Assignment 0

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In this assignment we learn how to write simple scripts with R to do simple tasks.

The document containing instructions and Todos can be downloaded from here.

Github has been used to store each step of the process. A commit has been pushed to my repository after each Todo. The username used for github: **malavi3**

My repository can be reached here

The code and output for each Todo is mentioned below.

Todo 1

```
((2017-2014)/(2014-1993))*100
```

```
## [1] 14.28571
```

Todo 2

```
a = 2014
b = 2017
c = 1993
((b-a)/(a-c))*100
```

```
## [1] 14.28571
```

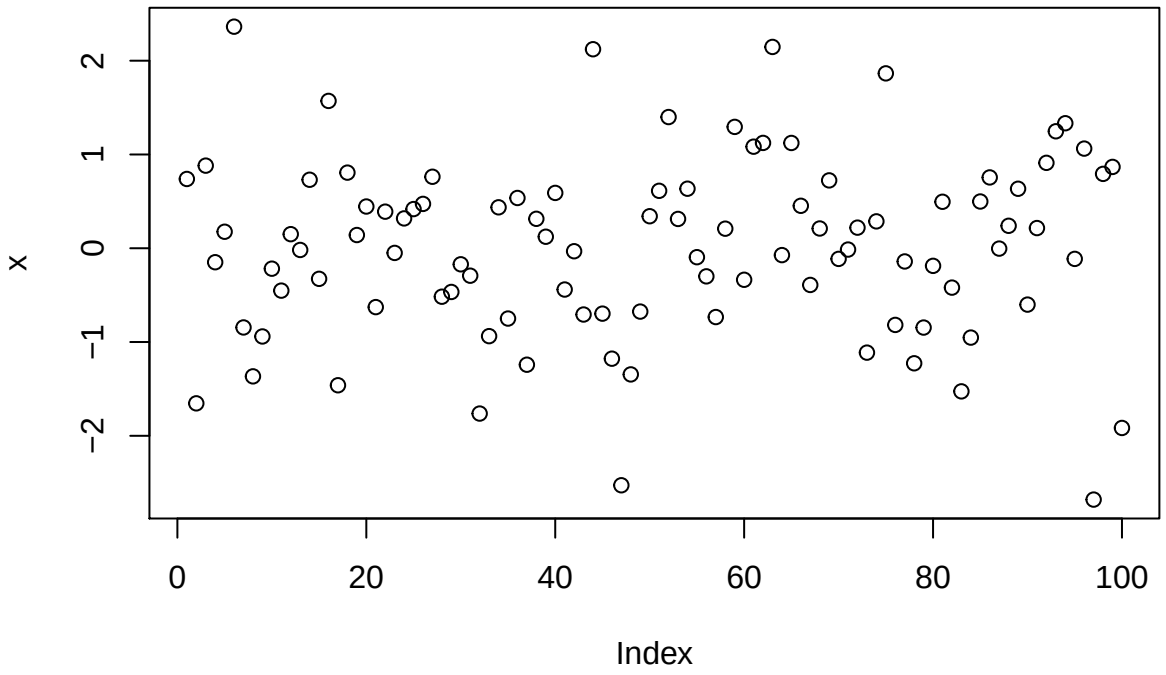
Todo 3

```
a=c(4,5,8,11)
sum(a)
```

```
## [1] 28
```

Todo 4

```
x=rnorm(100)
plot(x)
```

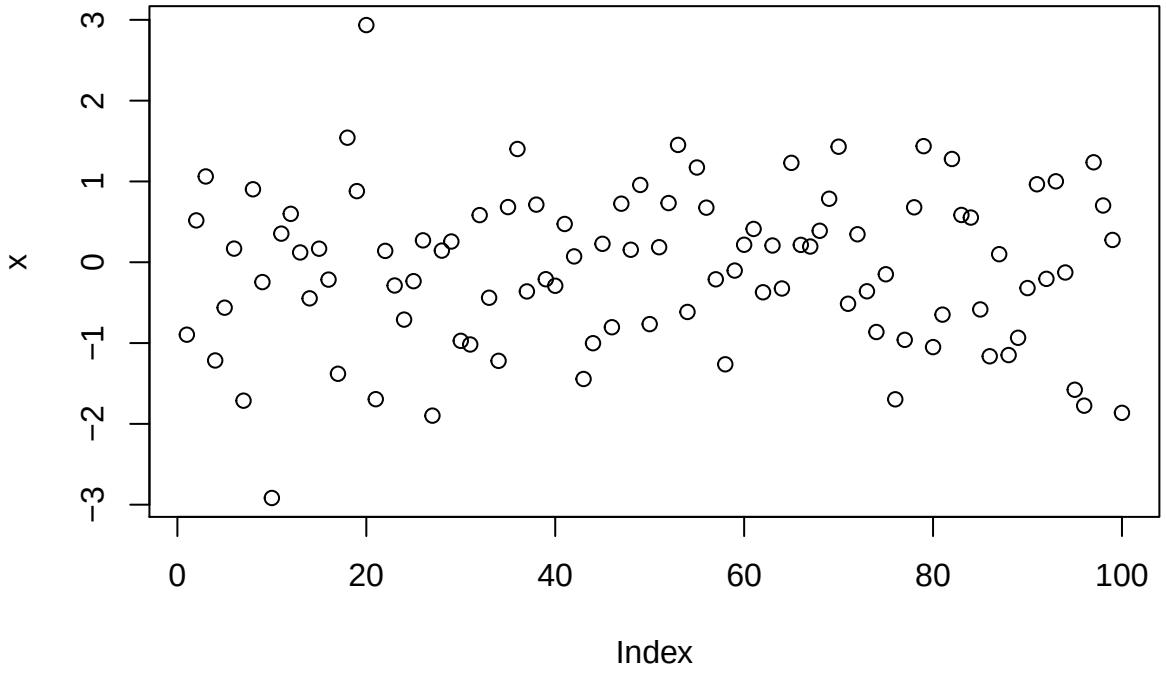


Todo 5

```
help(sqrt)
```

Todo 6

```
source("~/srtgit/firstscript.R")
```



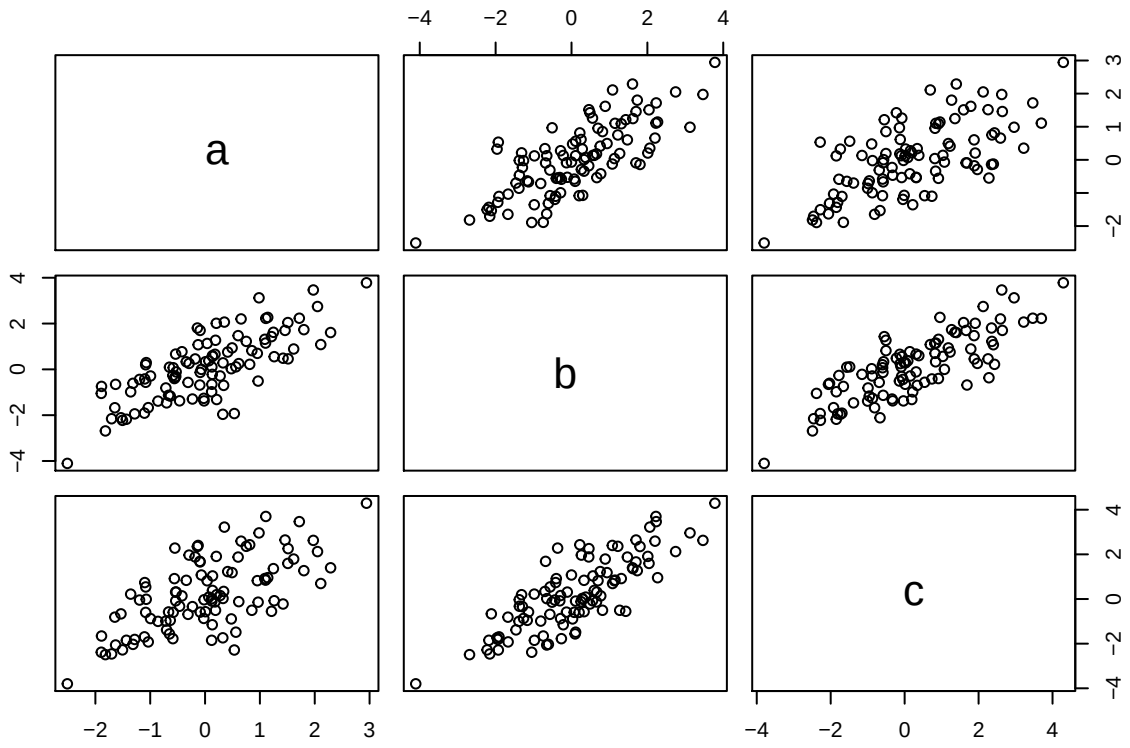
Todo 7

```r
P = seq(from=31, to=60, by=1)
Q = matrix(data=P,ncol=5,nrow=6)
Q
```

```
##      [,1] [,2] [,3] [,4] [,5]
## [1,]   31   37   43   49   55
## [2,]   32   38   44   50   56
## [3,]   33   39   45   51   57
## [4,]   34   40   46   52   58
## [5,]   35   41   47   53   59
## [6,]   36   42   48   54   60
```

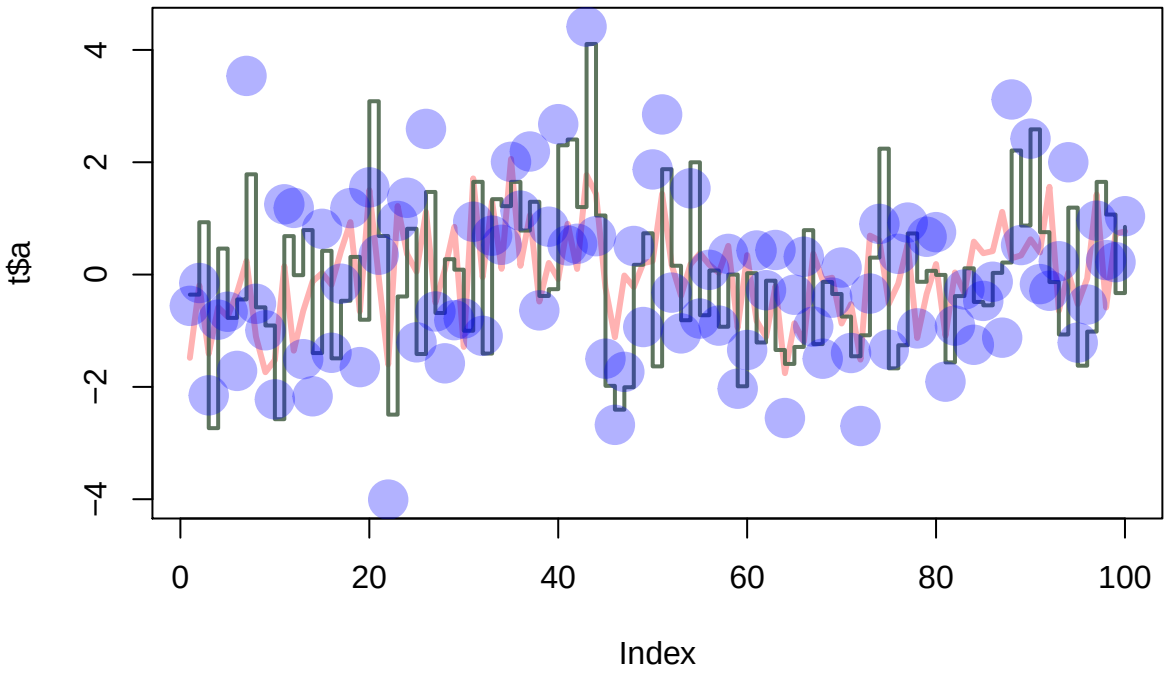
Todo 8

```r
x1=c(rnorm(100))
x2=c(rnorm(100))
x3=c(rnorm(100))
t=data.frame(a=c(x1), b=c(x1+x2), c=c(x1+x2+x3))
plot(t)
```



Todo 9

```r
x1=c(rnorm(100))
x2=c(rnorm(100))
x3=c(rnorm(100))
t=data.frame(a=c(x1), b=c(x1+x2), c=c(x1+x2+x3))
plot(t$a, type="l", ylim=range(t), lwd=3, col=rgb(1,0,0,0.3))
lines(t$b, type="s", lwd=2, col=rgb(0.3,0.4,0.3,0.9))
points(t$c, pch=20, cex=4, col=rgb(0,0,1,0.3))
```



Todo 10

```
d2 = read.table(file="~/srtgit/tst1.txt", header=TRUE)
d2$g <- d2$g*5
write.table(d2, file="~/srtgit/tst2.txt", row.names=FALSE)
```

Todo 11

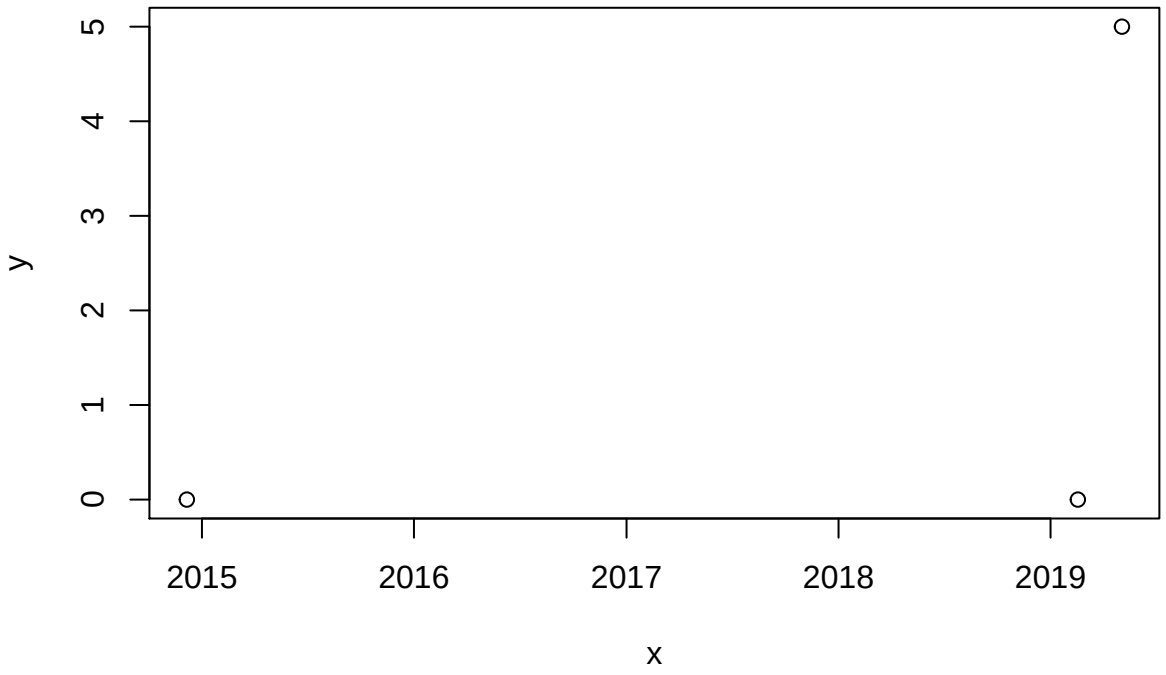
In this Todo I used pmax with sqrt as without it a NANS error would be given.

```
a=rnorm(100)
b=sqrt(pmax(0,a))
mean(b)
```

```
## [1] 0.3640083
```

Todo 12

```
x=strptime(c("20190217", "20141206", "20190504"), format="%Y%m%d")
y=c(0,0,5)
plot(x,y)
```



Todo Extra

```
a=1:100
a[1:4] <- a[1:4]*10
a[91:100] <- a[91:100]*10
a[5:90] <- a[5:90]*0.1
a
```

```
##   [1]   10.0   20.0   30.0   40.0    0.5    0.6    0.7    0.8    0.9    1.0
##  [11]    1.1    1.2    1.3    1.4    1.5    1.6    1.7    1.8    1.9    2.0
##  [21]    2.1    2.2    2.3    2.4    2.5    2.6    2.7    2.8    2.9    3.0
##  [31]    3.1    3.2    3.3    3.4    3.5    3.6    3.7    3.8    3.9    4.0
##  [41]    4.1    4.2    4.3    4.4    4.5    4.6    4.7    4.8    4.9    5.0
##  [51]    5.1    5.2    5.3    5.4    5.5    5.6    5.7    5.8    5.9    6.0
##  [61]    6.1    6.2    6.3    6.4    6.5    6.6    6.7    6.8    6.9    7.0
##  [71]    7.1    7.2    7.3    7.4    7.5    7.6    7.7    7.8    7.9    8.0
##  [81]    8.1    8.2    8.3    8.4    8.5    8.6    8.7    8.8    8.9    9.0
##  [91]  910.0  920.0  930.0  940.0  950.0  960.0  970.0  980.0  990.0 1000.0
```

Resources

How to present data in Github

How to use rmarkdown with rstudio