Experiment 4

Linear Regression

```python
import pandas as pd
Boston=pd.read_csv('./BostonHousing.csv')
```

In [2]:
```python
# Applying LR algorithm
y=Boston[['medv']] # dependant variable
x=Boston[['crim']]  # independant variable
from sklearn.linear_model import LinearRegression
from sklearn.model_selection import train_test_split
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.3)
lr=LinearRegression()
lr.fit(x_train,y_train)
y_pred=lr.predict(x_test)
y_test.head()
```

Out[2]:

	medv
173	23.6
262	48.8
215	25.0
444	10.8
64	33.0

In [3]:
```python
y_pred[0:5]
```

Out[3]:
```
array([[23.62115566],
       [23.42586068],
       [23.57271944],
       [17.82626179],
       [23.65410451]])
```

In [4]:
```python
from sklearn.metrics import mean_squared_error
mean_squared_error(y_test,y_pred)

x=Boston[['lstat']]
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.3)
lr2=LinearRegression()
lr2.fit(x_train,y_train)
y_pred2=lr2.predict(x_test)
from sklearn.metrics import mean_squared_error
mean_squared_error(y_test,y_pred2)
```

Out[4]: 38.72038665904475