|  |
| --- |
| # Create a dataset for 10 students  > student\_data <- data.frame(  + Attendance = c(75, 88, 92, 60, 85, 70, 95, 80, 65, 90),  + CGPA = c(7.0, 8.5, 9.0, 6.0, 8.2, 6.8, 9.5, 7.8, 6.5, 8.9)  + )  >  > # View the data  > print(student\_data)  Attendance CGPA  1 75 7.0  2 88 8.5  3 92 9.0  4 60 6.0  5 85 8.2  6 70 6.8  7 95 9.5  8 80 7.8  9 65 6.5  10 90 8.9  >  > # Plot attendance vs CGPA  > plot(student\_data$Attendance, student\_data$CGPA,  + main = "Student Attendance vs CGPA",  + xlab = "Attendance (%)",  + ylab = "CGPA",  + pch = 19, col = "darkgreen")  >  > # Add regression line  > abline(lm(CGPA ~ Attendance, data = student\_data), col = "red", lwd = 2)  >  > # 1. Boxplot for Attendance and CGPA  > boxplot(student\_data$Attendance, student\_data$CGPA,  + names = c("Attendance", "CGPA"),  + main = "Boxplot of Attendance and CGPA",  + col = c("lightblue", "lightgreen"))  > hist(student\_data$Attendance,  + main = "Histogram of Attendance",  + xlab = "Attendance (%)",  + col = "lightblue",  + border = "white")  > plot(student\_data$Attendance, student\_data$CGPA,  + main = "Scatterplot: Attendance vs CGPA",  + xlab = "Attendance (%)",  + ylab = "CGPA",  + pch = 19, col = "blue")  > attendance\_groups <- cut(student\_data$Attendance,  + breaks = c(0, 65, 75, 85, 100),  + labels = c("Low (<65%)", "Moderate (65-75%)", "High (75-85%)", "Very High (>85%)"),  + right = FALSE)  >  > attendance\_table <- table(attendance\_groups)  >  > pie(attendance\_table,  + main = "Pie Chart of Attendance Groups",  + col = c("red", "orange", "yellow", "green")) |
|  |
| |  | | --- | | > | |

# Sample dataset: Age and Insurance Cost for 15 people

> insurance\_data <- data.frame(

+ Age = c(22, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 28, 33, 48, 53),

+ Insurance\_Cost = c(250, 270, 320, 400, 450, 500, 550, 600, 700, 850, 900, 280, 360, 520, 580)

+ )

>

> print(insurance\_data)

Age Insurance\_Cost

1 22 250

2 25 270

3 30 320

4 35 400

5 40 450

6 45 500

7 50 550

8 55 600

9 60 700

10 65 850

11 70 900

12 28 280

13 33 360

14 48 520

15 53 580

> plot(insurance\_data$Age, insurance\_data$Insurance\_Cost,

+ main = "Age vs Insurance Cost",

+ xlab = "Age (years)",

+ ylab = "Insurance Cost (USD)",

+ pch = 19, col = "blue")

> abline(lm(Insurance\_Cost ~ Age, data = insurance\_data), col = "red", lwd = 2)

>

> boxplot(insurance\_data$Age, insurance\_data$Insurance\_Cost,

+ names = c("Age", "Insurance Cost"),

+ main = "Boxplot of Age and Insurance Cost",

+ col = c("lightblue", "lightgreen"))

>

> abline(lm(Insurance\_Cost ~ Age, data = insurance\_data), col = "red", lwd = 2)

> hist(insurance\_data$Age,

+ main = "Histogram of Age",

+ xlab = "Age (years)",

+ col = "lightblue",

+ border = "white")

>

> # Define age groups

> age\_groups <- cut(insurance\_data$Age,

+ breaks = c(20, 30, 40, 50, 60, 70, 80),

+ labels = c("20-29", "30-39", "40-49", "50-59", "60-69", "70-79"),

+ right = FALSE)

>

> # Count of each age group

> age\_group\_table <- table(age\_groups)

>

> # Pie chart

> pie(age\_group\_table,

+ main = "Pie Chart of Age Groups",

+ col = rainbow(length(age\_group\_table)))

