Q1) 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.

Minitab File: **Cutlets.mtw**

**ANS:** Considering,

H0 = mean1 = mean 2(Indicating that there is no difference between the diameters of the cutlets)

H1 = mean 1 =/ mean 2( Indicating that there is significant difference between the diameters of the cutlets). Therefore, applying 2 sample test

As Significance level is 5% (0.05)

Comparing the p value with significance value,

P value = 0.472239

Here, p value is greater than Significance level, hence accepting the NULL HYPOTHESIS.

Q2) 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.

Minitab File: **LabTAT.mtw**

ANS: H0 = Normal Distribution

H1 = Not normally distributed

If p value < 0.05(Significance Level) = Rejecting the null hypothesis

If p value > 0.05(Significance Level) = Accepting the null hypothesis

Here, the p value is 2.11567, it is higher than the Significance Level, Accepting the Null Hypothesis.

Q3) Sales of products in four different regions is tabulated for males and females. Find if male-female buyer rations are: