LIVEWIRE
FOR LIVE CAREERS

BUSINESS ANALYTICS

T test

- Assesses whether the means of two groups are statistically different from each other
- Hypothesis:
  - Null hypothesis states that all group means are equal
  - Alternate hypothesis states the group means are not equal
- Types:
  - One-Sample T-test
  - Paired Sample T-Test
  - Independent Samples T-Test

Note: Can do T-test, if (n) sample size is $\leq$ 30 and also have less than 2 groups in category variable

- Group mean

	Student 1	Student 2	Student 6	Mean
Sect. A	82	83	97	87.33
Sect. B	83	78	68	76.33
Sect. C	38	59	55	50.67

Group mean – 82+83+97+83+78+68+38+59+55/9 = 71.44

One-Sample T-test

- Sample mean is compared with Population mean
- One continuous variable for analysis
- Hypothesis:
  - Null hypothesis states sample mean is equal to expected mean
  - Alternate hypothesis is sample mean is not equal to expected mean

Paired Sample T-Test

- Used in ‘before-after’ studies
- Continuous variable for analysis
- Hypothesis:
  - Null hypothesis states that no impact between the pairs before and after an event
  - Alternate hypothesis states it has an impact before and after an event

Independent Samples T-Test

- Comparing the mean of 2 independent (unrelated) groups to check
- Continuous Vs one Category variable with two group
- In category variable, it should have only 2 groups to compare
  (ie. “Gender” (category variable) = “Boy” & “Girl” (2 groups))
- Hypothesis:
  - Null hypothesis states two group means are equal
  - Alternate hypothesis states two group means are not equal

- T-Tests practice in R & SAS