Chapter Seventeen
HYPOTHESIS TESTING
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Types of Hypotheses

• Null
  – that no statistically significant difference exists between the parameter and the statistic being compared

• Alternative
  – logical opposite of the null hypothesis
  – that a statistically significant difference does exist between the parameter and the statistic being compared.
Logic of Hypothesis Testing

- **Two tailed test**
  - nondirectional test
  - considers two possibilities

- **One tailed test**
  - directional test
  - places entire probability of an unlikely outcome to the tail specified by the alternative hypothesis
Decision Errors in Testing

- **Type I error**
  - a true null hypothesis is rejected
- **Type II error**
  - one fails to reject a false null hypothesis
Testing for Statistical Significance

- State the null hypothesis
- Choose the statistical test
- Select the desired \textit{level of significance}
- Compute the calculated difference value
- Obtain the \textit{critical value}
- Interpret the test