

# **Two Factors Full Factorial Design without Replications**

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These slides are available on-line at:

<http://www.cse.wustl.edu/~jain/cse567-06/>



- ❑ Computation of Effects
- ❑ Estimating Experimental Errors
- ❑ Allocation of Variation
- ❑ ANOVA Table
- ❑ Visual Tests
- ❑ Confidence Intervals For Effects
- ❑ Multiplicative Models
- ❑ Missing Observations

# Two Factors Full Factorial Design

- Used when there are two parameters that are carefully controlled
- Examples:
  - To compare several processors using several workloads.
  - To determining two configuration parameters, such as cache and memory sizes
- Assumes that the factors are categorical. For quantitative factors, use a regression model.
- A full factorial design with two factors  $A$  and  $B$  having  $a$  and  $b$  levels requires  $ab$  experiments.
- First consider the case where each experiment is conducted only once.