price = m1 *area* + *m2* bedrooms + m3 * age +b

area,bedrooms,age (Independent variables [features])

price (Dependent variable)

m1,m2 and m3 are coefficients

b is intercept

In [17]:
```
import pandas as pd
import numpy as np
from sklearn import linear_model
import matplotlib.pyplot as plt
%matplotlib inline
```

In [18]:
```
df = pd.read_csv("C:/Users/prasa/Desktop/ds projects/panda\ML/2 LR Mult
i Var/homeprices.csv")
df
```

Out[18]:

	area	bedrooms	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	760000
5	4100	6.0	8	810000

import math median_bedrooms=math.floor(df.bedrooms.median()) median_bedrooms

In [22]:
```
df.bedrooms=df.bedrooms.fillna(median_bedrooms)
df
```

Out[22]:

	area	bedrooms	age	price
0	2600	3.0	20	550000
1	3000	4.0	15	565000
2	3200	4.0	18	610000
3	3600	3.0	30	595000
4	4000	5.0	8	760000
5	4100	6.0	8	810000

Pre processing over

In [23]:
```
reg = linear_model.LinearRegression()
reg.fit(df[['area','bedrooms','area']],df.price)
```

Out[23]:
```
LinearRegression(copy_X=True, fit_intercept=True, n_jobs=None, normaliz
e=False)
```

In [24]:
```
reg.coef_
```

Out[24]:
```
array([4.48166775e+01, 5.19678780e+04, 4.48166775e+01])
```

In [25]:
```
reg.intercept_
```

Out[25]:
```
125553.2121998269
```

In [26]:
```
reg.predict([[3000,3,15]])
```

Out[26]:
```
array([416579.12881114])
```

In [27]:
```
4.48166775e+01*3000+5.19678780e+04*3+4.48166775e+01*15+125553.212199826
9
```

Out[27]: 416579.1288623269

In [28]:
```
reg.predict([[2500,4,5]])
```

Out[28]: array([445690.50129675])