In [1]:
```
import pandas as pd
import numpy as np
from scipy import stats
from scipy.stats import norm
from scipy.stats import chi2_contingency
```

In [2]:
```
# load the dataset
data = pd.read_csv('BuyerRatio.csv')
data
```

Out[2]:

	Observed Values	East	West	North	South
0	Males	50	142	131	70
1	Females	435	1523	1356	750

In [3]:
```
# Make dimensional array
obs = np.array([[50,142,131,70],[435,1523,1356,750]])
obs
```

Out[3]:
```
array([[  50,  142,  131,   70],
       [ 435, 1523, 1356,  750]])
```

In [4]:
```
# Chi2 contengency independence test
chi2_contingency(obs) # o/p is (Chi2 stats value, p_value, df, expected obsvatior
```

Out[4]:
```
(1.595945538661058,
 0.6603094907091882,
 3,
 array([[  42.76531299,  146.81287862,  131.11756787,   72.30424052],
        [ 442.23468701, 1518.18712138, 1355.88243213,  747.69575948]]))
```

In [5]:
```
# Compare p_value with α = 0.05
```

In [ ]:
```

```