```
import pandas as pd
import numpy as np
import seaborn as sns
from sklearn import linear_model
from sklearn.model_selection import train_test_split
```

```
df=pd.read_csv('/content/multiple linear reg.xlsx.csv')
```

	area	bedroom	age	price
0	2600	3.0	20	550000
1	3000	4.0	15	565000
2	3200	NaN	18	610000
3	3600	3.0	30	595000
4	4000	5.0	8	560000

```
m=df['bedroom'].median()
```

```
df['bedroom']=df['bedroom'].fillna(m)
```

```
df
```

	area	bedroom	age	price
0	2600	3.0	20	550000
1	3000	4.0	15	565000
2	3200	3.5	18	610000
3	3600	3.0	30	595000
4	4000	5.0	8	560000

```
model=linear_model.LinearRegression()
```

```
model.fit(df[['area','bedroom','age']],df.price)
```

▾ LinearRegression

LinearRegression()

```
X = df[['area', 'bedroom', 'age']]
y = df['price']
```

```
x_train,x_test,y_train,y_test=train_test_split(X,y,test_size=0.2,random_state=2)
```

```
model.fit(x_train,y_train)
```

```
▾ LinearRegression
LinearRegression()
```

```
model.score(x_train,y_train)
```

```
1.0
```

```
x_test
```

	area	bedroom	age
2	3200	3.5	18

```
model.predict([[3000,5,15]])
```

```
/usr/local/lib/python3.10/dist-packages/sklearn/base.py:439: UserWarning: X does not have valid featu
  warnings.warn(
array([614875.])
```

```
#questioon
#given these home prices find out price of home that has
# 3000 sqr area,3 bedrooms,40 year old
#2500 sqr area ,4 bedrooms ,5 year old
```

```
#formula
#price=m1*area+m2*bedrooms+m3*age + b
```