Sales of products in four different regions is tabulated for males and females. Find if male-female buyer rations are similar across regions.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **East** | **West** | **North** | **South** |
| Males | 50 | 142 | 131 | 70 |
| Females | 550 | 351 | 480 | 350 |

**#import csv files**

BuyerRatios<-read.csv(file.choose(),header = T)

View(BuyerRatios)

attach(BuyerRatio)

|  |
| --- |
| head(BuyerRatio)  Observed.Values East West North South  1 Males 50 142 131 70  2 Females 435 1523 1356 750 |
|  |
| |  | | --- | | > | |

**# here x= regions and y= male or female**

**# so x and y data are discrete**

**# in our data set we have four population-East,west,south,north**

**#so we have to perform chi-squared test**

**# we have to setup hypothesis**

**#H0: all proportions are equal**

**#H1: not all proportions are equal**

**#perform chi square test**

chisq.test(BuyerRatio[,-1])

|  |
| --- |
| Pearson's Chi-squared test  data: BuyerRatio[, -1]  X-squared = 1.5959, df = 3, p-value = 0.6603 |
|  |
| |  | | --- | | > | |

**#here we got p-value=0.6603 => p-value >0.05**

**# accept null hypothesis**

**#so we have to conclude that male-female buyer rations are similar across regions**