In [2]:
```
import pandas as pd
import numpy as nm
from scipy.stats import stats
from scipy.stats import chi2_contingency
```

In [3]:
```
BuyerRatio = pd.read_csv('BuyerRatio.csv')
BuyerRatio
```

Out[3]:

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

In [4]:
```
BuyerRatio.describe()
```

Out[4]:

	East	West	North	South
count	2.000000	2.000000	2.000000	2.000000
mean	242.500000	832.500000	743.500000	410.000000
std	272.236111	976.514465	866.205807	480.832611
min	50.000000	142.000000	131.000000	70.000000
25%	146.250000	487.250000	437.250000	240.000000
50%	242.500000	832.500000	743.500000	410.000000
75%	338.750000	1177.750000	1049.750000	580.000000
max	435.000000	1523.000000	1356.000000	750.000000

In [5]:
```
East=[50,435]
West=[142,1523]
North=[131,1356]
South=[70,750]
```

In [7]:
```
BuyerRatio1 = nm.array([East,West,North,South])
```

In [8]:
```
chi_val,p_val,dof,expected = chi2_contingency(BuyerRatio1)
chi_val,p_val,dof,expected
```

Out[8]:
```
(1.5959455386610577,
 0.6603094907091882,
 3,
 array([[  42.76531299,  442.23468701],
        [ 146.81287862, 1518.18712138],
        [ 131.11756787, 1355.88243213],
        [  72.30424052,  747.69575948]]))
```