BeSTMod6-Plot1

2017

This demonstrates simple plots and then the use of lattice

Basic plots in R

Input the data of one variable

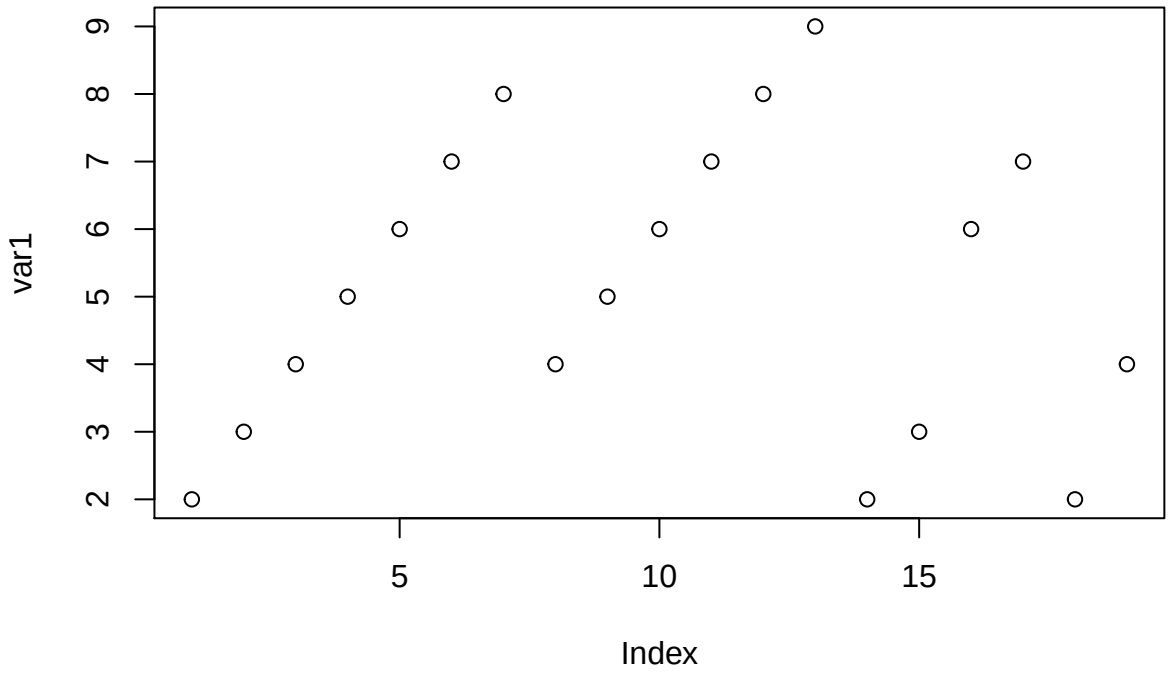
and then plot

One variable

```
var1 <- c(2,3,4,5,6,7,8,4,5,6,7,8,9,2,3,6,7,2,4)
mode(var1)
```

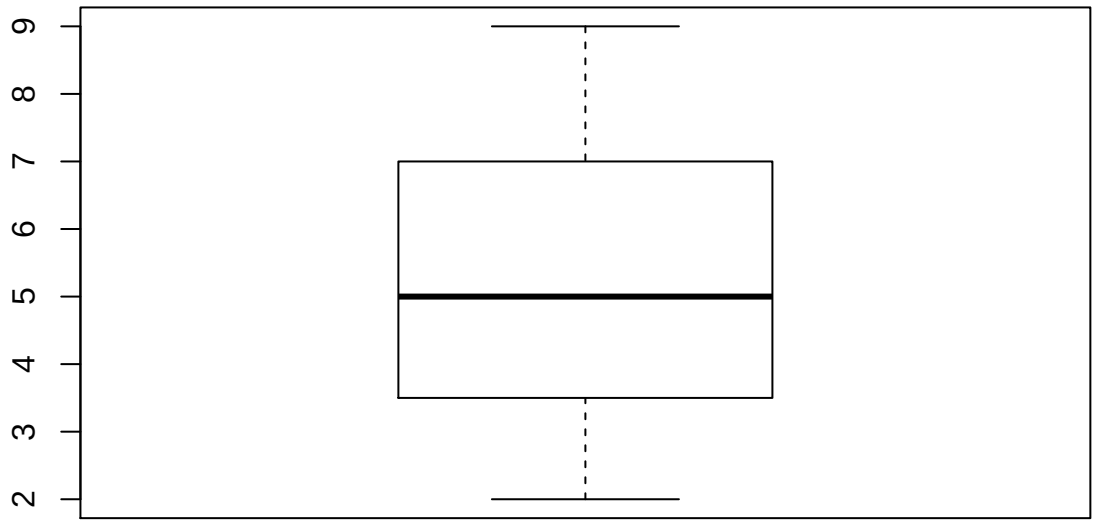
```
## [1] "numeric"
```

```
plot(var1)
```




```
hist(var1)
```


```
boxplot(var1)
```



Two variables

Each entered separately

plot for one variable gives x axis as the order of entry.

histogram is given with simple bins provided

Boxplot for the variable.

- Only if the variable is numeric

Combine two vectors and make a dataframe

Request some statistics (mean, n and sd)

calculate the standard error of the mean

```
var2 <- c(5,6,7,8,9,2,3,2,3,4,5,6,7,8,4,6,7,2,4)
dat3 <- cbind(var1,var2)
dat3 <- as.data.frame(dat3)
str(dat3)
```

```
## 'data.frame':    19 obs. of  2 variables:
##  $ var1: num  2 3 4 5 6 7 8 4 5 6 ...
##  $ var2: num  5 6 7 8 9 2 3 2 3 4 ...
```

```
sdv1 <- sd(dat3$var1)
lvar1 <-  length(dat3$var1)
meanvar1 <- mean(dat3$var1)
SEMvar1  <-  sdv1/(sqrt(lvar1))

sdv2 <- sd(dat3$var2)
lvar2 <-  length(dat3$var2)
meanvar2 <- mean(dat3$var2)
SEMvar2  <-  sdv1/(sqrt(lvar2))
```

print mean and sem for each variable

```
meanvar1
```

```
## [1] 5.157895
```

```
SEMvar1
```

```
## [1] 0.502992
```

```
meanvar2
```

```
## [1] 5.157895
```

```
SEMvar2
```

```
## [1] 0.502992
```

Another simple plot

It is data measuring if the mucociliary efficiency in the rate of dust removal is different among normal subjects, subjects with obstructive airway disease, and subjects with asbestosis

```
library(lattice)
```

```
## Warning: package 'lattice' was built under R version 3.3.3
```

```
Input =(" Obs Health Efficiency
  1       Normal 2.9
  2       Normal 3.0
  3       Normal 2.5
  4       Normal 2.6
  5       Normal 3.2
  6       OAD 3.8
  7       OAD 2.7
  8       OAD 4.0
  9       OAD 2.4
  10      Asbestosis 2.8
  11      Asbestosis 3.4
  12      Asbestosis 3.7
  13      Asbestosis 2.2
  14      Asbestosis 2.0 ")

Data = read.table(textConnection(Input),header=TRUE)
histogram(~ Efficiency | Health, data=Data, layout=c(1,3))
```