HYPOTHESIS TESTING

1. Cutlets:

Normality Test:

Ho: Unit A Data is normal
Ha: Unit A Data is not normal

p-value: 0.287
p-value > alpha (0.05)

p high →Ho fly→Fail to reject Ho hypothesis.
Con: Unit A data is assumed to be normal

Ho: Unit B Data is normal
Ha: Unit B Data is not normal

p-value:0.687
p-value > alpha (0.05)

p high →Ho fly→Fail to reject Ho hypothesis.
Con: Unit B data is assumed to be normal

are external conditions same?

NO

Variance Test:

Ho: Var(A) =Var(B)→Var(A)/Var(B)=1→SD(A)/SD(B)=1
Ha: Var(A) ≠Var(B)→Var(A)/Var(B) ≠1→SD(A)/SD(B) ≠ 1

p-value: 0.297
p-value > alpha (0.05)

p high →Ho fly→Fail to reject Ho hypothesis.
Con: Var(A) is assumed to be equal to Var(B).

Final Test:

2- sample t test for equal variances:

Ho: Diameter of cutlet from Unit A =Diameter of cutlet from Unit B→
(Diameter of cutlet from Unit A) - (Diameter of cutlet from Unit B) = 0
Ha: Diameter of cutlet from Unit A ≠Diameter of cutlet from Unit B→
(Diameter of cutlet from Unit A) - (Diameter of cutlet from Unit B)

p-value: 0.472
p-value > alpha (0.05)

p high →Ho fly→Fail to reject Ho hypothesis.

Con: Diameter of cutlet from Unit A is assumed to be equal to Diameter of cutlet from Unit B

2.LabTAT:

Normality Test:

Ho: Lab 1 Data is normal
Ha: Lab 1 Data is not normal

p-value: 0.532
p-value > alpha (0.05)

p high →Ho fly→Fail to reject Ho hypothesis.
Con: Lab 1 data is assumed to be normal

Ho: Lab 2 Data is normal
Ha: Lab 2 Data is not normal

p-value: 0.733
p-value > alpha (0.05)

p high →Ho fly→Fail to reject Ho hypothesis.
Con: Lab 2 data is assumed to be normal

Ho: Lab 3 Data is normal
Ha: Lab 3 Data is not normal

p-value: 0.577
p-value > alpha (0.05)

p high →Ho fly→Fail to reject Ho hypothesis.
Con: Lab 3 data is assumed to be normal

Ho: Lab 4 Data is normal
Ha: Lab 4 Data is not normal

p-value: 0.419
p-value > alpha (0.05)

p high →Ho fly→Fail to reject Ho hypothesis.
Con: Lab 4 data is assumed to be normal

Variance Test:

Ho: All the variances are equal
Ha: Atleast one of the variances is not equal

P-value: 0.070
p high →Ho fly→Fail to reject Ho hypothesis.
Con: All the four variances are assumed to be equal

Final Test:
ANOVA Test:

Ho: All the four mean TAT values are equal
Ha: Atleast one of the mean TAT vales is not equal

p-value: 0.00 < 0.05
p-value < alpha (0.05)

p low→null go→reject Ho Hypothesis
Con: The mean TAT values are not same.

3. Buyer Ratio:

Chi-Square Test:

Ho: Buyer ratio (Male) is equals to Buyer ratio (Female) →
[Buyer ratio (Male)] – [Buyer ratio (Female)] = 0
Ha: Buyer ratio (Male) is not equals to Buyer ratio (Female)→
[Buyer ratio (Male)] – [Buyer ratio (Female)] ≠ 0

p-value:0.660
p-value > alpha (0.05)

p high →Ho fly→Fail to reject Ho hypothesis.
Con: The buyer ratios of both male and female are assumed to be similar across the regions.

4.Customer Order Form:

Chi-Square Test:

Ho: The defective percentage of all the four centres is equal
Ha: The defective percentage of atleast one of the four centres is not equal

p-value:0.277
p-value > alpha (0.05)

p high →Ho fly→Fail to reject Ho hypothesis.
Con: The defective percentage of all the four centres is assumed to be equal.

5.Fantaloons

2- proportion t test:

Ho: Percentage of male’s vs Females on a weekday = Percentage of male’s vs Females on a weekend→[Percentage of male’s vs Females on a weekday] – [Percentage of male’s vs Females on a weekend] = 0
Ha: Percentage of male’s vs Females on a weekday ≠ Percentage of male’s vs Females on a weekend→ **[**Percentage of male’s vs Females on a weekday] – [Percentage of male’s vs Females on a weekend] ≠ 0

p-value: 0.00
p-value < alpha (0.05)

p low→null go→reject Ho Hypothesis
Con: Percentage of male’s vs females walking into the store differs based on the day of the week