Principles of Economics

Review Session 3

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2018/11/2

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- Review Homework2 Solutions
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Basic R commands

1. 设定工作目录（ working directory）

```
setwd("E:/R study/Rcode")
getwd()  #查看当前工作目录
rm(list=ls())  #清除缓存的数据
```

2. 读取数据

csv 格式:

```
data = read.csv('data.csv') （确保数据位于工作目录下）
income=read.csv("E:/Rstudy/income.csv")
```

3. 作图

```
plot(x, type=“p”)  #单个变量做散点图
lines(x)  #添加线
plot(x, y, type = "", xlab="", ylab="", col="", xlim=c( ), ylim=c( ), main = "")
legend(x, legend=c( ), lty= , col=c( ))
```

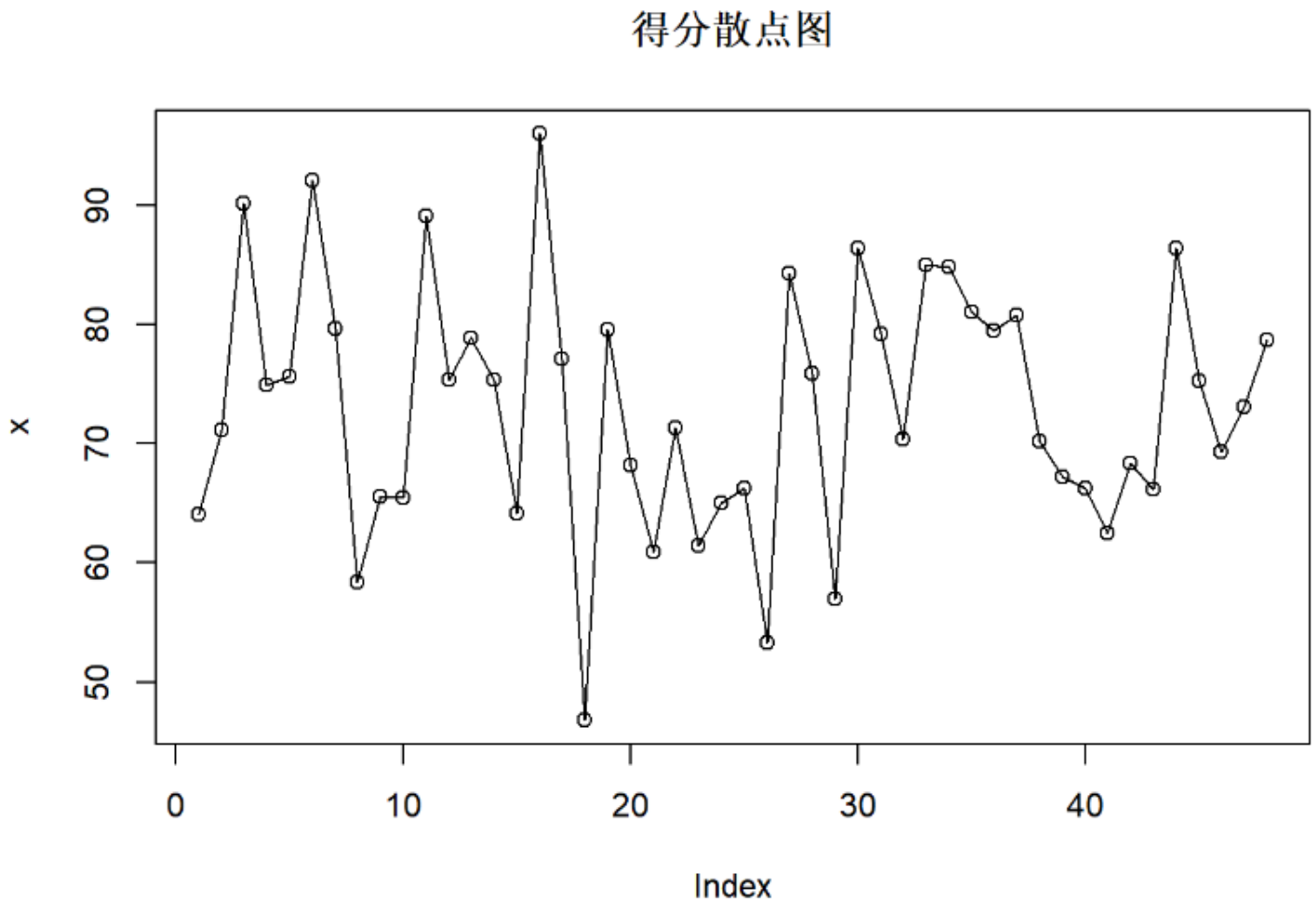
（1）xlab=， ylab=：坐标轴添加标签
（2）type=：指定图形类型
（3）col=：指定图形颜色
（4）xlim=c(), ylim=(): 指定坐标轴的上下限
（5）main=“”：设置主标题
（6）legend(x，legend=c()): 添加图例,其中x表示图例所在的位置，legend=c()表示图例的具体内容）
（7）lty=: 控制连线的线型（1-实线；2-虚线；3=点线；4-点虚线等）

type
what type of plot should be drawn. Possible types are

- "p" for **p**oints,
- "l" for **l**ines,
- "b" for **b**oth,
- "c" for the lines part alone of "b",
- "o" for both ‘**o**verplotted’,
- "h" for ‘**h**istogram’ like (or ‘high-density’) vertical lines,
- "s" for stair **s**teps,
- "S" for other **s**teps, see ‘Details’ below,
- "n" for no plotting.

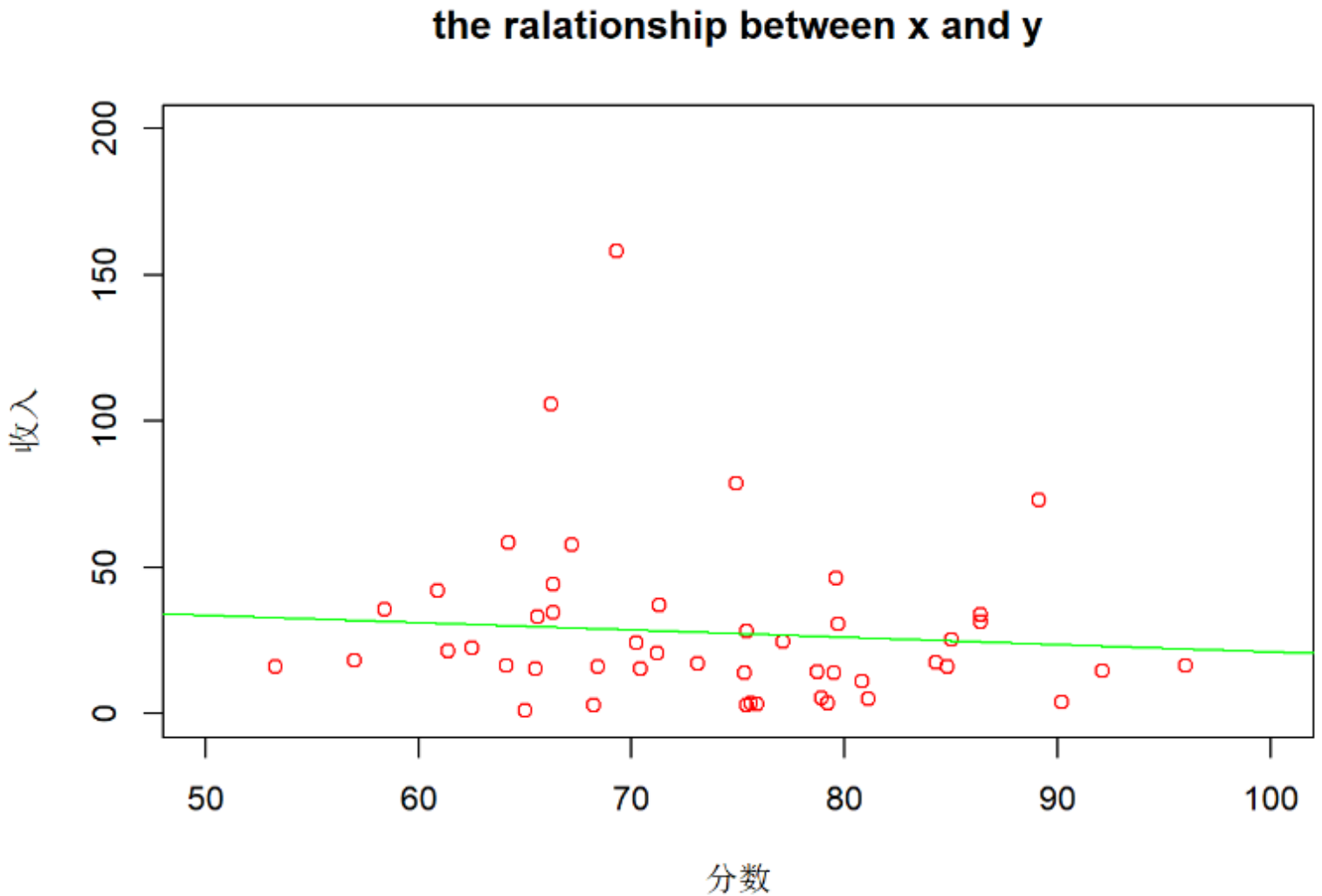
example 1

```
income=read.csv("E:/Rstudy/income.csv")
x=income$score
y=income$income
plot(x,type="p",main="得分散点图")
lines(x)
```



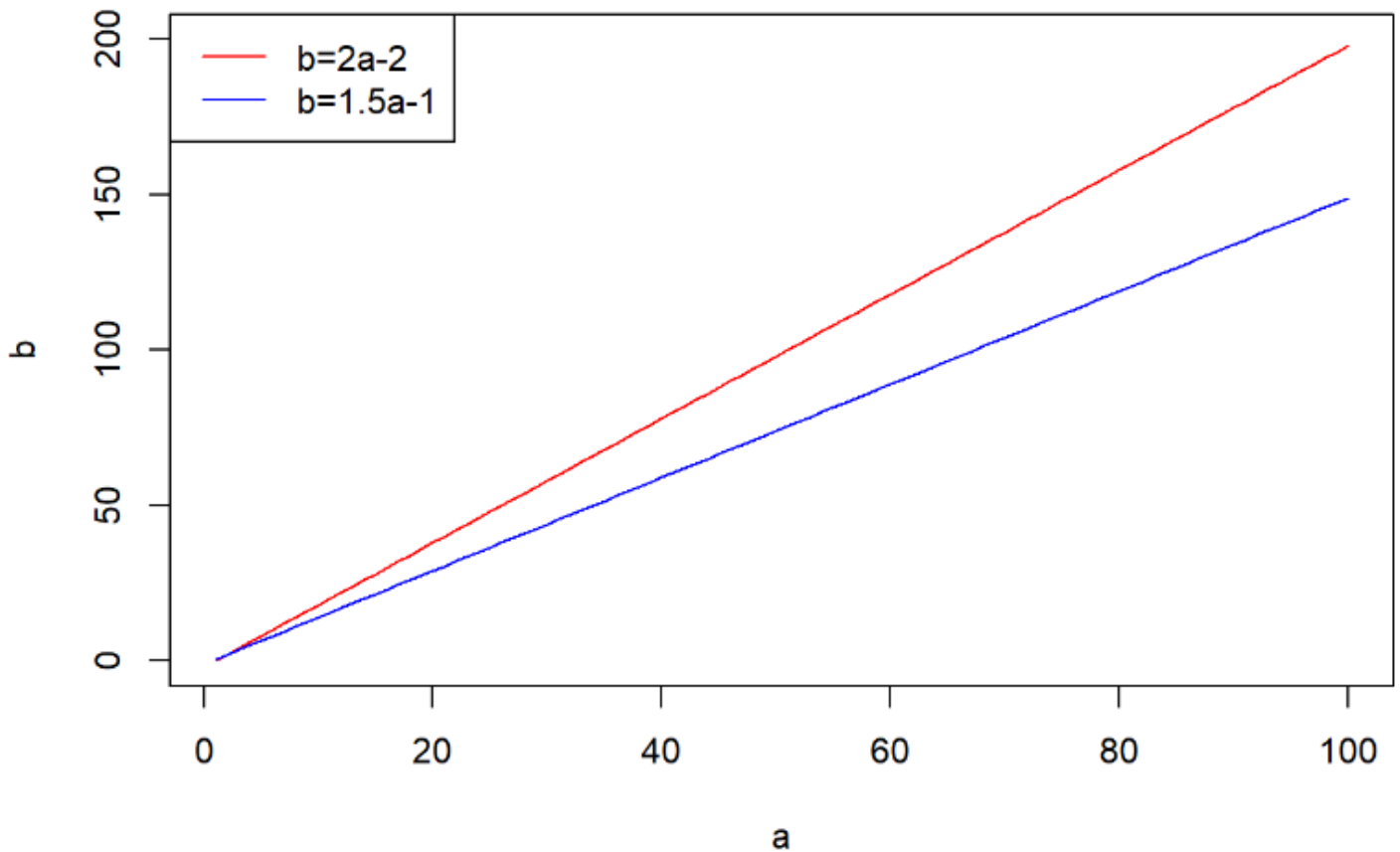
example 2

```
plot(x,y,xlab="分数",ylab="收入",type = "p",col="red",
     xlim=c(50,100),ylim=c(0,200),main = "the ralationship between x and y")
abline(lm(y~x),col="green")
```

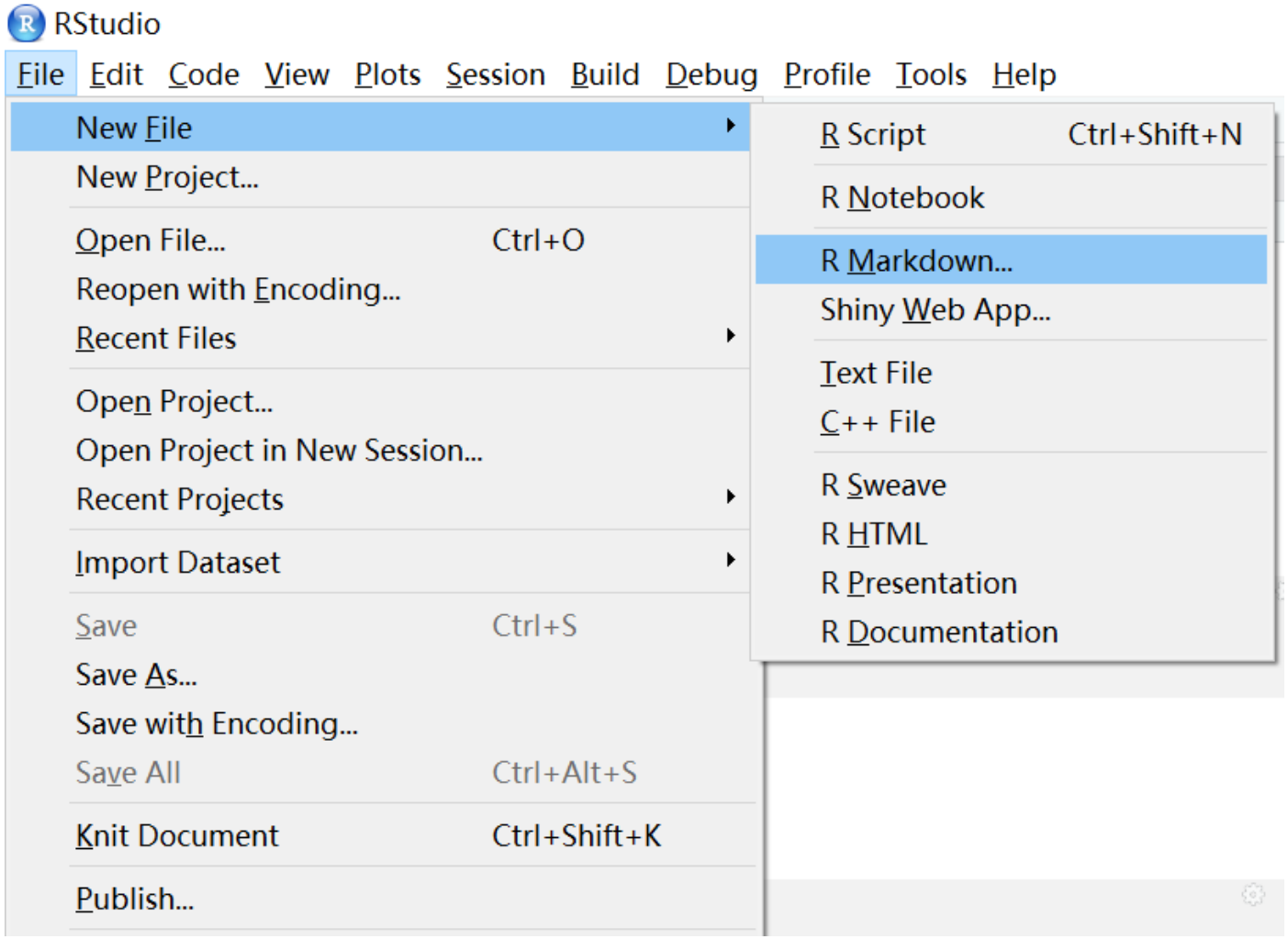


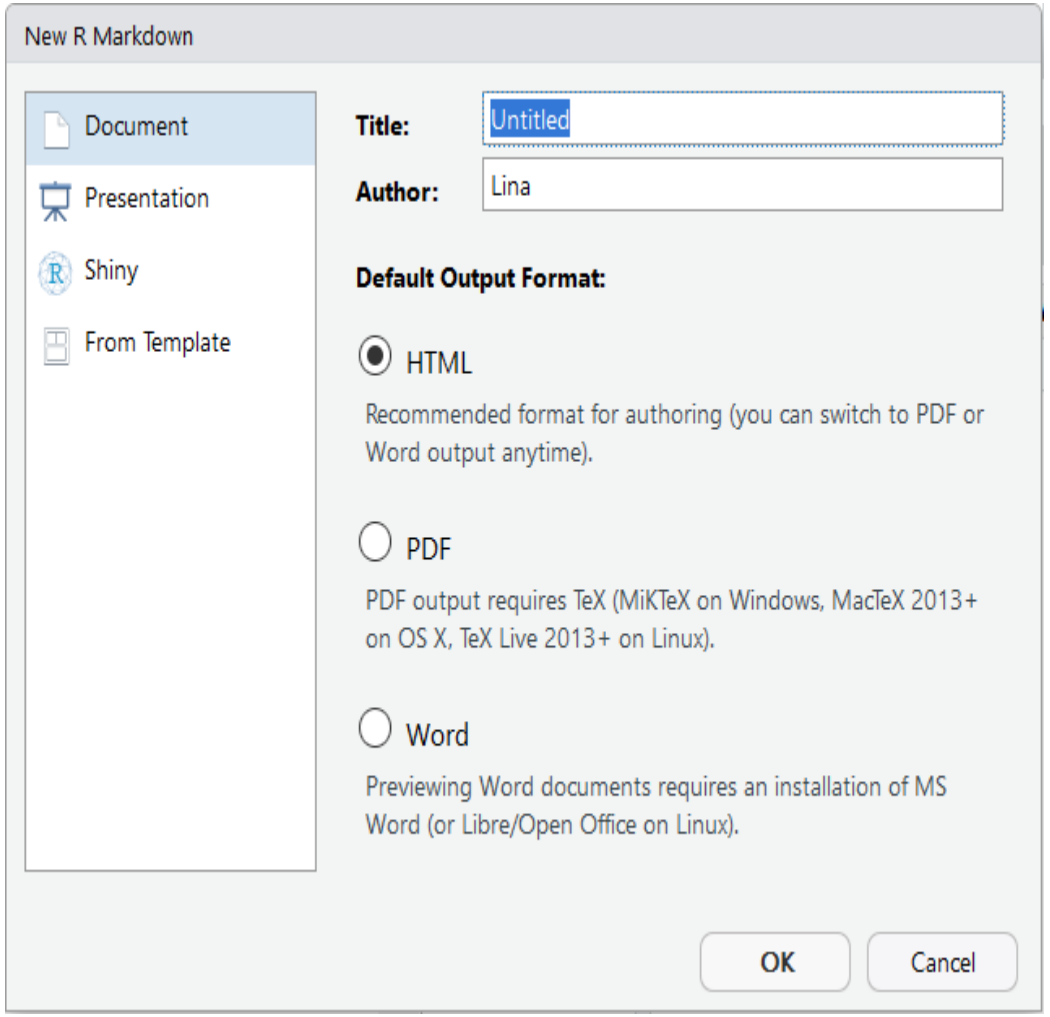
example 3

```
a=1:100
b=2*a-2
plot(a,b,type="l",xlim=c(1,100),ylim = c(0,200),col="red")
b=1.5*a-1
lines(a,b,col="blue")
legend("topleft",legend=c('b=2a-2','b=1.5a-1'),lty=1,col=c('red','blue'))
```



4. Write R markdown





```
---
title: "Untitled"
author: "Lina"
date: "2018年11月2日"
output: html_document
---

```{r setup, include=FALSE}
knitr::opts_chunk$set(echo = TRUE)
```

R Markdown

This is an R Markdown document. Markdown is a simple formatting syntax for authoring HTML, PDF, and MS Word documents. For more details on using R Markdown see <http://rmarkdown.rstudio.com>.

When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document. You can embed an R code chunk like this:

```{r cars}
summary(cars)
```

Including Plots

You can also embed plots, for example:

```{r pressure, echo=FALSE}
plot(pressure)
```

Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code that generated the plot.
```

R Markdown
Including Plots

plot markdown.Rmd | review session3.R

Knit | Insert | Run

```
---
title: "Untitled"
author: "Lina"
date: "2018/11/2"
output:
  html_document:
    df_print: paged
  pdf_document: default
  word_document: default
---

```{r setup, include=FALSE}
knitr::opts_chunk$set(echo = TRUE)
rm(list=ls())
```

problem 1
1.1
example 1


```{r}
income=read.csv("E:/Rstudy/income.csv")
x=income$score
y=income$income
plot(x,type="p",main="得分散点图")
lines(x)
```

1.2
example 2
```

problem 1
1.1
example 1
1.2
example 2
problem 2
example 3

完成后，点击Knit,生成pdf、html等。

初始设定

编辑文本

R code

* help( )

If you have any question about R commands, you can use help( ) to get more information.

eg: plot()

run help(“plot”) or ?plot