॥वसुधैव कुटुम्बकम्॥

SYMBIOSIS INSTITUTE OF TECHNOLOGY, PUNE

Symbiosis International (Deemed University)

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Founder: Prof. Dr. S. B. Mujumdar, M. Sc., Ph. D. (Awarded Padma Bhushan and Padma Shri by President of India)

Assignment No. 04

Subject: Data Science Lab

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Branch	CS
Class	**A**
Academic Year & Semester	2023-24, VII
Date of Performance	**20.08.23**
Title of Lab Assignment	Experiment No. 04- Visualizations using R programming

a. Find the data distributions using box and scatter plot.
b. Find the outliers using plot.
c. Plot the histogram, bar chart and pie chart on sample data.

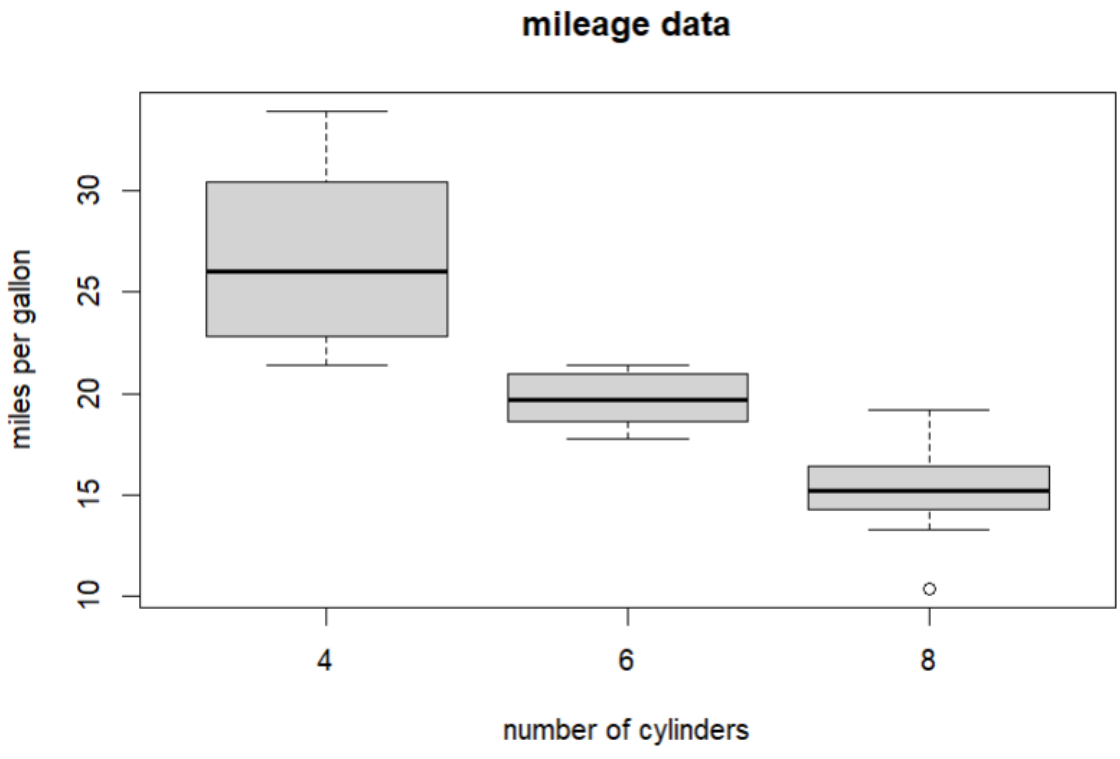
Answer:

```
library(ggplot2)
library(graphics)
#dev.off()
input <- mtcars[, c('mpg','cyl')]
input
View(mtcars[, c('mpg','cyl')])
```

	mpg	cyl
Mazda RX4	21.0	6
Mazda RX4 Wag	21.0	6
Datsun 710	22.8	4
Hornet 4 Drive	21.4	6
Hornet Sportabout	18.7	8
Valiant	18.1	6
Duster 360	14.3	8
Merc 240D	24.4	4
Merc 230	22.8	4
Merc 280	19.2	6
Merc 280C	17.8	6
Merc 450SE	16.4	8
Merc 450SL	17.3	8
Merc 450SLC	15.2	8
Cadillac Fleetwood	10.4	8
Lincoln Continental	10.4	8

Showing 1 to 16 of 32 entries, 2 total columns

```
boxplot(mpg ~ cyl, data = mtcars, xlab = "number of cylinders", ylab = "miles per gallon", main = "mileage data")
```

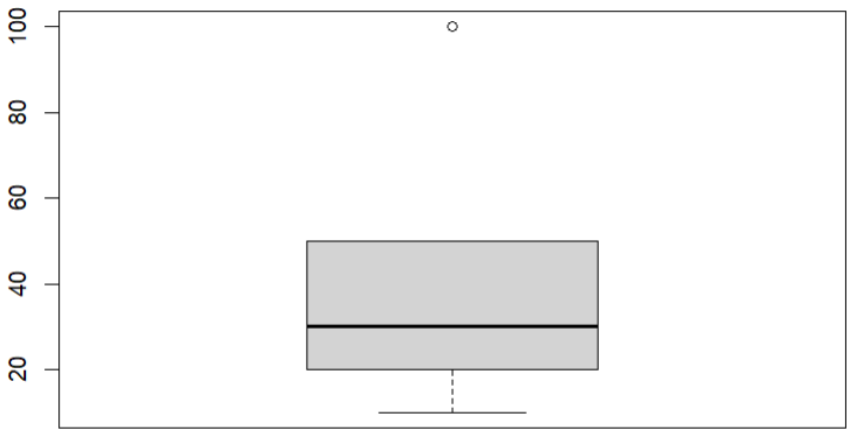



```
df <- subset(input, cyl == 8)
View(df)
```

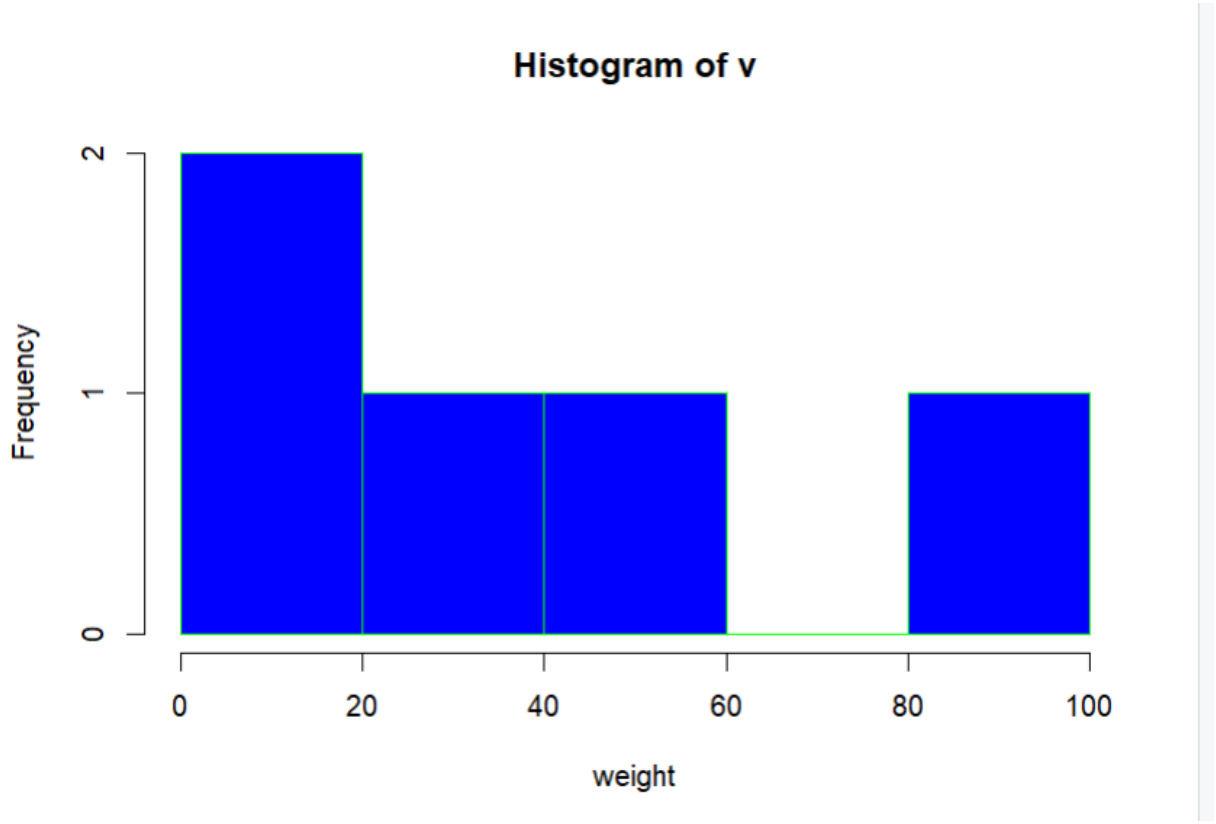
Filter

	mpg	cyl
Cadillac Fleetwood	10.4	8
Lincoln Continental	10.4	8
Camaro Z28	13.3	8
Duster 360	14.3	8
Chrysler Imperial	14.7	8
Maserati Bora	15.0	8
Merc 450SLC	15.2	8
AMC Javelin	15.2	8
Dodge Challenger	15.5	8
Ford Pantera L	15.8	8
Merc 450SE	16.4	8
Merc 450SL	17.3	8
Hornet Sportabout	18.7	8
Pontiac Firebird	19.2	8

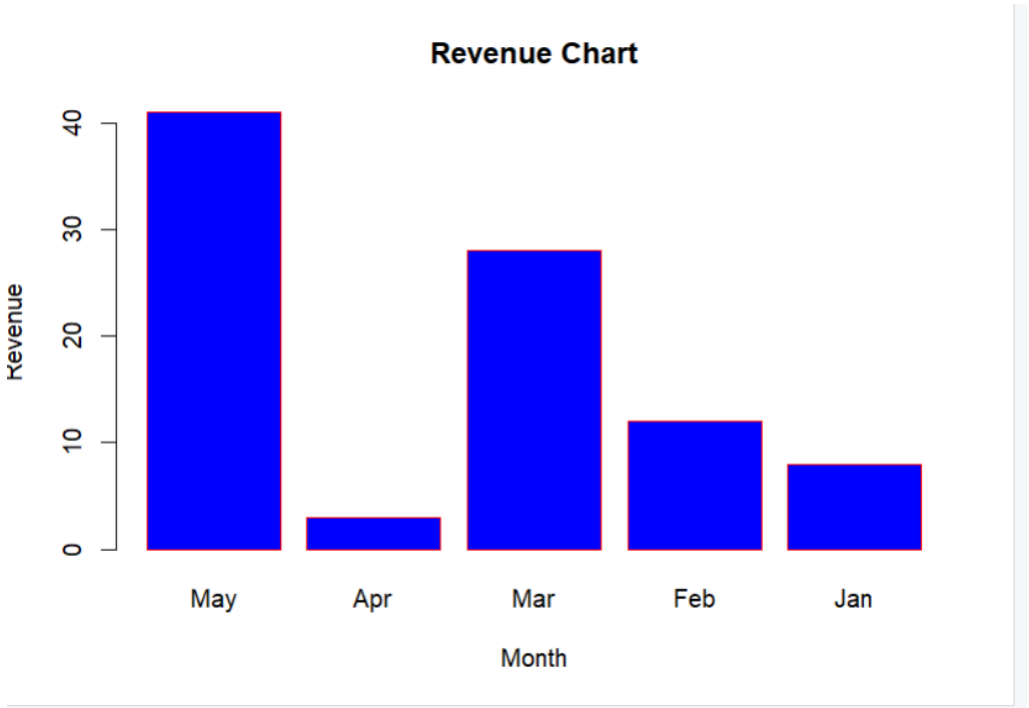
```
v=c(10, 20, 30, 50, 100)
boxplot(v)
```



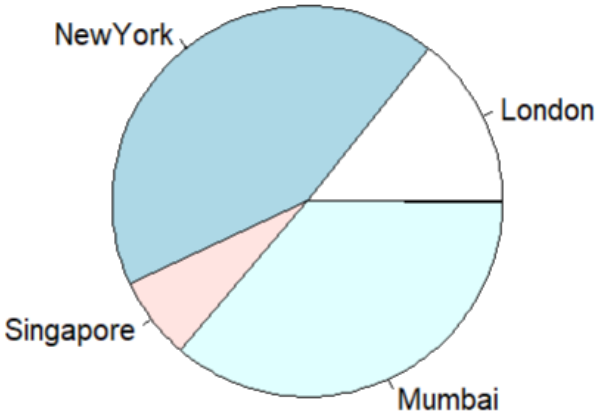

```
hist(v, xlab = "weight", col = "blue", border="green")
```




```
H <- c(8,12,28,3,41)
M <- c("Jan", "Feb", "Mar", "Apr", "May")
H <- rev(H)
M <- rev(M)
barplot(H, names.arg = M, xlab = "Month", ylab = "Revenue", col = "blue", main = "Revenue Chart",
border = "red")
```




```
x <- c(21, 62, 10, 53)
labels <- c("London", "NewYork", "Singapore", "Mumbai")
pie(x, labels=labels)
```



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