Stat123_MT#1

#VNUM: V01003221

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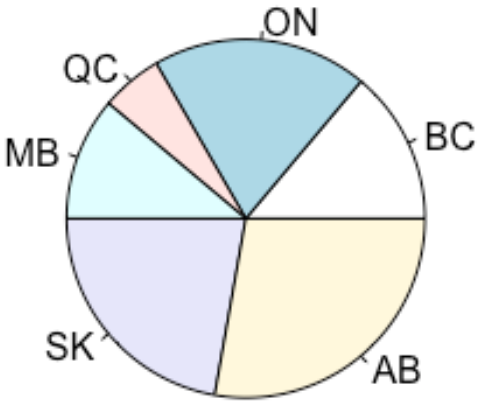
```
#a)
hours <- c(25,35,10,20,40,50)
sum_hours <- sum(hours)
avg_hours <- mean(hours)
len_hours <- length(hours)
len_hours

[1] 6

sum_hours

[1] 180

avg_hours

[1] 30

#b)
df <- data.frame(hours, c("BC","ON","QC","MB","SK","AB"))
names(df[,1]) <- df[,2]

#c)
hours <- df[,1]
names(hours) <- df[,2]
pie(hours)
```



The length of this sample is 6

The total in of the hours is 180

The average hours from these numbers is 30

```
#2
#a)
Protein <- read.csv("protein.csv")
#b)
colnames(Protein)
```

```
 [1] "Country"   "RedMeat"   "WhiteMeat" "Eggs"      "Milk"      "Fish"
 [7] "Cereals"   "Starch"    "Nuts"      "Fr.Veg"
```

```
#c)
class(Protein)
```

```
[1] "data.frame"
```

```
#d)
ProteinMatrix <- as.matrix(Protein[,c(2,3)])
ProteinMatrix
```

```
      RedMeat WhiteMeat
 [1,]    10.1       1.4
 [2,]     8.9      14.0
 [3,]    13.5       9.3
 [4,]     7.8       6.0
 [5,]     9.7      11.4
 [6,]    10.6      10.8
 [7,]     8.4      11.6
 [8,]     9.5       4.9
 [9,]    18.0       9.9
[10,]    10.2       3.0
[11,]     5.3      12.4
[12,]    13.9      10.0
[13,]     9.0       5.1
[14,]     9.5      13.6
[15,]     9.4       4.7
[16,]     6.9      10.2
[17,]     6.2       3.7
[18,]     6.2       6.3
[19,]     7.1       3.4
[20,]     9.9       7.8
[21,]    13.1      10.1
[22,]    17.4       5.7
[23,]     9.3       4.6
[24,]    11.4      12.5
[25,]     4.4       5.0
```

```
#e)
names(ProteinMatrix) <- c("Beef", "Chicken")
ProteinMatrix
```

```
      RedMeat WhiteMeat
 [1,]    10.1       1.4
 [2,]     8.9      14.0
 [3,]    13.5       9.3
 [4,]     7.8       6.0
 [5,]     9.7      11.4
 [6,]    10.6      10.8
 [7,]     8.4      11.6
 [8,]     9.5       4.9
 [9,]    18.0       9.9
[10,]    10.2       3.0
[11,]     5.3      12.4
[12,]    13.9      10.0
[13,]     9.0       5.1
[14,]     9.5      13.6
[15,]     9.4       4.7
[16,]     6.9      10.2
[17,]     6.2       3.7
[18,]     6.2       6.3
```

```
[19,]     7.1       3.4
[20,]     9.9       7.8
[21,]    13.1      10.1
[22,]    17.4       5.7
[23,]     9.3       4.6
[24,]    11.4      12.5
[25,]     4.4       5.0
attr(,"names")
 [1] "Beef"    "Chicken" NA        NA        NA        NA        NA
 [8] NA        NA        NA        NA        NA        NA        NA
[15] NA        NA        NA        NA        NA        NA        NA
[22] NA        NA        NA        NA        NA        NA        NA
[29] NA        NA        NA        NA        NA        NA        NA
[36] NA        NA        NA        NA        NA        NA        NA
[43] NA        NA        NA        NA        NA        NA        NA
[50] NA
```

The names are: Country, RedMeat, WhiteMeat, Eggs, Milk, Fish, Cereals, Starch, Nutes, Fr.Veg

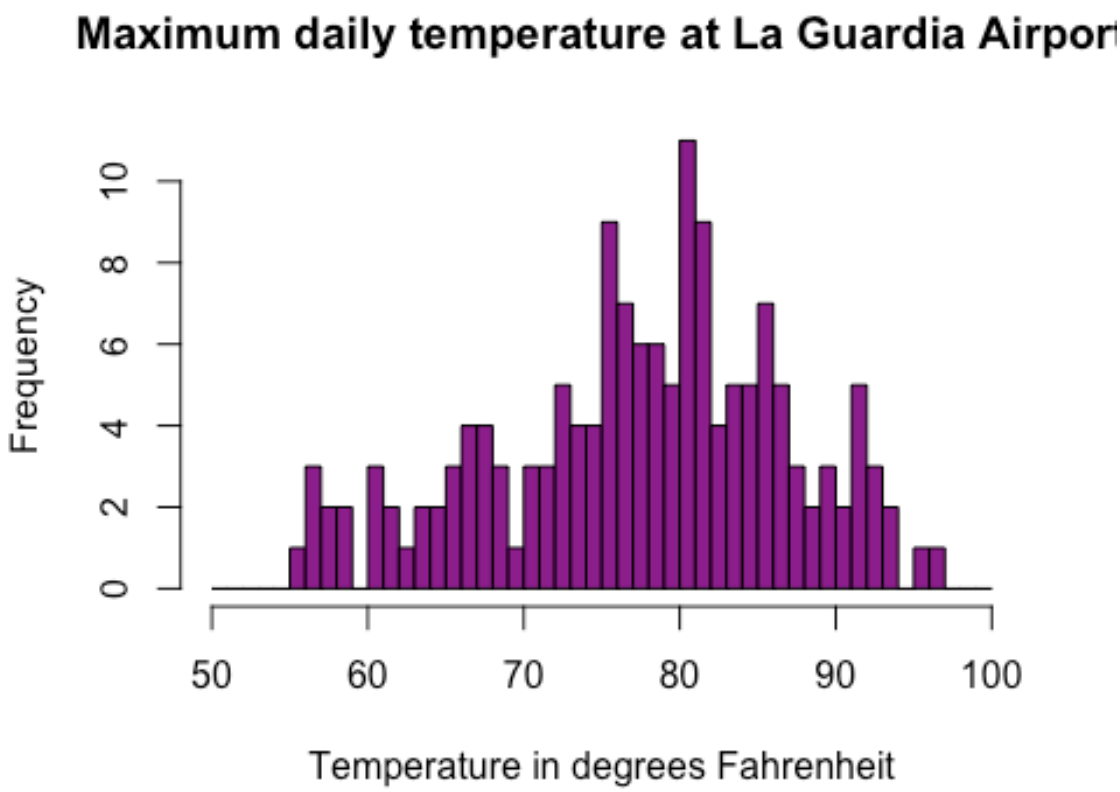
Protein is a data frame

```
#3a)
head(airquality)
```

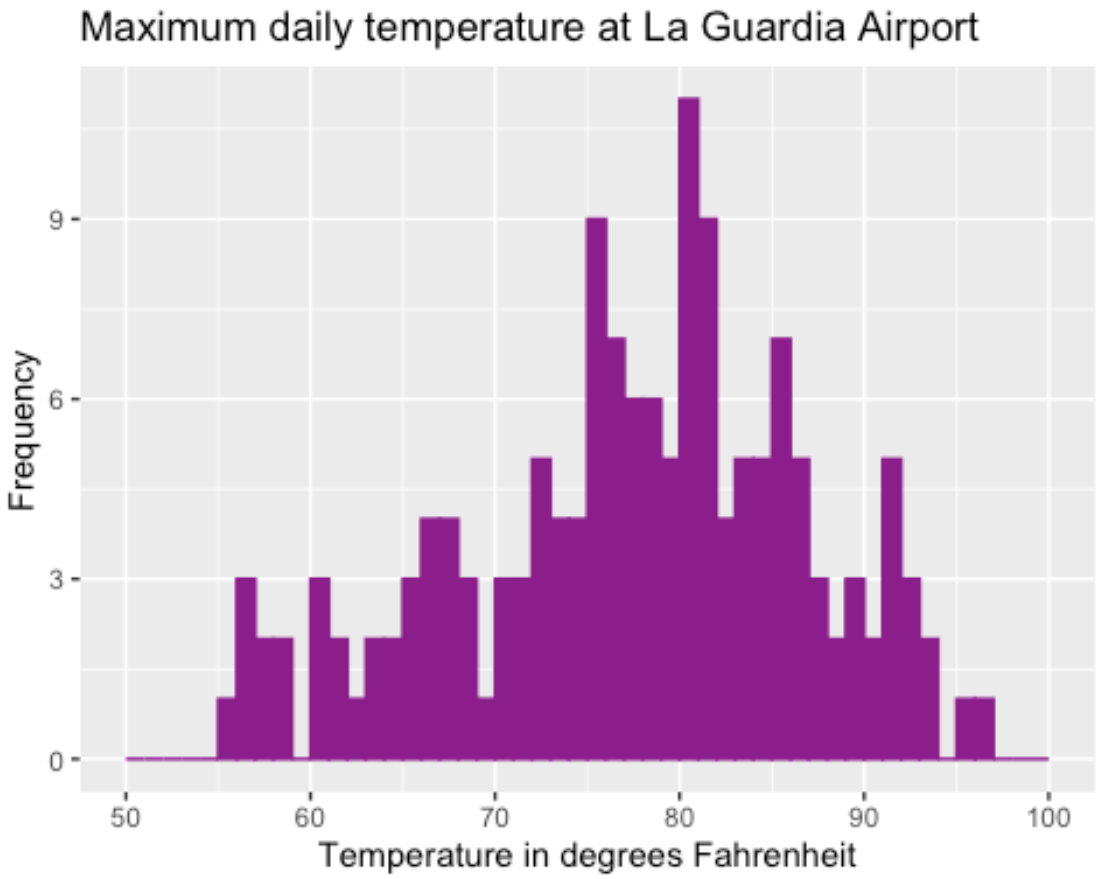
```
  Ozone Solar.R Wind Temp Month Day
1    41     190  7.4   67     5   1
2    36     118  8.0   72     5   2
3    12     149 12.6   74     5   3
4    18     313 11.5   62     5   4
5    NA      NA 14.3   56     5   5
6    28      NA 14.9   66     5   6
```

```
hist(airquality$Temp, main = "Maximum daily temperature at La Guardia
Airport", xlab = "Temperature in degrees Fahrenheit", breaks = seq(50,100),
col = "darkmagenta", fill = "darkmagenta")
```

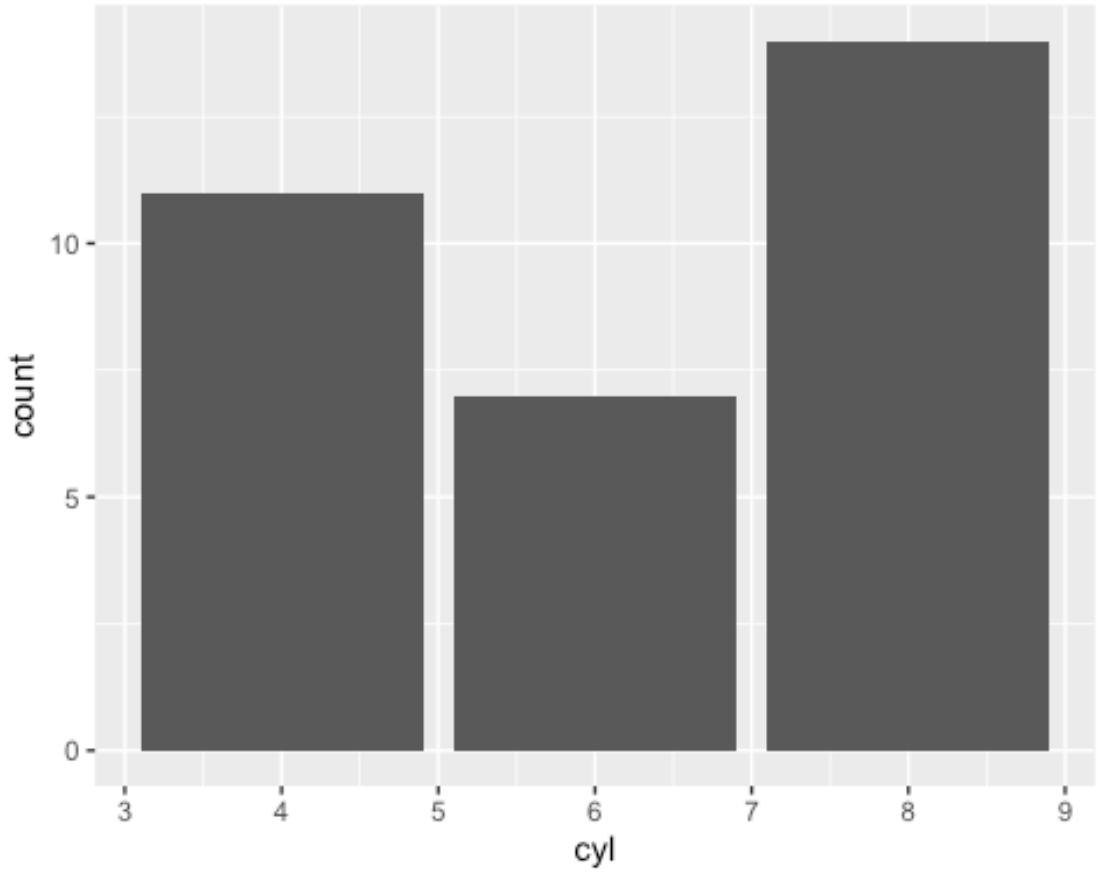
```
Warning in plot.window(xlim, ylim, "", ...): "fill" is not a graphical
parameter

Warning in title(main = main, sub = sub, xlab = xlab, ylab = ylab, ...):
"fill"
is not a graphical parameter

Warning in axis(1, ...): "fill" is not a graphical parameter

Warning in axis(2, at = yt, ...): "fill" is not a graphical parameter
```



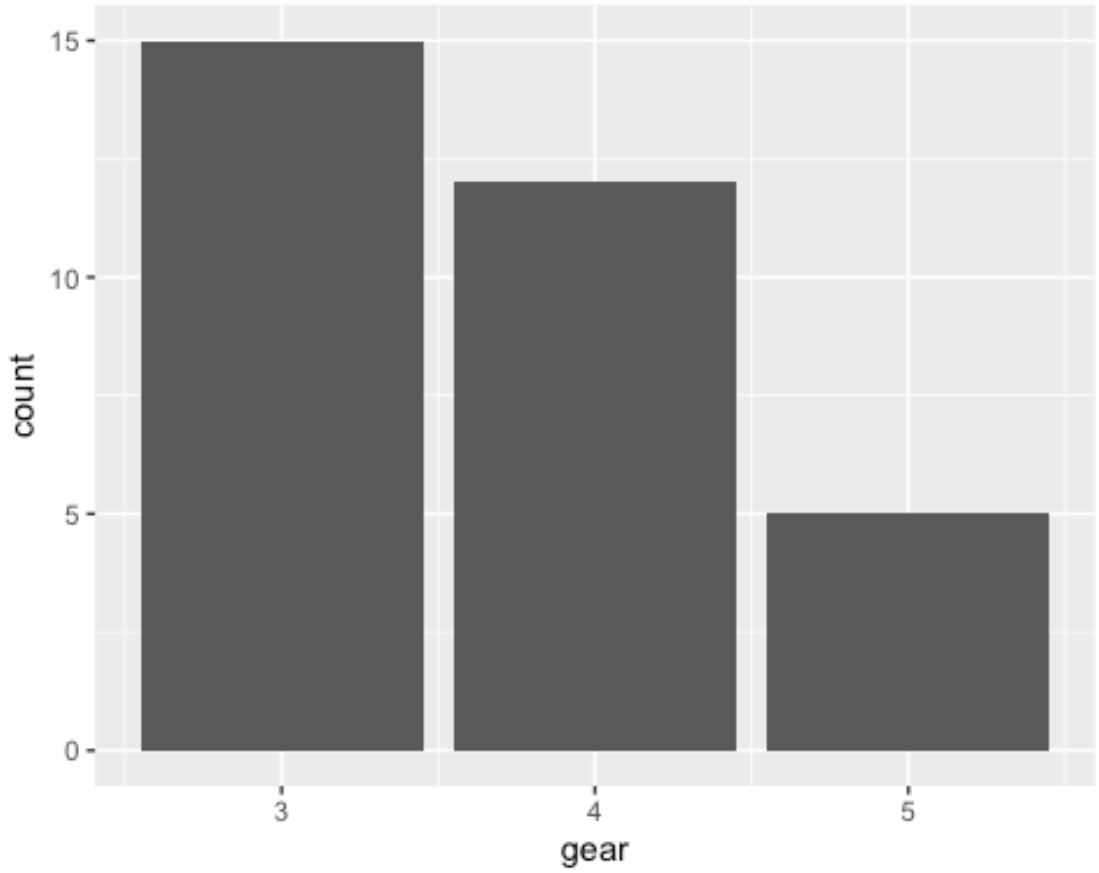

```
#b)
library(ggplot2)
ggplot(airquality, aes(x = Temp)) + geom_histogram(breaks = seq(50,100), col
= "darkmagenta", fill = "darkmagenta") + labs(x = "Temperature in degrees
Fahrenheit", title = "Maximum daily temperature at La Guardia Airport", y =
"Frequency")
```



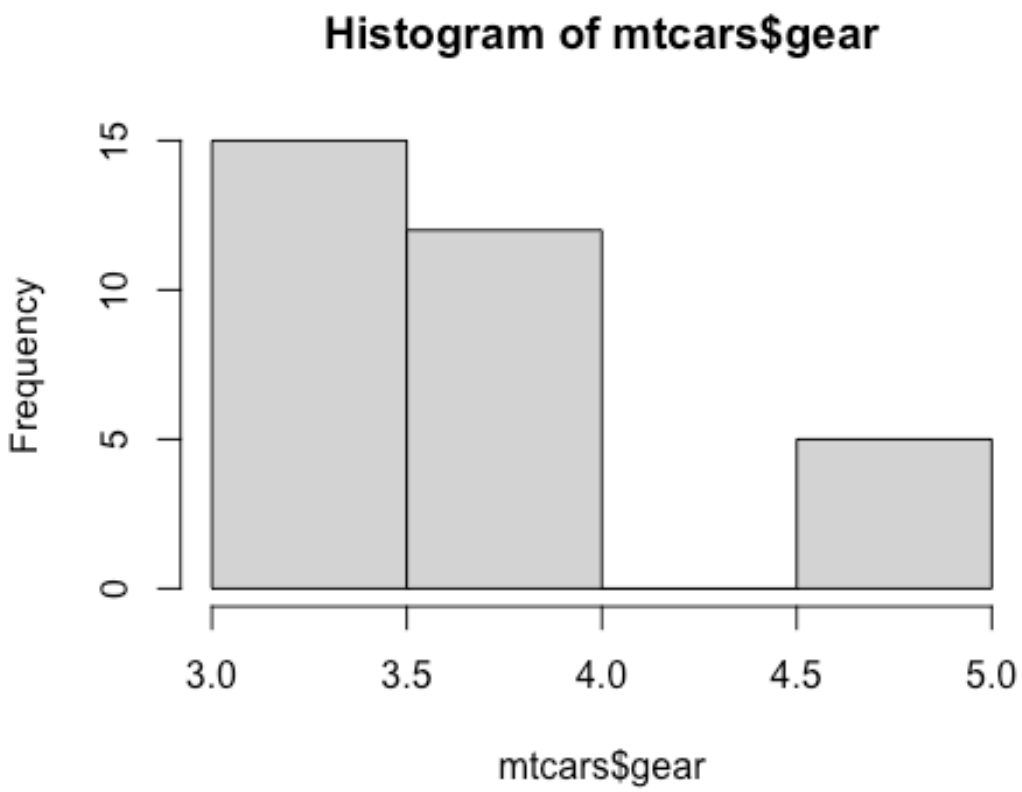

```
?par
gear=as.factor(mtcars$gear)
disp=as.factor(mtcars$disp)

library(ggplot2)
ggplot(mtcars, aes(x = cyl)) + geom_bar()
```



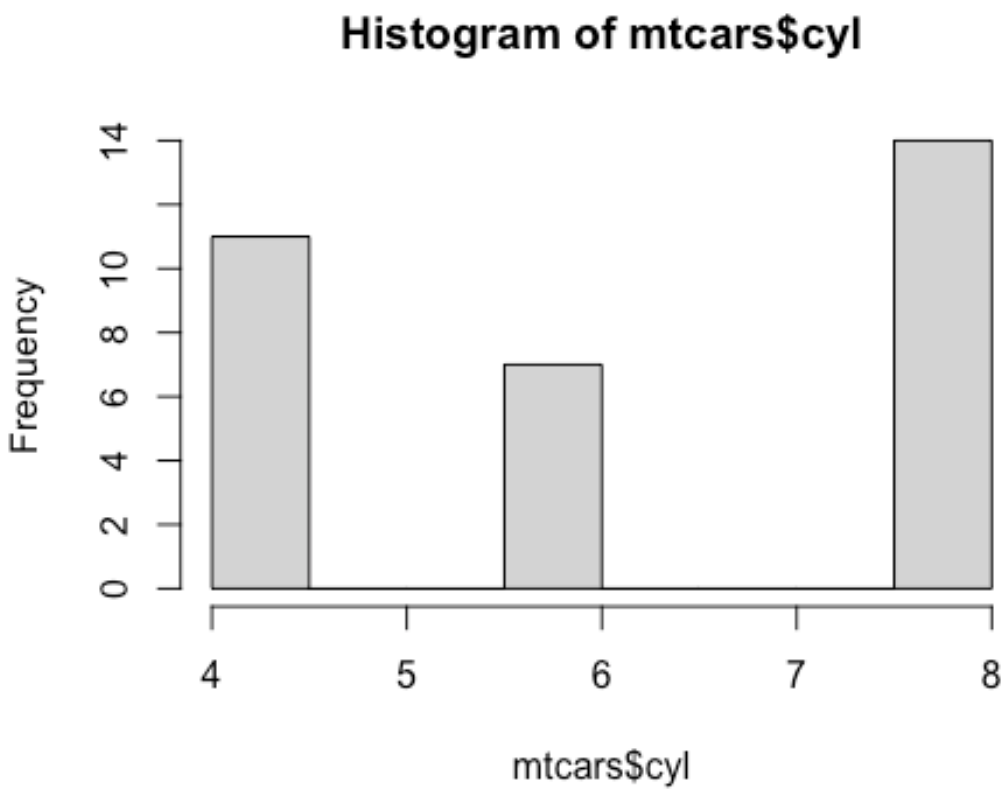

```
ggplot(mtcars, aes(x = gear)) + geom_bar()
```




```
hist(mtcars$gear)
```




```
hist(mtcars$cyl)
```


Histogram of mtcars$cyl
Frequency
0
2
4
6
8
10
14
4
5
6
7
8
mtcars$cyl

```
?hist
```