Homework 01

Jinhai Chen,3170104884

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Homework for July 6th

Solution for Exercise 1

a.

```
iowa.df <- read.csv("Data/iowa.csv",header = T,sep=";")
```

b.

```
dim(iowa.df)
```

```
## [1] 33 10
```

c.

```
colnames(iowa.df)
```

```
##  [1] "Year"  "Rain0" "Temp1" "Rain1" "Temp2" "Rain2" "Temp3" "Rain3" "Temp4"
## [10] "Yield"
```

d.

```
iowa.df[5,7]
```

```
## [1] 79.7
```

e.

```
iowa.df[2,]
```

```
##   Year Rain0 Temp1 Rain1 Temp2 Rain2 Temp3 Rain3 Temp4 Yield
## 2 1931 14.76  57.5  3.83    75  2.72  77.2   3.3  72.6  32.9
```

Solution for Exercise 2

a.

```
vector1 <- c("5", "12", "7", "32")
max(vector1)
```

```
## [1] "7"
```

```
sort(vector1)
```

```
## [1] "12" "32" "5"  "7"
```

```
#sum(vector1)
```

The first computation can lead out to results, while the last two can not. The reason is that vector1 consists of 4 character variable, but the sort and sum can only sort or add up the numbers rather than the characters. The following codes will do.

```
vec1 <-c(5,12,7,32)
max(vec1)
```

```
## [1] 32
```

```
sort(vec1)
```

```
## [1]  5  7 12 32
```

```
sum(vec1)
```

```
## [1] 56
```

b.

```
vector2 <- c("5",7,12)
#vector2[2] + vector2[3]

dataframe3 <- data.frame(z1="5",z2=7,z3=12)
dataframe3[1,2] + dataframe3[1,3]
```

```
## [1] 19
```

```
list4 <- list(z1="6", z2=42, z3="49", z4=126)
list4[[2]]+list4[[4]]
```

```
## [1] 168
```

```
#list4[2]+list4[4]
```

The first question is that the type of vector2 is

```
typeof(vector2)
```

```
## [1] "character"
```

as a resulr of which can not be added up. the summation can only work for numbers as follows:

```
  vec2 <- c(5,7,12)
  vec2[2] + vec2[3]
```

```
## [1] 19
```