SRT Assignment 0

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References https://cran.r-project.org/doc/contrib/Torfs+Brauer-Short-R-Intro.pdf

```
#3.1 Calculating life spent in College.
((2016-2014)/(2014-1996))*100
```

```
## [1] 11.11111
```

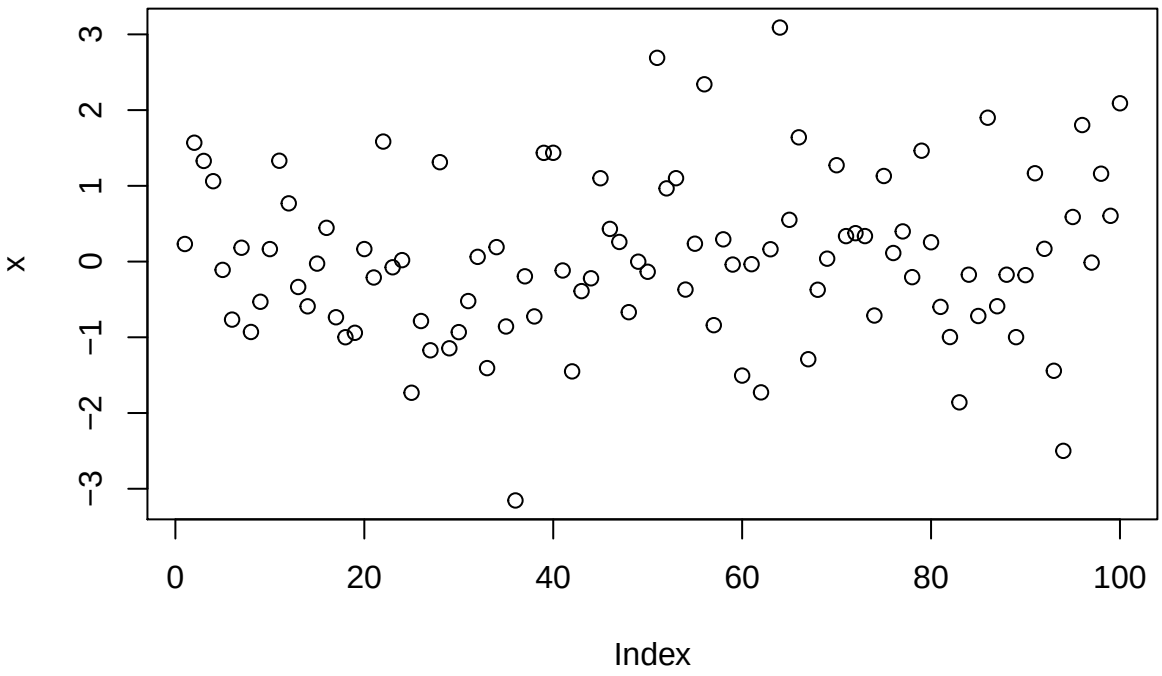
```
#3.2 Using Variables on 3.1
year_start = 2016
base_year = 2014
year_born = 1996
((year_start-base_year)/(base_year-year_born)) * 100
```

```
## [1] 11.11111
```

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

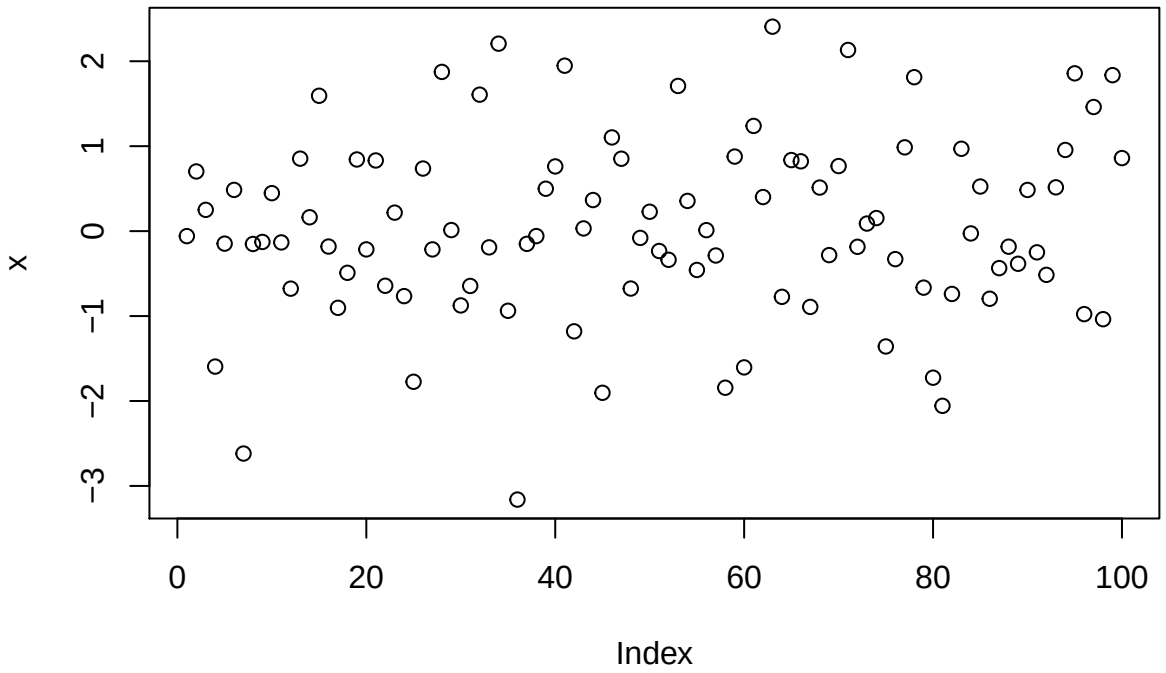
```
## [1] 28
```

```
#3.5 Plots
x = rnorm(100)
plot(x)
```




```
#4 Help and Documentations
help(sqrt)
```

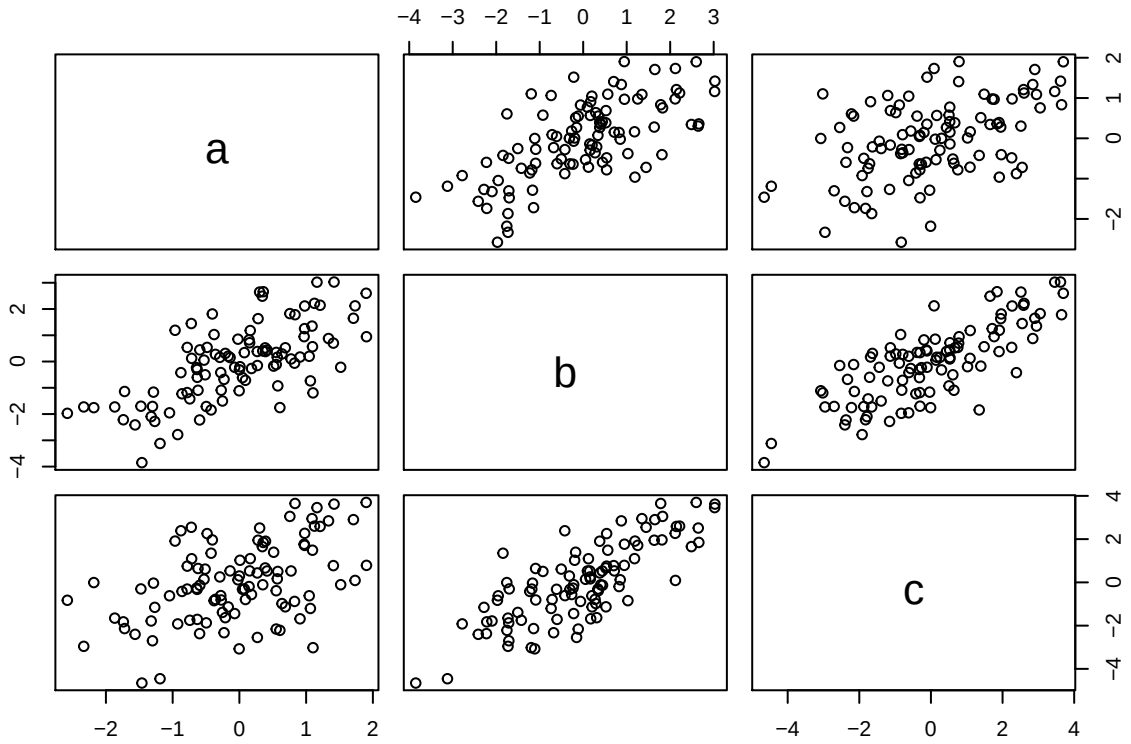
```
#5 Scripts
source("firstscript.R")
```



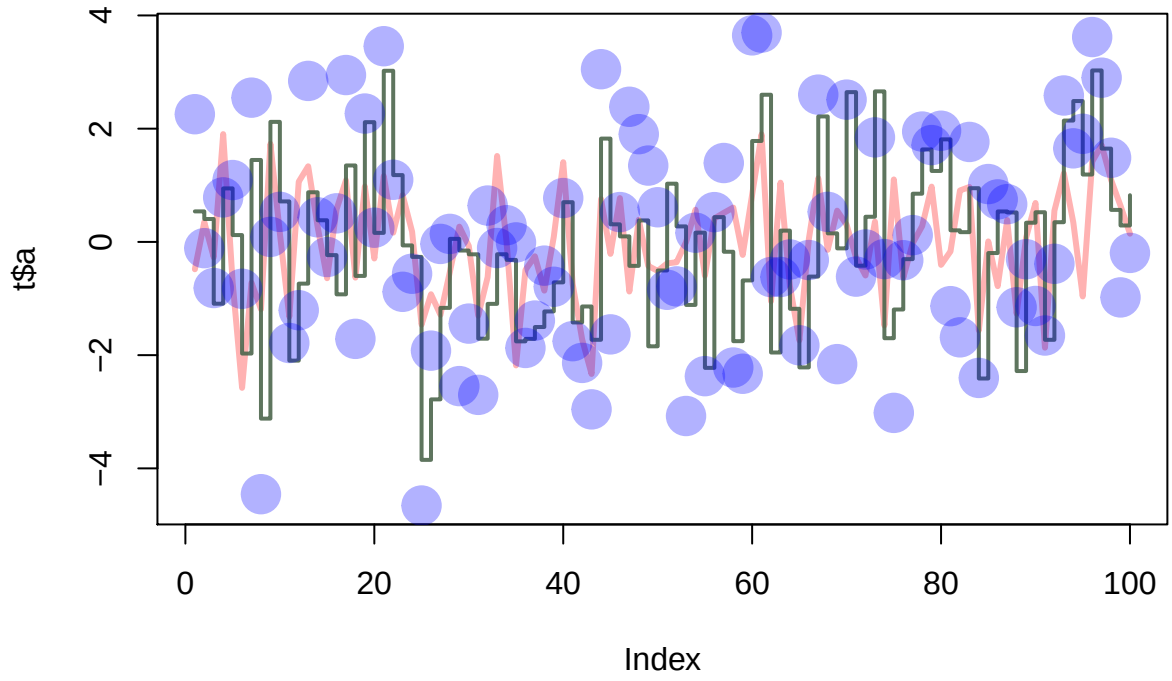

```
#6.2 Matrices
P = seq(from=31,to=60,by=1)
Q = matrix(data=P,ncol=5)
Q
```

```
##      [,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
```

```
#6.3 Data frames
x1 = rnorm(100)
x2 = rnorm(100)
x3 = rnorm(100)
t = data.frame(a = x1, b = x1+x2, c = x1+x2+x3)
plot(t)
```




```r
#7 Graphics -- Adds custom colors to your graph.
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))
```




```r
#8 Reading and writing data files.
d2 = read.table(file="tst1.txt", header=TRUE)
change = d2[2] * 5
write.table(change,file="tst2.txt",row.names=FALSE)
```

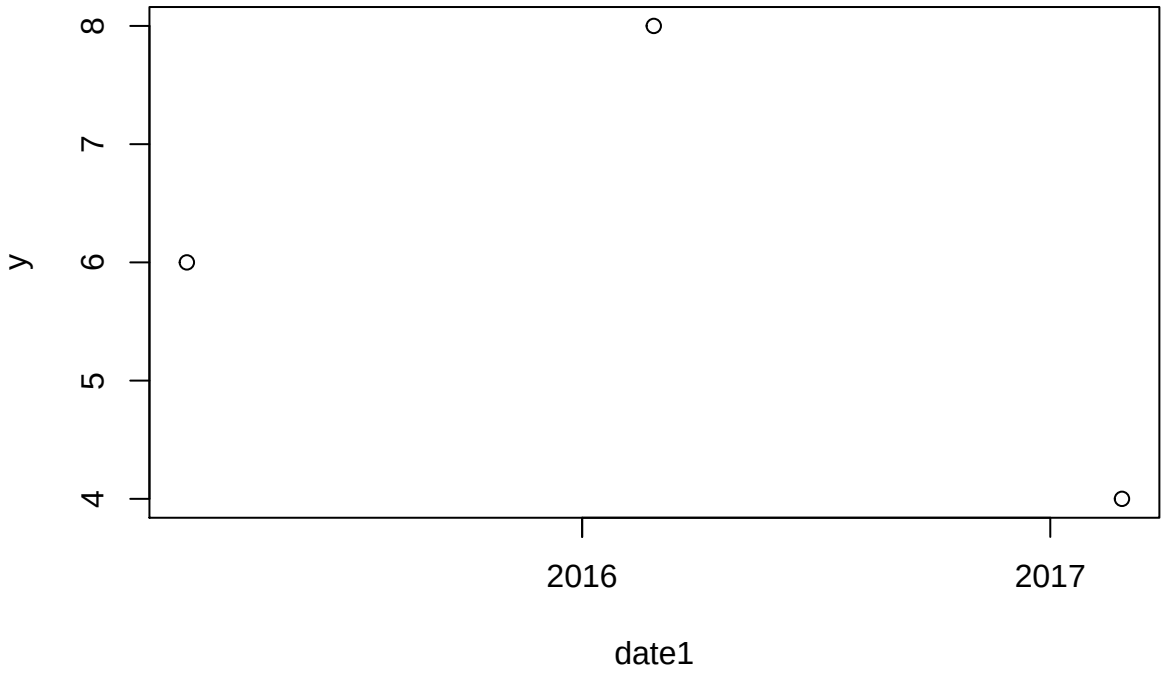
```r
#9 Not available data #[1] NaN
y = rnorm(100)
p = sqrt(y)
```

```
## Warning in sqrt(y): NaNs produced
```

```r
mean(p, na.rm=TRUE)
```

```
## [1] 0.863275
```

```r
#10 Classes
date1=strptime( c("20150225230000",
                  "20160226000000", "20170226010000"),
                format="%Y%m%d%H%M%S")
y = c(6,8,4)
plot(date1,y)
```




```r
#11.2 for loops
vector = c(seq(from=1,to=100,by=1))
for(i in vector){
  if ( (i < 5) | (i > 90) ){
    vector[i] = i * 10
  }else{
    vector[i] = i * 0.1
  }
}
```

```r
#Final Todo without for loop
fun1 = function(vector)
{
  vector<-ifelse(vector>90 | vector<5,vector*5,vector*0.1)
  vector
}
```

```r
vector = c(2,5,6,94)
fun1(vector)
```

```
## [1]  10.0   0.5   0.6 470.0
```