

Exercise week1-2

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```
knitr::opts_chunk$set(echo = TRUE)
```

Summary: this exercise practices using R Markdown and basic R commands. It includes two parts: (i) run some simple R commands, (ii) work with specific datasets.

Test R commands

variables

integer:

```
x <- 1
y <- 2
z <- x + y
print(x)
```

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

```
print(y)
```

```
## [1] 2
```

```
print(z)
```

```
## [1] 3
```

strings:

```
str1 <- "Hello"
str2 <- "from Qing"
str = paste(str1, str2)
print(str)
```

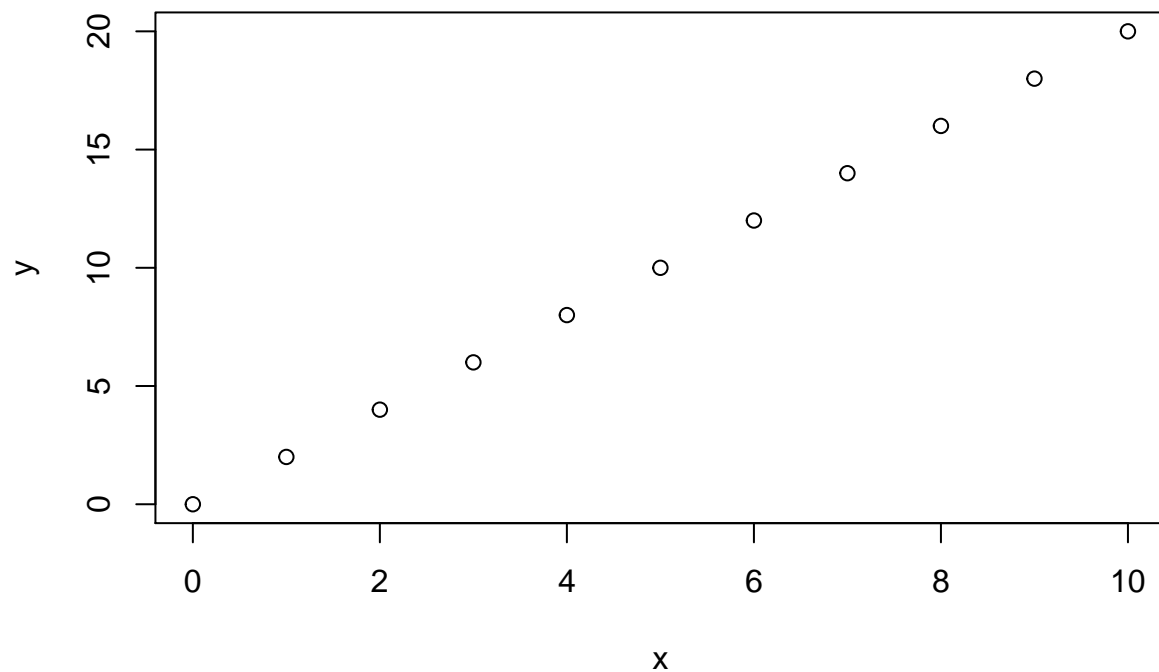
```
## [1] "Hello from Qing"
```

```
cat(str1,str2)
```

```
## Hello from Qing
```

one-dimentional array:

```
x <- 0:10
y <- 2*x
plot(x,y)
```



```
x <- seq(10, 20)
print(x)
```

```
## [1] 10 11 12 13 14 15 16 17 18 19 20
```

```
x <- seq(10, 20, 2)
print(x)
```

```
## [1] 10 12 14 16 18 20
```

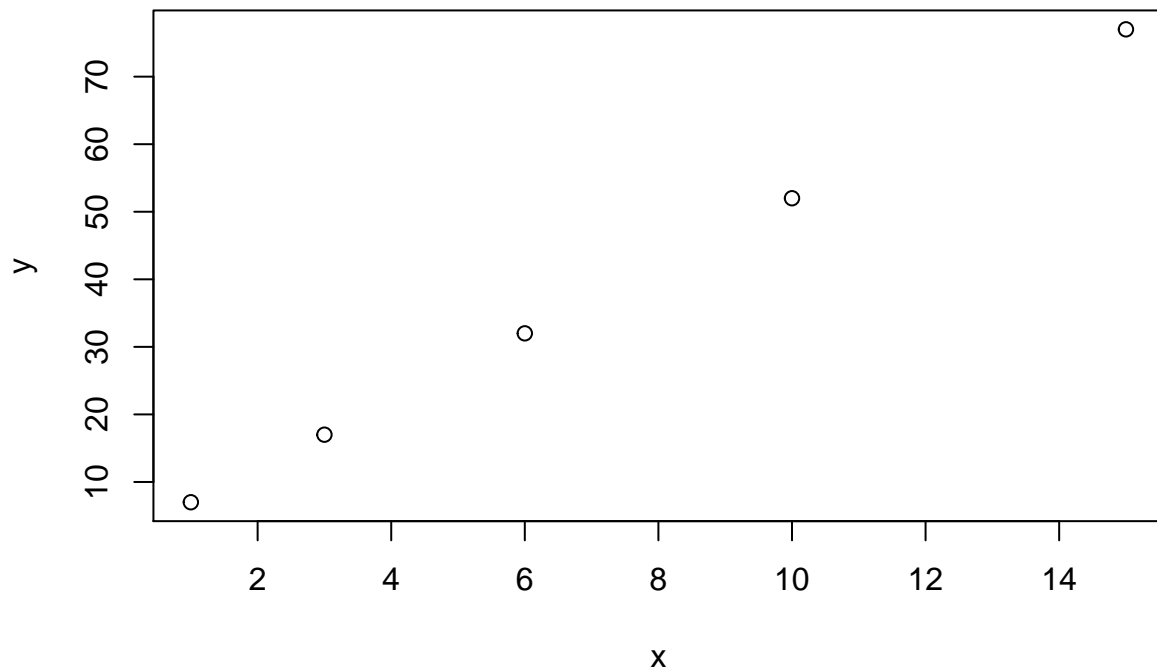
```
y <- rev(x)
print(y)
```

```
## [1] 20 18 16 14 12 10
```

```
x <- c(1, 3, 6, 10, 15)
b <- 2
y <- 5*x + b
print(y)
```

```
## [1] 7 17 32 52 77
```

```
plot(x, y)
```



```
x <- rep(c(2,4,6,8), 3)
print(x)
```

```
## [1] 2 4 6 8 2 4 6 8 2 4 6 8
```

```
x <- rep(c(2, 4, 6, 8), each=2)
print(x)
```

```
## [1] 2 2 4 4 6 6 8 8
```

Work with specific datasets

Dataset1: cars

Show data

```
colnames(cars)
```

```
## [1] "speed" "dist"
```

```
nrow(cars)
```

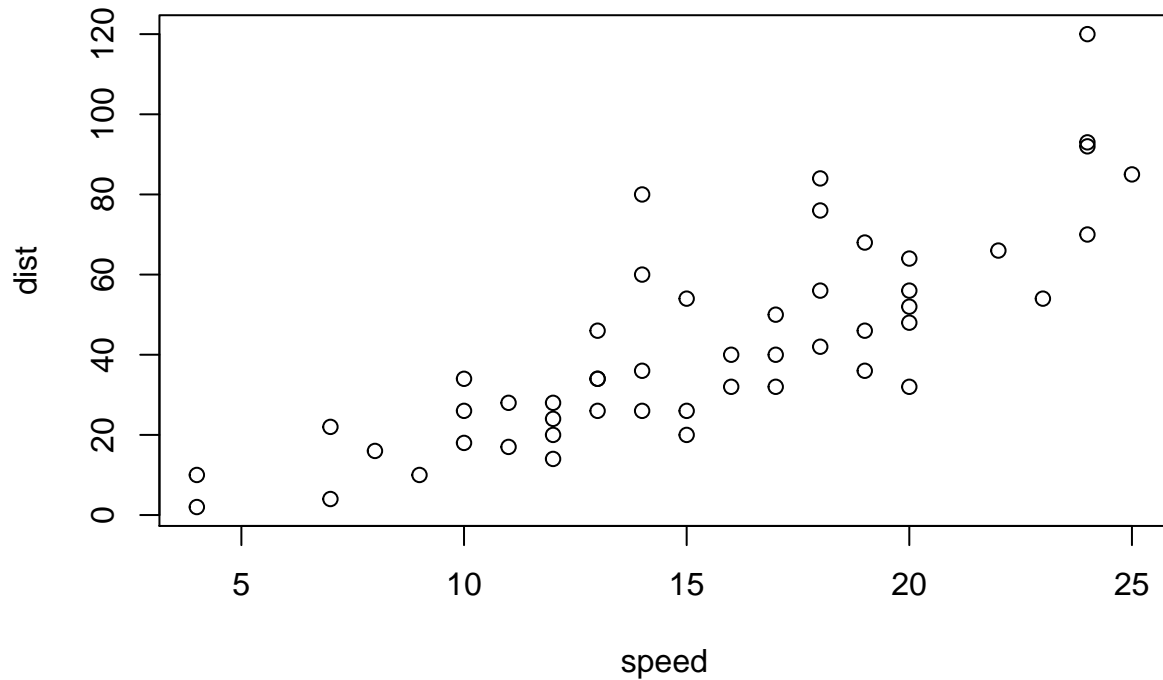
```
## [1] 50
```

```
summary(cars)
```

```
##      speed      dist
##  Min.   : 4.0    Min.   : 2.00
##  1st Qu.:12.0    1st Qu.: 26.00
```

```
## Median :15.0   Median : 36.00
## Mean   :15.4   Mean    : 42.98
## 3rd Qu.:19.0   3rd Qu.: 56.00
## Max.   :25.0   Max.    :120.00
```

Plotting



Dataset2: pressure

Data: columns, number of rows, and stats

```
## [1] "temperature" "pressure"
## [1] 19
##   temperature    pressure
##   Min.      : 0      Min.      : 0.0002
##   1st Qu.: 90      1st Qu.: 0.1800
##   Median :180      Median : 8.8000
##   Mean    :180      Mean     :124.3367
##   3rd Qu.:270      3rd Qu.:126.5000
##   Max.    :360      Max.      :806.0000
```

Relationship

