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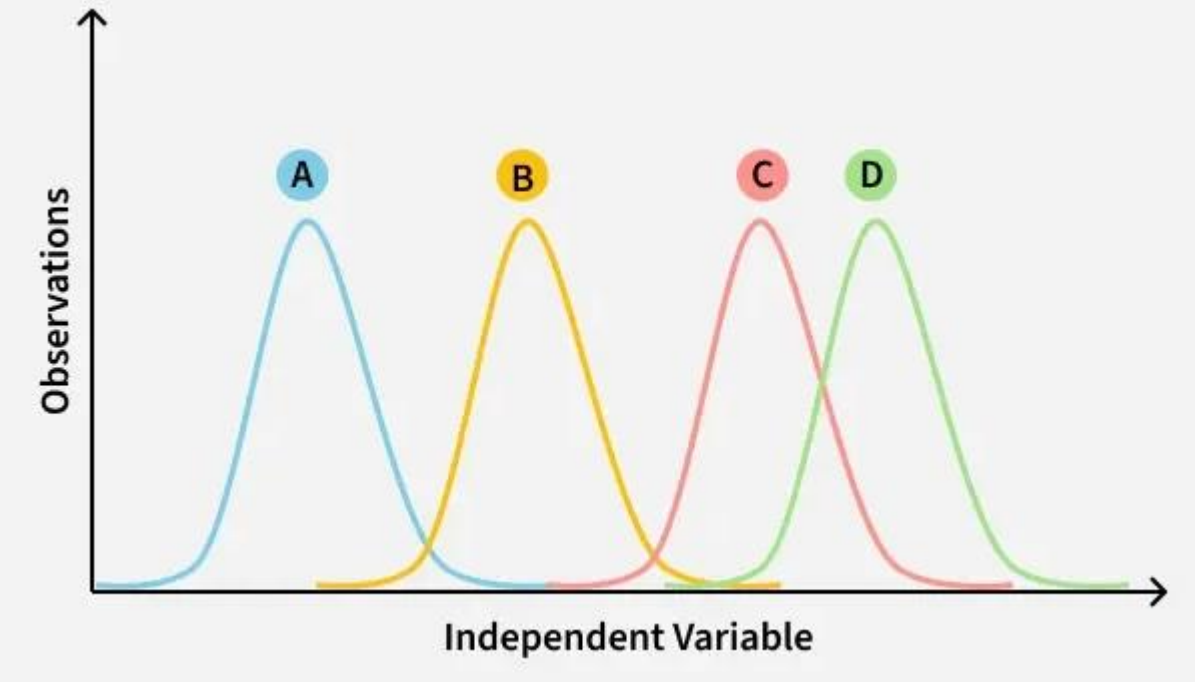
Annova

ANNOVA (Analysis of Variance) is a statistical method used to determine whether there are significant differences between the means of three or more independent groups by analyzing the variability within each group and between the groups. It helps in testing the null hypothesis that all group means are equal.

It does this by comparing two types of variation: (F-statistics)

1. Differences BETWEEN groups (how much group averages differ from each other)
2. Differences WITHIN groups (how much individuals in the *same* group vary naturally).

If the between-group differences are significantly larger than within-group variation, ANOVA tells us: At least one group is truly different. Otherwise, it concludes: The differences are likely due to random chance.



For example:
Compare test scores of students taught with 3 methods (Traditional, Online, Hybrid). ANOVA is used to determine if at least one teaching method yields significantly different average scores.