R - Bar Charts

A bar chart represents data in rectangular bars with length of the bar proportional to the value of the variable. R uses the function **barplot()** to create bar charts. R can draw both vertical and Horizontal bars in the bar chart. In bar chart each of the bars can be given different colors.

Syntax

The basic syntax to create a bar-chart in R is −

barplot(H,xlab,ylab,main, names.arg,col)

Following is the description of the parameters used −

* **H** is a vector or matrix containing numeric values used in bar chart.
* **xlab** is the label for x axis.
* **ylab** is the label for y axis.
* **main** is the title of the bar chart.
* **names.arg** is a vector of names appearing under each bar.
* **col** is used to give colors to the bars in the graph.

Example

A simple bar chart is created using just the input vector and the name of each bar.

The below script will create and save the bar chart in the current R working directory.

# Create the data for the chart

H <- c(7,12,28,3,41)

# Plot the bar chart

barplot(H)

## Bar Chart Labels, Title and Colors

The features of the bar chart can be expanded by adding more parameters. The **main** parameter is used to add **title**. The **col** parameter is used to add colors to the bars. The **args.name** is a vector having same number of values as the input vector to describe the meaning of each bar.

### Example

The below script will create and save the bar chart in the current R working directory.

# Create the data for the chart

H <- c(7,12,28,3,41)

M <- c("Mar","Apr","May","Jun","Jul")

# Plot the bar chart

barplot(H,names.arg=M,xlab="Month",ylab="Revenue",col="blue",

main="Revenue chart",border="red")

## Group Bar Chart and Stacked Bar Chart

We can create bar chart with groups of bars and stacks in each bar by using a matrix as input values.

More than two variables are represented as a matrix which is used to create the group bar chart and stacked bar chart.

# Create the input vectors.

colors = c("green","orange","brown")

months <- c("Mar","Apr","May","Jun","Jul")

regions <- c("East","West","North")

# Create the matrix of the values.

Values <- matrix(c(2,9,3,11,9,4,8,7,3,12,5,2,8,10,11), nrow = 3, ncol = 5, byrow = TRUE)

# Create the bar chart

barplot(Values, main = "total revenue", names.arg = months, xlab = "month", ylab = "revenue", col = colors)

# Add the legend to the chart

legend("topleft", regions, cex = 1.3, fill = colors)