

R in action

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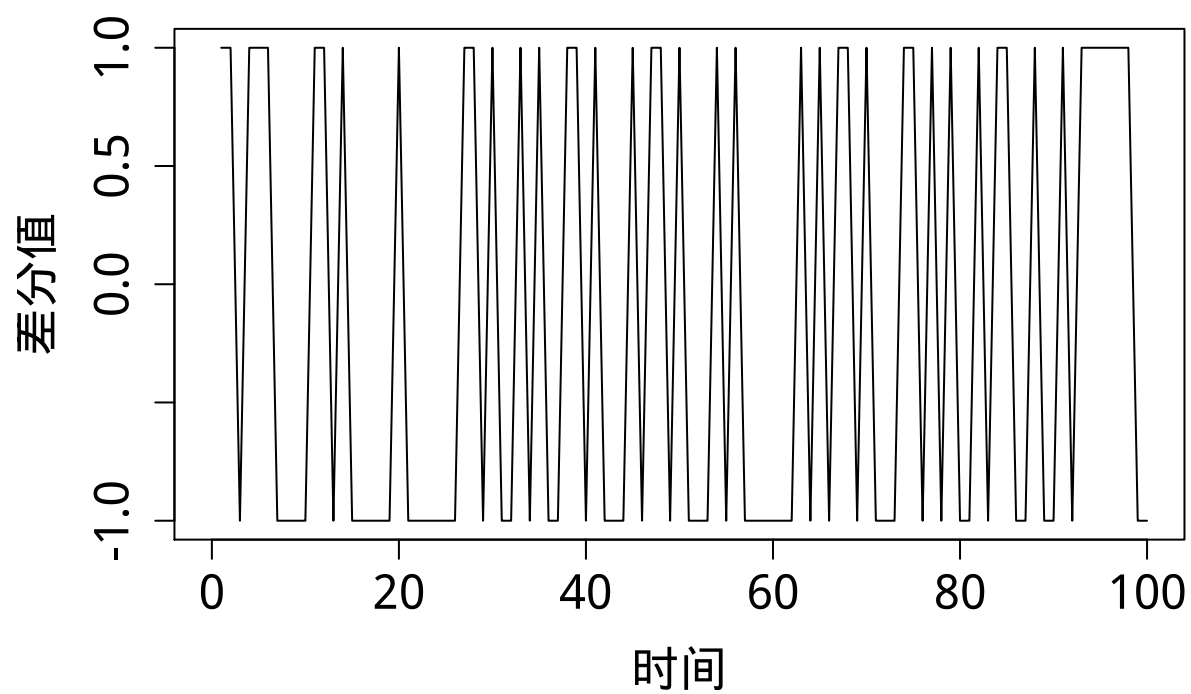
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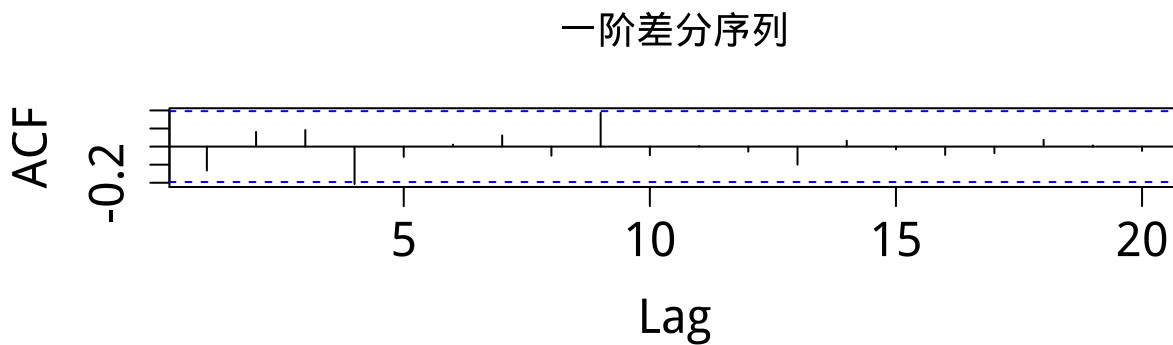
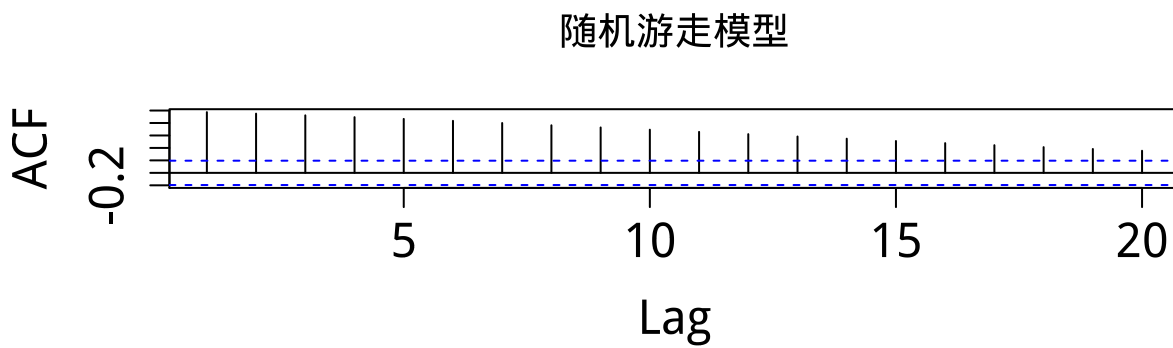
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Chapter 1

```
set.seed(20)
n <- 100
p <- 0.5
u0 <- rbinom(100,1,p)
u1 <- (u0-0.5)*2
x <- c(0,cumsum(u1))
plot(diff(x),type='l',main="",xlab=" 时间",ylab=" 差分值",xlim=c(0,100),cex.axis=1.5,cex.lab=1.5)
library(TSA)
```



```
par(mfrow=c(2,1),cex.axis=1.5,cex.lab=1.5)
acf(x,main=" 随机游走模型")
acf(diff(x),main=" 一阶差分序列")
```



```
par(mfrow=c(1,1))
Box.test(diff(x),lag=5,type=c("Box-Pierce"))
```

```
->
->      Box-Pierce test
->
-> data:  diff(x)
-> X-squared = 7.8814, df = 5, p-value = 0.1629
```

```
Box.test(diff(x),lag=5,type=c("Ljung-Box"))
```

```
->
->      Box-Ljung test
->
-> data:  diff(x)
-> X-squared = 8.2976, df = 5, p-value = 0.1406
```

```
index <- ts(read.csv("shindex.csv",header = TRUE)[,2],start = c(1995,1),frequency = 12)
```