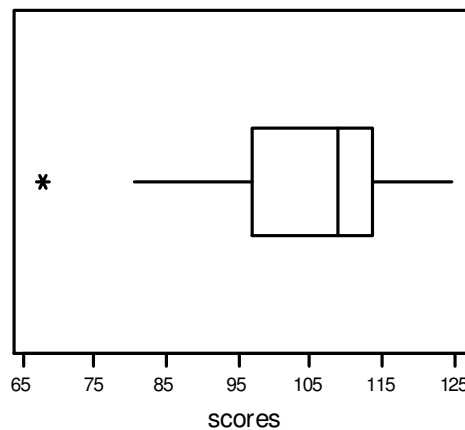


Chapter 17

Resampling Methods

17.3 The box plot for Example 1.2 shows one outlying value and a slight skew towards the left.



17.5 These 15 height differences have mean 20.93 and standard deviation 37.74. The standard error is $\frac{s}{\sqrt{n}} = 9.75$. The 98% confidence interval is 98% C.I.: $\bar{d} \pm t_{14,0.99} s_{\bar{d}}$ or $(-4.64, 46.51)$.

17.7 Four approximate 98% nonparametric bootstrap-t confidence interval for the population's median score are shown below. Each is based on 5000 resamples. Your answers may differ somewhat from these.

Interval	Lower bound	Upper bound
1	104.077	118.736
2	104.154	118.551
3	104.277	118.347
4	104.166	118.470

17.9 P-value = $\frac{3}{\binom{8}{3}} = \frac{3}{56} = 0.0536$.

17.11 Four approximate 98% nonparametric bootstrap-t confidence intervals for the expected difference are shown below. Each is based on 5000 resamples. Your answer may differ somewhat from these.

Interval	Lower bound	Upper bound
1	-12.8985	41.9948
2	-14.3725	41.8781
3	-14.4558	41.8608
4	-13.0420	41.9445

17.13 Four approximate 90% nonparametric bootstrap confidence intervals for the standard deviation are shown below. Each is based on 5000 resamples. Your answers may differ somewhat from these.

Interval	Lower bound	Upper bound
1	28.7365	68.5304
2	28.5987	69.6579
3	28.7847	68.8555
4	28.7481	68.9575

17.15 Four approximate 90% nonparametric bootstrap-t confidence intervals for the population's median score are shown below. Each is based on 5000 resamples. Your answers may differ somewhat from these.

Interval	Lower bound	Upper bound
1	5.278	35.39
2	5.148	35.25
1	4.869	35.32
4	5.411	35.49