

Range-box plotting relating to discrete distribution

ABSTRACT

The box plot has been used for a very long time since 70s in checking the existence of outliers and the asymmetrical shape of data. The existing box plot is constructed using five values of statistics calculated from either the discrete or continuous data. Many improvements of box plots have deviated from the elegant and simpler approach of exploratory data analysis by incorporating many other statistical values resulting in the turning back of the noble philosophy behind the creation of box plot. The modification using range value with the minimum and maximum values are being incorporated to suit the need of selected discrete distribution when outliers are not an important criteria anymore. The new modification of box plot is not based on the asymmetrical shape of distribution but more on the spreading and partitioning data into range measure. The new proposed name for the box plot with only three values of statistics is called range-box plot.

Keyword: Exploratory data analysis; Box plot; Range-box plot; Discrete distribution