In [1]:

```
import pandas as pd
from scipy import stats
```

In [3]:

```
buyer=pd.read_csv('BuyerRatio.csv')
buyer
```

Out[3]:

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

Formulation of Hypothesis

Ho : All proportions are equal (male-female buyer rations are similar across regions)

Ha : not all proportions are equal (male-female buyer rations are not similar across regions)

Test

We use Chi-Square test because we want proportions that are qualitative

In [4]:

```
buyer.drop(["Observed Values"], axis = 1, inplace = True)
```

In [5]:

```
buyer
```

Out[5]:

	East	West	North	South
0	50	142	131	70
1	435	1523	1356	750

In [8]:

```
p=stats.chi2_contingency(buyer)
```

In [9]:

```
p[1]
```

Out[9]:

```
0.6603094907091882
```

Here significance value is 0.05 and we got p-value as 0.660

Takeaway

As we have greater value for p we don't reject Ho that is there is similar proportion across regions

In [ ]:

```

```