```
array([   84.12241489, -7731.53221725, 26394.59564422])
```

In [10]:
```
reg.intercept_
```

Out[10]:
```
-26090.680177804345
```

In [11]:
```
reg.predict([[780,3,1]])
```

```
/home/ec2-user/anaconda3/envs/python3/lib/python3.8/site-packages/sklearn/base.py:445: UserWarning: X does not have valid feature names, but LinearRegression was fitted with feature names
  warnings.warn(
```

Out[11]:
```
array([42724.80242777])
```

In [12]:
```
reg.predict([[1500,3,2]])
```

```
/home/ec2-user/anaconda3/envs/python3/lib/python3.8/site-packages/sklearn/base.py:445: UserWarning: X does not have valid feature names, but LinearRegression was fitted with feature names
  warnings.warn(
```

Out[12]:
```
array([129687.53679176])
```

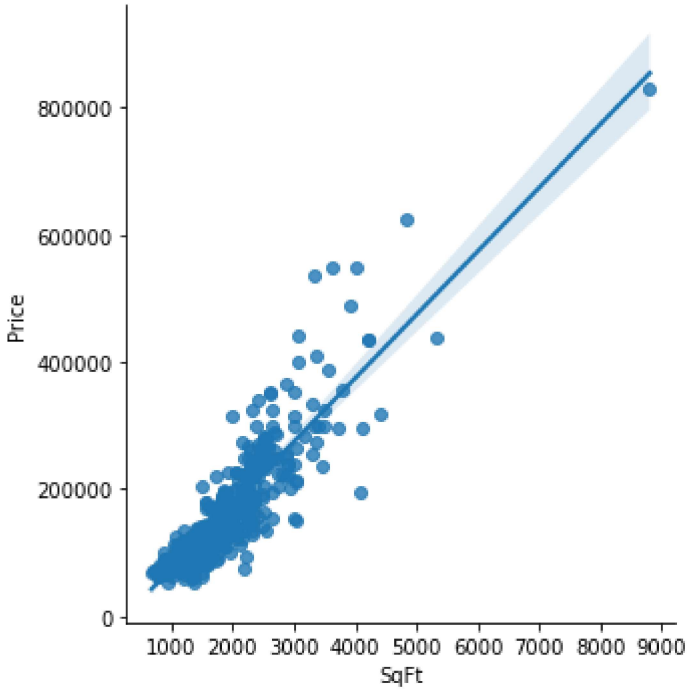
In [13]:
```
reg.predict([[2000,4,4]])
```

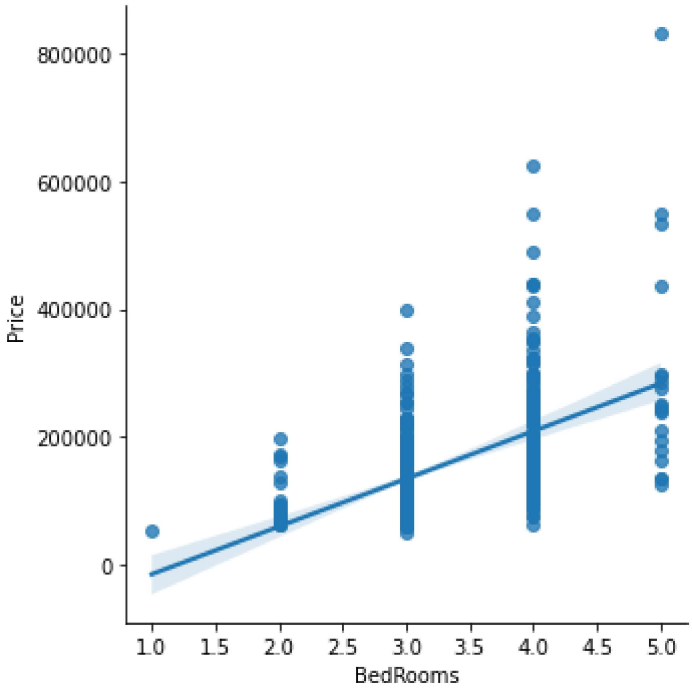
```
/home/ec2-user/anaconda3/envs/python3/lib/python3.8/site-packages/sklearn/base.py:445: UserWarning: X does not have valid feature names, but LinearRegression was fitted with feature names
  warnings.warn(
```

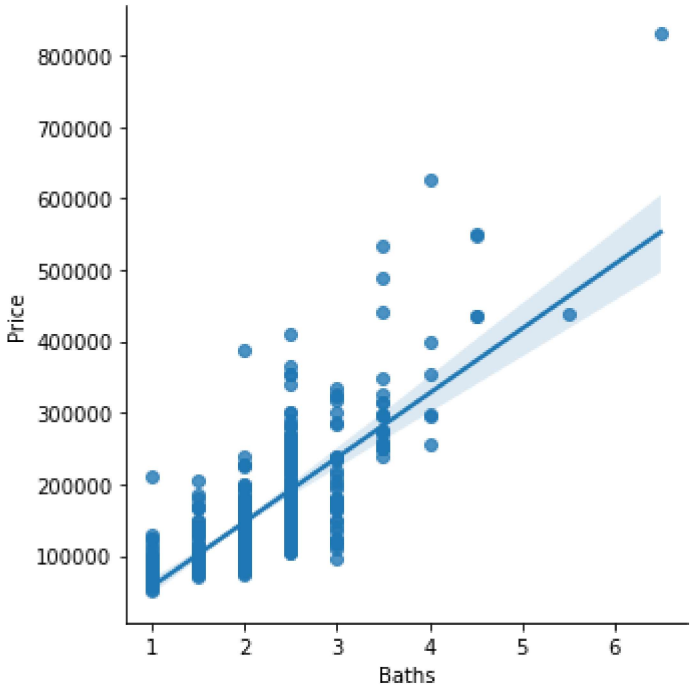
Out[13]:
```
array([216806.40330724])
```

In [14]:
```
sns.lmplot(x='SqFt',y='Price',data=df)
sns.lmplot(x='BedRooms',y='Price',data=df)
sns.lmplot(x='Baths',y='Price',data=df)
```

Out[14]:
```
<seaborn.axisgrid.FacetGrid at 0x7f02caa7c520>
```







In [15]:
```
# save the model
import pickle
pickle.dump(reg, open("reg.pkl", "wb"))
```

In [16]:
```
# load the model
model = pickle.load(open("reg.pkl", "rb"))
model
```

Out[16]:
```
LinearRegression()
```

In [17]:
```
reg.predict([[2000,4,4]])
```

```
/home/ec2-user/anaconda3/envs/python3/lib/python3.8/site-packages/sklearn/base.py:445: UserWarning: X does not have valid feature names, but LinearRegression was fitted with feature names
  warnings.warn(
```

Out[17]:
```
array([216806.40330724])
```

In [ ]: