함수를 이용한 그림그리기

1. 선 그래프
2. 히스토그램
3. 산포도
4. 상자그래프
5. 원그래프
6. 막대그래프
7. 잎-줄기그래프

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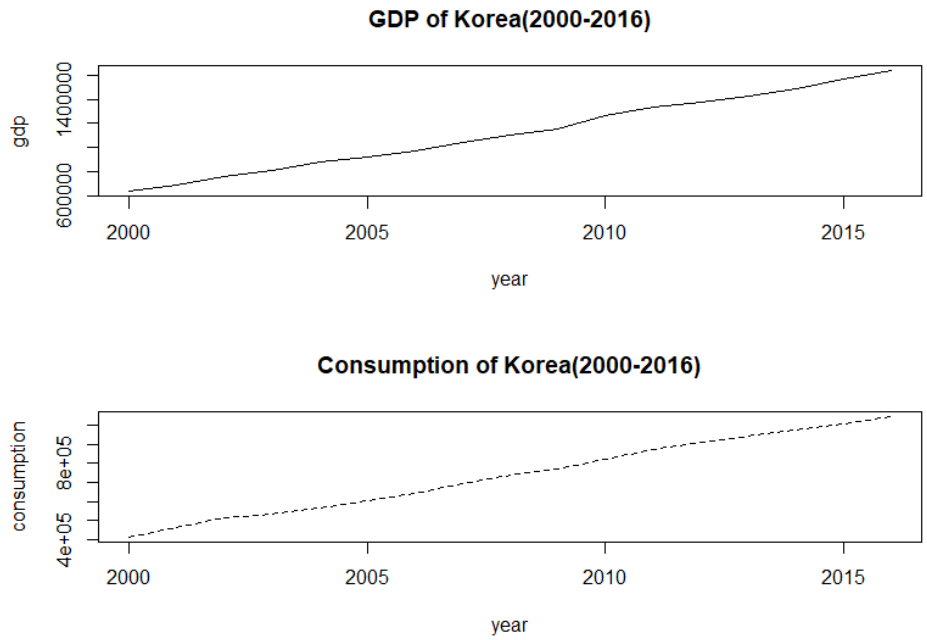
1. 선 그래프

b1-ch3-1-plot.R

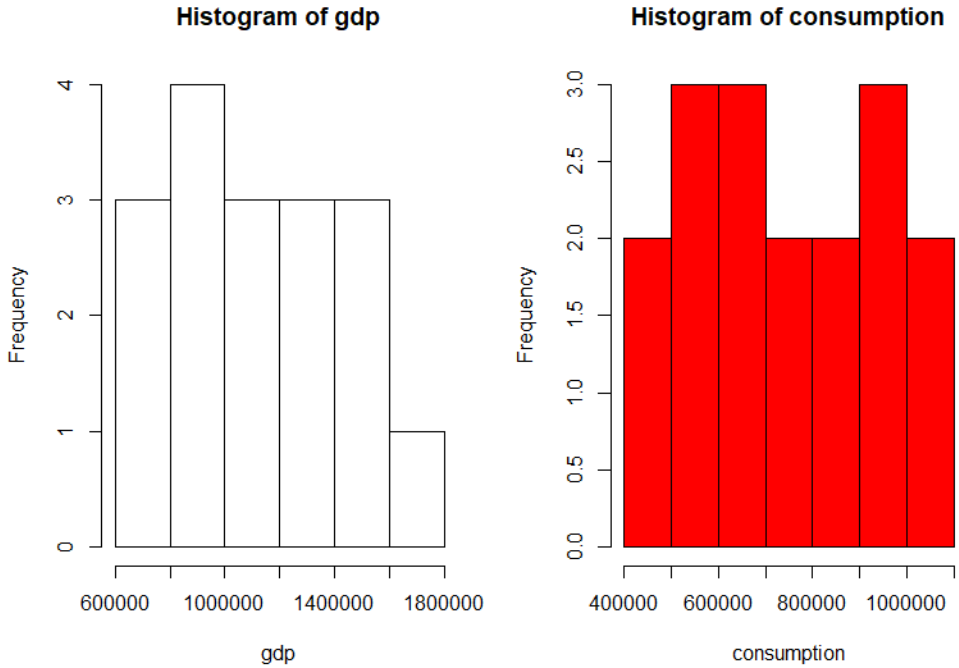
```
library(openxlsx)
sample1<-read.xlsx("http://kanggc.iptime.org/book/data/sample1-n.xlsx")
year<-sample1$year
gdp<-sample1$gdp
consumption<-sample1$consumption
gdp
consumption
par(mfrow=c(2,1))
plot(year, gdp, type="l", main="GDP of Korea(2000-2016)")
plot(year, consumption, type="l", lty=2,main="Consumption of Korea(2000-2016)")
```



2. 히스토그램

b1-ch3-2-plot.R

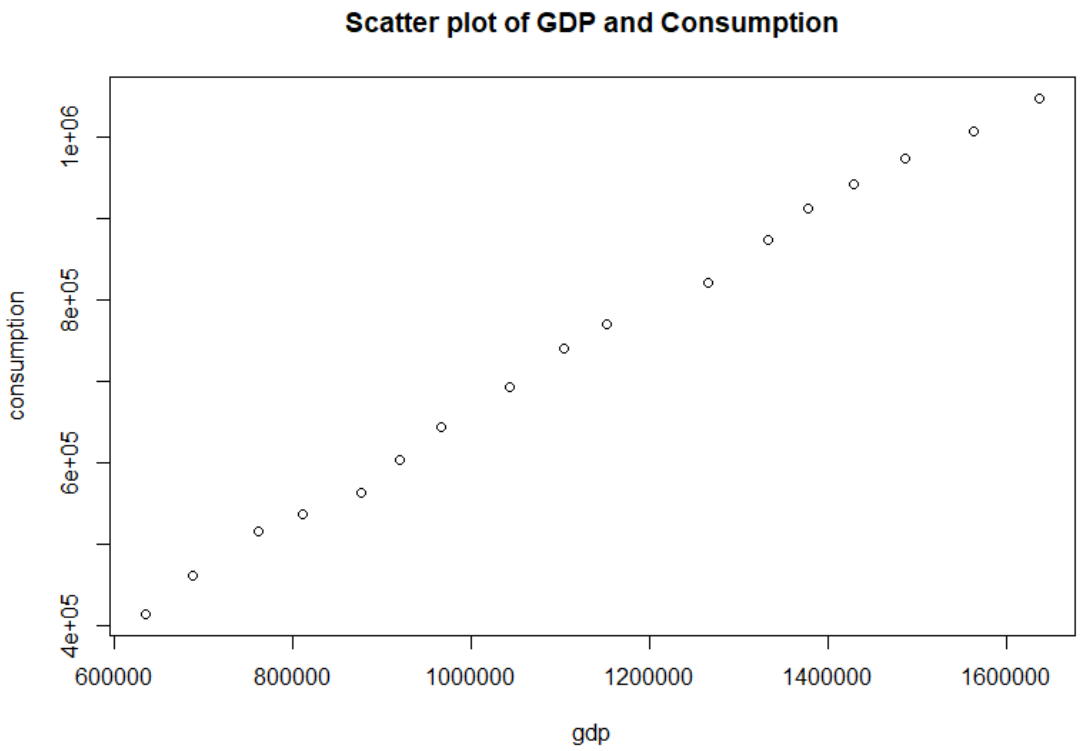
```
library(openxlsx)
sample1<-read.xlsx("http://kanggc.iptime.org/book/data/sample1-n.xlsx")
year<-sample1$year
gdp<-sample1$gdp
consumption<-sample1$consumption
gdp
consumption
par(mfrow=c(1,2))
hist(gdp)
hist(consumption, breaks=8, col="red")
```



3. 산포도

b1-ch3-3-plot.R

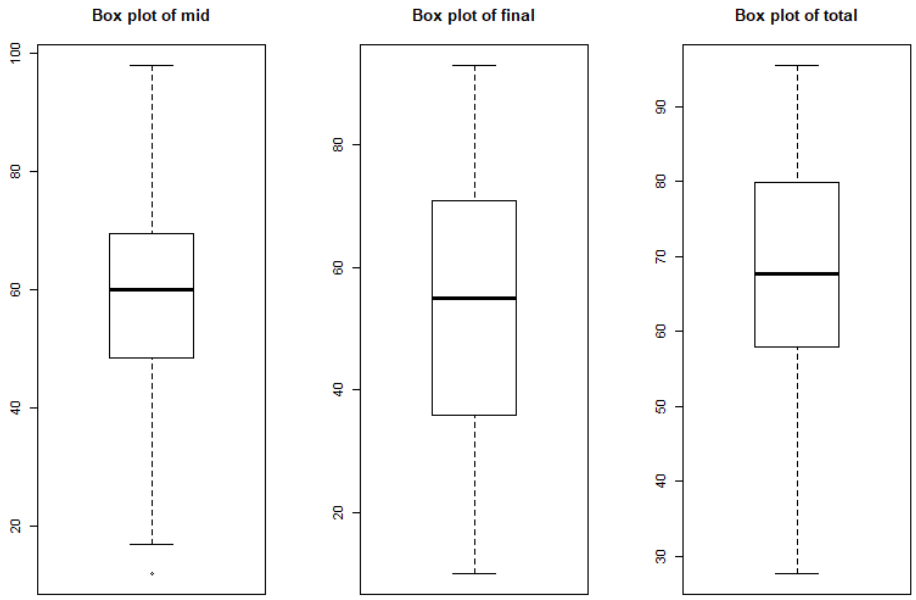
```
library(openxlsx)
sample1<-read.xlsx("http://kanggc.iptime.org/book/data/sample1-n.xlsx")
year<-sample1$year
gdp<-sample1$gdp
consumption<-sample1$consumption
gdp
consumption
plot(gdp, consumption, main="Scatter plot of GDP and Consumption")
```



4. 상자그래프

b1-ch3-4-plot.R

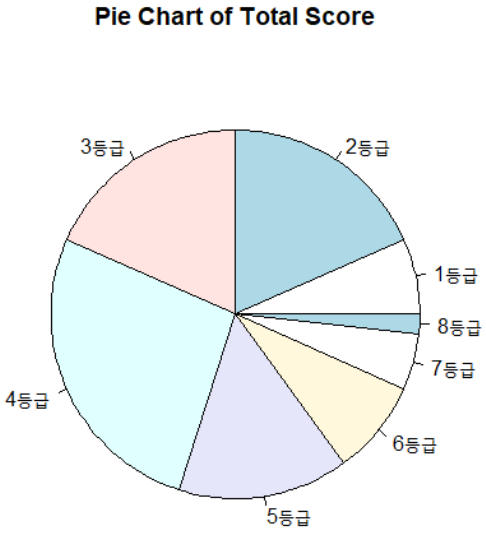
```
library(openxlsx)
sample1<-read.xlsx("http://kanggc.iptime.org/book/data/stat-1.xlsx")
mid<-sample1$mid
final<-sample1$final
total<-sample1$total
grade<-sample1$grade
summary(sample1)
par(mfrow=c(1,3))
boxplot(mid, main="Box plot of mid")
boxplot(final, main="Box plot of final")
boxplot(total, main="Box plot of total")
```



5. 원그래프

b1-ch3-5-rev.R

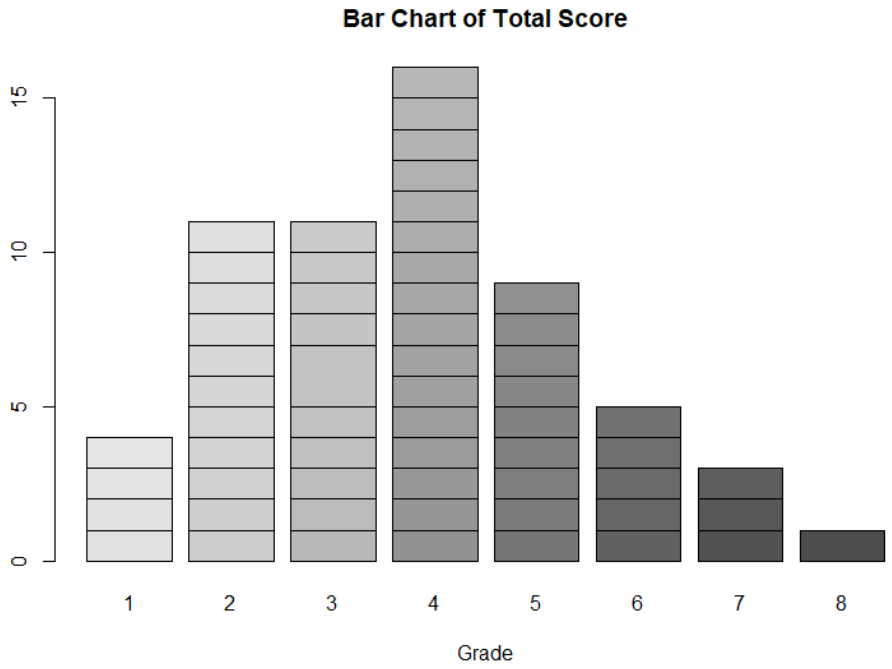
```
library(openxlsx)
sample1<-read.xlsx("http://kanggc.iptime.org/book/data/stat-1.xlsx")
mid<-sample1$mid
final<-sample1$final
total<-sample1$total
grade<-sample1$grade
table(grade)
slices<-c(4,11,11,16,9,5,3,1)
lbls<-c("1등급","2등급","3등급","4등급","5등급","6등급","7등급","8등급")
pie(slices, labels=lbls, main="Pie Chart of Total Score")
```



6. 막대그래프

b1-ch3-6-plot.R

```
library(openxlsx)
sample1<-read.xlsx("http://kanggc.iptime.org/book/data/stat-1.xlsx")
mid<-sample1$mid
final<-sample1$final
total<-sample1$total
grade<-sample1$grade
total
grade
counts<-table(total, grade)
barplot(counts, main="Bar Chart of Total Score", xlab="Grade")
```



7. 잎-줄기 그래프

b1-ch3-7.R

```
library(openxlsx)
sample1<-read.xlsx("http://kanggc.iptime.org/book/data/stat-1.xlsx")
mid<-sample1$mid
final<-sample1$final
total<-sample1$total
grade<-sample1$grade
total
stem(total)
stem(total, scale=0.5)
stem(total, scale=2)
```

```
The decimal point is 1 digit(s) to the right of the

  2 | 8
  3 | 01
  4 | 017789
  5 | 1135788
  6 | 00112333355778888
  7 | 012445666789
  8 | 11123444457
  9 | 0235
```

```
The decimal point is 1 digit(s) to the right of the

  2 | 801
  4 | 0177891135788
  6 | 00112333355778888012445666789
  8 | 111234444570235
```

```
The decimal point is 1 digit(s) to the right of the

  2 | 8
  3 | 01
  3 |
  4 | 01
  4 | 7789
  5 | 113
  5 | 5788
  6 | 001123333
  6 | 55778888
  7 | 01244
  7 | 5666789
  8 | 111234444
  8 | 57
  9 | 023
  9 | 5
```