

# FINANCIAL MODELING USING R

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This is a programming book written by a finance professor. This book will be an ideal textbook for many quantitative finance courses, such as (next generation) financial modeling, portfolio theory, empirical research in finance, computational finance, and risk management. The book has three unique characteristics: (1) use free software; (2) combine programming with various finance theories, such as ratio analysis, CAPM, Fama-French 5-factor model, portfolio theory, options and futures, credit analysis, VaR (Value at Risk), and Monte Carlo Simulation; and (3) download and process publicly available financial and economic data from various sources, such as Yahoo!Finance, Google Finance, FRED (Federal Reserve Bank's Economic Data Library), SEC, and Prof. French's Data Library.

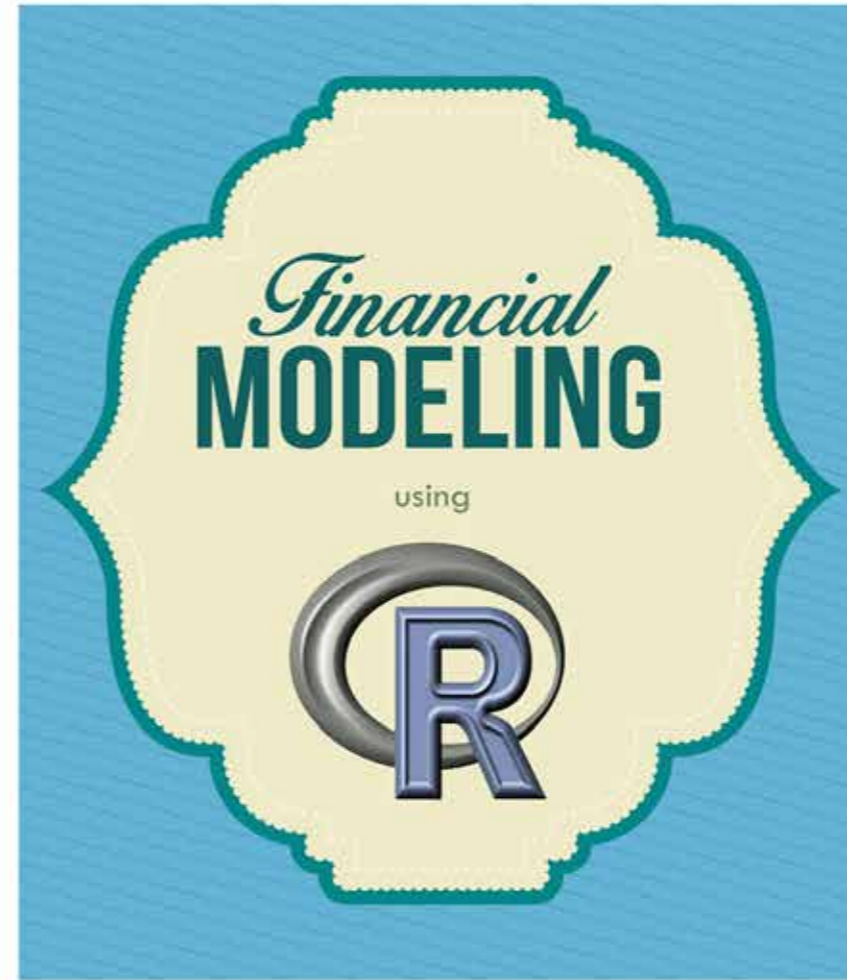
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YUXING YAN



```
>x<-c(25,21,24,9,14,7)
>firstN<-
paste(LETTERS[x],collapse='')
>y<-c(25,1,14)
>lastN<-paste(LETTERS[y],collapse='')
>paste(firstN,lastN)
[1] "YUXING YAN"
```

```
> as.integer(runif(800,0,2))
[1] 0 0 1 0 1 0 1 0 0 1 0 1
[13] 0 1 0 0 0 0 0 0 0 0 0 0 1
[25] 0 1 0 1 0 0 0 1 1 0 0 0 1
[37] 0 0 0 1 1 1 0 0 0 0 1 1 1
[49] 1 1 1 0 0 1 1 0 1 1 1 0
[61] 1 0 1 0 0 1 0 0 1 1 1 1
[73] 1 1 1 0 0 0 0 1 0 1 0 1
[85] 1 0 1 1 0 1 0 0 0 0 1 1
[97] 1 0 0 1 1 0 1 0 1 0 1 1
[109] 1 1 1 1 1 0 1 1 0 0 0 1
[121] 0 0 1 0 0 1 1 1 0 0 0 1
[133] 0 1 1 0 0 1 1 1 1 1 1 1
[145] 0 1 1 0 1 0 0 1 0 0 1 0
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[169] 0 0 1 0 0 1 1 0 0 1 0 0
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[205] 1 0 1 1 1 0 0 0 0 1 1 0
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[661] 1 1 0 1 1 0 0 1 0 1 0 0
[673] 0 1 0 0 0 1 1 0 0 0 0 0
[685] 0 1 1 1 0 0 0 0 1 0 0 0
[697] 0 1 1 1 1 1 0 0 0 0 0 0
```