Assignment_0

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```
setwd("/root/Documents/SRT411/Assignment0")
```

3.2

```
a = (2017-2014)
b = (2014-1997)
c = 100
(a/b)*c
```

```
## [1] 17.64706
```

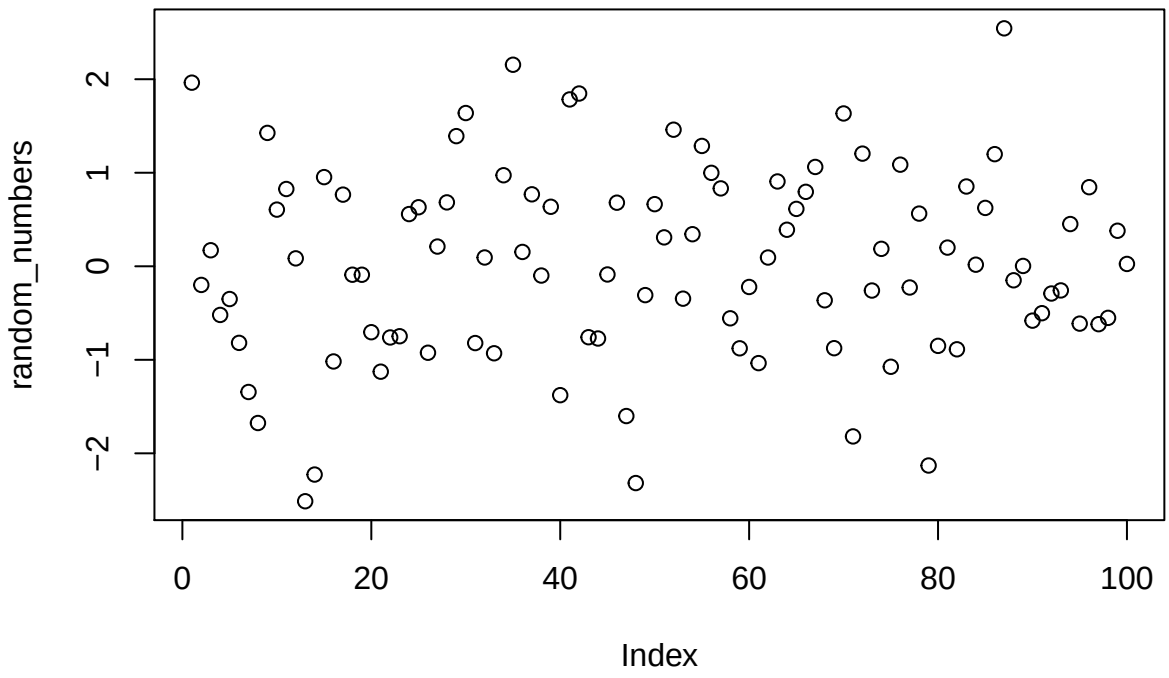
3.4

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

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

3.5

```
random_numbers=rnorm(100)
plot(random_numbers)
```

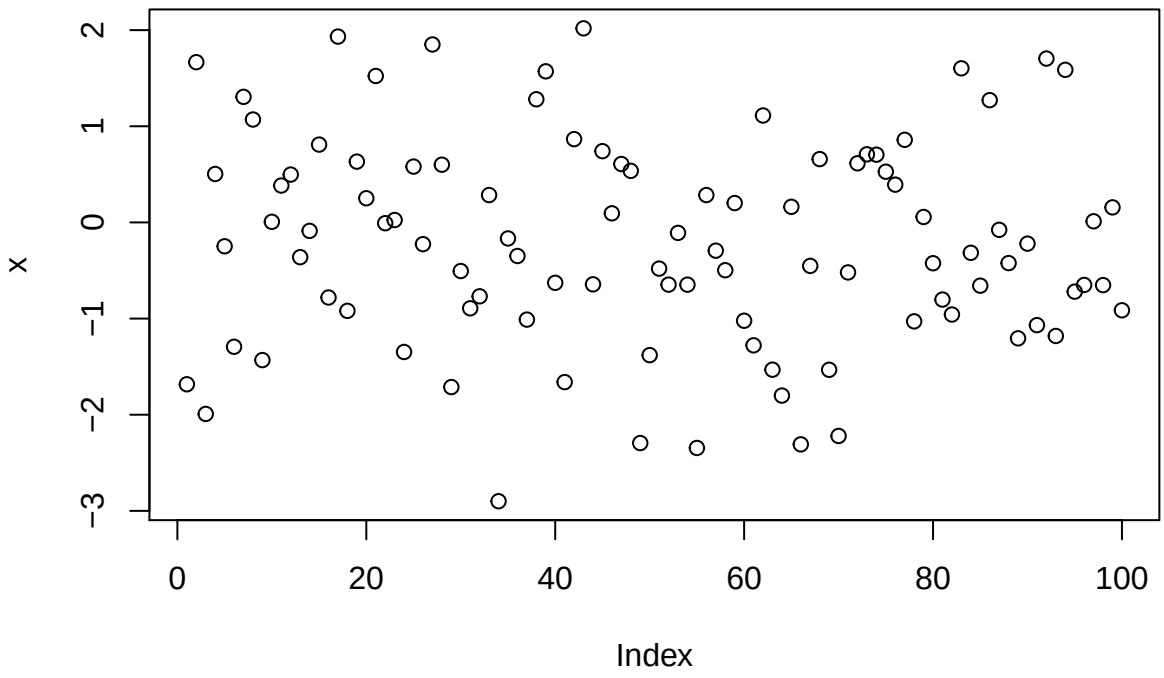


4.0

```
help(sqrt)
```

5.0

```
source("firstscript.R")
```



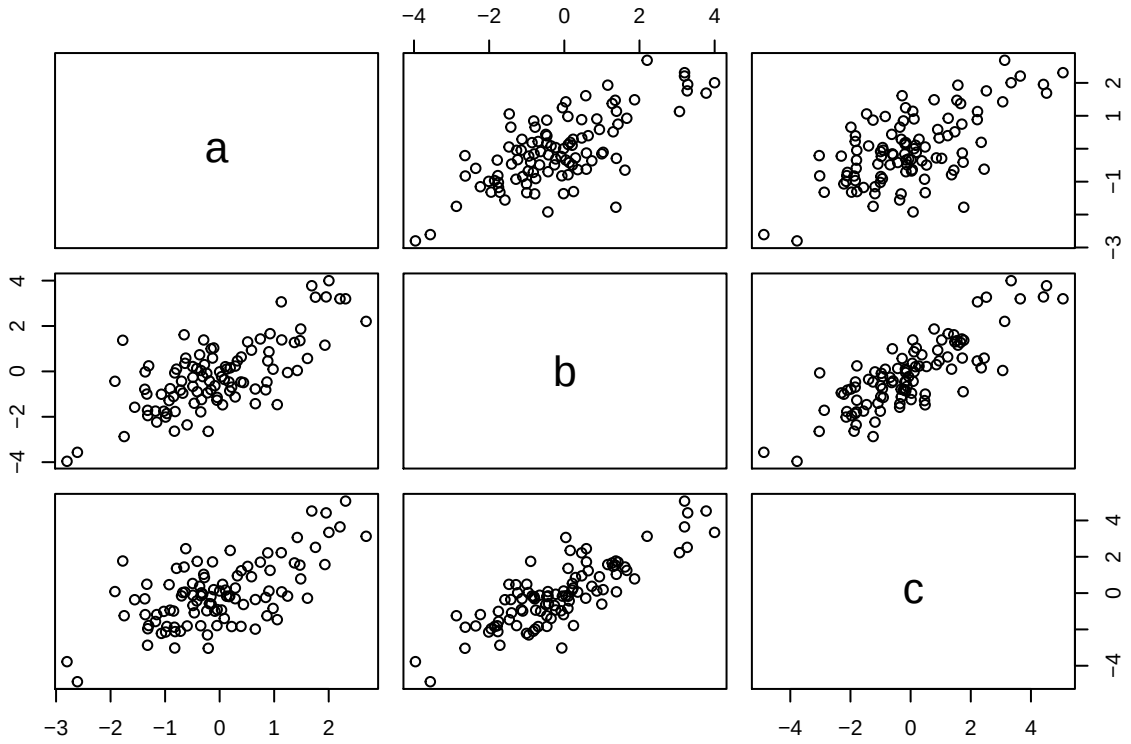
6.2

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

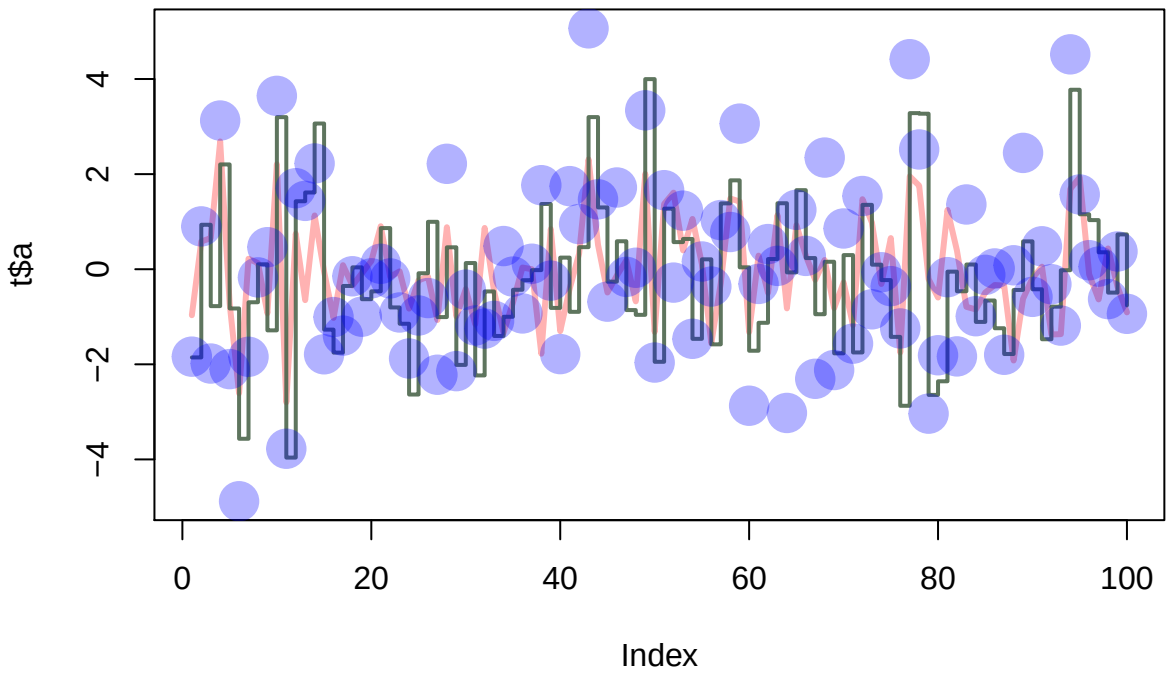
```
##      [,1] [,2] [,3] [,4] [,5]
## [1,]   31   37   43   49   55
## [2,]   32   38   44   50   56
## [3,]   33   39   45   51   57
## [4,]   34   40   46   52   58
## [5,]   35   41   47   53   59
## [6,]   36   42   48   54   60
```

6.3 and 7.0

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




```
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))
```



Q8.0

```
d = data.frame(a = c(3,4,5), b = c(12,43,54))
write.table(d, file="tst1.txt",row.names = FALSE)
d2 = read.table(file="tst1.txt",header = TRUE)
d2 = d$g * 5
d3 = write.table(d2, file="tst2.txt")
```

Q9.0

```
v <- rnorm(100)
v2 <- sqrt(v)
```

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

```
mean(v2)
```

```
## [1] NaN
```

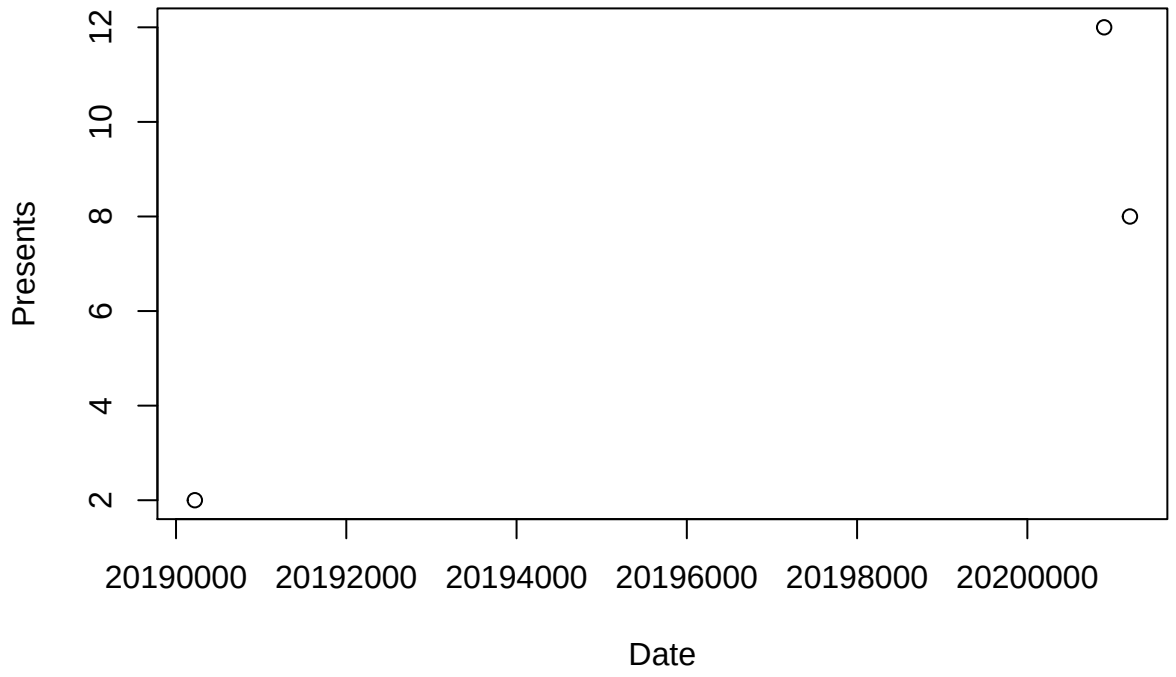
```
v2
```

```
##   [1]       NaN 0.6800534       NaN       NaN       NaN 0.1006676 0.9393614
##   [8] 0.7028552       NaN 0.8830608       NaN       NaN       NaN       NaN
##  [15]       NaN       NaN 0.6444940 0.9908460       NaN 0.7763266       NaN
##  [22] 1.2171617       NaN       NaN 0.3927004 0.4567952       NaN 1.1006949
```

```
##  [29] 0.5523171 0.5203902       NaN       NaN       NaN       NaN       NaN
##  [36] 1.0208343       NaN 0.8023580 0.7616830 0.8833119       NaN       NaN
##  [43] 0.7229044       NaN       NaN 0.9685501 0.8793825       NaN       NaN
##  [50]       NaN       NaN       NaN 0.8584161 0.5790151       NaN 1.1079329
##  [57] 1.2647597       NaN 0.4348972       NaN       NaN 1.2650133 0.5012134
##  [64] 0.9606262       NaN       NaN       NaN       NaN       NaN       NaN
##  [71] 0.4233828 0.3246800       NaN       NaN       NaN 0.6391247       NaN
##  [78] 0.4776484 1.0408069       NaN 0.5202233 0.8987729 0.7540386 1.3023807
##  [85] 0.6671716       NaN 0.5555275 0.8729939       NaN 1.0477853       NaN
##  [92]       NaN       NaN       NaN       NaN       NaN 0.7869080       NaN
##  [99]       NaN       NaN
```

Q10.2

```
Date <- c("20190221","20201205","20200902")
Presents <- c(2,8,12)
plot(Date,Presents)
```



Q11.2

```
num <- seq(from = 1, to = 100, by=1)
f=c()
for(d in 1:100)
{
```

```
if(num[d]<5 | num[d]>90)
  {f[d]=num[d]*10}
else
  {f[d]=num[d]*0.1}
}
f
```

```
##   [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
```

Q11.3

```
fun1 = function(arg1)
{len = length(arg1)
  for(q in 1:len)
{if (arg1[q] < 5 | arg1[q] > 90)
{arg1[q] = arg1[q] * 10}
else
{arg1[q] = arg1[q] * 0.1}}
  return (arg1)
}
m=5:40
fun1(arg1=m)
```

```
##  [1] 0.5 0.6 0.7 0.8 0.9 1.0 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2.0 2.1
## [18] 2.2 2.3 2.4 2.5 2.6 2.7 2.8 2.9 3.0 3.1 3.2 3.3 3.4 3.5 3.6 3.7 3.8
## [35] 3.9 4.0
```