Logistic Regression

In [1]:

```
import pandas as pd
import matplotlib.pyplot as p
from sklearn.model_selection import train_test_split
```

In [2]:

```
dataset = pd.read_csv('wifi_localization.csv', sep='\t' , header=0)
dataset
```

Out[2]:

	atb1	atb2	atb3	atb4	atb5	atr6	atb7	lable
0	-64	-56	-61	-66	-71	-82	-81	1
1	-68	-57	-61	-65	-71	-85	-85	1
2	-63	-60	-60	-67	-76	-85	-84	1
3	-61	-60	-68	-62	-77	-90	-80	1
4	-63	-65	-60	-63	-77	-81	-87	1
...	...	...	...	...	...	...	...	...
1995	-59	-59	-48	-66	-50	-86	-94	4
1996	-59	-56	-50	-62	-47	-87	-90	4
1997	-62	-59	-46	-65	-45	-87	-88	4
1998	-62	-58	-52	-61	-41	-90	-85	4
1999	-59	-50	-45	-60	-45	-88	-87	4

2000 rows × 8 columns

In [3]:

```
#dataset.head()
#dataset.shape
#dataset.info()
#print(dataset['t'])
#y=(dataset['t'])
#x=dataset[['a','b','c','d','e','f','g','h','i','j','k','l']]
#print(x)
#print(y)
#dataset.hist(bins=50, figsize=(20,15))
#p.show()
train_set, test_set = train_test_split(dataset, test_size=0.2, random_state=40
)
#train_set.shape
#test_set.shape
#train_set.head
train_set_att = train_set.drop(['lable'], axis=1)
train_set_t = train_set['lable']
test_set_att = test_set.drop(['lable'], axis=1)
test_set_t = test_set['lable']


print("x_train: ",train_set_att.shape)
print("x_test: ",test_set_att.shape)
print("y_train: ",train_set_t.shape)
print("y_test: ",test_set_t.shape)


from sklearn.linear_model import LogisticRegression
lr = LogisticRegression()
lr.fit(train_set_att, train_set_t)
print("accuracy : ", lr.score(test_set_att, test_set_t))
```

```
x_train:  (1600, 7)
x_test:  (400, 7)
y_train:  (1600,)
y_test:  (400,)
accuracy :  0.975

C:\ProgramData\Anaconda3\lib\site-packages\sklearn\linear_model\_logistic.py:
762: ConvergenceWarning: lbfgs failed to converge (status=1):
STOP: TOTAL NO. of ITERATIONS REACHED LIMIT.

Increase the number of iterations (max_iter) or scale the data as shown in:
    https://scikit-learn.org/stable/modules/preprocessing.html
Please also refer to the documentation for alternative solver options:
    https://scikit-learn.org/stable/modules/linear_model.html#logistic-regres
sion
  n_iter_i = _check_optimize_result(
```