A second use of normality is in inference about parameters and differences between classes. Also the classification functions result in relatively simple linear or quadratic discriminant functions. When the number of features is large or the number of objects in the training set is small, the assumption of normality is important. In any case, it is important to check training sets prior to development of a classifier. Often, simple checks such as scatter plots of the data are adequate for noticing strong differences in variance and covariance and are also useful for locating odd data values. Other checks, such as drawing univariate histograms or stem-and-leaf displays (Fig. 7.9(b)) or boxplots, are useful for checking univariate normality (Walpo85, Koopm87]). If all the features are reasonably normal, then the approach based on the multivariate normality assumption is reasonable. Problems such as skewness and other evidence of non-normality can often be detected in these displays and adjusted via transformation of features.