

# R Plot

## 1. Basic Scatter Plot

```
x <- c(1, 2, 3, 4, 5)
y <- c(2, 3, 5, 7, 11)
plot(x, y, main = "Basic Scatter Plot", xlab = "X-Axis", ylab =
"Y-Axis")
```

## 2. Line Plot

```
x <- c(1, 2, 3, 4, 5)
y <- c(2, 4, 6, 8, 10)
plot(x, y, type = "l", main = "Line Plot", xlab = "X-Axis", ylab =
"Y-Axis")
```

## 3. Bar Plot

```
counts <- c(10, 20, 15, 25)
barplot(counts, main = "Bar Plot", xlab = "Categories", ylab =
"Counts", col = "blue")
```

## 4. Histogram

```
data <- rnorm(1000)
hist(data, main = "Histogram", xlab = "Values", ylab = "Frequency",
col = "green")
```

## 5. Box Plot

```
data <- rnorm(100)
boxplot(data, main = "Box Plot", ylab = "Values")
```

## 6. Pie Chart

```
slices <- c(10, 20, 30, 40)
labels <- c("A", "B", "C", "D")
pie(slices, labels = labels, main = "Pie Chart")
```

## 7. Multiple Line Plot

```
x <- c(1, 2, 3, 4, 5)
y1 <- c(2, 4, 6, 8, 10)
y2 <- c(3, 6, 9, 12, 15)
plot(x, y1, type = "l", col = "blue", ylim = c(0, 15), xlab =
"X-Axis", ylab = "Y-Axis", main = "Multiple Line Plot")
lines(x, y2, type = "l", col = "red")
```

## 8. Dot Plot

```
x <- c(1, 2, 3, 4, 5)
dotchart(x, main = "Dot Plot", xlab = "Values")
```

## 9. Pairs Plot

```
data <- mtcars[, 1:4]
pairs(data, main = "Pairs Plot")
```

## 10. Density Plot

```
data <- rnorm(1000)
plot(density(data), main = "Density Plot", xlab = "Values", ylab =
"Density")
```

## 11. Heatmap

```
data <- matrix(rnorm(100), nrow = 10)
```

```
heatmap(data, main = "Heatmap")
```

## 12. 3D Scatter Plot (using **scatterplot3d**)

```
install.packages("scatterplot3d")  
library(scatterplot3d)  
x <- rnorm(100)  
y <- rnorm(100)  
z <- rnorm(100)  
scatterplot3d(x, y, z, main = "3D Scatter Plot")
```

## 13. Basic ggplot2 Scatter Plot

```
install.packages("ggplot2")  
library(ggplot2)  
data <- mtcars  
ggplot(data, aes(x = wt, y = mpg)) + geom_point() + ggtitle("ggplot2  
Scatter Plot")
```

## 14. ggplot2 Line Plot

```
library(ggplot2)  
data <- data.frame(x = 1:10, y = rnorm(10))  
ggplot(data, aes(x = x, y = y)) + geom_line() + ggtitle("ggplot2 Line  
Plot")
```

## 15. ggplot2 Bar Plot

```
library(ggplot2)  
data <- data.frame(Category = c("A", "B", "C", "D"), Counts = c(10,  
20, 15, 25))  
ggplot(data, aes(x = Category, y = Counts)) + geom_bar(stat =  
"identity") + ggtitle("ggplot2 Bar Plot")
```

## 16. ggplot2 Histogram

```
library(ggplot2)
data <- data.frame(Values = rnorm(1000))
ggplot(data, aes(x = Values)) + geom_histogram(binwidth = 0.2, fill =
"blue", color = "black") + ggtitle("ggplot2 Histogram")
```

## 17. ggplot2 Box Plot

```
library(ggplot2)
data <- data.frame(Group = rep(c("A", "B"), each = 50), Values =
c(rnorm(50), rnorm(50, mean = 2)))
ggplot(data, aes(x = Group, y = Values)) + geom_boxplot() +
ggtitle("ggplot2 Box Plot")
```

## 18. ggplot2 Violin Plot

```
library(ggplot2)
data <- data.frame(Group = rep(c("A", "B"), each = 50), Values =
c(rnorm(50), rnorm(50, mean = 2)))
ggplot(data, aes(x = Group, y = Values)) + geom_violin(fill =
"lightblue") + ggtitle("ggplot2 Violin Plot")
```

## 19. ggplot2 Density Plot

```
library(ggplot2)
data <- data.frame(Values = rnorm(1000))
ggplot(data, aes(x = Values)) + geom_density(fill = "green") +
ggtitle("ggplot2 Density Plot")
```

## 20. ggplot2 Facet Plot

```
library(ggplot2)
data <- data.frame(x = rep(1:10, 3), y = c(rnorm(10), rnorm(10, 2),
rnorm(10, 4)), Group = rep(c("A", "B", "C"), each = 10))
```

```
ggplot(data, aes(x = x, y = y)) + geom_line() + facet_wrap(~Group) +  
ggtitle("ggplot2 Facet Plot")
```

## 21. ggplot2 Heatmap

```
library(ggplot2)  
data <- data.frame(x = rep(1:10, 10), y = rep(1:10, each = 10), z =  
rnorm(100))  
ggplot(data, aes(x = x, y = y, fill = z)) + geom_tile() +  
ggtitle("ggplot2 Heatmap")
```

## 22. ggplot2 Custom Themes

```
library(ggplot2)  
data <- data.frame(x = 1:10, y = rnorm(10))  
ggplot(data, aes(x = x, y = y)) + geom_line() + theme_minimal() +  
ggtitle("ggplot2 with Minimal Theme")
```

## 23. Lattice Plot (using **lattice** package)

```
install.packages("lattice")  
library(lattice)  
data <- data.frame(x = rnorm(100), y = rnorm(100), z = rnorm(100))  
xyplot(y ~ x | z, data = data, main = "Lattice Plot")
```

## 24. Interactive Plot (using **plotly**)

```
install.packages("plotly")  
library(plotly)  
data <- data.frame(x = 1:10, y = rnorm(10))  
plot_ly(data, x = ~x, y = ~y, type = 'scatter', mode =  
'lines+markers') %>% layout(title = "Interactive Plot with Plotly")
```

## 25. Time Series Plot

```
time <- seq(from = as.Date("2021-01-01"), to = as.Date("2021-12-31"),  
by = "month")  
values <- rnorm(12, mean = 100, sd = 10)  
plot(time, values, type = "o", col = "blue", main = "Time Series  
Plot", xlab = "Time", ylab = "Values")
```