Charts in R

Visualization	Description	Usage	Example Use Cases
Bar Chart	Displays categorical data with rectangular bars representing values	Comparing quantities across categories	Sales data by region, survey results
Box Plot	Displays data distribution and identifies outliers	Showing distribution, median, quartiles, and outliers	Exam scores, response times
Histogram	Displays frequency distribution of numerical data	Visualizing the distribution of a dataset	Age distribution, income distribution
Line Graph	Displays data points connected by lines to show trends over time	Tracking changes over intervals or time	Stock prices, temperature changes
Scatterplot	Displays points representing two variables to show relationships	Identifying correlations or patterns between two variables	Height vs. weight, sales vs. advertising spend

Bar Chart

```
# Create the data for the chart
H <- c(7, 30, 12, 5, 40)
M <- c("Aug", "Sep", "Oct", "Nov", "Dec")

# Give the chart file a name
png(file = "barchart_months.png")

# Plot the bar chart
barplot(H, names.arg = M, xlab = "Month", ylab = "Sample", col = "yellow",
        main = "Sample chart", border = "red")

# Save the file
dev.off()
```

Box Plot

```
input <- mtcars[,c('mpg','cyl')]
print(head(input))

# Give the chart file a name.
png(file = "boxplot.png")
```

```
# Plot the chart.
boxplot(mpg ~ cyl, data = mtcars, xlab = "Number of Cylinders", ylab = "Miles Per Gallon", main = "Mileage Data

# Save the file.
dev.off()
```

Histograms

```
# Create data for the graph.
v <- c(9,12,20,10,35,25,12,40,30,35,19)

# Give the chart file a name.
png(file = "histogram.png")

# Create the histogram.
hist(v, xlab = "weight", col = "blue", border = "yellow")

# Save the file.
dev.off()
```

Line Graphs

Single Line

```
# Create the data for the chart.
v <- c(7, 30, 12, 5, 40)

# Give the chart file a name.
png(file = "line_chart.jpg")

# Plot the bar chart.
plot(v, type = "o")

# Save the file.
dev.off()
```

Multiple Line

```
# Create the data for the chart.
v <- c(7, 30, 12, 5, 40)
t <- c(14, 7, 6, 19, 3)

# Give the chart file a name.
png(file = "line_chart_2_lines.jpg")

# Plot the bar chart.
plot(v, type = "o", col = "blue", xlab = "Month", ylab = "Sample", main = "Rain fall chart")
```

```
lines(t, type = "o", col = "red")

# Save the file.
dev.off()
```

Scatter Plots

```
# Get the input values.
input <- mtcars[,c('wt','mpg')]

# Give the chart file a name.
png(file = "scatterplot.png")

# Plot the chart for cars with weight between 2.5 to 5 and mileage between 15 and 30.
plot(x = input$wt, y = input$mpg,
     xlab = "weight",
     ylab = "Milage",
     xlim = c(2.5, 5),
     ylim = c(15, 30),
     main = "weight vs Milage")

# Save the file.
dev.off()
```

Scatter Plot Matrices

```
# Give the chart file a name.
png(file = "scatterplot_matrices.png")

# Plot the matrices between 4 variables giving 12 plots.

# One variable with 3 others and total 4 variables.

pairs(~wt+mpg+disp+cyl, data = mtcars,
      main = "Scatterplot Matrix")

# Save the file.
dev.off()
```