R – Histograms

A histogram represents the frequencies of values of a variable bucketed into ranges. Histogram is similar to bar chat but the difference is it groups the values into continuous ranges. Each bar in histogram represents the height of the number of values present in that range.

R creates histogram using **hist()** function. This function takes a vector as an input and uses some more parameters to plot histograms.

Syntax

The basic syntax for creating a histogram using R is −

hist(v,main,xlab,xlim,ylim,breaks,col,border)

Following is the description of the parameters used −

* **v** is a vector containing numeric values used in histogram.
* **main** indicates title of the chart.
* **col** is used to set color of the bars.
* **border** is used to set border color of each bar.
* **xlab** is used to give description of x-axis.
* **xlim** is used to specify the range of values on the x-axis.
* **ylim** is used to specify the range of values on the y-axis.
* **breaks** is used to mention the width of each bar.

# Create data for the graph.

v <- c(9,13,21,8,36,22,12,41,31,33,19)

# Create the histogram.

hist(v,xlab = "Weight",col = "yellow",border = "blue")

## Range of X and Y values

To specify the range of values allowed in X axis and Y axis, we can use the xlim and ylim parameters.

The width of each of the bar can be decided by using breaks.

# Create data for the graph.

v <- c(9,13,21,8,36,22,12,41,31,33,19)

# Give the chart file a name.

png(file = "histogram\_lim\_breaks.png")

# Create the histogram.

hist(v,xlab = "Weight",col = "green",border = "red", xlim = c(0,40), ylim = c(0,5),

breaks = 5)