EXAMPLE PROBLEM  
(CONTINUED)  
*Height of Maize Plants*

These data can also be analyzed by **analysis of variance**. The rows can be ignored and the 10 measurements can be considered as 10 samples (or replicates) per treatment.

The first step is to write out the analysis of variance for the completely randomized design (CRD).

<table>
<thead>
<tr>
<th>Source of Var.</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>Obs. F</th>
<th>Required F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Trt</td>
<td>1</td>
<td>1767.2</td>
<td>1767.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Within Trt</td>
<td>18</td>
<td>1285.5</td>
<td>71.42</td>
<td>242.74**</td>
<td>Fₐ₅ = 4.41</td>
</tr>
<tr>
<td>TOTAL</td>
<td>19</td>
<td>3052.7</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Where MS = SS/df and  
Obs. F = MS trt/MS Error
Mean Comparison using the LSD

\[ \text{LSD} = t_{.05} s_d \quad s_d = \frac{2 s^2}{n} \quad t_{.05,18df} = 2.101 \quad t_{.01,18df} = 2.878 \]

\[ s_d = \frac{2(71.42)}{10} = 14.282 = 3.779 \]

\[ \text{LSD}_{.05} = (2.101)(3.779) = 7.94 \]

\[ \text{LSD}_{.01} = (2.878)(3.779) = 10.87 \]

\[
\begin{array}{lll}
X_{14} & X_{18} & \text{Diff.} \\
43.8 & 62.6 & 18.8**
\end{array}
\]