

R PROGRAMMING

PRACTICE EXERCISE – 4 Unique ID :E7321008

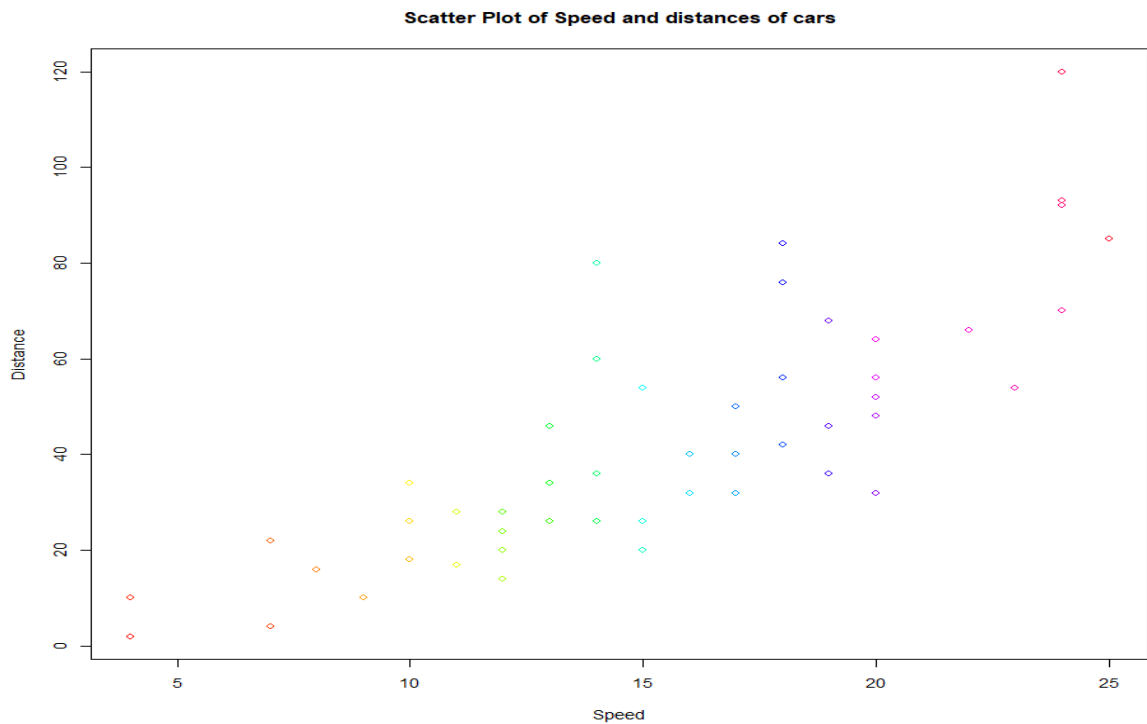
1) Scatter Plot, Bar Chart, Histogram, Line Plot.

```

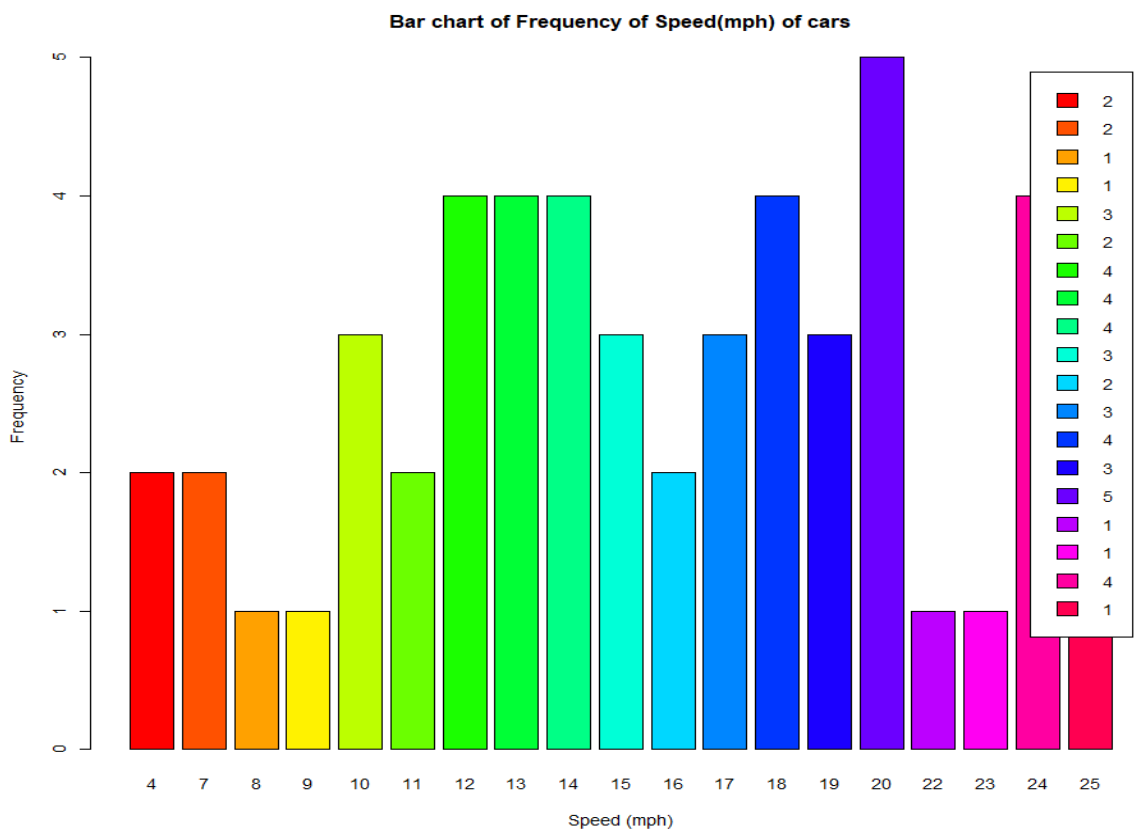
1 # 1) Base Package Plots
2 datasets::cars
3 ?cars
4 # Scatter Plot
5 plot(cars$speed,cars$dist,xlab="Speed",ylab="Distance",main="Scatter Plot of Speed and distances of cars", col=rainbow(length(cars$speed)))
6 #Bar Plot
7 s<-table(cars$speed)
8 s
9 barplot(s,xlab = "Speed (mph)",ylab = "Frequency",main = "Bar chart of Frequency of Speed(mph) of cars",col = rainbow(length(s)),legend=s)
10 #Histogram
11 d<-table(cars$dist)
12 d
13 hist(d,xlab="Distance (Km)",ylab = "Frequency",main = "Histogram of Frequency of Distance",col =c("yellow"),breaks=5,border = "green",xlim = c(0,5))
14 #Line Plot
15 plot(cars,type="l",xlab="Speed(mph)",ylab="Distance(km)",main="Line Chart for Speed & Distance of cars",col="red")
16

```

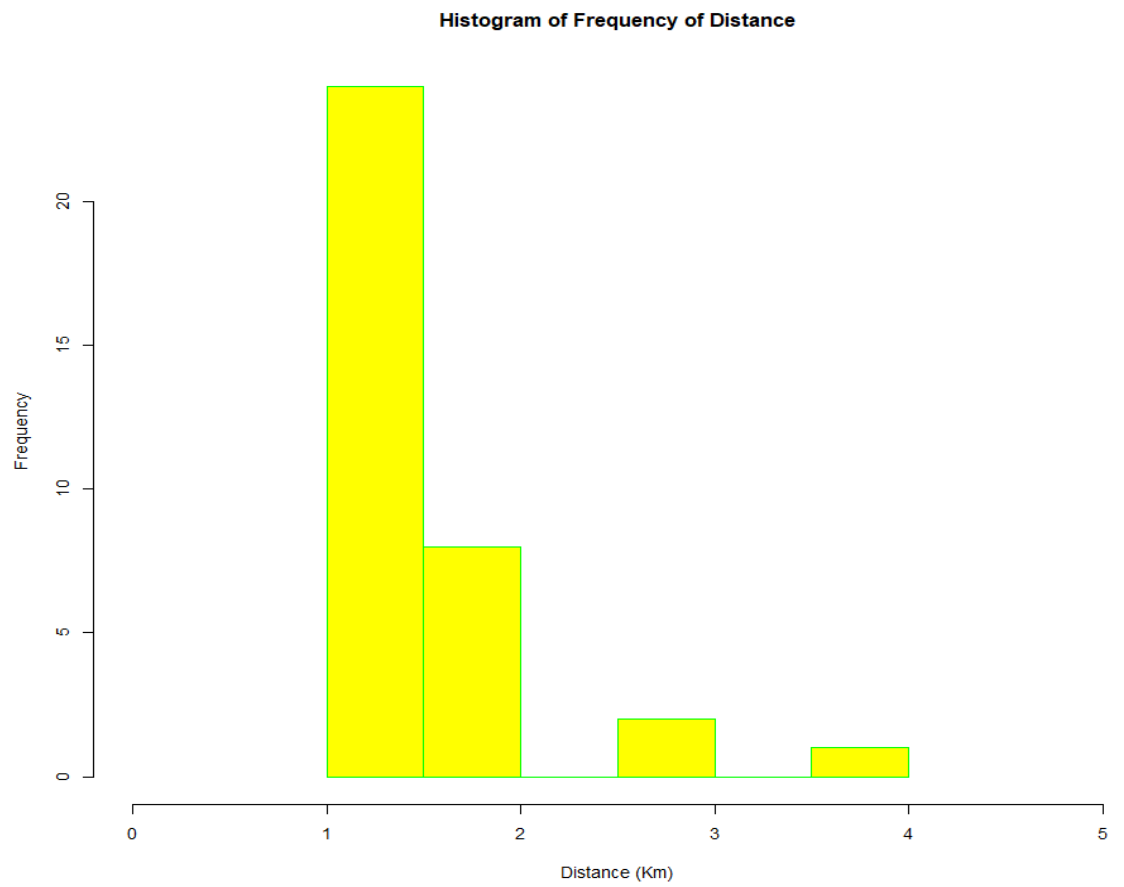
a) Scatter Plot :



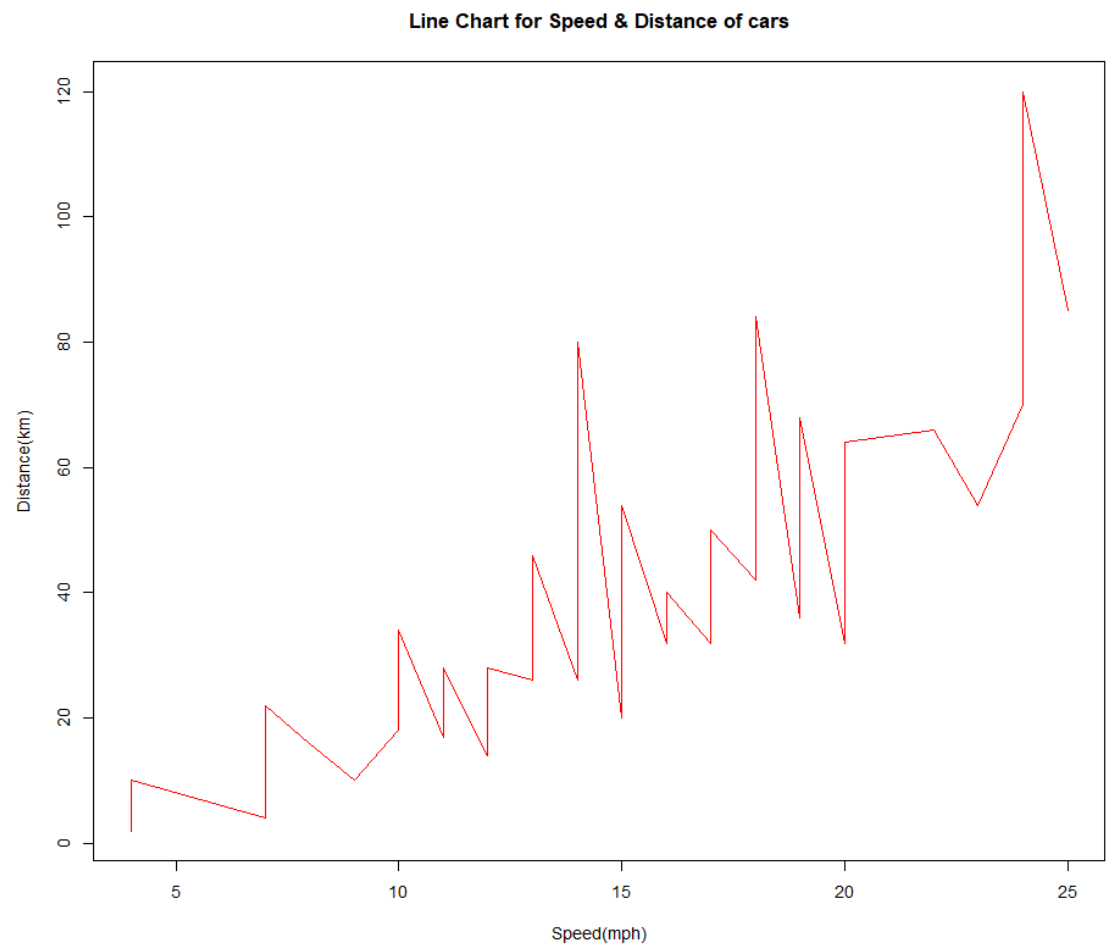
b) i) Bar Chart



ii) Histogram



iii) Line Plot

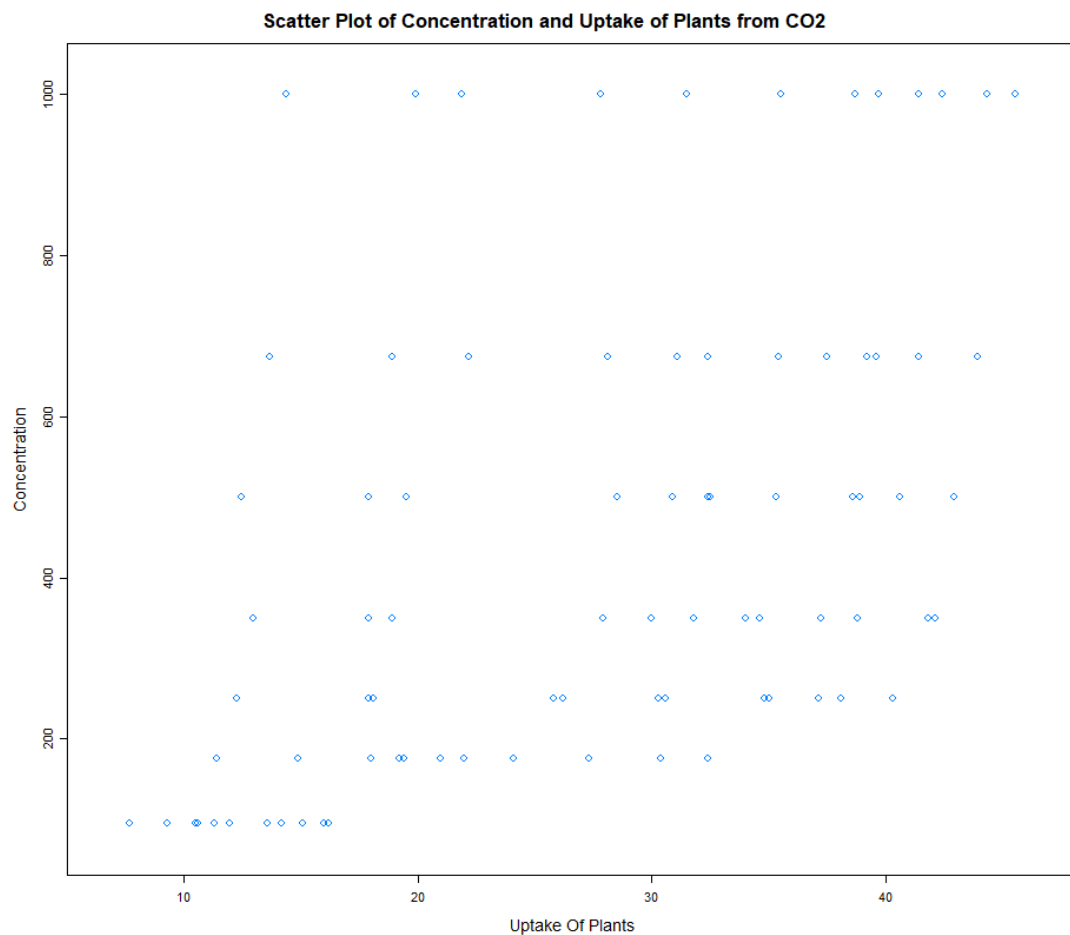


Lattice Package Plots

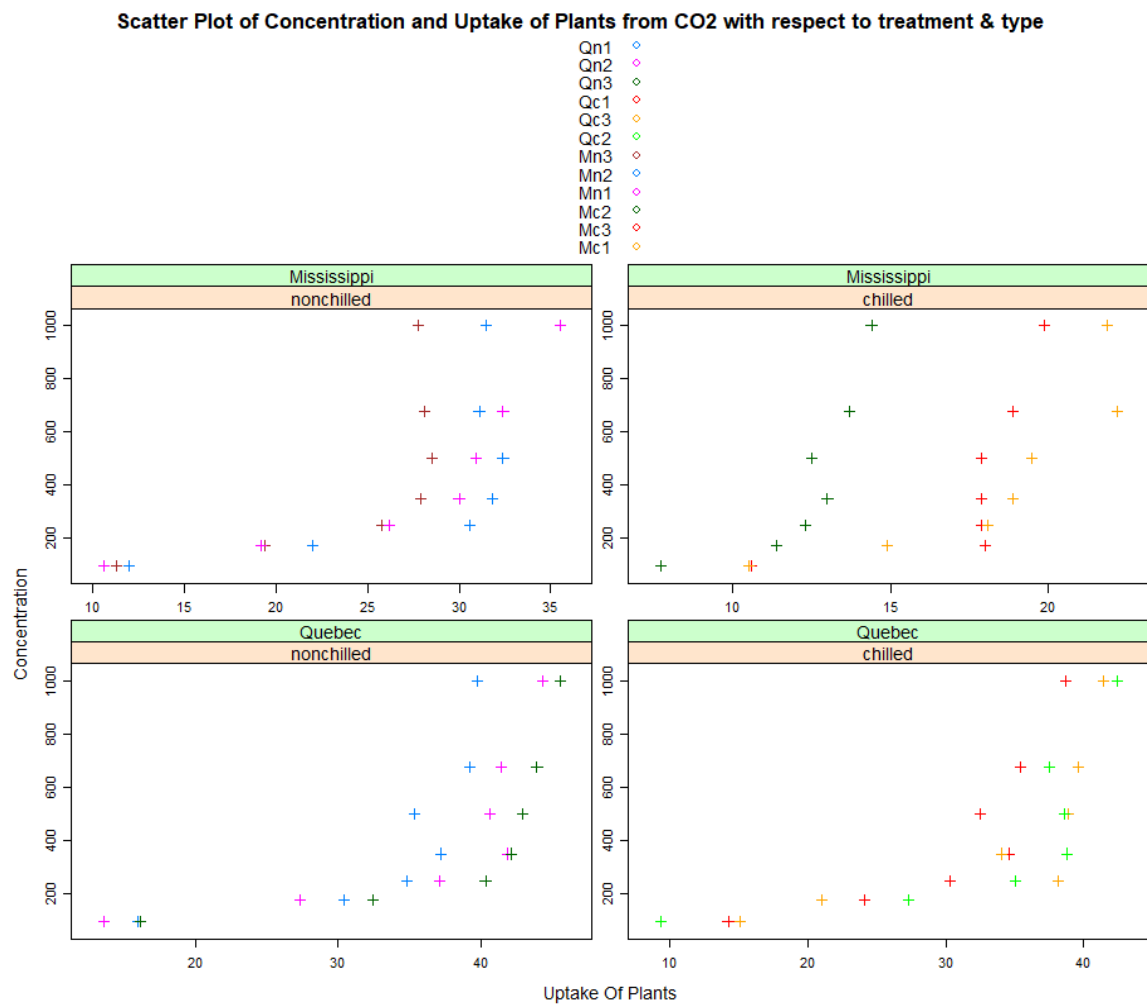
```
1 #Lattice Package Plots
2 datasets::CO2
3 library(lattice)
4
5 # Scatter Plot
6 xyplot(conc~uptake,data=CO2,xlab = "Uptake Of Plants",ylab = "Concentration",main="Scatter Plot of Concentration and Uptake of Plants from CO2",auto.key = TRUE,scales = "free")
7
8 #Scatter Plot with multi panel
9 xyplot(conc~uptake|Treatment~Type,data=CO2,xlab = "Uptake Of Plants",ylab = "Concentration",main="Scatter Plot of Concentration and Uptake of Plants from CO2 with respect to treatment & type",group=Plant,auto.key = TRUE,scales = "free",pch=3)
10
11 #3D-Scatter Plot
12 cloud(uptake~conc~Treatment,group=Type,auto.key=TRUE,data=CO2,xlab = "Concentration",ylab = "Treatment",zlab = "Uptake",main="3D Scatter Plot of Concentration Uptake and Treatment Of Plants from CO2")
13
14 #BoxPlot
15 bwplot(conc~Treatment|Plant,data = CO2,xlab = "Treatment",ylab = "Concentration",main="Box Plot of Concentration & Treatment with respect to Plant Type From CO2")#,panel=panel.violin)
16
17 #Dot Plot
18 dotplot(uptake~Type|Plant,group=Treatment,auto.key=TRUE,data=CO2,xlab="Type",ylab="Uptake",main="Dot Plot Of Uptake & Type with respect to Treatment")
19
20 #Strip Plot
21 stripplot(uptake~Type|Plant,group=Treatment,auto.key=TRUE,data=CO2,jitter.data=TRUE,xlab="Type",ylab="Uptake",main="Strip Plot Of Uptake & Type of Plant with respect to Treatment")
22
23 #Density Plot
24 densityplot(~uptake,group=Type,auto.key = TRUE ,data = CO2,main="Density Plot Of CO2 Uptake")
25
26 #Histogram
27 histogram(~uptake,data = CO2,xlab = "Uptake",main="Histogram of CO2 uptake in Plants",breaks =4)
28
29 ~
```

OUTPUT

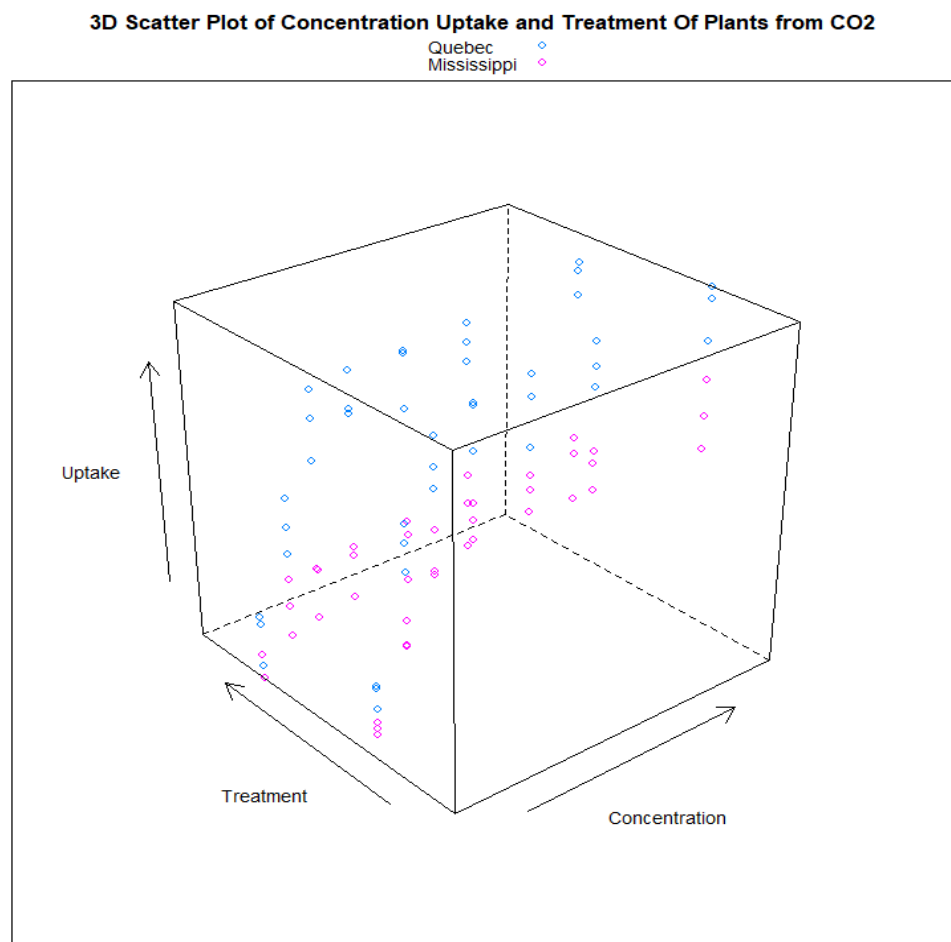
i) Scatter Plot



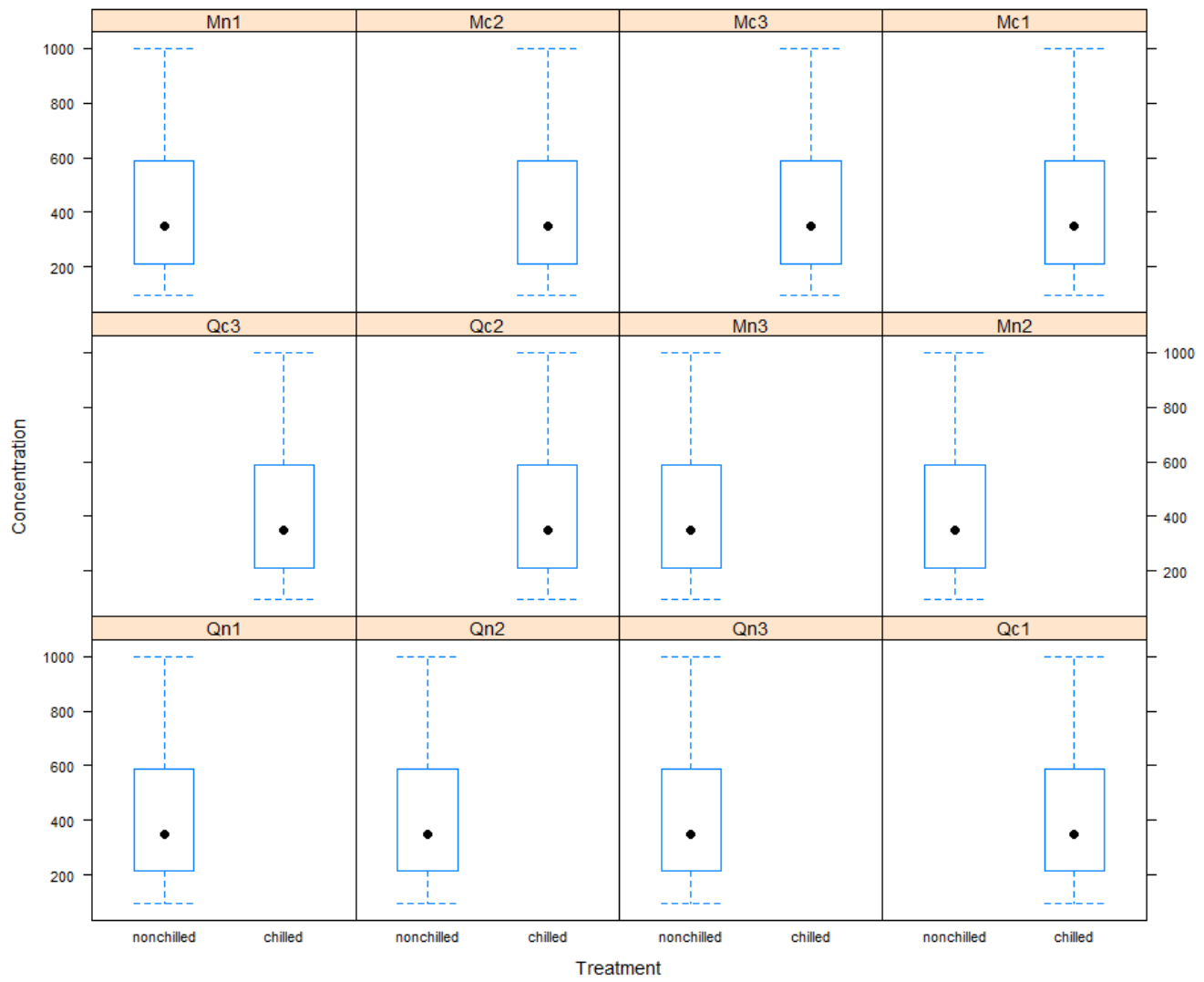
Scatter Plot Multi Panel



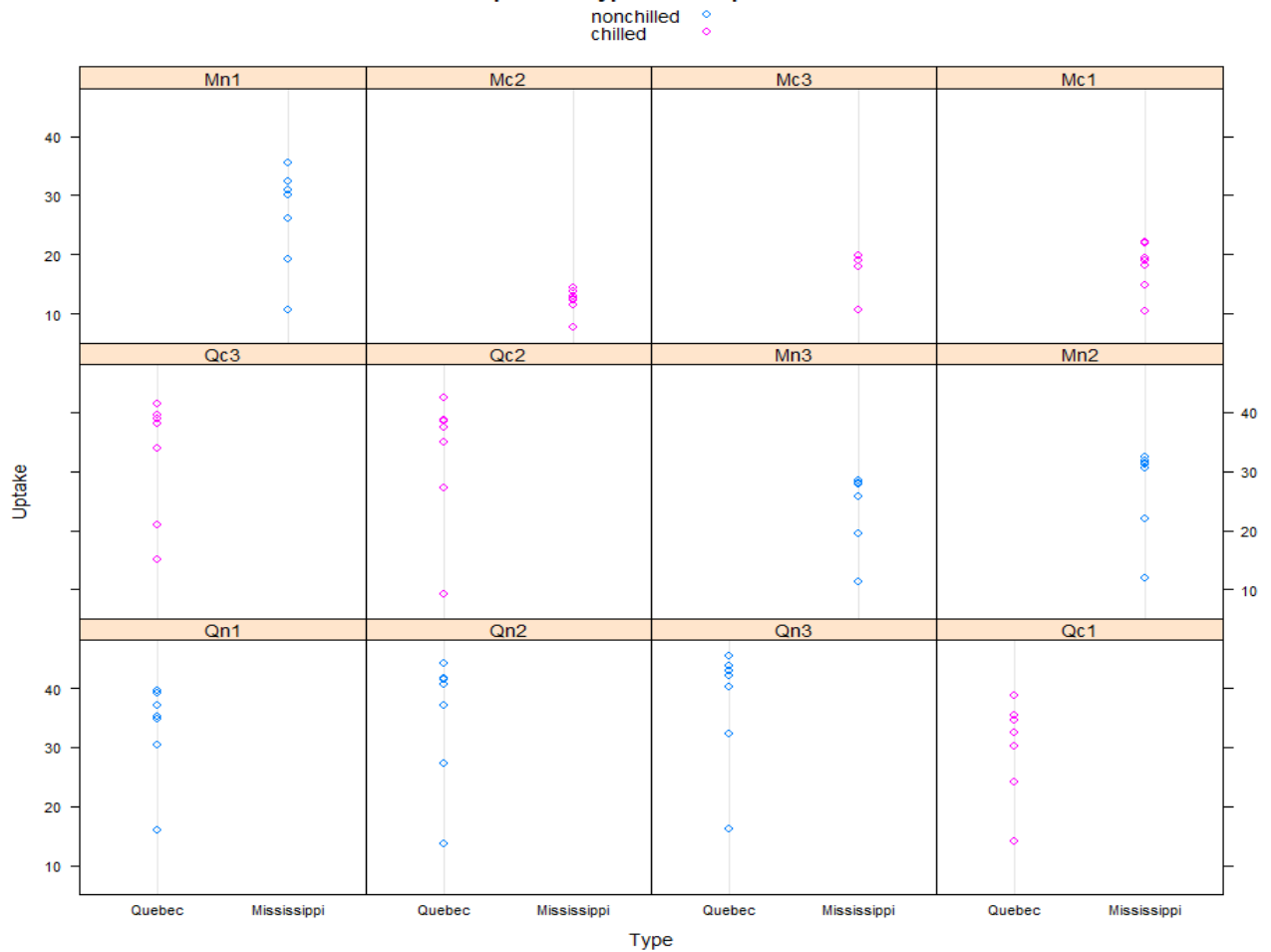
ii) 3D Scatter Plot



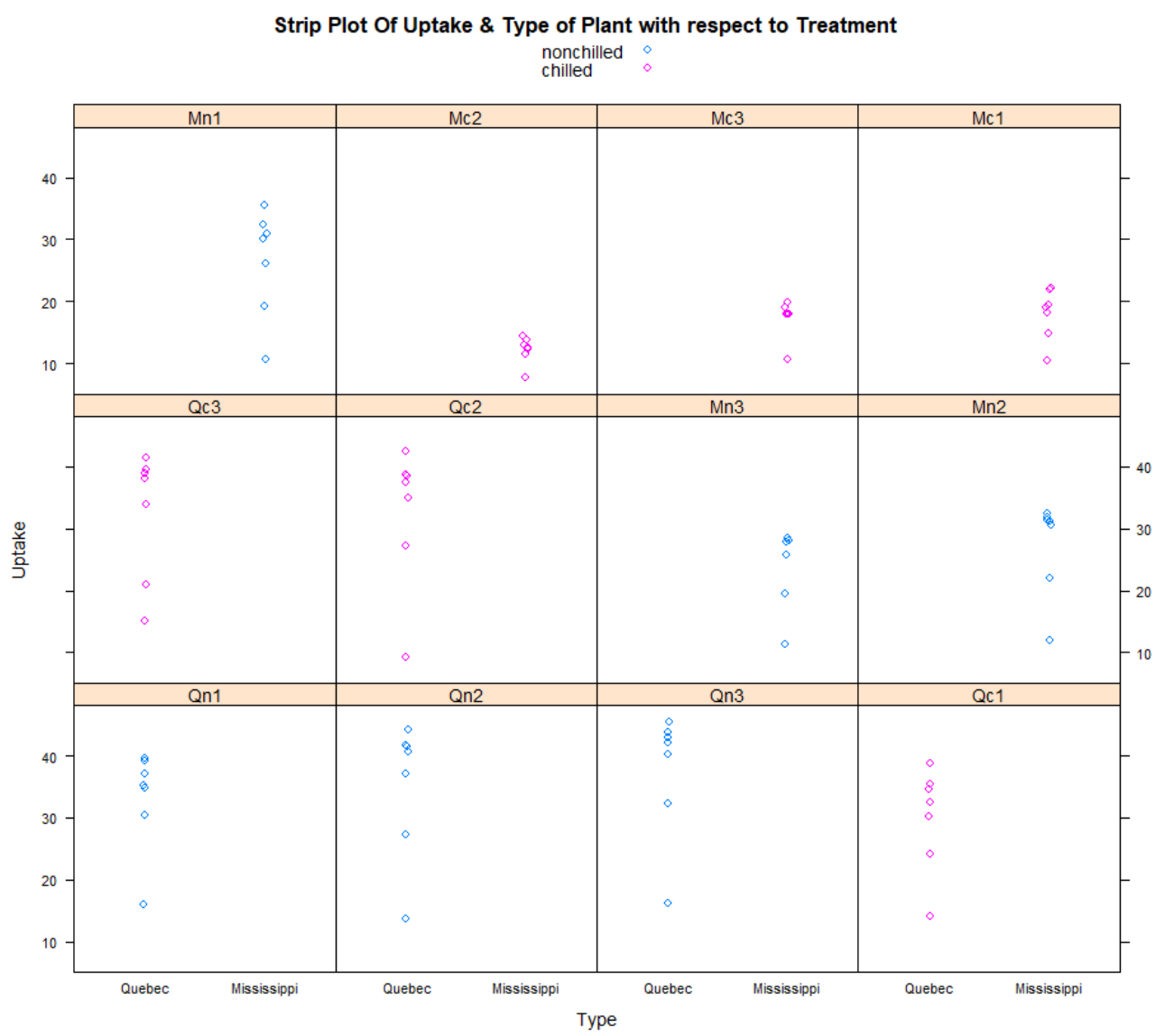
Box Plot of Concentration & Treatment with respect to Plant Type From CO2



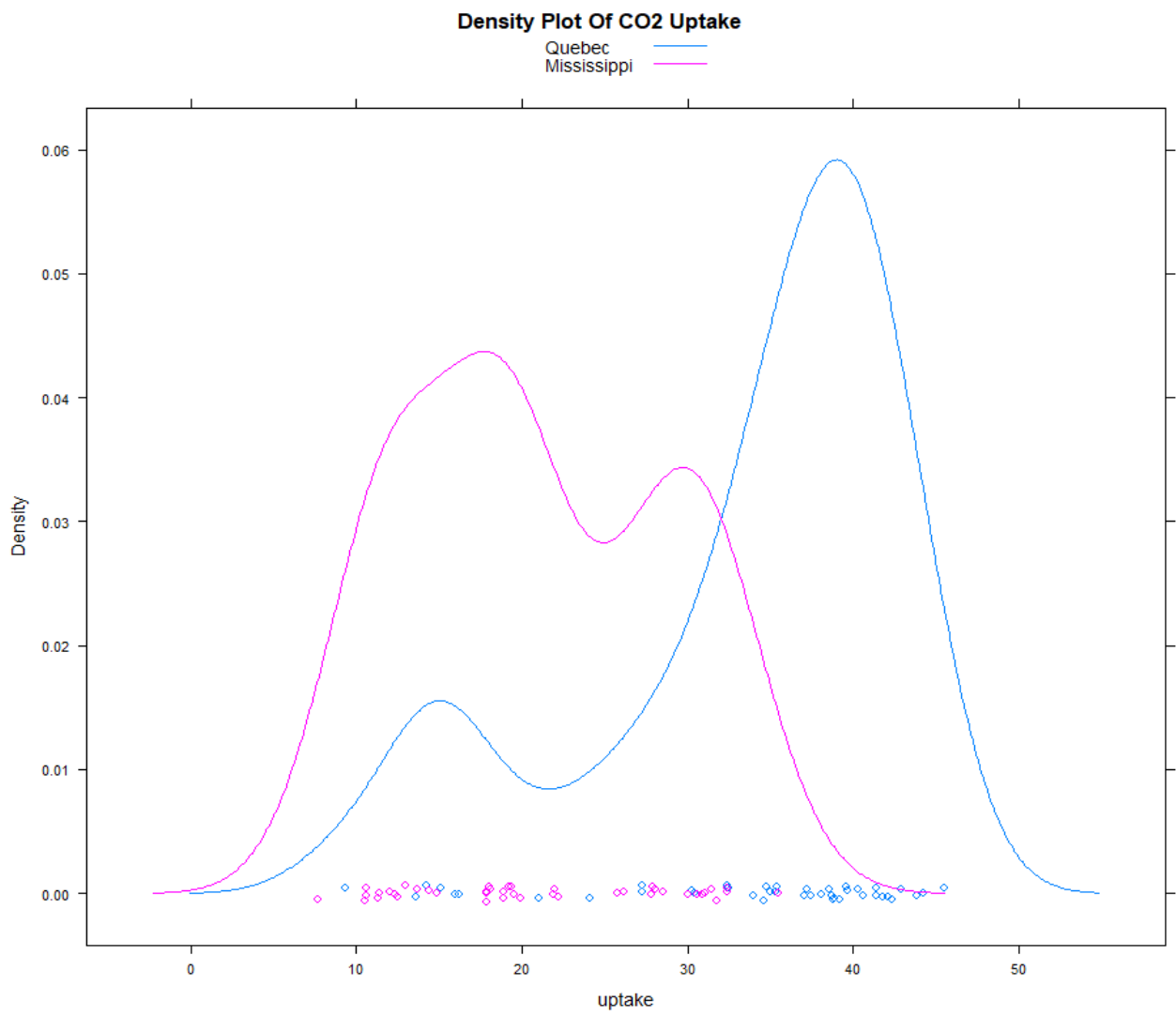
Dot Plot Of Uptake & Type with respect to Treatment



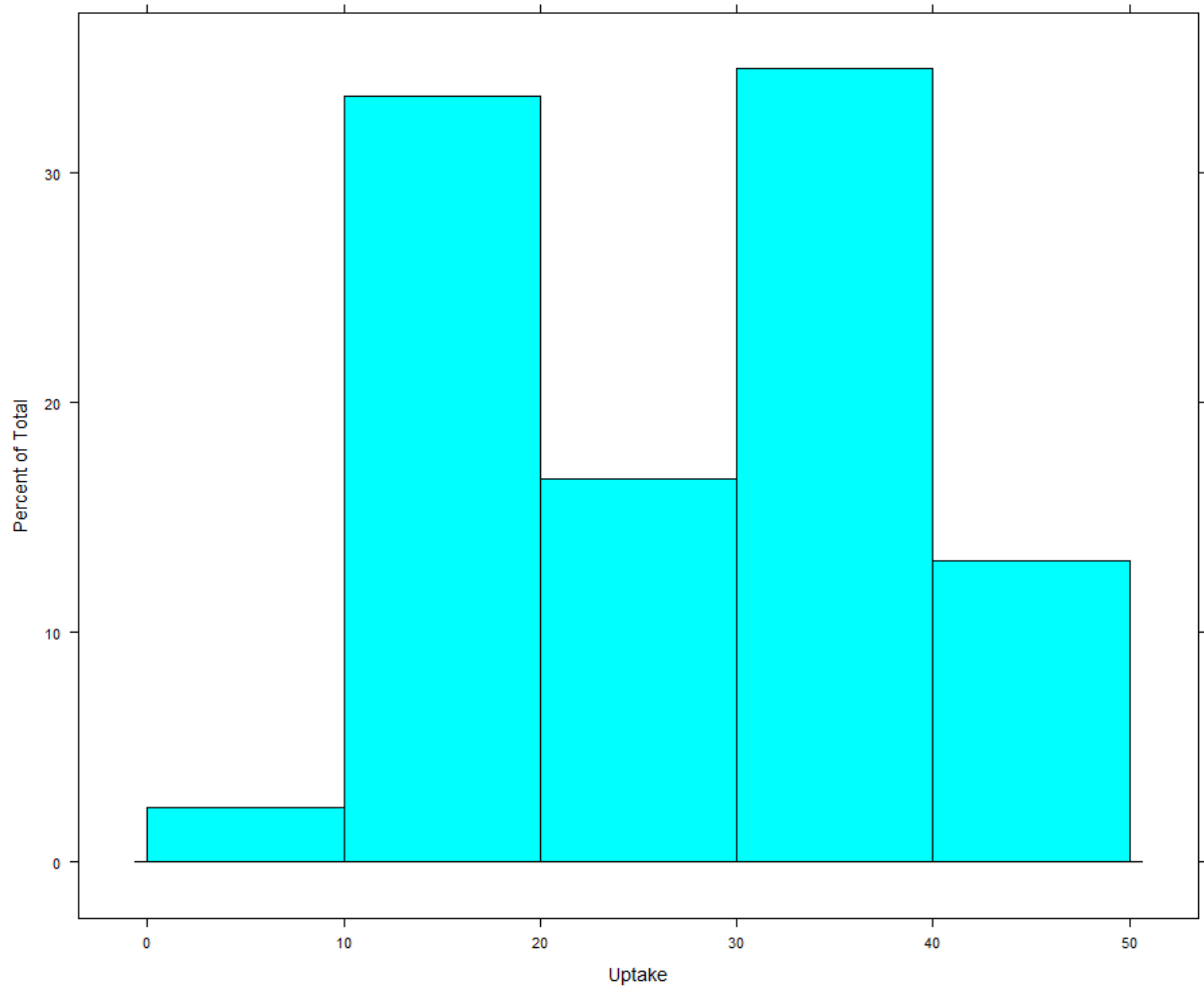
v) Strip Plot



vi) Density Plot



Histogram of CO2 uptake in Plants



vii) Histogram

3) GGPlot

```
1 #ggplot
2 library(tidyverse)
3 library(ggplot2)
4 datasets::iris
5 ggplot(iris,aes(x=Petal.Length,y=Petal.width))+
6   geom_point(size=5)+
7   geom_line(colour="red")
8
```

Output:

