1. TeleCall uses 4 centers around the globe to process customer order forms. They audit a certain % of the customer order forms. Any error in order form renders it defective and has to be reworked before processing. The manager wants to check whether the defective % varies by centre. Please analyze the data at *5%* significance level and help the manager draw appropriate inferences

Ans-

Input are four discrete variables

|  |  |  |  |
| --- | --- | --- | --- |
| Phillippines | Indonesia | Malta | India |

And output also a discrete, we are trying to find whether the defective percentage varies by centre.

H0 = % of defective of all countries are equal i.e. % Phillippines=% Indonesia=% Malta=%India

Ha = at least one defective percentage is not equal

By performing chi square test,we get

P=0.277,which is greater than alpha (0.05)

Hence accept null hypothesis,i.e percentage defective in all regions are same.

2.Fantaloons Sales managers commented that *%* of males versus females walking in to the store differ based on day of the week. Analyze the data and determine whether there is evidence at *5 %* significance level to support this hypothesis.

Input are two discrete variables i.e. male and female.

from scipy.stats import chi2\_contingency

# defining the table

data = [[113, 287], [167, 233]]

stat, p, dof, expected = chi2\_contingency(data)

# interpret p-value

alpha = 0.05

print("p value is " + str(p))

if p <= alpha:

print('Dependent (reject H0)')

else:

print('Independent (H0 holds true)')

p value is 8.54342267020237e-05

Dependent (reject H0)