1.SCATTER PLOT

```
library(ggplot2)
weight_height_data <- data.frame(
  Weight = c(60, 65, 70, 72, 75),
  Height = c(170, 175, 168, 180, 178)
)
ggplot(weight_height_data, aes(x = Weight, y = Height)) +
  geom_point(color = "blue", size = 3) +
  labs(title = "Weight vs. Height",
       x = "Weight (kg)",
       y = "Height (cm)") +
  theme_minimal()
```

2.LINE PLOT

```
year_population_data <- data.frame(
  Year = 2010:2014,
  Population = c(1000, 1020, 1040, 1060, 1080)
)
ggplot(year_population_data, aes(x = Year, y = Population)) +
  geom_line(color = "green", size = 1) +
  geom_point(color = "red", size = 3) +
  labs(title = "Year vs. Population",
       x = "Year",
       y = "Population (millions)") +
  theme_minimal()
```

3.BARPLOT

```
sales_data <- data.frame(
  Product = c("A", "B", "C", "D", "E"),
  Sales = c(300, 450, 500, 350, 400)
)
ggplot(sales_data, aes(x = Product, y = Sales, fill = Product)) +
  geom_bar(stat = "identity") +
  labs(title = "Sales by Product",
       x = "Product",
       y = "Sales") +
  theme_minimal()
```

4.HISTOGRAM

```
age_data <- data.frame(
  Age = c(25, 30, 35, 40, 45, 50, 55, 60, 65, 70)
)
ggplot(age_data, aes(x = Age)) +
geom_histogram(binwidth = 5, fill = "purple", color = "black", alpha = 0.7) +
  labs(title = "Age Distribution",
       x = "Age",
       y = "Frequency") +
  theme_minimal()
```

5.PIECHART

```
market_share_data <- data.frame(
  Company = c("A", "B", "C", "D"),
  Market_Share = c(20, 30, 25, 25)
)
ggplot(market_share_data, aes(x = "", y = Market_Share, fill = Company)) +
  geom_bar(stat = "identity", width = 1) +
  coord_polar("y") +
  labs(title = "Market Share by Company",
       x = NULL,
       y = NULL) +
  theme_void() +
  theme(legend.position = "right")
```

6.BOXPLOT

```
scores_data <- data.frame(
  Class = c("A", "A", "A", "A", "B", "B", "B", "B"),
  Scores = c(85, 90, 78, 92, 88, 76, 80, 84)
)
ggplot(scores_data, aes(x = Class, y = Scores, fill = Class)) +
  geom_boxplot() +
  labs(title = "Exam Scores by Class",
       x = "Class",
       y = "Scores") +
  theme_minimal()
```

7.DENSITY PLOT

```
weights_data <- data.frame(
  Weight = c(60, 65, 70, 75, 80, 85, 90, 95, 100)
)
ggplot(weights_data, aes(x = Weight)) +
  geom_density(fill = "lightblue") +
  labs(title = "Density Plot of Weights",
       x = "Weight (kg)",
       y = "Density") +
  theme_minimal()
```

8.VIOLIN PLOT

```
scores_group_data <- data.frame(
  Group = c("X", "X", "X", "X", "Y", "Y", "Y", "Y"),
  Score = c(80, 85, 78, 92, 88, 76, 80, 84))
ggplot(scores_group_data, aes(x = Group, y = Score, fill = Group)) +
  geom_violin() +
  labs(title = "Scores by Group",
       x = "Group",
       y = "Score") +
  theme_minimal()
```

9.HEATMAP

```
temperature_data <- data.frame(
  Month = c("Jan", "Feb", "Mar", "Apr", "May"),
  City_A = c(5, 6, 7, 8, 9),
  City_B = c(10, 11, 12, 13, 14),
  City_C = c(15, 16, 17, 18, 19)
)
library(reshape2)
melted_data <- melt(temperature_data, id.vars = "Month")
ggplot(melted_data, aes(x = Month, y = variable, fill = value)) +
  geom_tile() +
  scale_fill_gradient(low = "white", high = "red") +
  labs(title = "Monthly Temperatures",
       x = "Month",
       y = "City") +
  theme_minimal()
```

10.FACET PLOT

```
sales_region_data <- data.frame(
  Month = c("Jan", "Jan", "Feb", "Feb", "Mar", "Mar"),
  Region = c("East", "West", "East", "West", "East", "West"),
  Sales = c(200, 150, 220, 170, 210, 160)
)
ggplot(sales_region_data, aes(x = Month, y = Sales, fill = Region)) +
  geom_bar(stat = "identity", position = "dodge") +
  facet_wrap(~ Region) +
  labs(title = "Sales by Month and Region",
       x = "Month",
       y = "Sales") +
  theme_minimal()
```

11.AREA PLOT

```
library(ggplot2)
if ("ggplot2" %in% .packages()) {
  print("ggplot2 is loaded successfully")
} else {
  print("ggplot2 is not loaded")
}
revenue_data <- data.frame(
  Year = 2015:2019,
  Revenue = c(30, 35, 40, 45, 50)
)
ggplot(revenue_data, aes(x = Year, y = Revenue)) +
  geom_area(fill = "skyblue", alpha = 0.5) +
  labs(title = "Yearly Revenue",
       x = "Year",
       y = "Revenue (in million)") +
  theme_minimal()
```

12.STEP PLOT

```
library(ggplot2)
cumulative_sales_data <- data.frame(
  Month = factor(c("Jan", "Feb", "Mar", "Apr", "May"), levels = c("Jan", "Feb", "Mar", "Apr", "May")),
  Cumulative_Sales = c(100, 200, 300, 400, 500)
)
ggplot(cumulative_sales_data, aes(x = Month, y = Cumulative_Sales, group = 1)) +
  geom_step() +
  labs(title = "Cumulative Sales Over Months",
       x = "Month",
       y = "Cumulative Sales") +
  theme_minimal()
```

13.RIDGELINE PLOT

```
library(ggridges)
temperature_data <- data.frame(
  City = c("City1", "City1", "City1", "City2", "City2", "City2"),
  Temperature = c(20, 21, 19, 22, 23, 24)
)
ggplot(temperature_data, aes(x = Temperature, y = City, fill = City)) +
  geom_density_ridges() +
  labs(title = "Temperature Distributions",
       x = "Temperature",
       y = "City") +
  theme_minimal()
```

14.DUMBBELL PLOT

```
library(ggalt)
sales_campaign_data <- data.frame(
  Product = c("A", "B", "C"),
  Before = c(200, 300, 400),
  After = c(250, 350, 450)
)
ggplot(sales_campaign_data) +
  geom_dumbbell(aes(x = Before, xend = After, y = Product), size = 3, color = "gray", size_x = 3, size_xend = 3) +
  labs(title = "Sales Before and After Campaign",
       x = "Sales",
       y = "Product") +
  theme_minimal()
```

15.LOLLIPOP PLOT

```
sales_region_data <- data.frame(
  Region = c("North", "South", "East", "West"),
  Sales = c(150, 200, 180, 210)
)
ggplot(sales_region_data, aes(x = Region, y = Sales)) +
  geom_segment(aes(x = Region, xend = Region, y = 0, yend = Sales), color = "gray") +
  geom_point(color = "blue", size = 5) +
  labs(title = "Sales by Region",
       x = "Region",
       y = "Sales") +
  theme_minimal()
```

16.SPAGHETTI PLOT

```
sales_time_data <- data.frame(
  Month = c("Jan", "Feb", "Mar", "Jan", "Feb", "Mar"),
  Product = c("A", "A", "A", "B", "B", "B"),
  Sales = c(100, 150, 130, 120, 140, 160)
)
ggplot(sales_time_data, aes(x = Month, y = Sales, group = Product, color = Product)) +
  geom_line(size = 1) +
  geom_point(size = 3) +
  labs(title = "Sales over Time by Product",
       x = "Month",
       y = "Sales") +
  theme_minimal()
```

17.WATERFALL PLOT

```
library(waterfalls)
profit_loss_data <- data.frame(
  labels = c("Jan", "Feb", "Mar", "Apr", "May"),
  values = c(100, -20, 50, -10, 80)
)
waterfall(profit_loss_data, fill_by_sign = TRUE)
```

18.HEXBIN PLOT

```
library(hexbin)
xy_data <- data.frame(
  X = c(1, 2, 3, 4, 5, 6, 7, 8),
  Y = c(2, 3, 4, 5, 6, 7, 8, 9)
)
ggplot(xy_data, aes(x = X, y = Y)) +
  geom_hex() +
  labs(title = "Hexbin Plot",
       x = "X",
       y = "Y") +
  theme_minimal()
```

19.CHORD DIAGRAM

```
library(circlize)
chord_data <- data.frame(
  From = c("A", "A", "B", "B", "C"),
  To = c("B", "C", "C", "D", "D"),
  Value = c(10, 20, 15, 25, 30)
)
chordDiagram(chord_data)
```

20.CALENDER HEATMAP

```
library(lubridate)

library(ggplot2)

activity_data <- data.frame(

  Date = as.Date(c("2023-01-01", "2023-01-02", "2023-01-03", "2023-01-04", "2023-01-05")),

  Count = c(10, 12, 15, 8, 20)

)

activity_data$Weekday <- factor(wday(activity_data$Date, label = TRUE, week_start = 1),

 levels = c("Mon", "Tue", "Wed", "Thu", "Fri", "Sat", "Sun"))

activity_data$Week <- week(activity_data$Date)

ggplot(activity_data, aes(x = Weekday, y = Week, fill = Count)) +

  geom_tile(color = "white") +

  scale_fill_gradient(low = "white", high = "blue") +

  labs(title = "Daily Activity Count",

       x = "Weekday",

       y = "Week",

       fill = "Count") +

  theme_minimal()
```

21.3D SURFACE PLOT

```
library(plotly)

weather_data <- data.frame(

  Date = as.Date(c("2023-01-01", "2023-01-02", "2023-01-03", "2023-01-04", "2023-01-05")),

  Temperature = c(10, 12, 8, 15, 14),

  Humidity = c(75, 70, 80, 65, 72),

  WindSpeed = c(15, 12, 18, 20, 16)

)

fig <- plot_ly(weather_data, x = ~Humidity, y = ~WindSpeed, z = ~Temperature,

               type = "scatter3d", mode = "markers",

               marker = list(size = 5, color = ~Temperature, colorscale = 'Viridis'))

fig
```

22.3D SCATTER PLOT

```
library(plotly)

financial_data <- data.frame(

  Date = as.Date(c("2023-01-01", "2023-01-02", "2023-01-03", "2023-01-04", "2023-01-05")),

  StockPrice = c(100, 102, 98, 105, 108),

  VolumeTraded = c(2.5, 3.0, 2.2, 2.8, 3.5),

  MarketCap = c(500, 510, 490, 525, 540)

)

fig <- plot_ly(financial_data, x = ~VolumeTraded, y = ~MarketCap, z = ~StockPrice,

               type = "scatter3d", mode = "markers",

               marker = list(size = 5, color = ~StockPrice, colorscale = 'Viridis'))

fig <- fig %>% layout(scene = list(

  xaxis = list(title = 'Volume Traded (millions)'),

  yaxis = list(title = 'Market Cap ($)'),

  zaxis = list(title = 'Stock Price ($)')

))

fig
```