(Problem 1f continued)

The pairwise differences between the sample means are:
$\bar{Y}_1 - \bar{Y}_3 = 3.167$, $\bar{Y}_1 - \bar{Y}_2 = 2.5$, $\bar{Y}_1 - \bar{Y}_4 = 2.333$, $\bar{Y}_1 - \bar{Y}_5 = 1.333$,
$\bar{Y}_5 - \bar{Y}_3 = 1.834$, $\bar{Y}_5 - \bar{Y}_2 = 1.167$, $\bar{Y}_5 - \bar{Y}_4 = 1.000$,
$\bar{Y}_4 - \bar{Y}_3 = 0.834$, $\bar{Y}_4 - \bar{Y}_2 = 0.167$, and
$\bar{Y}_2 - \bar{Y}_3 = 0.667$.

Confidence intervals for the two largest differences are as follows:

Comparison	Scheffé	Tukey	Bonferroni
$(\mu_1 - \mu_3)$	$(\bar{Y}_1 - \bar{Y}_3) \pm W_S$	$(\bar{Y}_1 - \bar{Y}_3) \pm W_T$	$(\bar{Y}_1 - \bar{Y}_3) \pm W_B$
	$=3.167 \pm 2.929$	$=3.167 \pm 2.596$	$=3.167 \pm 2.827$
	$=(0.238, 6.096)$	$=(0.571, 5.763)$	$=(0.34, 5.994)$
$(\mu_1 - \mu_2)$	$(\bar{Y}_1 - \bar{Y}_2) \pm W_S$	$(\bar{Y}_1 - \bar{Y}_2) \pm W_T$	$(\bar{Y}_1 - \bar{Y}_2) \pm W_B$
	$=2.5 \pm 2.929$	$=2.5 \pm 2.596$	$=2.5 \pm 2.827$
	$=(-0.429, 5.429)$	$=(-0.096, 5.096)$	$=(-0.327, 5.327)$

Conclusions: Treatments 1 and 3 are significantly different, but treatments 1 and 2 are not, at the α=0.05 level. Also, we conclude that all other remaining comparisons, which involve smaller pairwise mean differences (in absolute value), are not significant at α =0.05. (Note that the SAS output can be used, instead of hand calculation, to arrive directly at this conclusion without the intermediate calculations).

Of the three methods, Scheffé's method gives the widest intervals, Bonferroni's method the next widest, and Tukey's method gives the narrowest intervals.