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In [1]: import pandas as pd
import numpy as np
from scipy import stats
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In [3]: cust_data=pd.read_csv('Costomer+OrderForm.csv')
cust_data.head()
```

```
Out[3]:
```

	Phillippines	Indonesia	Malta	India
0	Error Free	Error Free	Defective	Error Free
1	Error Free	Error Free	Error Free	Defective
2	Error Free	Defective	Defective	Error Free
3	Error Free	Error Free	Error Free	Error Free
4	Error Free	Error Free	Defective	Error Free

H0 == The defective % does not varies by centre H1 == The defective % does varies by centre

chi-squared Test

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In [4]: stats.chi2_contingency([cust_data['Phillippines'].value_counts(), cust_data['Indonesia'].value_counts(), cust_data['Malta'].value_counts(), cust_data['India']
```

```
Out[4]: (3.8589606858203545,
0.2771020991233144,
3,
array([[271.75, 28.25],
       [271.75, 28.25],
       [271.75, 28.25],
       [271.75, 28.25]]))
```

Here p-value is greater than 0.05. so, null hypothesis is accepted.. The defective % does not varies by centre..

```
In [ ]:
```