Software specifications

Chapter number	Software required (With version)	Free/Proprietary	If proprietary, can code testing be performed using a trial version	If proprietary, then cost of the software	Download links to the software	Hardware specifications	OS required
1	32-bit / 64-bit guest OS	Free				None	Windows/Mac OS/Debian/RedHat/CentOS/SUSE/Ubuntu
2	R 3.X.X/RStudio Desktop V0.9X	Free			**R** http://www.r-project.org/ **RStudio** https://www.rstudio.com/ide/download/	None	Windows/Mac OS/Debian/RedHat/CentOS/SUSE/Ubuntu
3	R 3.X.X/RStudio Desktop V0.9X	Free			**R** http://www.r-project.org/ **RStudio** https://www.rstudio.com/ide/download/	None	Windows/Mac OS/Debian/RedHat/CentOS/SUSE/Ubuntu
4	R 3.X.X/RStudio Desktop V0.9X	Free			**R** http://www.r-project.org/ **RStudio** https://www.rstudio.com/ide/download/	None	Windows/Mac OS/Debian/RedHat/CentOS/SUSE/Ubuntu
5	R 3.X.X/RStudio Desktop V0.9X	Free			**R** http://www.r-project.org/ **RStudio** https://www.rstudio.com/ide/download/	None	Windows/Mac OS/Debian/RedHat/CentOS/SUSE/Ubuntu
6	R 3.X.X/RStudio Desktop V0.9X	Free			**R** http://www.r-project.org/ **RStudio** https://www.rstudio.com/i	None	Windows/Mac OS/Debian/RedHat/CentOS/SUSE/U

					de/download/		buntu
7	R 3.X.X/RStudio Desktop V0.9X	Free			**R** http://www.r-project.org/ **RStudio** https://www.rstudio.com/ide/download/	None	Windows/Mac OS/Debian/RedHat/CentOS/SUSE/Ubuntu
8	R 3.X.X/RStudio Desktop V0.9X	Free			**R** http://www.r-project.org/ **RStudio** https://www.rstudio.com/ide/download/	None	Windows/Mac OS/Debian/RedHat/CentOS/SUSE/Ubuntu
9	R 3.X.X/RStudio Desktop V0.9X	Free			**R** http://www.r-project.org/ **RStudio** https://www.rstudio.com/ide/download/	None	Windows/Mac OS/Debian/RedHat/CentOS/SUSE/Ubuntu
10	R 3.X.X/RStudio Desktop V0.9X	Free			**R** http://www.r-project.org/ **RStudio** https://www.rstudio.com/ide/download/	None	Windows/Mac OS/Debian/RedHat/CentOS/SUSE/Ubuntu
11	R 3.X.X/RStudio Desktop V0.9X	Free			**R** http://www.r-project.org/ **RStudio** https://www.rstudio.com/ide/download/	None	Windows/Mac OS/Debian/RedHat/CentOS/SUSE/Ubuntu
12	**VMWare User:** VMWare Player 4.x or higher/Cloudera QuickStart VM 4.X or above **VirtualBox User:** VirtualBox V4.X or above/Cloudeara QuickStart	Free			**VMware Player** https://my.vmware.com/web/vmware/free#desktop_end_user_computing/vmware_player/7_0 **VirtualBox** https://www.virtualbox.org/wiki/Downloads **QuickStart VM for VMWare:** https://downloads.clouder	4 GB of RAM is required to start VM, with available disk space of at least 3 GB.	64-bit guest OS with either VMWare or VirtualBox, or KVM installed. **For VMWare User:** WorkStation 8.x or higher: Player 4.x or higher, ESXi 5.x or higher, or Fusion

VM 4.X or above **KVM User:** KVM/Cloudeara QuickStart VM 4.X or above				a.com/demo_vm/vmware/cloudera-quickstart-vm-5.2.0-0-vmware.7z **QuickStart VM for KVM:** https://downloads.cloudera.com/demo_vm/kvm/cloudera-quickstart-vm-5.2.0-0-kvm.7z **QuickStart VM for VirtualBox:** https://downloads.cloudera.com/demo_vm/virtualbox/cloudera-quickstart-vm-5.2.0-0-virtualbox.7z		4.x or higher.

Detailed installation steps (software-wise)

The steps should be listed in a way that it prepares the system environment to be able to test the codes of the book.

1. **R**:
   a. Step a: Go to R CRAN http://www.r-project.org/ and click on the "download R" link (http://cran.r-project.org/mirrors.html)
   b. Step b: You may select the mirror location closest to you
   c. Step c: Select the correct download link based on your operating system.
      For windows user:
      d. Step d: Click on "Download R for Windows" , and then click on "base"
      e. Step e: Click on "Download R 3.x.x for Windows"
      f. Step f: The installation file should be downloaded. Once the download is finished, you can double click on the installation file and begin installing R.
      g. Step g: The Windows installation of R is quite straightforward; the installation GUI may instruct you how to install the program step by step (public license, destination location, select components, startup options, startup menu folder, select additional tasks). Leave all installation options as the default settings if you do not want to make any changes.

h. Step h: After successfully completing the installation a shortcut to the R application will appear in your Start menu, which will open the R Console

For Mac User

d. Step d: Go to "Download R for (Mac) OS X" (as shown in Figure 5)

e. Step e: Click on latest version (.pkg file extension) according to your Mac OS version.

f. Step f: Double click on the downloaded installation file (.pkg extension) and begin to install R. Leave all installation options as the default settings if you do not want to make any changes.

g. Step g: Follow the on screen instructions (Introduction, Read Me, License, Destination Select, Installation Type, Installation, Summary) and press "continue" to complete the installation

h. Step h: After the file is installed, you can use "Spotlight Search" or go to the application folder to find R.

i. Step i: Click on "R" to open R Console

Download and Install R on Ubuntu

a. Step a: Add the entry to the file /etc/apt/sources.list:

$ sudo sh -c "echo 'deb http:// cran.stat.ucla.edu/bin/linux/ubuntu precise/' >> /etc/apt/sources.list"

b. Step b: Then update repository

$ sudo apt-get update

c. Step c: Install R with command

$ sudo apt-get install r-base

d. Step d : Start R in command line

$ R

Download and Install R on CentOS

For CentOS 5

a. Step a: Get rpm CentOS5 RHEL EPEL repository of CentOS5.

$ wget http://dl.fedoraproject.org/pub/epel/5/x86_64/epel-release-5-4.noarch.rpm

b. Step b: Install CentOS5 RHEL EPEL repository.

$ sudo rpm -Uvh epel-release-5-4.noarch.rpm

c. Step c: Update installed packages
   $ sudo yum update
d. Step d: Install R through repository
   $ sudo yum install R
e. Step e: Start R in command line
   $ R

For CentOS6

a. Step a: Get rpm CentOS5 RHEL EPEL repository of CentOS6.
   $ wget http://dl.fedoraproject.org/pub/epel/6/x86_64/epel-release-6-8.noarch.rpm
b. Step b: Install CentOS5 RHEL EPEL repository.
   $ sudo rpm -Uvh epel-release-6-8.noarch.rpm
c. Step c: Update installed packages
   $ sudo yum update
d. Step d: Install R through repository
   $ sudo yum install R
e. Step e: Start R in command line
   $ R

2. **RStudio**
   a. Step a: Access Rstudio's official site by using the following URL http://www.rstudio.com/products/RStudio/
   b. Step b: For desktop version installation, click on "Download RStudio Desktop" (http://www.rstudio.com/products/rstudio/download/)
      and choose the Rstudio recommended for your system. Download the relevant packages.
   c. Step c: Install Rstudio by double clicking on the downloaded packages.
      For Windows users:
         d. Step d: follow the on-screen instruction to install the application.
      For Mac users,
         d. Step d: simply drag the Rstudio icon to the "Applications" folder.

For Debian(6+)/Ubuntu(10.04+) 32 bit

a.   Step a: Download RStudio

$ wget http://download1.rstudio.org/rstudio-0.98.1091-i386.deb

b.   Step b: Install Rstudio

$ sudo gdebi rstudio-0.98. 1091-i386.deb

For Debian(6+)/Ubuntu(10.04+) 64 bit

a.   Step a: Download RStudio

$ wget http://download1.rstudio.org/rstudio-0.98. 1091-amd64.deb

b.   Step b: Install Rstudio

$ sudo gdebi rstudio-0.98. 1091-amd64.deb

For RedHat/CentOS(5,4+) 32 bit

a.   Step a: Download RStudio

$ wget http://download1.rstudio.org/rstudio-0.98. 1091-i686.rpm

b.   Step b: Install Rstudio

$ sudo yum install --nogpgcheck rstudio-0.98. 1091-i686.rpm

For RedHat/CentOS(5,4+) 64 bit

a.   Step a: Download RStudio

$ wget http://download1.rstudio.org/rstudio-0.98. 1091-x86_64.rpm

b.   Step b: Install Rstudio

$ sudo yum install --nogpgcheck rstudio-0.98. 1091-x86_64.rpm

3. **VMware Player (For Windows or Linux User)**
    a.   Step a: Go to VMware Player download site https://my.vmware.com/web/vmware/free#desktop_end_user_computing/vmware_player/7_0
    b.   Step b: Choose to download VMware Player Windows or Linux version depends on your guest OS.
    c.   Step c: Double click on downloaded VMWare Player(.exe for Windows version and .bundle for Linux version)
    d.   Step d: Follow the on-screen instruction to install VMWare Player

4. **VirtualBox (For either Windows, Linux, Solaris and Mac OS user)**
    a.   Step a: Go to VirtualBox download site https://www.virtualbox.org/wiki/Downloads

b. Step b: Choose to download VirtualBox Windows, Linux, OS X, Solaris version depends on your guest OS.
c. Step c: Double click on downloaded VirtualBox
d. Step d: Follow the on-screen instruction to install VirtualBox

5. **KVM**

For CentOS

a. Step a: Install kvm with yum command

$ yum -y install qemu-kvm libvirt virt-install bridge-utils

b. Step b: start libvirtd service

$ sudo service libvirtd start

For Ubuntu

a. Step a: Install kvm with apt-get command

$ sudo apt-get install qemu-kvm libvirt-bin ubuntu-vm-builder bridge-utils

b. Add current user to group "libvirtd"

$ sudo adduser `id -un` libvirtd

6. **Cloudera QuickStart VM**

a. Step a: Go to Cloudera QuickStart VM Download Site (http://www.cloudera.com/content/cloudera/en/downloads/quickstart_vms/cdh-5-2-x.html)

b. Step b: Download QuickStart VM depends on the type of virtual machine (VMWare, KVM, VirtualBox) installed on your guest OS

QuickStart VM for VMWare:

https://downloads.cloudera.com/demo_vm/vmware/cloudera-quickstart-vm-5.2.0-0-vmware.7z

QuickStart VM for KVM:

https://downloads.cloudera.com/demo_vm/kvm/cloudera-quickstart-vm-5.2.0-0-kvm.7z

QuickStart VM for VirtualBox:

https://downloads.cloudera.com/demo_vm/virtualbox/cloudera-quickstart-vm-5.2.0-0-virtualbox.7z

c. Step c: Extracted the downloaded VM file (with .7z extension)

d.   Step d: Open the extracted VM with VM software (KVM, VirtualBox, VMWare) installed on your guest OS.
e.   Step e: Right click on the desktop of QuickStart VM and open a new terminal
f.   Step f: Type command "R" to check whether R is instsalled in Cloudera QuickStart VM. If not, please use following command to install R

$ yum install R R-core R-core-devel R-devel