1. A F&B manager wants to determine whether there is any significant difference in the diameter of the cutlet between two units. A randomly selected sample of cutlets was collected from both units and measured? Analyze the data and draw inferences at 5% significance level. Please state the assumptions and tests that you carried out to check validity of the assumptions.

**Answer-**

Here H1=There is significant difference in the diameter of the cutlet between two units.

H0=There is no difference

Result of the data cutlet is=

T statistics=0.7228

P value= 0.47223

Significant level is 0.05 and P value is greater than significant level. So there is diameter difference between two unit.

We have to **accept** the null hypothesis(H0).

**2)**A hospital wants to determine whether there is any difference in the average Turn Around Time (TAT) of reports of the laboratories on their preferred list. They collected a random sample and recorded TAT for reports of 4 laboratories. TAT is defined as sample collected to report dispatch. Analyze the data and determine whether there is any difference in average TAT among the different laboratories at 5% significance level.

**Answer-**

Here H0=No difference in TAT of reports

H1=There is difference in TAT of repots

Result of test is T statistics=118.70

Pvalue= 2.1156708949992414e-57

P value is smaller than significant level so we have to **reject** the H0.

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

**Answer-**

Here H0= All proportion are equal

H1=All proportion are not equal

Result is T statistic=-3.583,

P value=0.0115

P value is less than the significant level.so we **reject** the H0.

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.

**Answer**- H0= No need to check

H1= Need to check

Result is T statistic=1.286

P value= 0.2776

P value is greater than significant level so we have to accept the H0.