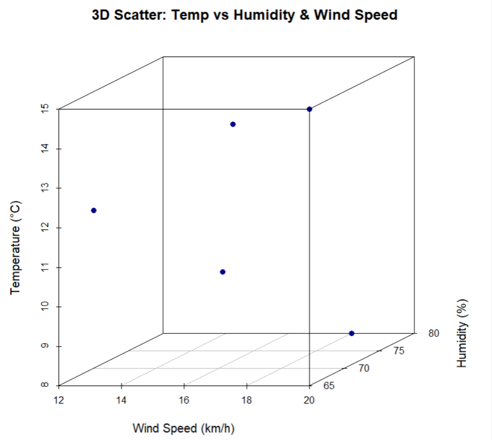
wheather data.R | Financial Data.R | Consumer Data.R | Environment data.R | Academic Data.R

```r
library(scatterplot3d)

# Data
weather <- 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)
)

# 1. How does temperature vary?
plot(weather$Date, weather$Temperature, type = "b", col = "blue",
     main = "Temperature Variation Over Dates", xlab = "Date", ylab = "Temperature (°C)")

# 2. 3D scatter plot (WindSpeed, Humidity, Temperature)
scatterplot3d(weather$WindSpeed, weather$Humidity, weather$Temperature,
              color = "darkblue", pch = 19,
              xlab = "Wind Speed (km/h)", ylab = "Humidity (%)", zlab = "Temperature (°C)",
              main = "3D Scatter: Temp vs Humidity & Wind Speed")

# 4. 3D surface plot
hum_seq <- seq(min(weather$Humidity), max(weather$Humidity), length = 30)
wind_seq <- seq(min(weather$WindSpeed), max(weather$WindSpeed), length = 30)
temp_surface <- outer(hum_seq, wind_seq, function(h, w) 0.2*h - 0.3*w + 25)
persp(hum_seq, wind_seq, temp_surface, theta = 40, phi = 25, col = "lightblue",
      xlab = "Humidity", ylab = "Wind Speed", zlab = "Temperature",
      main = "3D Surface: Temperature vs Humidity & Wind Speed")
```

```
> wind_seq <- seq(min(weather$WindSpeed), max(weather$WindSpeed), length = 30)
> temp_surface <- outer(hum_seq, wind_seq, function(h, w) 0.2*h - 0.3*w + 25)
> persp(hum_seq, wind_seq, temp_surface, theta = 40, phi = 25, col = "lightblue",
+       xlab = "Humidity", ylab = "Wind Speed", zlab = "Temperature",
+       main = "3D Surface: Temperature vs Humidity & Wind Speed")
>
```



wheather data.R | Financial Data.R | Consumer Data.R | Environment data.R | Academic Data.R

```r
library(scatterplot3d)

# Data
weather <- 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)
)

# 1. How does temperature vary?
plot(weather$Date, weather$Temperature, type = "b", col = "blue",
     main = "Temperature Variation Over Dates", xlab = "Date", ylab = "Temperature (°C)")

# 2. 3D scatter plot (WindSpeed, Humidity, Temperature)
scatterplot3d(weather$WindSpeed, weather$Humidity, weather$Temperature,
              color = "darkblue", pch = 19,
              xlab = "Wind Speed (km/h)", ylab = "Humidity (%)", zlab = "Temperature (°C)",
              main = "3D Scatter: Temp vs Humidity & Wind Speed")

# 4. 3D surface plot
hum_seq <- seq(min(weather$Humidity), max(weather$Humidity), length = 30)
wind_seq <- seq(min(weather$WindSpeed), max(weather$WindSpeed), length = 30)
temp_surface <- outer(hum_seq, wind_seq, function(h, w) 0.2*h - 0.3*w + 25)
persp(hum_seq, wind_seq, temp_surface, theta = 40, phi = 25, col = "lightblue",
      xlab = "Humidity", ylab = "Wind Speed", zlab = "Temperature",
      main = "3D Surface: Temperature vs Humidity & Wind Speed")
```

28:1 (Top Level) R Script

R 4.4.2 · ~/

```
> wind_seq <- seq(min(weather$WindSpeed), max(weather$WindSpeed), length = 30)
> temp_surface <- outer(hum_seq, wind_seq, function(h, w) 0.2*h - 0.3*w + 25)
> persp(hum_seq, wind_seq, temp_surface, theta = 40, phi = 25, col = "lightblue",
+       xlab = "Humidity", ylab = "Wind Speed", zlab = "Temperature",
+       main = "3D Surface: Temperature vs Humidity & Wind Speed")
>
```

Environment | History | Connections | Tutorial

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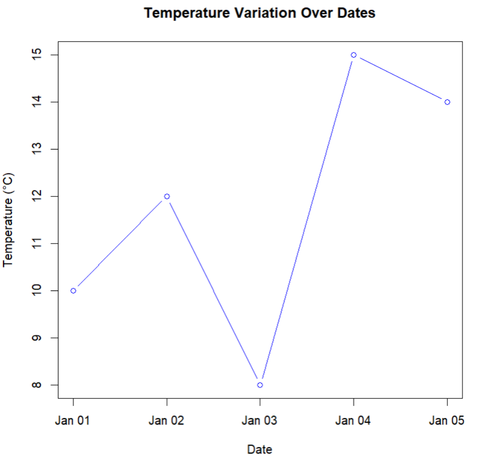
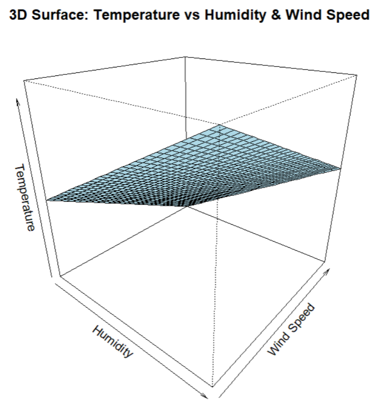
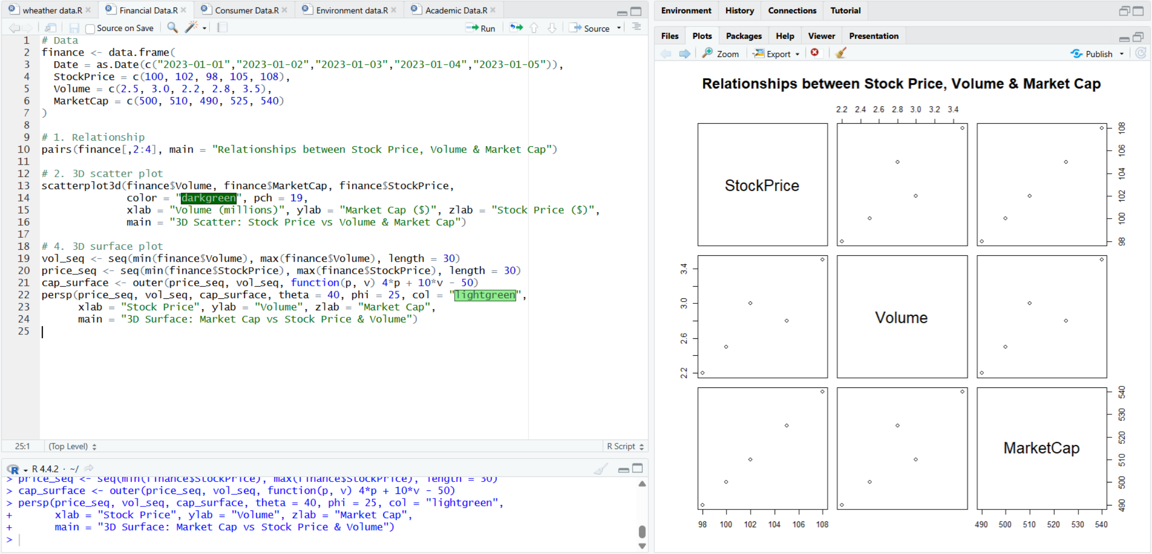


```r
library(scatterplot3d)

# Data
weather <- 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)
)

# 1. How does temperature vary?
plot(weather$Date, weather$Temperature, type = "b", col = "blue",
     main = "Temperature Variation Over Dates", xlab = "Date", ylab = "Temperature (°C)")

# 2. 3D scatter plot (WindSpeed, Humidity, Temperature)
scatterplot3d(weather$WindSpeed, weather$Humidity, weather$Temperature,
              color = "darkblue", pch = 19,
              xlab = "Wind Speed (km/h)", ylab = "Humidity (%)", zlab = "Temperature (°C)",
              main = "3D Scatter: Temp vs Humidity & Wind Speed")

# 4. 3D surface plot
hum_seq <- seq(min(weather$Humidity), max(weather$Humidity), length = 30)
wind_seq <- seq(min(weather$WindSpeed), max(weather$WindSpeed), length = 30)
temp_surface <- outer(hum_seq, wind_seq, function(h, w) 0.2*h - 0.3*w + 25)
persp(hum_seq, wind_seq, temp_surface, theta = 40, phi = 25, col = "lightblue",
      xlab = "Humidity", ylab = "Wind Speed", zlab = "Temperature",
      main = "3D Surface: Temperature vs Humidity & Wind Speed")
```

```
> wind_seq <- seq(min(weather$WindSpeed), max(weather$WindSpeed), length = 30)
> temp_surface <- outer(hum_seq, wind_seq, function(h, w) 0.2*h - 0.3*w + 25)
> persp(hum_seq, wind_seq, temp_surface, theta = 40, phi = 25, col = "lightblue",
+       xlab = "Humidity", ylab = "Wind Speed", zlab = "Temperature",
+       main = "3D Surface: Temperature vs Humidity & Wind Speed")
>
```




wheather data.R
Financial Data.R
Consumer Data.R
Environment data.R
Academic Data.R
Source on Save
Run
Source
# Data
finance <- 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),
  Volume = c(2.5, 3.0, 2.2, 2.8, 3.5),
  MarketCap = c(500, 510, 490, 525, 540)
)
# 1. Relationship
pairs(finance[,2:4], main = "Relationships between Stock Price, Volume & Market Cap")
# 2. 3D scatter plot
scatterplot3d(finance$Volume, finance$MarketCap, finance$StockPrice,
              color = "darkgreen", pch = 19,
              xlab = "Volume (millions)", ylab = "Market Cap ($)", zlab = "Stock Price ($)",
              main = "3D Scatter: Stock Price vs Volume & Market Cap")
# 4. 3D surface plot
vol_seq <- seq(min(finance$Volume), max(finance$Volume), length = 30)
price_seq <- seq(min(finance$StockPrice), max(finance$StockPrice), length = 30)
cap_surface <- outer(price_seq, vol_seq, function(p, v) 4*p + 10*v - 50)
persp(price_seq, vol_seq, cap_surface, theta = 40, phi = 25, col = "lightgreen",
      xlab = "Stock Price", ylab = "Volume", zlab = "Market Cap",
      main = "3D Surface: Market Cap vs Stock Price & Volume")
25:1
(Top Level)
R Script
R 4.4.2 · ~/
> cap_surface <- outer(price_seq, vol_seq, function(p, v) 4*p + 10*v - 50)
> persp(price_seq, vol_seq, cap_surface, theta = 40, phi = 25, col = "lightgreen",
+   xlab = "Stock Price", ylab = "Volume", zlab = "Market Cap",
+   main = "3D Surface: Market Cap vs Stock Price & Volume")
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Relationships between Stock Price, Volume & Market Cap
StockPrice
Volume
MarketCap
2.2 2.4 2.6 2.8 3.0 3.2 3.4
98 100 102 104 106 108
2.2 2.6 3.0 3.4
490 500 510 520 530 540

wheather data.R × | Financial Data.R × | Consumer Data.R × | Environment data.R × | Academic Data.R ×

Source on Save | Run | Source

```r
# Data
finance <- 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),
  Volume = c(2.5, 3.0, 2.2, 2.8, 3.5),
  MarketCap = c(500, 510, 490, 525, 540)
)

# 1. Relationship
pairs(finance[,2:4], main = "Relationships between Stock Price, Volume & Market Cap")

# 2. 3D scatter plot
scatterplot3d(finance$Volume, finance$MarketCap, finance$StockPrice,
              color = "darkgreen", pch = 19,
              xlab = "Volume (millions)", ylab = "Market Cap ($)", zlab = "Stock Price ($)",
              main = "3D Scatter: Stock Price vs Volume & Market Cap")

# 4. 3D surface plot
vol_seq <- seq(min(finance$Volume), max(finance$Volume), length = 30)
price_seq <- seq(min(finance$StockPrice), max(finance$StockPrice), length = 30)
cap_surface <- outer(price_seq, vol_seq, function(p, v) 4*p + 10*v - 50)
persp(price_seq, vol_seq, cap_surface, theta = 40, phi = 25, col = "lightgreen",
      xlab = "Stock Price", ylab = "Volume", zlab = "Market Cap",
      main = "3D Surface: Market Cap vs Stock Price & Volume")
```

25:1 (Top Level) R Script

R 4.4.2 · ~/

```
> price_seq <- seq(min(finance$StockPrice), max(finance$StockPrice), length = 30)
> cap_surface <- outer(price_seq, vol_seq, function(p, v) 4*p + 10*v - 50)
> persp(price_seq, vol_seq, cap_surface, theta = 40, phi = 25, col = "lightgreen",
+       xlab = "Stock Price", ylab = "Volume", zlab = "Market Cap",
+       main = "3D Surface: Market Cap vs Stock Price & Volume")
>
```

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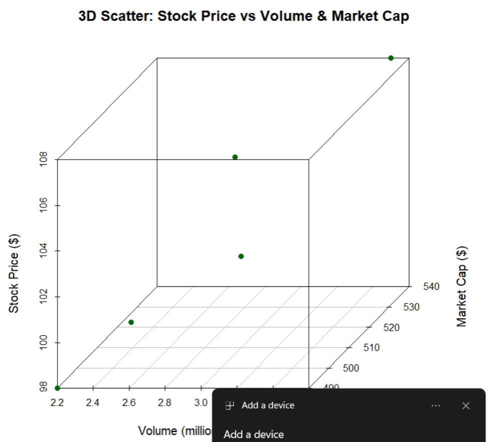
Zoom | Export | Publish



Add a device

Add a device
Tap to set up your VIGNESH

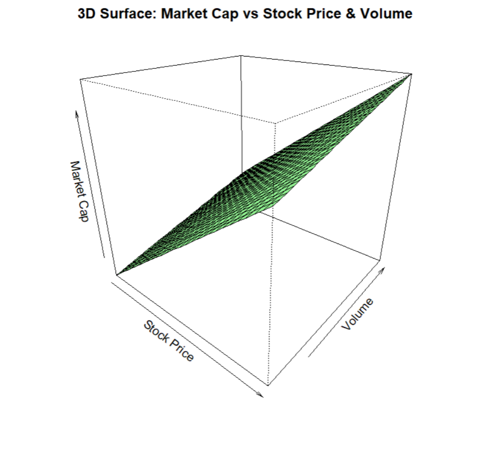
```r
# Data
finance <- data.frame(
  Date = as.Date(c("2023-01-01","2023-01-02","2023-01-03","2023-01-04","2023-01-05")),
  StockPrice = c(100, 102, 98, 105, 108),
  Volume = c(2.5, 3.0, 2.2, 2.8, 3.5),
  MarketCap = c(500, 510, 490, 525, 540)
)

# 1. Relationship
pairs(finance[,2:4], main = "Relationships between Stock Price, Volume & Market Cap")

# 2. 3D scatter plot
scatterplot3d(finance$Volume, finance$MarketCap, finance$StockPrice,
              color = "darkgreen", pch = 19,
              xlab = "Volume (millions)", ylab = "Market Cap ($)", zlab = "Stock Price ($)",
              main = "3D Scatter: Stock Price vs Volume & Market Cap")

# 4. 3D surface plot
vol_seq <- seq(min(finance$Volume), max(finance$Volume), length = 30)
price_seq <- seq(min(finance$StockPrice), max(finance$StockPrice), length = 30)
cap_surface <- outer(price_seq, vol_seq, function(p, v) 4*p + 10*v - 50)
persp(price_seq, vol_seq, cap_surface, theta = 40, phi = 25, col = "lightgreen",
      xlab = "Stock Price", ylab = "Volume", zlab = "Market Cap",
      main = "3D Surface: Market Cap vs Stock Price & Volume")
```

```
> price_seq <- seq(min(finance$StockPrice), max(finance$StockPrice), length = 30)
> cap_surface <- outer(price_seq, vol_seq, function(p, v) 4*p + 10*v - 50)
> persp(price_seq, vol_seq, cap_surface, theta = 40, phi = 25, col = "lightgreen",
+       xlab = "Stock Price", ylab = "Volume", zlab = "Market Cap",
+       main = "3D Surface: Market Cap vs Stock Price & Volume")
>
```



wheather data.R × Financial Data.R × Consumer Data.R × Environment data.R × Academic Data.R ×

Source on Save Run Source

```r
# Data
consumer <- data.frame(
  Product = c("A","B","C","D","E"),
  Price = c(50,70,60,45,55),
  Rating = c(4.2,3.8,4.0,4.5,3.9),
  AgeGroup = c(30,40,21,50,30)  # approximate midpoints
)

# 1. How do ratings vary
plot(consumer$Price, consumer$Rating, pch = 19, col = "purple",
     main = "Product Ratings vs Price", xlab = "Price ($)", ylab = "Rating (out of 5)")

# 2. 3D scatter plot
scatterplot3d(consumer$Price, consumer$AgeGroup, consumer$Rating,
              color = "purple", pch = 19,
              xlab = "Price ($)", ylab = "Age Group (midpoint)", zlab = "Rating",
              main = "3D Scatter: Rating vs Price & Age Group")

# 4. 3D surface plot
price_seq <- seq(min(consumer$Price), max(consumer$Price), length = 30)
age_seq <- seq(min(consumer$AgeGroup), max(consumer$AgeGroup), length = 30)
rating_surface <- outer(price_seq, age_seq, function(p, a) 5 - 0.01*p + 0.002*a)
persp(price_seq, age_seq, rating_surface, theta = 40, phi = 25, col = "plum",
      xlab = "Price", ylab = "Age Group", zlab = "Rating",
      main = "3D Surface: Rating vs Price & Age Group")
```

26:1 (Top Level) R Script

R 4.2.2 · ~/

```
> age_seq <- seq(min(consumer$AgeGroup), max(consumer$AgeGroup), length = 30)
> rating_surface <- outer(price_seq, age_seq, function(p, a) 5 - 0.01*p + 0.002*a)
> persp(price_seq, age_seq, rating_surface, theta = 40, phi = 25, col = "plum",
+       xlab = "Price", ylab = "Age Group", zlab = "Rating",
+       main = "3D Surface: Rating vs Price & Age Group")
>
```

Environment History Connections Tutorial

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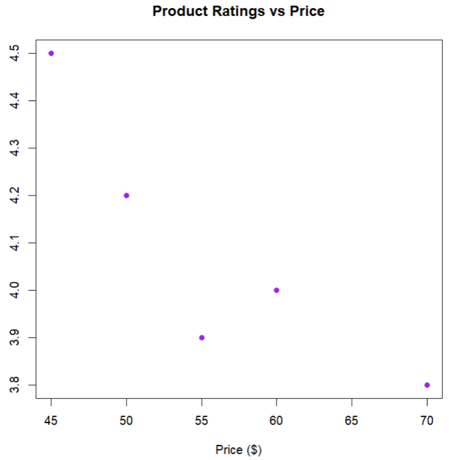
Zoom Export Publish

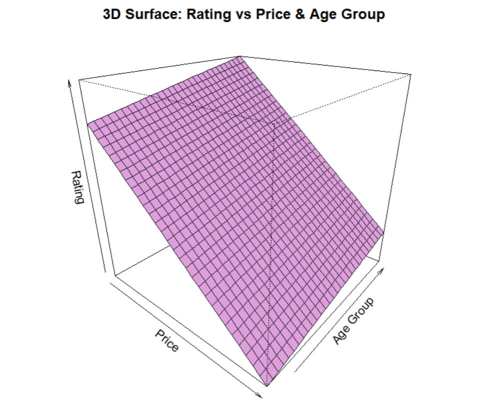


wheather data.R | Financial Data.R | Consumer Data.R | Environment data.R | Academic Data.R

```r
# Data
consumer <- data.frame(
  Product = c("A","B","C","D","E"),
  Price = c(50,70,60,45,55),
  Rating = c(4.2,3.8,4.0,4.5,3.9),
  AgeGroup = c(30,40,21,50,30)  # approximate midpoints
)

# 1. How do ratings vary
plot(consumer$Price, consumer$Rating, pch = 19, col = "purple",
     main = "Product Ratings vs Price", xlab = "Price ($)", ylab = "Rating (out of 5)")

# 2. 3D scatter plot
scatterplot3d(consumer$Price, consumer$AgeGroup, consumer$Rating,
              color = "purple", pch = 19,
              xlab = "Price ($)", ylab = "Age Group (midpoint)", zlab = "Rating",
              main = "3D Scatter: Rating vs Price & Age Group")

# 4. 3D surface plot
price_seq <- seq(min(consumer$Price), max(consumer$Price), length = 30)
age_seq <- seq(min(consumer$AgeGroup), max(consumer$AgeGroup), length = 30)
rating_surface <- outer(price_seq, age_seq, function(p, a) 5 - 0.01*p + 0.002*a)
persp(price_seq, age_seq, rating_surface, theta = 40, phi = 25, col = "plum",
      xlab = "Price", ylab = "Age Group", zlab = "Rating",
      main = "3D Surface: Rating vs Price & Age Group")

```

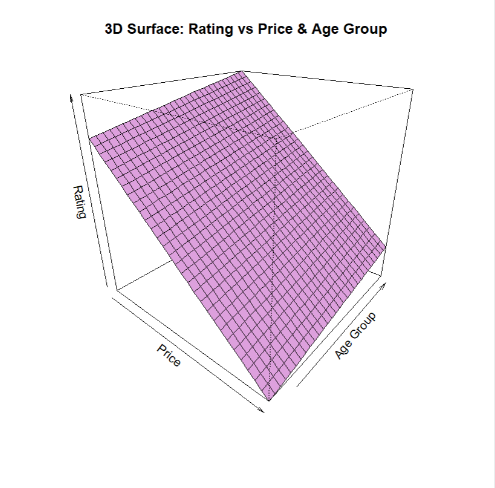
R 4.4.2 · ~/

```
> age_seq <- seq(min(consumer$AgeGroup), max(consumer$AgeGroup), length = 30)
> rating_surface <- outer(price_seq, age_seq, function(p, a) 5 - 0.01*p + 0.002*a)
> persp(price_seq, age_seq, rating_surface, theta = 40, phi = 25, col = "plum",
+       xlab = "Price", ylab = "Age Group", zlab = "Rating",
+       main = "3D Surface: Rating vs Price & Age Group")
>
```



```r
# Data
consumer <- data.frame(
  Product = c("A","B","C","D","E"),
  Price = c(50,70,60,45,55),
  Rating = c(4.2,3.8,4.0,4.5,3.9),
  AgeGroup = c(30,40,21,50,30)  # approximate midpoints
)

# 1. How do ratings vary
plot(consumer$Price, consumer$Rating, pch = 19, col = "purple",
     main = "Product Ratings vs Price", xlab = "Price ($)", ylab = "Rating (out of 5)")

# 2. 3D scatter plot
scatterplot3d(consumer$Price, consumer$AgeGroup, consumer$Rating,
              color = "purple", pch = 19,
              xlab = "Price ($)", ylab = "Age Group (midpoint)", zlab = "Rating",
              main = "3D Scatter: Rating vs Price & Age Group")

# 4. 3D surface plot
price_seq <- seq(min(consumer$Price), max(consumer$Price), length = 30)
age_seq <- seq(min(consumer$AgeGroup), max(consumer$AgeGroup), length = 30)
rating_surface <- outer(price_seq, age_seq, function(p, a) 5 - 0.01*p + 0.002*a)
persp(price_seq, age_seq, rating_surface, theta = 40, phi = 25, col = "plum",
      xlab = "Price", ylab = "Age Group", zlab = "Rating",
      main = "3D Surface: Rating vs Price & Age Group")
```

```
> age_seq <- seq(min(consumer$AgeGroup), max(consumer$AgeGroup), length = 30)
> rating_surface <- outer(price_seq, age_seq, function(p, a) 5 - 0.01*p + 0.002*a)
> persp(price_seq, age_seq, rating_surface, theta = 40, phi = 25, col = "plum",
+       xlab = "Price", ylab = "Age Group", zlab = "Rating",
+       main = "3D Surface: Rating vs Price & Age Group")
>
```



wheather data.R | Financial Data.R | Consumer Data.R | Environment data.R | Academic Data.R

```r
# Data
env <- data.frame(
  Location = c("A","B","C","D","E"),
  Temperature = c(15,20,18,12,17),
  Humidity = c(65,70,68,60,72),
  CO2 = c(400,450,420,380,430)
)

# 1. Basic relationship
plot(env$Temperature, env$CO2, pch = 19, col = "orange",
     main = "CO2 vs Temperature", xlab = "Temperature (°C)", ylab = "CO2 (ppm)")

# 2. 3D scatter plot
scatterplot3d(env$Temperature, env$Humidity, env$CO2,
              color = "orange", pch = 19,
              xlab = "Temperature (°C)", ylab = "Humidity (%)", zlab = "CO2 (ppm)",
              main = "3D Scatter: CO2 vs Temp & Humidity")

# 4. 3D surface plot
temp_seq <- seq(min(env$Temperature), max(env$Temperature), length = 30)
hum_seq <- seq(min(env$Humidity), max(env$Humidity), length = 30)
co2_surface <- outer(temp_seq, hum_seq, function(t, h) 10*t + 3*h - 400)
persp(temp_seq, hum_seq, co2_surface, theta = 40, phi = 25, col = "orange",
      xlab = "Temperature", ylab = "Humidity", zlab = "CO2 (ppm)",
      main = "3D Surface: CO2 vs Temp & Humidity")
```

26:1 (Top Level) R Script

R 4.4.2 · ~/

```
> hum_seq <- seq(min(env$Humidity), max(env$Humidity), length = 30)
> co2_surface <- outer(temp_seq, hum_seq, function(t, h) 10*t + 3*h - 400)
> persp(temp_seq, hum_seq, co2_surface, theta = 40, phi = 25, col = "orange",
+       xlab = "Temperature", ylab = "Humidity", zlab = "CO2 (ppm)",
+       main = "3D Surface: CO2 vs Temp & Humidity")
> |
```

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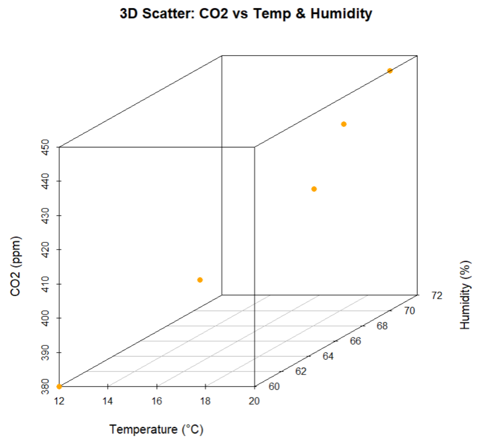
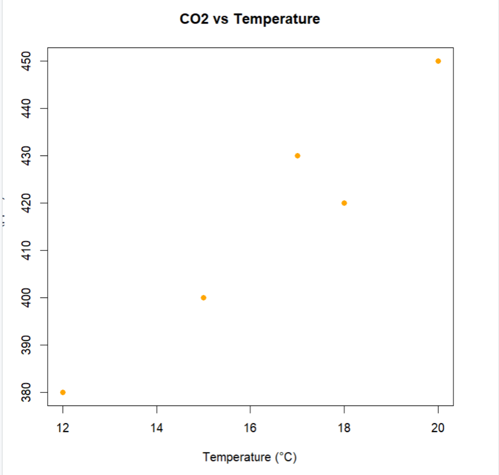
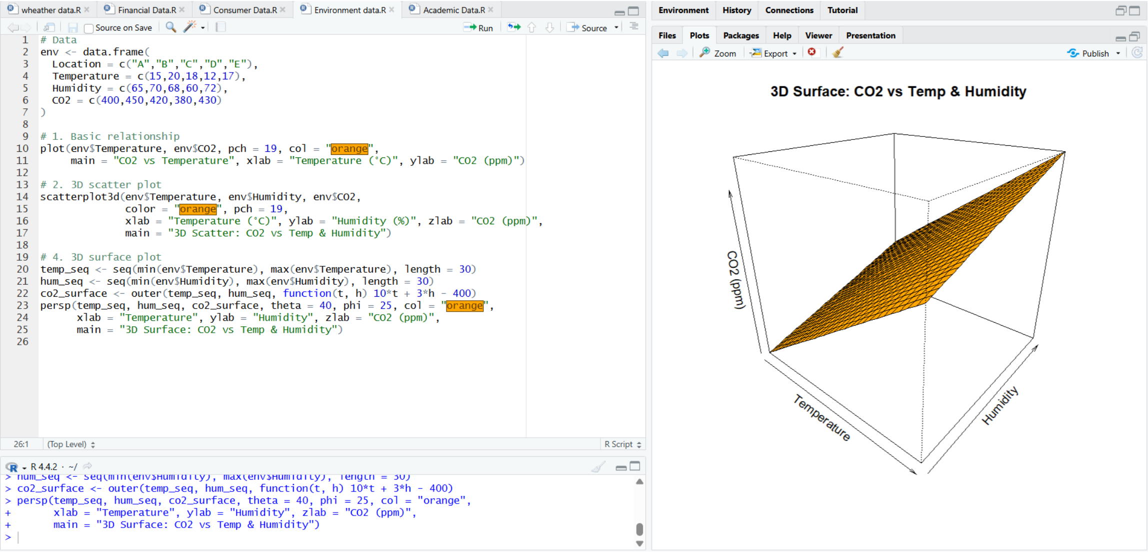


```r
# Data
env <- data.frame(
  Location = c("A","B","C","D","E"),
  Temperature = c(15,20,18,12,17),
  Humidity = c(65,70,68,60,72),
  CO2 = c(400,450,420,380,430)
)

# 1. Basic relationship
plot(env$Temperature, env$CO2, pch = 19, col = "orange",
     main = "CO2 vs Temperature", xlab = "Temperature (°C)", ylab = "CO2 (ppm)")

# 2. 3D scatter plot
scatterplot3d(env$Temperature, env$Humidity, env$CO2,
              color = "orange", pch = 19,
              xlab = "Temperature (°C)", ylab = "Humidity (%)", zlab = "CO2 (ppm)",
              main = "3D Scatter: CO2 vs Temp & Humidity")

# 4. 3D surface plot
temp_seq <- seq(min(env$Temperature), max(env$Temperature), length = 30)
hum_seq <- seq(min(env$Humidity), max(env$Humidity), length = 30)
co2_surface <- outer(temp_seq, hum_seq, function(t, h) 10*t + 3*h - 400)
persp(temp_seq, hum_seq, co2_surface, theta = 40, phi = 25, col = "orange",
      xlab = "Temperature", ylab = "Humidity", zlab = "CO2 (ppm)",
      main = "3D Surface: CO2 vs Temp & Humidity")
```

```r
> hum_seq <- seq(min(env$Humidity), max(env$Humidity), length = 30)
> co2_surface <- outer(temp_seq, hum_seq, function(t, h) 10*t + 3*h - 400)
> persp(temp_seq, hum_seq, co2_surface, theta = 40, phi = 25, col = "orange",
+       xlab = "Temperature", ylab = "Humidity", zlab = "CO2 (ppm)",
+       main = "3D Surface: CO2 vs Temp & Humidity")
>
```




wheather data.R
Financial Data.R
Consumer Data.R
Environment data.R
Academic Data.R
Source on Save
Run
Source
# Data
env <- data.frame(
  Location = c("A","B","C","D","E"),
  Temperature = c(15,20,18,12,17),
  Humidity = c(65,70,68,60,72),
  CO2 = c(400,450,420,380,430)
)
1. Basic relationship
plot(env$Temperature, env$CO2, pch = 19, col = "orange",
     main = "CO2 vs Temperature", xlab = "Temperature (°C)", ylab = "CO2 (ppm)")
# 2. 3D scatter plot
scatterplot3d(env$Temperature, env$Humidity, env$CO2,
              color = "orange", pch = 19,
              xlab = "Temperature (°C)", ylab = "Humidity (%)", zlab = "CO2 (ppm)",
              main = "3D Scatter: CO2 vs Temp & Humidity")
# 4. 3D surface plot
temp_seq <- seq(min(env$Temperature), max(env$Temperature), length = 30)
hum_seq <- seq(min(env$Humidity), max(env$Humidity), length = 30)
co2_surface <- outer(temp_seq, hum_seq, function(t, h) 10*t + 3*h - 400)
persp(temp_seq, hum_seq, co2_surface, theta = 40, phi = 25, col = "orange",
      xlab = "Temperature", ylab = "Humidity", zlab = "CO2 (ppm)",
      main = "3D Surface: CO2 vs Temp & Humidity")
26:1
(Top Level)
R Script
R 4.4.2 · ~/
> co2_surface <- outer(temp_seq, hum_seq, function(t, h) 10*t + 3*h - 400)
> persp(temp_seq, hum_seq, co2_surface, theta = 40, phi = 25, col = "orange",
+   xlab = "Temperature", ylab = "Humidity", zlab = "CO2 (ppm)",
+   main = "3D Surface: CO2 vs Temp & Humidity")
>
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3D Surface: CO2 vs Temp & Humidity
CO2 (ppm)
Temperature
Humidity

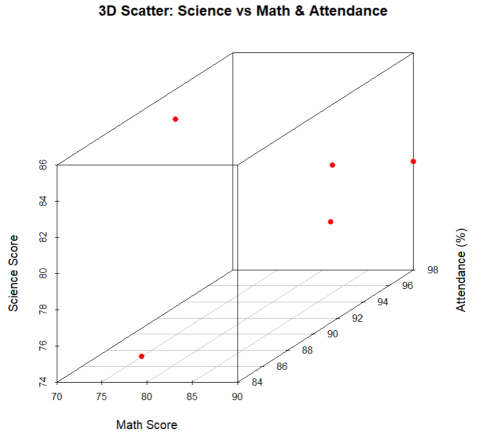
```r
# Data
academic <- data.frame(
  Student = c("A","B","C","D","E"),
  Math = c(85,72,90,78,88),
  Science = c(78,85,80,75,82),
  Attendance = c(95,92,98,85,93)
)

# 1. Relationship
plot(academic$Math, academic$Science, pch = 19, col = "red",
     main = "Science vs Math", xlab = "Math Score", ylab = "Science Score")

# 2. 3D scatter plot
scatterplot3d(academic$Math, academic$Attendance, academic$Science,
              color = "red", pch = 19,
              xlab = "Math Score", ylab = "Attendance (%)", zlab = "Science Score",
              main = "3D Scatter: Science vs Math & Attendance")

# 4. 3D surface plot
math_seq <- seq(min(academic$Math), max(academic$Math), length = 30)
att_seq <- seq(min(academic$Attendance), max(academic$Attendance), length = 30)
sci_surface <- outer(math_seq, att_seq, function(m, a) 0.6*m + 0.3*a - 50)
persp(math_seq, att_seq, sci_surface, theta = 40, phi = 25, col = "pink",
      xlab = "Math Score", ylab = "Attendance (%)", zlab = "Science Score",
      main = "3D Surface: Science vs Math & Attendance")
```

```
> att_seq <- seq(min(academic$Attendance), max(academic$Attendance), length = 30)
> sci_surface <- outer(math_seq, att_seq, function(m, a) 0.6*m + 0.3*a - 50)
> persp(math_seq, att_seq, sci_surface, theta = 40, phi = 25, col = "pink",
+       xlab = "Math Score", ylab = "Attendance (%)", zlab = "Science Score",
+       main = "3D Surface: Science vs Math & Attendance")
>
```



wheather data.R | Financial Data.R | Consumer Data.R | Environment data.R | Academic Data.R

```r
# Data
academic <- data.frame(
  Student = c("A","B","C","D","E"),
  Math = c(85,72,90,78,88),
  Science = c(78,85,80,75,82),
  Attendance = c(95,92,98,85,93)
)

# 1. Relationship
plot(academic$Math, academic$Science, pch = 19, col = "red",
     main = "Science vs Math", xlab = "Math Score", ylab = "Science Score")

# 2. 3D scatter plot
scatterplot3d(academic$Math, academic$Attendance, academic$Science,
              color = "red", pch = 19,
              xlab = "Math Score", ylab = "Attendance (%)", zlab = "Science Score",
              main = "3D Scatter: Science vs Math & Attendance")

# 4. 3D surface plot
math_seq <- seq(min(academic$Math), max(academic$Math), length = 30)
att_seq <- seq(min(academic$Attendance), max(academic$Attendance), length = 30)
sci_surface <- outer(math_seq, att_seq, function(m, a) 0.6*m + 0.3*a - 50)
persp(math_seq, att_seq, sci_surface, theta = 40, phi = 25, col = "pink",
      xlab = "Math Score", ylab = "Attendance (%)", zlab = "Science Score",
      main = "3D Surface: Science vs Math & Attendance")
```

26:1 (Top Level) R Script

R 4.4.2 · ~/

```
> att_seq <- seq(min(academic$Attendance), max(academic$Attendance), length = 30)
> sci_surface <- outer(math_seq, att_seq, function(m, a) 0.6*m + 0.3*a - 50)
> persp(math_seq, att_seq, sci_surface, theta = 40, phi = 25, col = "pink",
+       xlab = "Math Score", ylab = "Attendance (%)", zlab = "Science Score",
+       main = "3D Surface: Science vs Math & Attendance")
>
```

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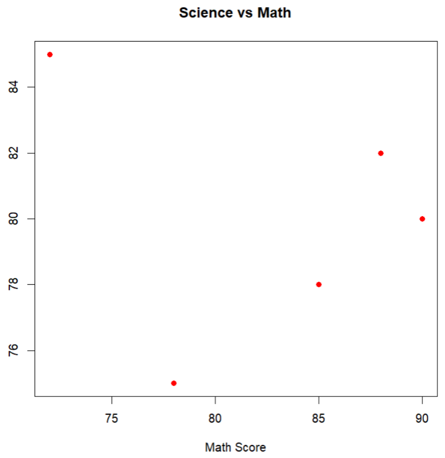

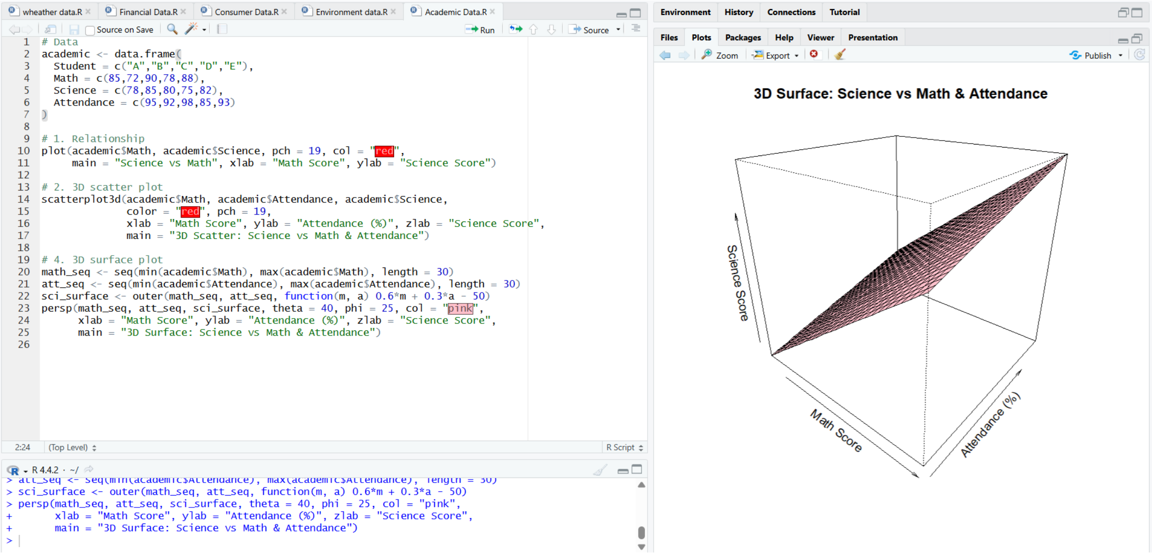
wheather data.R
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# Data
academic <- data.frame(
Student = c("A","B","C","D","E"),
Math = c(85,72,90,78,88),
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1. Relationship
plot(academic$Math, academic$Science, pch = 19, col = "red",
main = "Science vs Math", xlab = "Math Score", ylab = "Science Score")
# 2. 3D scatter plot
scatterplot3d(academic$Math, academic$Attendance, academic$Science,
color = "red", pch = 19,
xlab = "Math Score", ylab = "Attendance (%)", zlab = "Science Score",
main = "3D Scatter: Science vs Math & Attendance")
# 4. 3D surface plot
math_seq <- seq(min(academic$Math), max(academic$Math), length = 30)
att_seq <- seq(min(academic$Attendance), max(academic$Attendance), length = 30)
sci_surface <- outer(math_seq, att_seq, function(m, a) 0.6*m + 0.3*a - 50)
persp(math_seq, att_seq, sci_surface, theta = 40, phi = 25, col = "pink",
xlab = "Math Score", ylab = "Attendance (%)", zlab = "Science Score",
main = "3D Surface: Science vs Math & Attendance")
2:24
(Top Level)
R Script
R 4.4.2 · ~/
> sci_surface <- outer(math_seq, att_seq, function(m, a) 0.6*m + 0.3*a - 50)
> persp(math_seq, att_seq, sci_surface, theta = 40, phi = 25, col = "pink",
+ xlab = "Math Score", ylab = "Attendance (%)", zlab = "Science Score",
+ main = "3D Surface: Science vs Math & Attendance")
>
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Math Score
Attendance (%)