In [4]:
```
# Importing all the necessary liabraries

import pandas as pd
import numpy as np
from sklearn import linear_model
```

In [5]:
```
#read the dataframe

df = pd.read_csv(r"C:\Users\Desktop\areas.csv")
df.head()
```

Out[5]:

	area	price
0	2600	550000
1	3000	565000
2	3200	610000
3	3600	680000
4	4000	725000

In [6]:
```
# Create a model object of linear regression
model = linear_model.LinearRegression()
model.fit(df[['area']],df.price)
```

Out[6]:
```
LinearRegression(copy_X=True, fit_intercept=True, n_jobs=1, normalize=False)
```

In [7]:
```
# Calulate the coefficient of the model object
model.coef_
```

Out[7]:
```
array([135.78767123])
```

In [8]:
```
# Calulate the coefficient of the model object
model.intercept_
```

Out[8]:
```
180616.43835616432
```

In [9]:
```
# predict the value which area = 5000
model.predict([[5000]])
```

Out[9]:
```
array([859554.79452055])
```

In [11]:
```
# Save Model To a File Using Python Pickle (Method 1)
import pickle
with open('model_pickle','wb') as file:
    pickle.dump(model,file)
```

In [12]:
```
# Load Saved Model
with open('model_pickle','rb') as file:
    mp = pickle.load(file)
```

In [13]:
```
# Coefficient of the model
mp.coef_
```

Out[13]:
```
array([135.78767123])
```

In [14]:
```
# Intercept of the model
mp.intercept_
```

Out[14]:
```
180616.43835616432
```

In [15]:
```
# predict the value which area = 5000
mp.predict([[5000]])
```

Out[15]:
```
array([859554.79452055])
```

In [16]:
```
# Save Trained Model Using joblib (Method 2)

from sklearn.externals import joblib
joblib.dump(model, 'model_joblib')
```

Out[16]:
```
['model_joblib']
```

In [17]:
```
# Load Saved Model

mj = joblib.load('model_joblib')
```

In [18]:
```
# Coefficient of the model
mj.coef_
```

Out[18]:
```
array([135.78767123])
```

In [19]:
```
# Intercept of the model
mj.intercept_
```

Out[19]:
```
180616.43835616432
```

In [20]:
```
# predict the value which area = 5000
mj.predict([[5000]])
```

Out[20]:
```
array([859554.79452055])
```