

Testing of Hypothesis

A survey conducted by a local economics department claims that the average monthly cost of living for a single person in **Hyderabad** is **₹30,000**. You want to test this claim using a sample of monthly living costs for 15 people in the city. You have collected this data as [25000, 31000, 20000, 28000, 29500, 32000, 21000, 30500, 27000, 28500, 30000, 23000, 31000, 26000, 29500]. Your goal is to determine whether the actual average cost of living is significantly different from the claimed value of ₹30,000.

Your task is to:

1. **Compute the sample mean and standard deviation** of the monthly living costs.
2. **Calculate the 95% confidence interval** for the sample mean.
3. **Use the confidence interval to assess the hypothesis test.**