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.

Ans:

Steps for Hypothesis testing

1. Define Null and Alternate hypothesis testing :

Null/H0 -> No significant difference in diameter of cutlet between 2 units

H0:Mean\_UnitA - Mean\_UnitB = 0 zero

Alternate H1/Ha -> There is difference between diameter of cutlet between 2 units. Take some action

H1:Mean\_UnitA - Mean\_UnitB != 0 zero

1. Identify the test statics to be used for testing validity of Null hypothesis (Z-test or T-test)

Descriptive statics

| **Units** | **N** | **Mean** | **Standard Deviation** |
| --- | --- | --- | --- |
| Unit A | 35 | 7.019 | 0.2884 |
| Unit B | 35 | 6.9642 | 0.3434 |

Is there significant difference in mean A-7.0190 & B-6.9642 or it is just by chance ?

1. Significant value(Alpha) to be considered as 0.05
2. Calculate P-value where null hypothesis is true

scipy.stats.ttest\_ind(Cutlets\_df.Unit\_A, Cutlets\_df.Unit\_B)

->Ttest\_indResult(statistic=0.7228688704678061, pvalue=0.4722394724599501)

1. Take the decision to reject or accept Null Hypothesis based on P-value and alpha (significant level)

Here reject Null hypothesis as p-value is 0.4 and alpha is 0.05