

In [1]:

```
from scipy.stats import chi2_contingency
```

In [ ]:

```
#null hypothesis for applications: the introduction of fitness tests will not lead to a  
n increase in conversion rates of  
#applications
```

In [4]:

```
#calculating chi-squared for people who filled in an application from at MuscleHub in g  
roups A and B - prior analysis done  
#in SQL and data are taken from there  
application_contingency_table = [[250, 2259],  
                                  [325, 2172]]  
  
_, pval, _, _ = chi2_contingency(application_contingency_table)
```

In [5]:

```
#p value is less than 0.05 indictating the result is significant and unlikely to be due  
to chance. But it was Group B that  
#filled in more applications so we fail to reject the null hypothesis  
print(pval)
```

0.0008340323282603952

In [6]:

```
#null hypothesis for purchases: the introduction of fitness tests will not lead to an i  
ncrease in conversion rates of  
#purchases
```

In [13]:

```
#calculating chi-squared for people who purchased a membership from MuscleHub in groups  
A and B - prior analysis done  
#in SQL and data are taken from there  
purchase_contingency_table = [[200, 2309],  
                               [250, 2247]]  
  
_, pval2, _, _ = chi2_contingency(purchase_contingency_table)
```

In [14]:

```
#p value is less than 0.05 indictating the result is significant and unlikely to be due  
to chance. But it was Group B that  
#bought more memberships so we fail to reject the null hypothesis  
print(pval2)
```

0.013339261893301502

In [ ]: