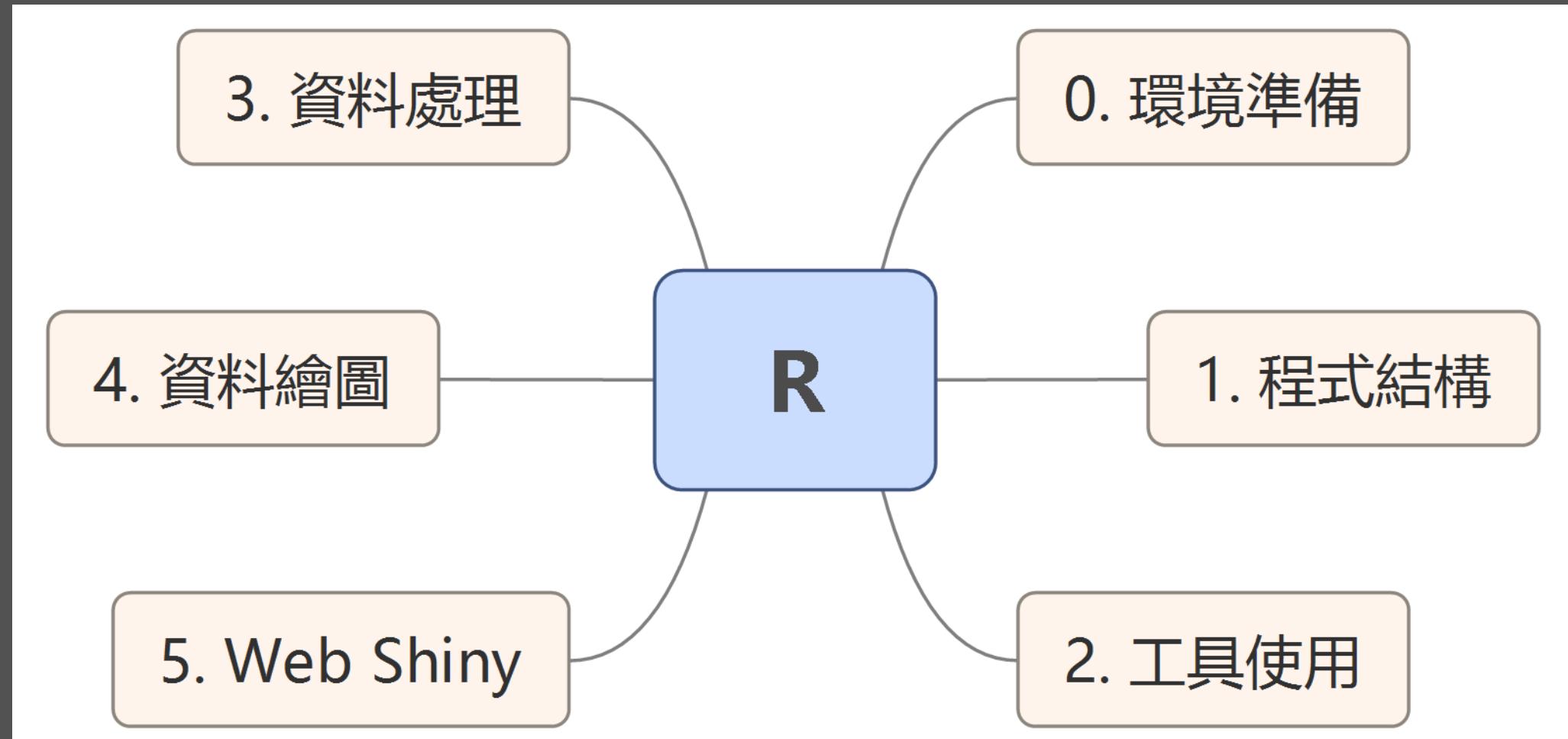


R 環境準備

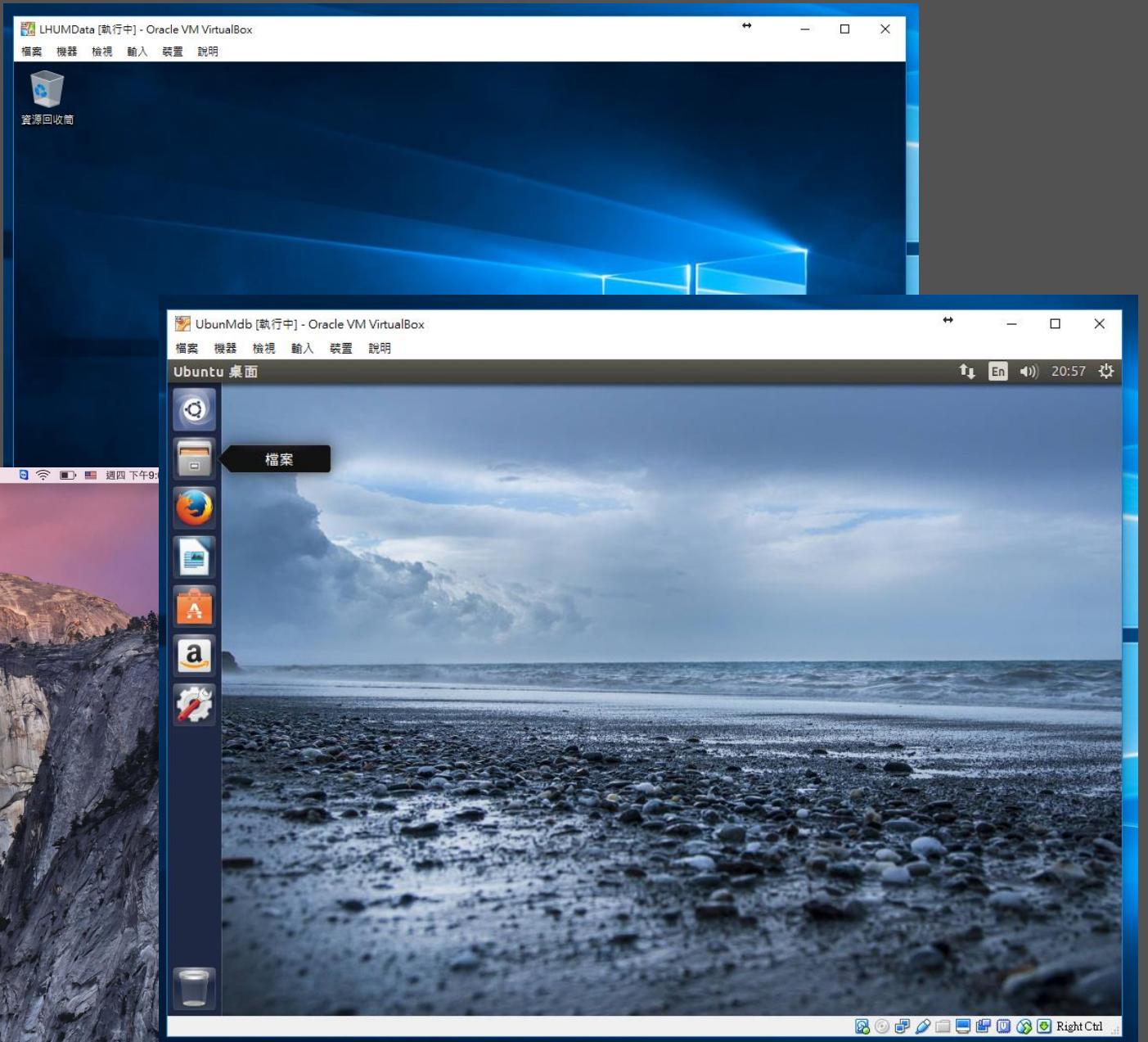
目的

在此說明 R 平常使用的工具資源與環境架設，不同平台的安裝跟使用。



OS

1. MS Windows
2. Linux Ubuntu
3. Mac



R GUI

```
RGui (64-bit) - [R Console]
Copyright (C) 2017 The R Foundation for Statistical Computing
Platform: x86_64-w64-mingw32/x64 (64-bit)

R 是免費軟體，不提供任何擔保。
在某些條件下您可以將其自由散布。
用 'license()' 或 'licence()' 來獲得散布的詳細條件。

R 是個合作計劃，有許多人為之做出了貢獻。
用 'contributors()' 來看詳細的情況並且
用 'citation()' 會告訴您如何在出版品中正確地參照 R 或 R 套件。

用 'demo()' 來看一些示範程式，用 'help()' 來檢視線上輔助檔案，或
用 'help.start()' 透過 HTML 瀏覽器來看輔助檔案。
用 'q()' 離開 R。


Attaching package: 'lubridate'

The following object is masked from 'package:base':
  date

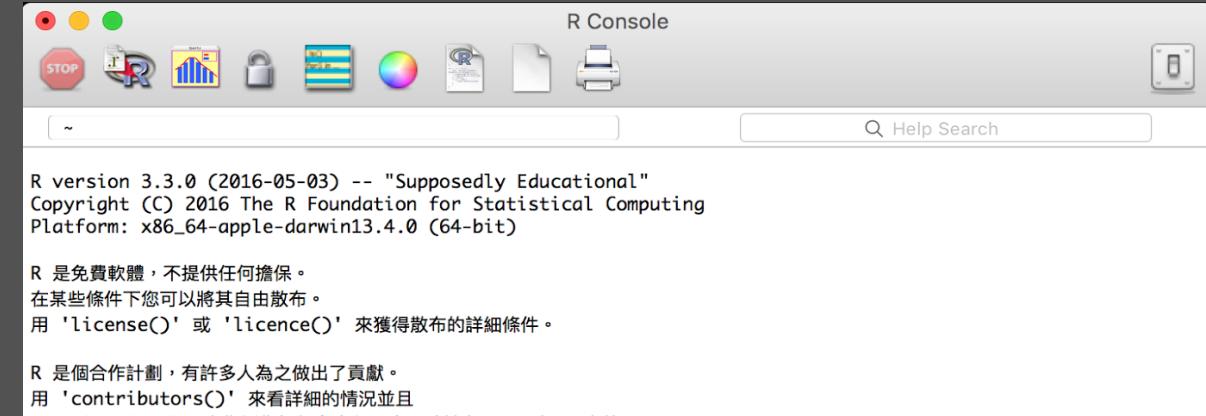
data.table 1.10.4
  The fastest way to learn (by data.table authors): https://www.datacamp.com/courses/data-analysis-the-data-table-way
  Documentation: ?data.table, example(data.table) and browseVignettes("data.table")
  Release notes, videos and slides: http://r-database.com

Attaching package: 'data.table'

The following objects are masked from 'package:reshape2':
  dcast, melt

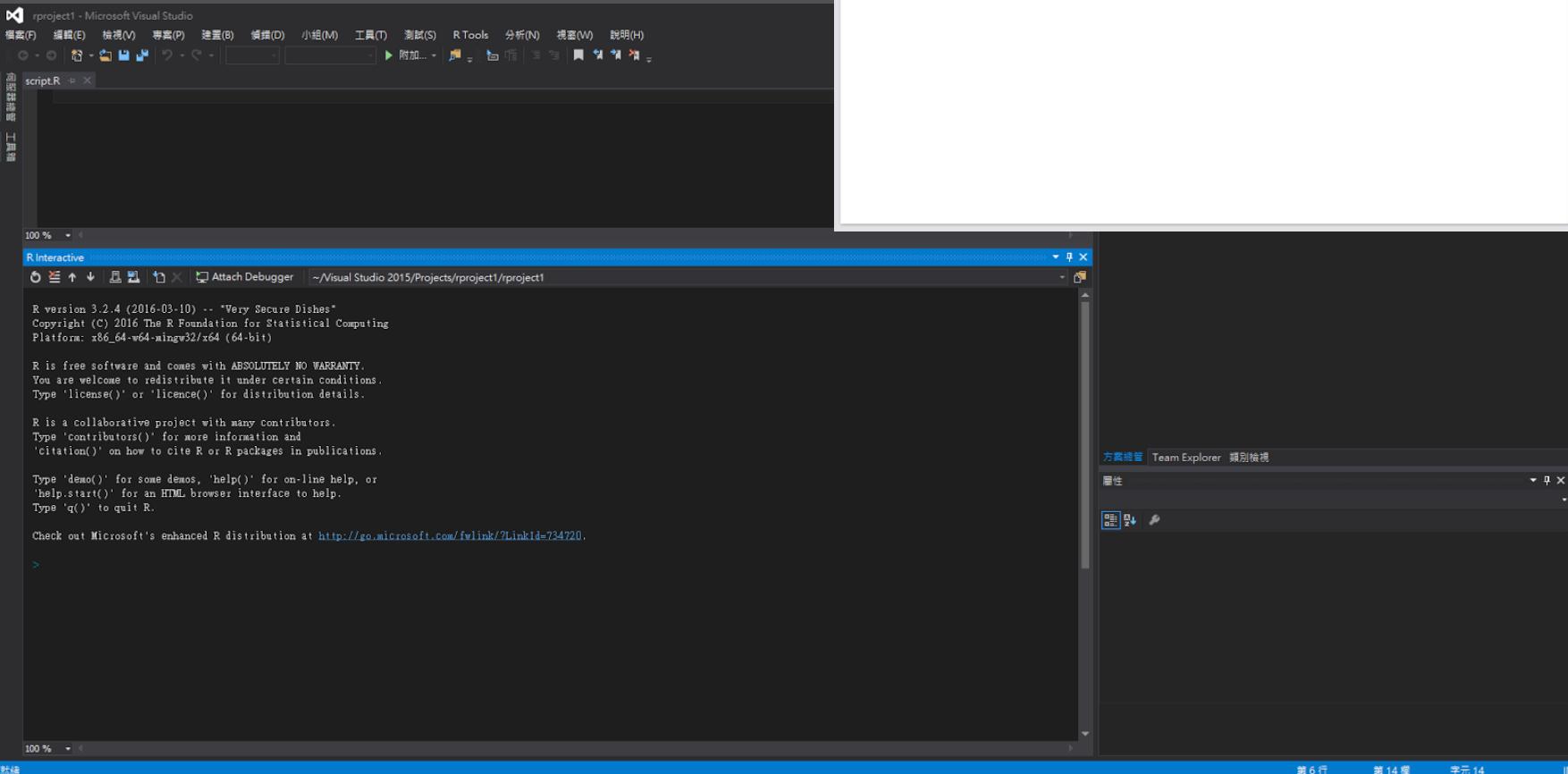
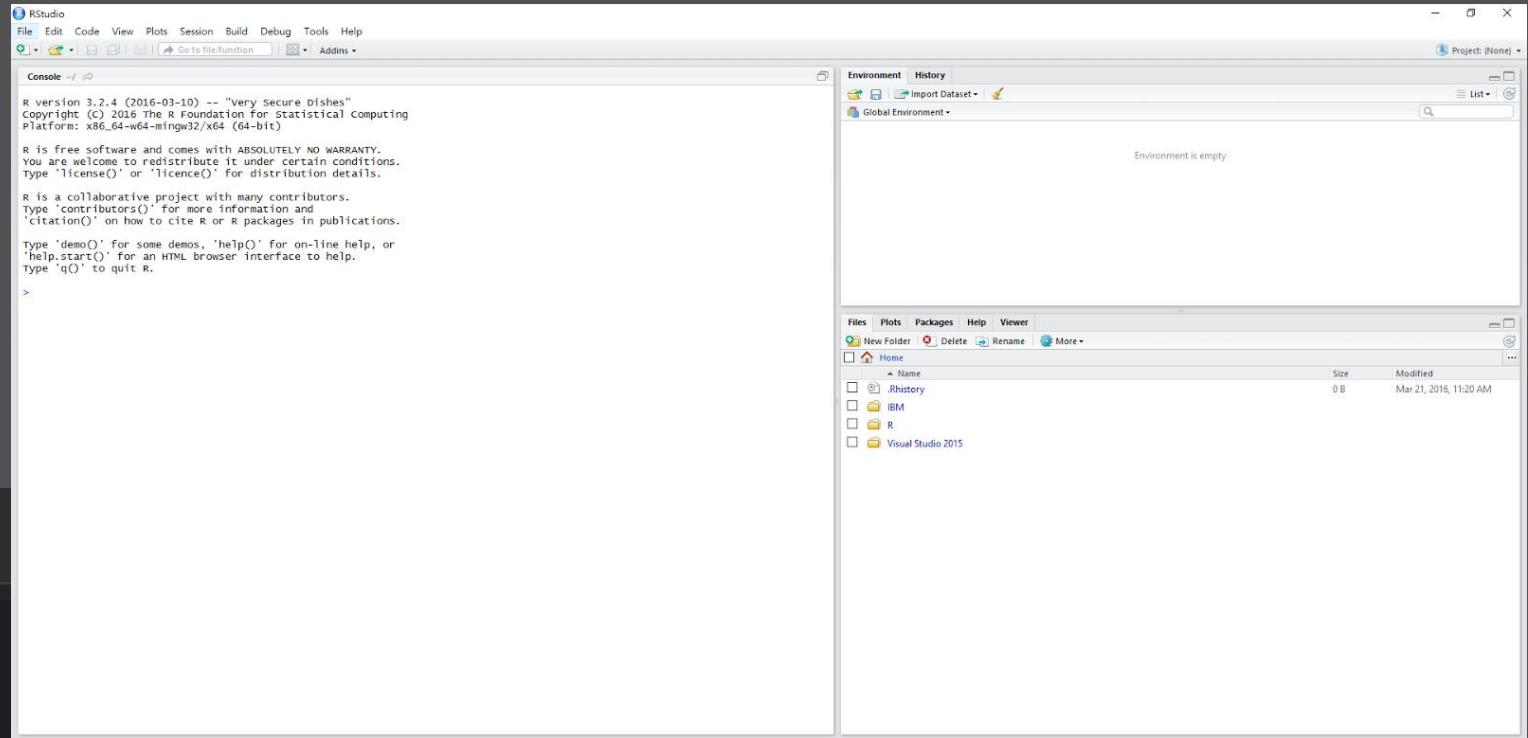
The following objects are masked from 'package:lubridate':
  hour, isoweek, mday, minute, month, quarter, second, wday, week,
  yday, year

> |
```



R IDE

1. R Studio
2. Visual Studio R tool



R Code & Editor

1. R Script File
2. Visual Studio Code
3. MS 記事本
4. Sublime text 3
5. Notepad++
6. PSPad

The screenshot shows a desktop environment with three windows open:

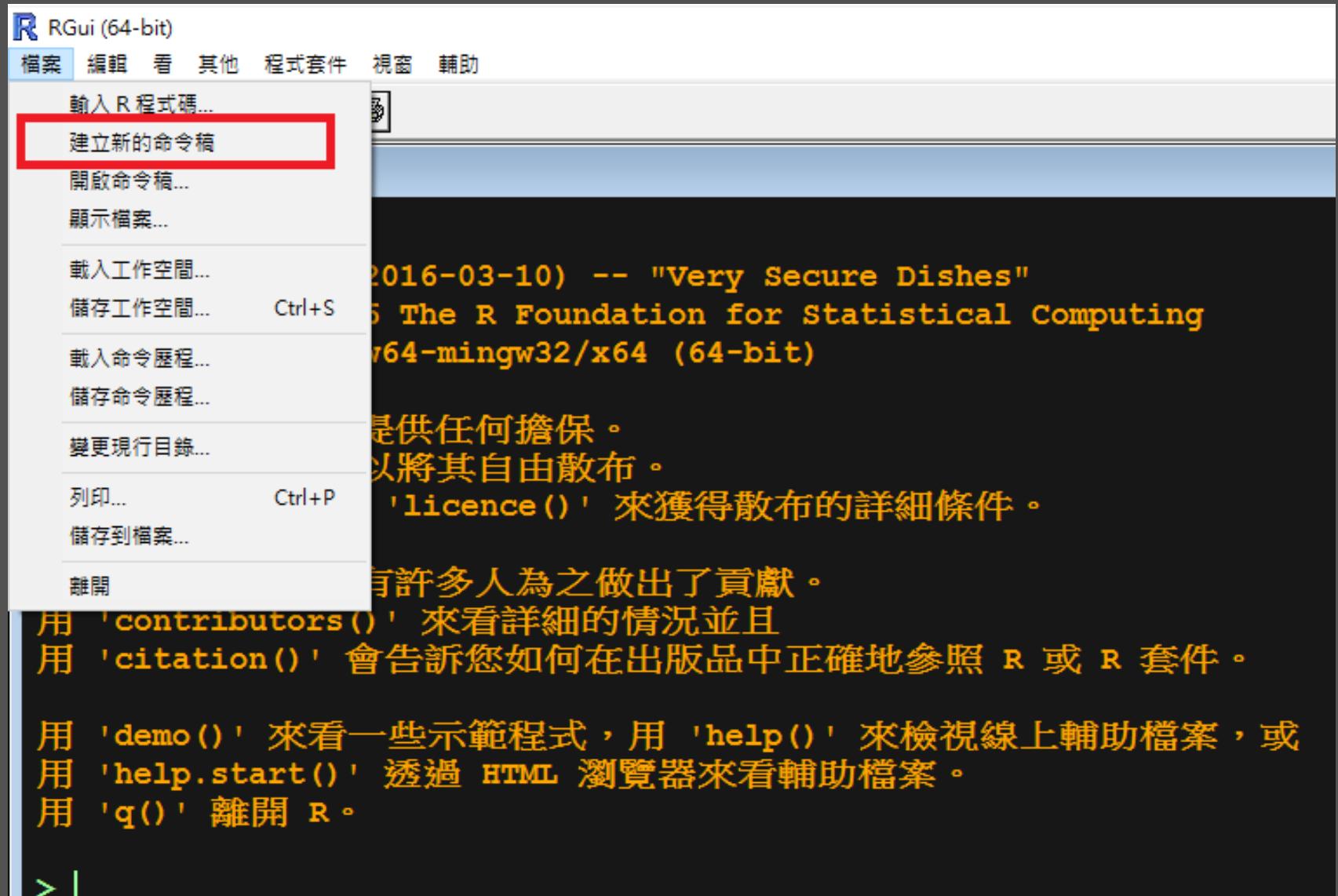
- Top Window (MS Word):** A document titled "RCode.txt - 記事本" containing R code:

```
head(iris)  
summary(iris$Petal.Length)
```
- Middle Window (R Console):** Displays the R welcome message and a command-line interface:

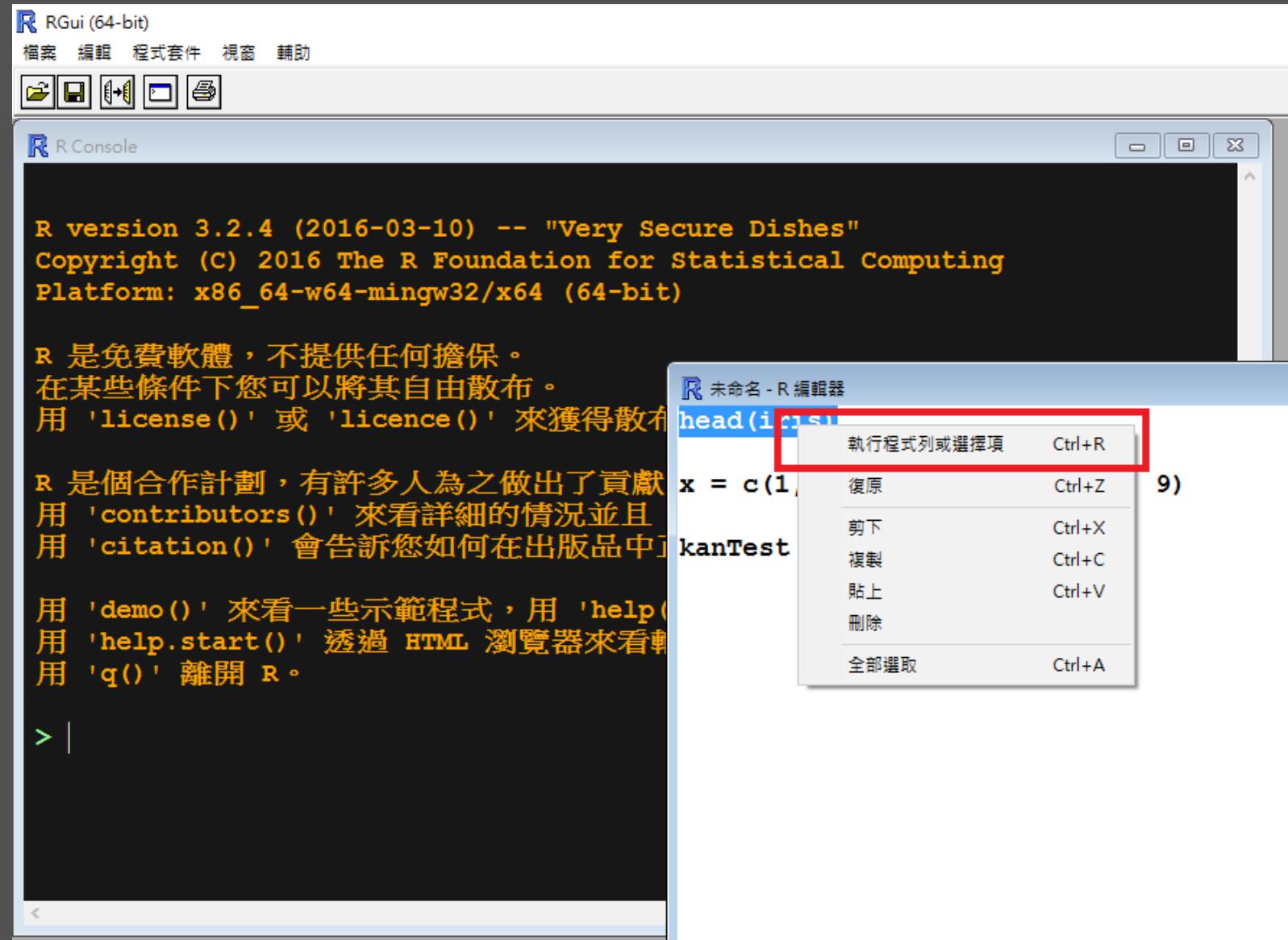
```
R 是免費軟體，不提供任何擔保。  
在某些條件下您可以將其自由散布。  
用 'license()' 或 'licence()' 來獲得散布的詳細條件。  
  
R 是個合作計劃，有許多人為之做出了貢獻。  
用 'contributors()' 來看詳細的情況並且  
用 'citation()' 會告訴您如何在出版品中正確地參照 R 或 R 套件。  
  
用 'demo()' 來看一些示範程式，用 'help()' 來檢視線上輔助檔案，或  
用 'help.start()' 透過 HTML 瀏覽器來看輔助檔案。  
用 'q()' 離開 R。  
  
> head(iris)
  Sepal.Length Sepal.Width Petal.Length Petal.Width Species
  1          5.1         3.5          1.4         0.2   setosa
  2          4.9         3.0          1.4         0.2   setosa
  3          4.7         3.2          1.3         0.2   setosa
  4          4.6         3.1          1.5         0.2   setosa
  5          5.0         3.6          1.4         0.2   setosa
  6          5.4         3.9          1.7         0.4   setosa
> |
```
- Bottom Window (R Editor):** A code editor window titled "R 未命名 - R 編輯器" containing R code:

```
head(iris)  
  
x = c(1, 2, 3, 4, 5, 6, 7, 8, 9)  
  
kanTest = c(1:100)
```

R Script



R Script



R Script

The screenshot shows the RStudio interface with two main windows:

- R Console:** Displays the R startup message in white text on a black background, followed by the output of the command `head(iris)`. The output shows the first six rows of the Iris dataset, which consists of five numerical columns (Sepal.Length, Sepal.Width, Petal.Length, Petal.Width) and one categorical column (Species). The first six rows are all labeled "setosa".
- R Editor:** Displays the code entered into the editor pane, which includes the command `head(iris)` and other R code such as `x = c(1, 2, 3, 4, 5, 6, 7, 8, 9)` and `kanTest = c(1:100)`.

R Install by Windows



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Foundation

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Donate

The R Project for Statistical Computing

Getting Started

R is a free software environment for statistical computing and graphics. It compiles and runs on a wide variety of UNIX platforms, Windows and MacOS. To [download R](#), please choose your preferred CRAN mirror.

If you have questions about R like how to download and install the software, or what the license terms are, please read our answers to frequently asked questions before you send an email.

News

- **Notice XQuartz users (Mac OS X)** A security issue has been detected with the Sparkle update mechanism used by XQuartz. Avoid updating over insecure channels.
- **R version 3.2.4 (Very Secure Dishes)** has been released on Thursday 2016-03-10.
- **R version 3.3.0 (Supposedly Educational) prerelease versions** will appear starting Monday 2016-03-14. Final release is scheduled for Thursday 2016-04-14.
- The **R Logo** is available for download in high-resolution PNG or SVG formats.
- **useR! 2016**, will take place at Stanford University, CA, USA, June 27 - June 30, 2016.
- **The R Journal Volume 7/2** is available.
- **R version 3.2.3 (Wooden Christmas-Tree)** has been released on 2015-12-10.
- **R version 3.1.3 (Smooth Sidewalk)** has been released on 2015-03-09.

R Install by Windows

CRAN Mirrors

The Comprehensive R Archive Network is available at the following URLs, please choose a location close to you. Some statistics on the status of the mirrors can be found here: [main page](#), [windows release](#), [windows old release](#).

0-Cloud

<https://cloud.r-project.org/>
<http://cloud.r-project.org/>

Algeria

<http://cran.usthb.dz/>

Argentina

<http://mirror.fcaglp.unlp.edu.ar/CRAN/>

Australia

<http://cran.csiro.au/>
<http://cran.ms.unimelb.edu.au/>

Austria

<https://cran.wu.ac.at/>
<http://cran.wu.ac.at/>

Belgium

<http://www.freestatistics.org/cran/>
<https://lib.ugent.be/CRAN/>
<http://lib.ugent.be/CRAN/>

Brazil

<http://nbcgib.uesc.br/mirrors/cran/>
<http://cran-r.c3sl.ufpr.br/>
<http://cran.fiocruz.br/>
<http://www.vps.fmvz.usp.br/CRAN/>
<http://brieger.esalq.usp.br/CRAN/>

Canada

<http://cran.stat.sfu.ca/>
<http://mirror.its.dal.ca/cran/>
<http://cran.utstat.utoronto.ca/>

Chile

<https://dirichlet.mat.puc.cl/>
<https://dirichlet.math.psu.edu/>

Taiwan

<http://ftp.yzu.edu.tw/CRAN/>
<http://cran.csie.ntu.edu.tw/>

Automatic redirection to servers worldwide, currently sponsored by Rstudio

Automatic redirection to servers worldwide, currently sponsored by Rstudio

University of Science and Technology Houari Boumediene

Universidad Nacional de La Plata

CSIRO

University of Melbourne

Wirtschaftsuniversität Wien

Wirtschaftsuniversität Wien

K.U.Leuven Association

Ghent University Library

Ghent University Library

Center for Comp. Biol. at Universidade Estadual de Santa Cruz

Universidade Federal do Parana

Oswaldo Cruz Foundation, Rio de Janeiro

University of Sao Paulo, Sao Paulo

University of Sao Paulo, Piracicaba

Simon Fraser University, Burnaby

Dalhousie University, Halifax

University of Toronto

Pontificia Universidad Católica de Chile, Santiago

Pontificia Universidad Católica de Chile, Santiago

Department of Computer Science and Engineering, Yuan Ze University

National Taiwan University, Taipei

R Install by Windows

The Comprehensive R Archive Network

Download and Install R

Precompiled binary distributions of the base system and contributed packages, **Windows** and **Mac** users most likely want one of these versions of R:

- [Download R for Linux](#)
- [Download R for \(Mac\) OS X](#)
- [Download R for Windows](#)

R is part of many Linux distributions, you should check with your Linux package management system in addition to the link above.

Source Code for all Platforms

Windows and Mac users most likely want to download the precompiled binaries listed in the upper box, not the source code. The sources have to be compiled before you can use them. If you do not know what this means, you probably do not want to do it!

- The latest release (Thursday 2016-03-10, Very Secure Dishes) [R-3.2.4.tar.gz](#), read [what's new](#) in the latest version.
- Sources of [R alpha and beta releases](#) (daily snapshots, created only in time periods before a planned release).
- Daily snapshots of current patched and development versions are [available here](#). Please read about [new features and bug fixes](#) before filing corresponding feature requests or bug reports.
- Source code of older versions of R is [available here](#).
- Contributed extension [packages](#)

Questions About R

- If you have questions about R like how to download and install the software, or what the license terms are, please read our [answers to frequently asked questions](#) before you send an email.

R Install by Windows

R for Windows

Subdirectories:

[base](#)

Binaries for base distribution (managed by Duncan Murdoch). This is what you want to [install R for the first time](#).

[contrib](#)

Binaries of contributed CRAN packages (for R $\geq 2.11.x$; managed by Uwe Ligges). There is also information on [third party software](#) available for CRAN Windows services and corresponding environment and make variables.

[old contrib](#)

Binaries of contributed CRAN packages for outdated versions of R (for R $< 2.11.x$; managed by Uwe Ligges).

[Rtools](#)

Tools to build R and R packages (managed by Duncan Murdoch). This is what you want to build your own packages on Windows, or to build R itself.

Please do not submit binaries to CRAN. Package developers might want to contact Duncan Murdoch or Uwe Ligges directly in case of questions / suggestions related to Windows binaries.

R-3.2.4 for Windows (32/64 bit)

[Download R 3.2.4 for Windows](#) (62 megabytes, 32/64 bit)

[Installation and other instructions](#)

[New features in this version](#)

If you want to double-check that the package you have downloaded exactly matches the package distributed by R, you can compare the [md5sum](#) of the .exe to the [true fingerprint](#). You will need a version of md5sum for windows: both [graphical](#) and [command line versions](#) are available.

Frequently asked questions

- [How do I install R when using Windows Vista?](#)
- [How do I update packages in my previous version of R?](#)
- [Should I run 32-bit or 64-bit R?](#)

Please see the [R FAQ](#) for general information about R and the [R Windows FAQ](#) for Windows-specific information.

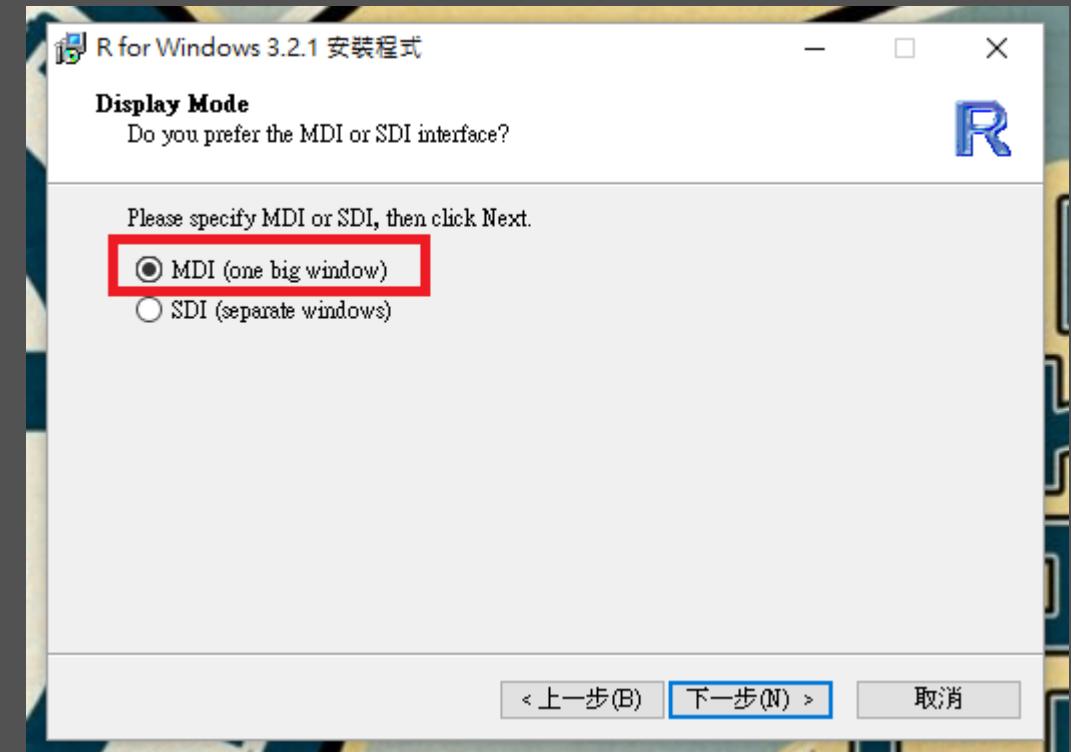
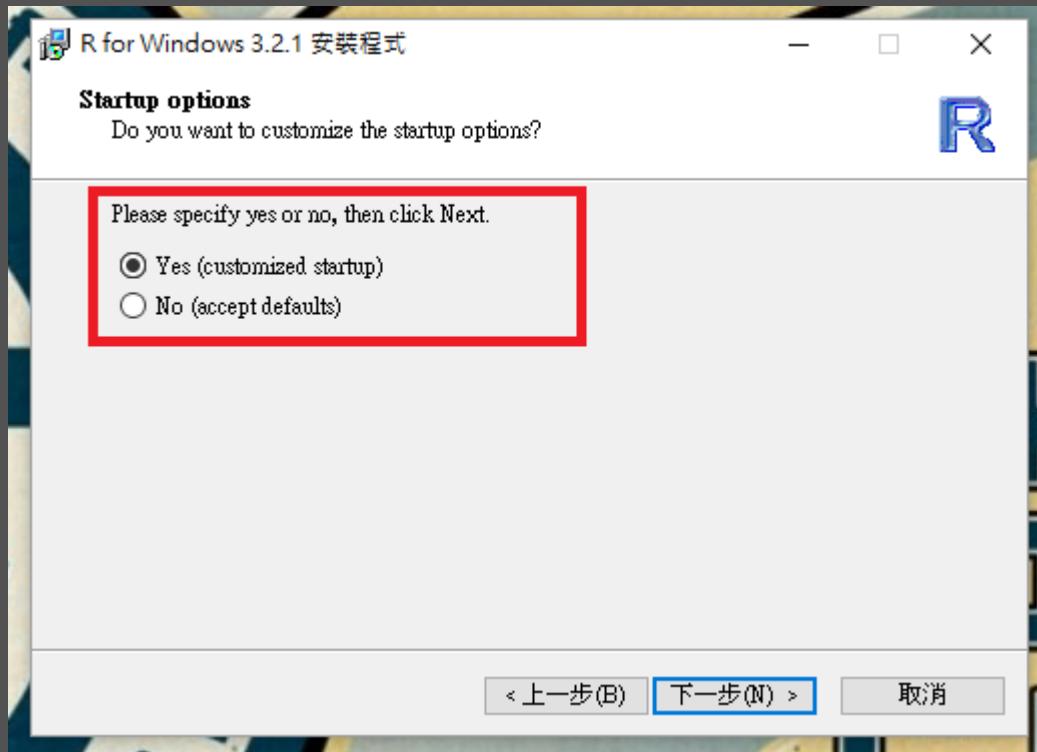
Other builds

- Patches to this release are incorporated in the [r-patched snapshot build](#).
- A build of the development version (which will eventually become the next major release of R) is available in the [r-devel snapshot build](#).
- [Previous releases](#)

Note to webmasters: A stable link which will redirect to the current Windows binary release is
<http://<CRAN MIRROR>/bin/windows/base/release.htm>

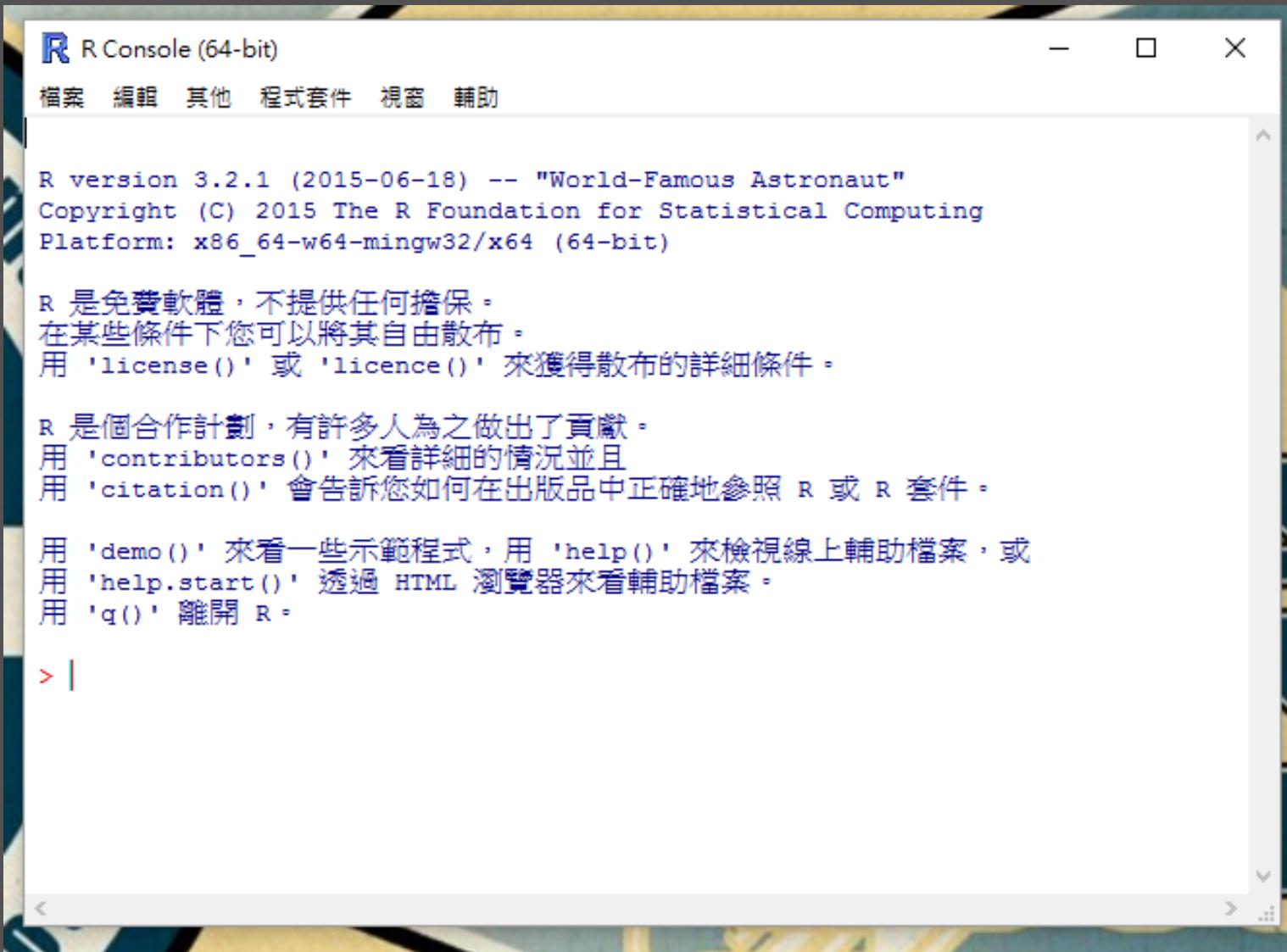
R Install by Windows

注意!!! 這個模式是將所有的 R 視窗都放進一個視窗中



R Install by Windows

OK!!



R Install by Linux Ubuntu

觀察 Ubuntu 版本

<http://cran.csie.ntu.edu.tw/>

<https://zh.wikipedia.org/wiki/Ubuntu>

Index of /bin/linux/ubuntu/

Name	Last Modified	Size	Type
Parent Directory/		-	Directory
precise/	2016-Mar-29 10:03:43	-	Directory
trusty/	2016-Mar-29 10:05:09	-	Directory
vivid/	2016-Mar-29 10:05:58	-	Directory
wily/	2016-Mar-29 10:06:38	-	Directory
README	2015-Dec-01 20:59:58	6.0K	application/octet-stream
README.html	2015-Dec-01 21:00:00	637.3K	text/html

lighttpd/1.4.39

版本 [隐藏]	开发代号	发布日期	最近更新	支持情况		内核版本
				桌面版	服务器版	
4.10	Warty Warthog	2004-10-20 ^[33]			2006-04-30	2.6.8
5.04	Hoary Hedgehog	2005-04-08 ^[34]			2006-10-31	2.6.10
5.10	Breezy Badger	2005-10-13 ^[35]			2007-04-13	2.6.12
6.06 LTS	Dapper Drake	2006-06-01 ^[36]	6.06.2發佈於2008年1月21日	2009-07-14	2011-06-01	2.6.15
6.10	Edgy Eft	2006-10-26 ^[37]			2008-04-25	2.6.17
7.04	Feisty Fawn	2007-04-19 ^[38]			2008-10-19	2.6.20
7.10	Gutsy Gibbon	2007-10-18 ^{[39][40]}			2009-04-18	2.6.22
8.04 LTS	Hardy Heron	2008-04-24 ^{[41][42]}	8.04.4發佈於2010年1月29日	2011-05-12	2013-05-09	2.6.24
8.10	Intrepid Ibex	2008-10-30 ^[43]			2010-04-30	2.6.27
9.04	Jaunty Jackalope	2009-04-23			2010-10-23	2.6.28
9.10	Karmic Koala	2009-10-29			2011-04-30	2.6.31
10.04 LTS	Lucid Lynx	2010-04-29 ^[44]	10.04.4發佈於2012年2月16日	2013-05-09	2015-04-30	2.6.32
10.10	Maverick Meerkat	2010-10-10			2012-04-10	2.6.35
11.04	Natty Narwhal	2011-04-28			2012-10-28	2.6.38
11.10	Oneiric Ocelot	2011-10-13 ^[45]			2013-05-09	3.0
12.04 LTS	Precise Pangolin	2012-04-26	12.04.5發佈於2014年8月8日		2017-04	3.2
12.10	Quantal Quetzal	2012-10-18			2014-05-16 ^[46] [47]	3.5
13.04	Raring Ringtail	2013-04-25			2014-01-27 ^[48] [49]	3.8
13.10	Saucy Salamander	2013-10-17			2014-07-17 ^[50]	3.11
14.04 LTS	Trusty Tahr	2014-04-17	14.04.4發佈於2016年2月18日		2019-04	3.13
14.10	Utopic Unicorn	2014-10-23			2015-07-23 ^[51]	3.16
15.04	Vivid Vervet	2015-04-23			2016-02-04 ^[52]	3.19
15.10	Wily Werewolf	2015-10-22			2016-07	4.2
16.04 LTS	Xenial Xerus	2016年4月 (預定)			2021-04	未定
颜色		代表				
红色		已停止发布版本更新				
绿色		目前还继续支持更新				
蓝色		计划支持截止时间				

R Install by Linux Ubuntu

1. 觀察自己 ubuntu 版號

```
~$ lsb_release -a
```

```
kancheng@kanchengServer:~$ lsb_release -a
LSB Version:    core-2.0-amd64:core-2.0-noarch:core-3.0-amd64:core-3.0-noarch:core-3.1-amd64:core-3.1-n
oarch:core-3.2-amd64:core-3.2-noarch:core-4.0-amd64:core-4.0-noarch:core-4.1-amd64:core-4.1-noarch:secu
rity-4.0-amd64:security-4.0-noarch:security-4.1-amd64:security-4.1-noarch
Distributor ID: Ubuntu
Description:    Ubuntu 14.04.4 LTS
Release:        14.04
Codename:       trusty
kancheng@kanchengServer:~$ █
```

2. 備份 sources.list

```
~$ sudo cp /etc/apt/sources.list /etc/apt/sources.list.bak
```

```
kancheng@kanchengServer:~$ sudo cp /etc/apt/sources.list /etc/apt/sources.list.bak
[sudo] password for kancheng:
kancheng@kanchengServer:~$ sudo ls /etc/apt
apt.conf.d      sources.list      sources.list.d  trusted.gpg
preferences.d   sources.list.bak  trustdb.gpg    trusted.gpg.d
kancheng@kanchengServer:~$
```

R Install by Linux Ubuntu

3. 編輯 sources.list

```
~$ sudo vim /etc/apt/sources.list
```

```
deb http://cran.csie.ntu.edu.tw/bin/linux/ubuntu [指定版本名稱]/
```

```
kancheng@kanchengServer:~$ sudo vim /etc/apt/sources.list
kancheng@kanchengServer:~$ █
```

```
## This software is not part of Ubuntu, but is offered by third-party
## developers who want to ship their latest software.
deb http://extras.ubuntu.com/ubuntu trusty main
deb-src http://extras.ubuntu.com/ubuntu trusty main

deb http://cran.csie.ntu.edu.tw/bin/linux/ubuntu trusty/
```

58,55

底端

R Install by Linux Ubuntu

3. 編輯 sources.list

我們也可以利用 echo 的方法進行塞值編輯 sources.list 檔案(此法更便捷一些)

```
sudo sh -c 'echo "deb http://cran.csie.ntu.edu.tw/bin/linux/ubuntu [指定版本名稱]/" >> /etc/apt/sources.list '
```

P.S : 如要安裝 Vim

```
~$ sudo apt-get install vim -y
```

R Install by Linux Ubuntu

4. 更新套件

~\$ sudo apt-get update

```
kancheng@kanchengServer:~$ sudo apt-get update
略過 http://cran.csie.ntu.edu.tw trusty/ InRelease
下載:1 http://cran.csie.ntu.edu.tw trusty/ Release.gpg [473 B]
下載:2 http://cran.csie.ntu.edu.tw trusty/ Release [3,703 B]
略過 http://cran.csie.ntu.edu.tw trusty/ Release
下載:3 http://cran.csie.ntu.edu.tw trusty/ Packages [92.0 kB]
略過 http://cran.csie.ntu.edu.tw trusty/ Translation-zh_TW
略過 http://cran.csie.ntu.edu.tw trusty/ Translation-zh
略過 http://cran.csie.ntu.edu.tw trusty/ Translation-en
下載:4 http://security.ubuntu.com trusty-security InRelease [65.9 kB]
略過 http://extras.ubuntu.com trusty InRelease
略過 http://tw.archive.ubuntu.com trusty InRelease
已有 http://extras.ubuntu.com trusty Release.gpg
下載:5 http://tw.archive.ubuntu.com trusty-updates InRelease [65.9 kB]
已有 http://extras.ubuntu.com trusty Release
已有 http://extras.ubuntu.com trusty/main Sources
下載:6 http://security.ubuntu.com trusty-security/main Sources [110 kB]
已有 http://extras.ubuntu.com trusty/main amd64 Packages
下載:7 http://tw.archive.ubuntu.com trusty-backports InRelease [65.9 kB]
已有 http://extras.ubuntu.com trusty/main i386 Packages
下載:8 http://security.ubuntu.com trusty-security/restricted Sources [4,035 B]
已有 http://tw.archive.ubuntu.com trusty Release.gpg
下載:9 http://security.ubuntu.com trusty-security/universe Sources [34.4 kB]
下載:10 http://tw.archive.ubuntu.com trusty-updates/main Sources [270 kB]
下載:11 http://security.ubuntu.com trusty-security/multiverse Sources [2,750 B]
下載:12 http://security.ubuntu.com trusty-security/main amd64 Packages [448 kB]
下載:13 http://tw.archive.ubuntu.com trusty-updates/restricted Sources [5,352 B]
下載:14 http://tw.archive.ubuntu.com trusty-updates/universe Sources [151 kB]
下載:15 http://tw.archive.ubuntu.com trusty-updates/multiverse Sources [5,946 B]
下載:16 http://security.ubuntu.com trusty-security/restricted amd64 Packages [13.0 kB]
下載:17 http://tw.archive.ubuntu.com trusty-updates/main amd64 Packages [743 kB]
下載:18 http://security.ubuntu.com trusty-security/universe amd64 Packages [126 kB]
下載:19 http://security.ubuntu.com trusty-security/multiverse amd64 Packages [4,991 B]
81% [17 Packages 322 kB/743 kB 43%] [等待標頭] [等待標頭]
```

R Install by Linux Ubuntu

5. 安裝 R

如果沒有前面的步驟，所安裝的 R 版本會是該 Ubuntu 預設套件庫現有的版本(那通常很舊)

~\$ sudo apt-get install r-base r-base-dev

```
kancheng@kanchengServer:~$ sudo apt-get install r-base r-base-dev
正在讀取套件清單... 完成
正在重建相依關係
正在讀取狀態資料... 完成
以下套件為自動安裝，並且已經無用：
  kde-l10n-engb kde-l10n-zhtw
Use 'apt-get autoremove' to remove them.
下列的額外套件將被安裝：
  autoconf automake autotools-dev cdbs dh-translations gfortran gfortran-4.8
  intltool libblas-dev libblas3 libbz2-dev libgfortran-4.8-dev libgfortran3
  libjpeg-dev libjpeg-turbo8-dev libjpeg8-dev liblapack-dev liblapack3
  liblzma-dev libncurses5-dev libpcre3 libpcre3-dev libpcrecpp0 libpng12-dev
  libreadline-dev libreadline6-dev libtinfo-dev libxml-parser-perl
  python-scour r-base-core r-base-html r-cran-boot r-cran-class r-cran-cluster
  r-cran-codetools r-cran-foreign r-cran-kernsmooth r-cran-lattice r-cran-mass
  r-cran-matrix r-cran-mgcv r-cran-nlme r-cran-nnet r-cran-rpart
  r-cran-spatial r-cran-survival r-doc-html r-recommended zlib1g-dev
建議套件：
  autoconf2.13 autoconf-archive gnu-standards autoconf-doc libtool devscripts
  gfortran-multilib gfortran-doc gfortran-4.8-multilib gfortran-4.8-doc
  libgfortran3-dbg liblzma-doc ncurses-doc python-rsvg ess r-doc-info
  r-doc-pdf r-mathlib texlive-base texlive-latex-base
  texlive-generic-recommended texlive-fonts-recommended texlive-fonts-extra
  texlive-extra-utils texlive-latex-recommended texlive-latex-extra texinfo
下列【新】套件將會被安裝：
  autoconf automake autotools-dev cdbs dh-translations gfortran gfortran-4.8
  intltool libblas-dev libblas3 libbz2-dev libgfortran-4.8-dev libgfortran3
  libjpeg-dev libjpeg-turbo8-dev libjpeg8-dev liblapack-dev liblapack3
  liblzma-dev libncurses5-dev libpcre3-dev libpcrecpp0 libpng12-dev
  libreadline-dev libreadline6-dev libtinfo-dev libxml-parser-perl
  python-scour r-base r-base-core r-base-dev r-base-html r-cran-boot
  r-cran-class r-cran-cluster r-cran-codetools r-cran-foreign
  r-cran-kernsmooth r-cran-lattice r-cran-mass r-cran-matrix r-cran-mgcv
  r-cran-nlme r-cran-nnet r-cran-rpart r-cran-spatial r-cran-survival
  r-doc-html r-recommended zlib1g-dev
下列套件將會被升級：
  libpcre3
升級 1 個，新安裝 50 個，移除 0 個，有 87 個未被升級。
需要下載 49.3 MB 的套件檔。
此操作完成之後，會多佔用 109 MB 的磁碟空間。
Do you want to continue? [Y/n] ■
```

R Install by Linux Ubuntu

6. 觀察

觀察是否成功直接在其終端機打指令 R

~\$ R

```
kancheng@kanchengServer:~$ R

R version 3.2.4 Revised (2016-03-16 r70336) -- "Very Secure Dishes"
Copyright (C) 2016 The R Foundation for Statistical Computing
Platform: x86_64-pc-linux-gnu (64-bit)

R 是免費軟體，不提供任何擔保。
在某些條件下您可以將其自由散布。
用 'license()' 或 'licence()' 來獲得散布的詳細條件。

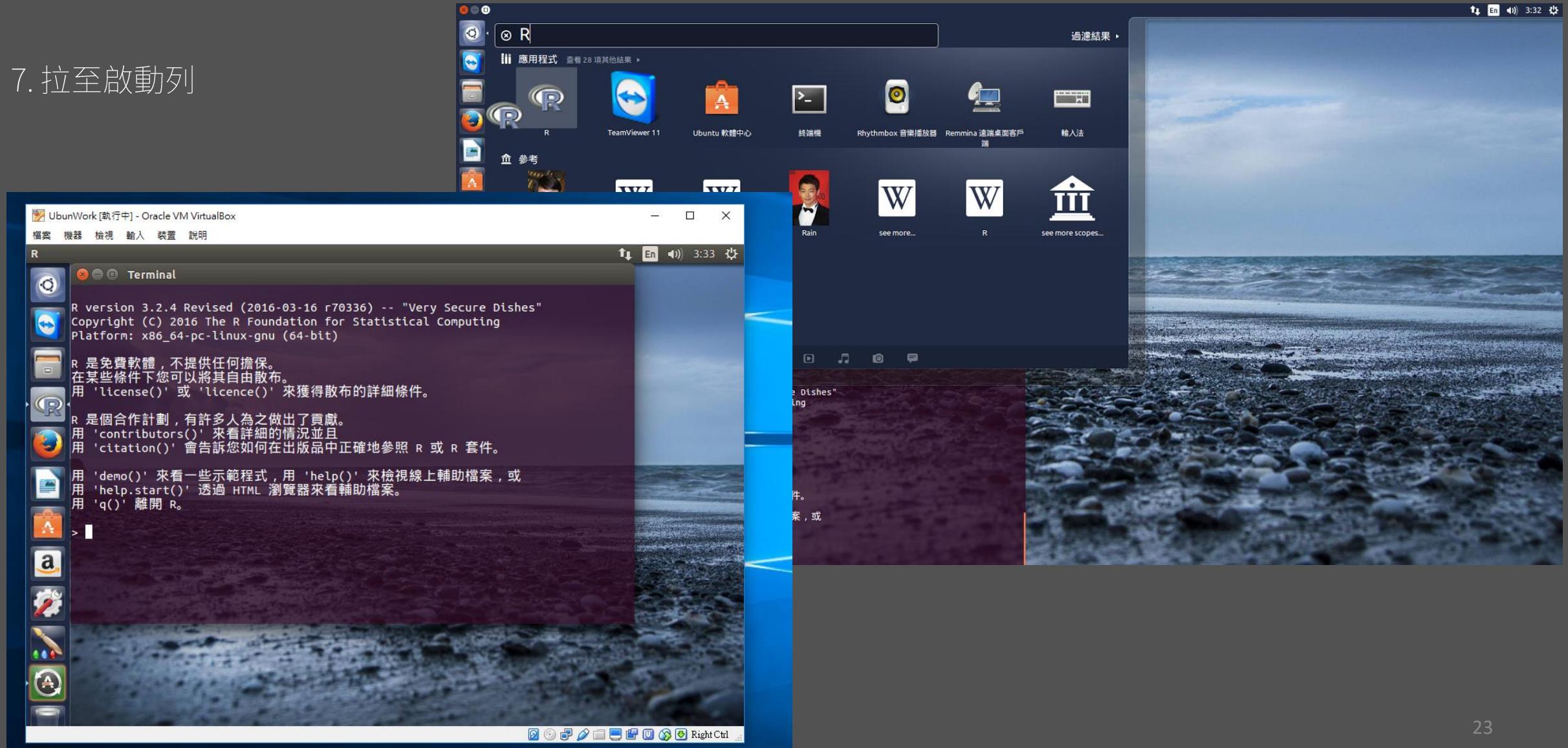
R 是個合作計劃，有許多人為之做出了貢獻。
用 'contributors()' 來看詳細的情況並且
用 'citation()' 會告訴您如何在出版品中正確地參照 R 或 R 套件。

用 'demo()' 來看一些示範程式，用 'help()' 來檢視線上輔助檔案，或
用 'help.start()' 透過 HTML 瀏覽器來看輔助檔案。
用 'q()' 離開 R。

>
```

R Install by Linux Ubuntu

7. 拉至啟動列



R Install by Mac

The Comprehensive R Archive Network

Download and Install R

Precompiled binary distributions of the base system and contributed packages. Windows and Mac users most likely want one of these versions of R:

- [Download R for Linux](#)
- [Download R for \(Mac\) OS X](#)
- [Download R for Windows](#)

R is part of many Linux distributions, you should click the link above.

Source Code for all Platforms

Windows and Mac users most likely want to download source code. The sources have to be compiled and probably do not want to do it!

- The latest release (Tuesday 2016-06-21, Bug sources)
- Sources of [R alpha and beta releases](#) (daily release).
- Daily snapshots of current patched and development [features and bug fixes](#) before filing corresponding issues.
- Source code of older versions of R is [available here](#).
- Contributed extension [packages](#)

R-3.3.0.pkg

MD5-hash: 871f274d0f9a12731d328125774c639a
SHA1-hash: a0ae68233cb826d228d7791e994fc634a888cc48
(ca. 71MB)

R-3.2.1-snowleopard.pkg

MD5-hash: 58fe9d01314d9cb75ff80ccfb914fd65
SHA1-hash: be6e91db12bac22a324f0cb51c7efa9063ece0d0
(ca. 68MB)

R 3.3.0 "Supposedly Educational" released on 2016/05/03

Please check the MD5 checksum of the downloaded image to ensure that it has not been tampered with or corrupted during the mirroring process. For example type

`md5 R-3.3.0.pkg`

in the Terminal application to print the MD5 checksum for the R-3.3.0.pkg image. On Mac OS X 10.7 and later you can also validate the signature using

`pkgutil --check-signature R-3.3.0.pkg`

Files:

R 3.3.0 binary for Mac OS X 10.9 (Mavericks) and higher, signed package. Contains R 3.3.0 framework, R.app GUI 1.68 in 64-bit for Intel Macs, Tcl/Tk 8.6.0 X11 libraries and Texinfo 5.2. The latter two components are optional and can be omitted when choosing "custom install", it is only needed if you want to use the `tcltk` R package or build package documentation from sources.

Note: the use of X11 (including `tcltk`) requires [XQuartz](#) to be installed since it is no longer part of OS X. Always re-install XQuartz when upgrading your OS X to a new major version.

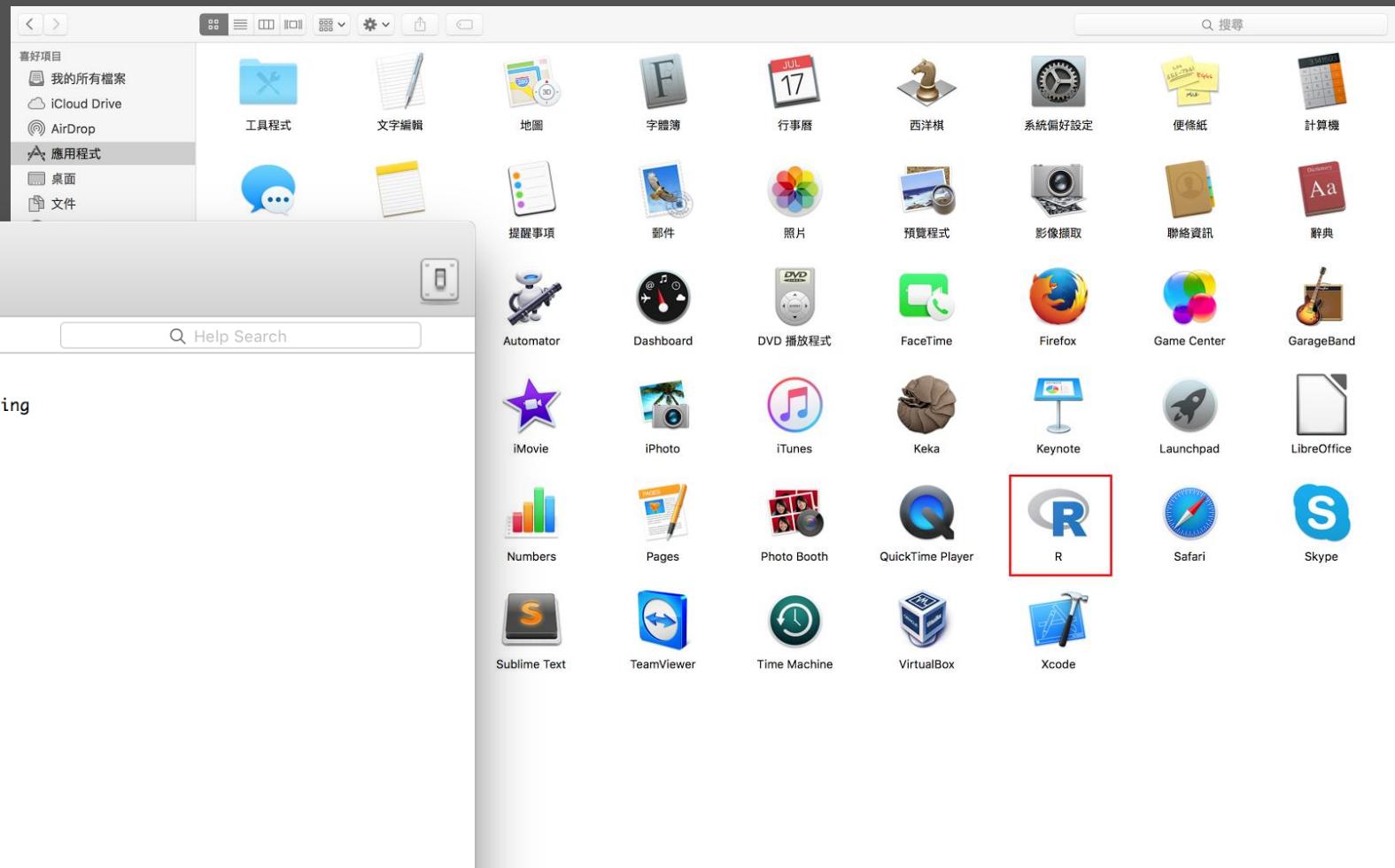
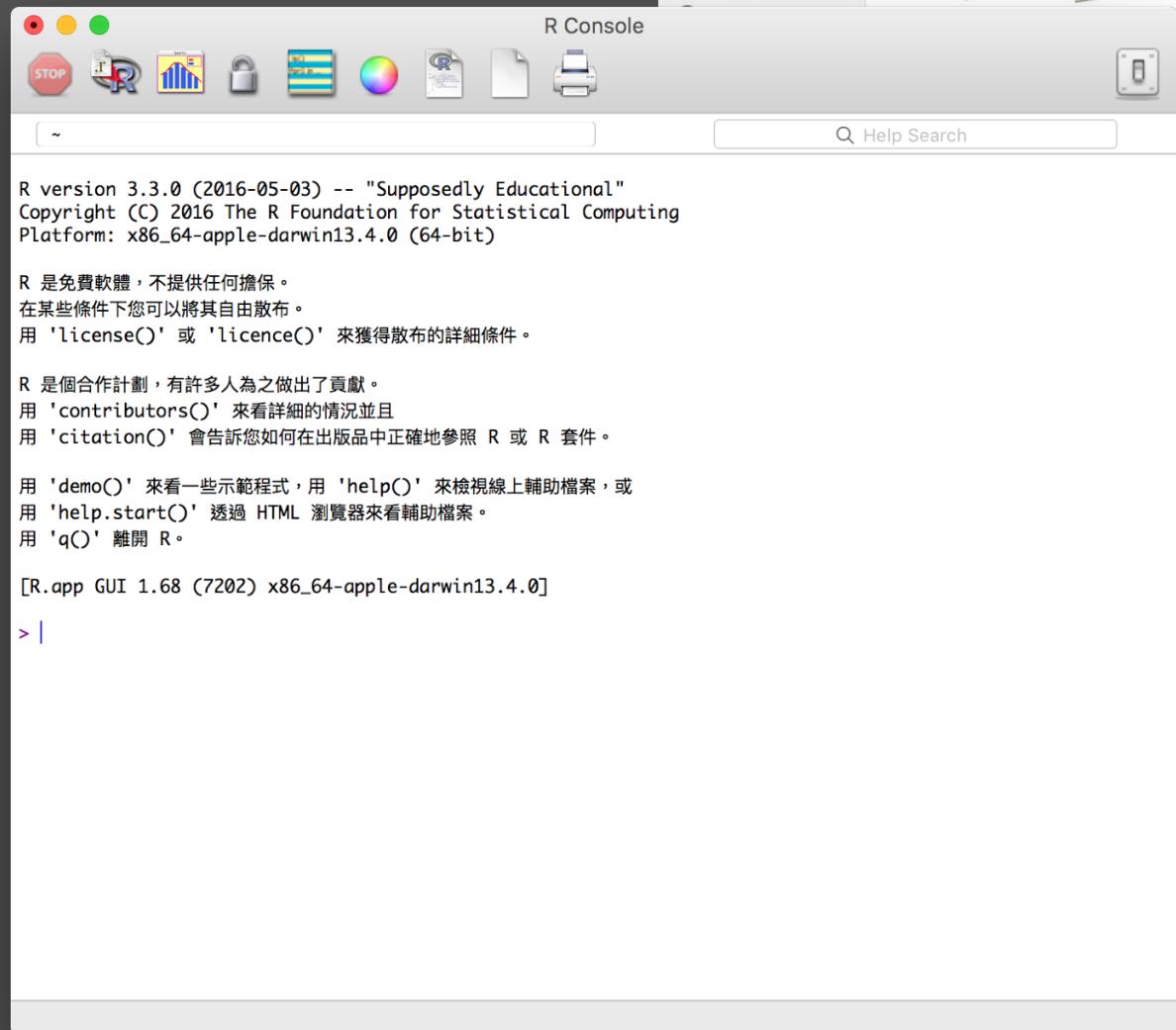
R 3.2.1 legacy binary for Mac OS X 10.6 (Snow Leopard) - 10.8 (Mountain Lion), signed package. Contains R 3.2.1 framework, R.app GUI 1.66 in 64-bit for Intel Macs. This package contains the R framework, 64-bit GUI (R.app), Tcl/Tk 8.6.0 X11 libraries and Texinfo 5.2. GNU Fortran is NOT included (needed if you want to compile packages from sources that contain FORTRAN code) please see [the tools directory](#).

NOTE: the binary support for OS X before Mavericks is being phased out, we do not expect further releases!

Questions About R

- If you have questions about R like how to download and install the software, or what the license terms are, please read our [answers to frequently asked questions](#) before you send an email.

R Install by Mac



RStudio

 Studio

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Welcome to RStudio - Open source and enterprise-ready professional software for R

[Download RStudio](#) [Discover Shiny](#)

 Powerful IDE for R

RStudio IDE is a powerful and productive user interface for R. It's free and open source, and works great on Windows, Mac, and Linux.

[Learn More >](#)

 Desktop

Run RStudio on your desktop

[RStudio Desktop >](#)

 Server

Centralize access and computation

[RStudio Server >](#)

RStudio Desktop

Open Source Edition

Overview

- Access RStudio locally
- Syntax highlighting, code completion, and smart indentation
- Execute R code directly from the source editor
- Quickly jump to function definitions
- Easily manage multiple working directories using projects
- Integrated R help and documentation
- Interactive debugger to diagnose and fix errors quickly
- Extensive package development tools

Support Community forums only

License AGPL v3

Pricing Free

[DOWNLOAD RSTUDIO DESKTOP](#)

All of the features of open source; plus:

- A commercial license for organizations not able to use AGPL software
- Access to priority support

[RStudio License Agreement](#)

\$995/year

[BUY NOW](#)

Rstudio by Windows

Windows 上要先裝好 JAVA 跟 R，而 JAVA 不管是 JRE or JDK 皆可。

[RStudio](#)

Products Resources Pricing About Us Blog

Download RStudio

RStudio is a set of integrated tools designed to help you be more productive with R. It includes a console, syntax-highlighting editor that supports direct code execution, as well as tools for plotting, history, debugging and workspace management.

If you run R on a Linux server and want to enable users to remotely access RStudio using a web browser please download RStudio Server.

Do you need support or a commercial license? Check out our commercial offerings.

RStudio Desktop 0.99.893 — Release Notes

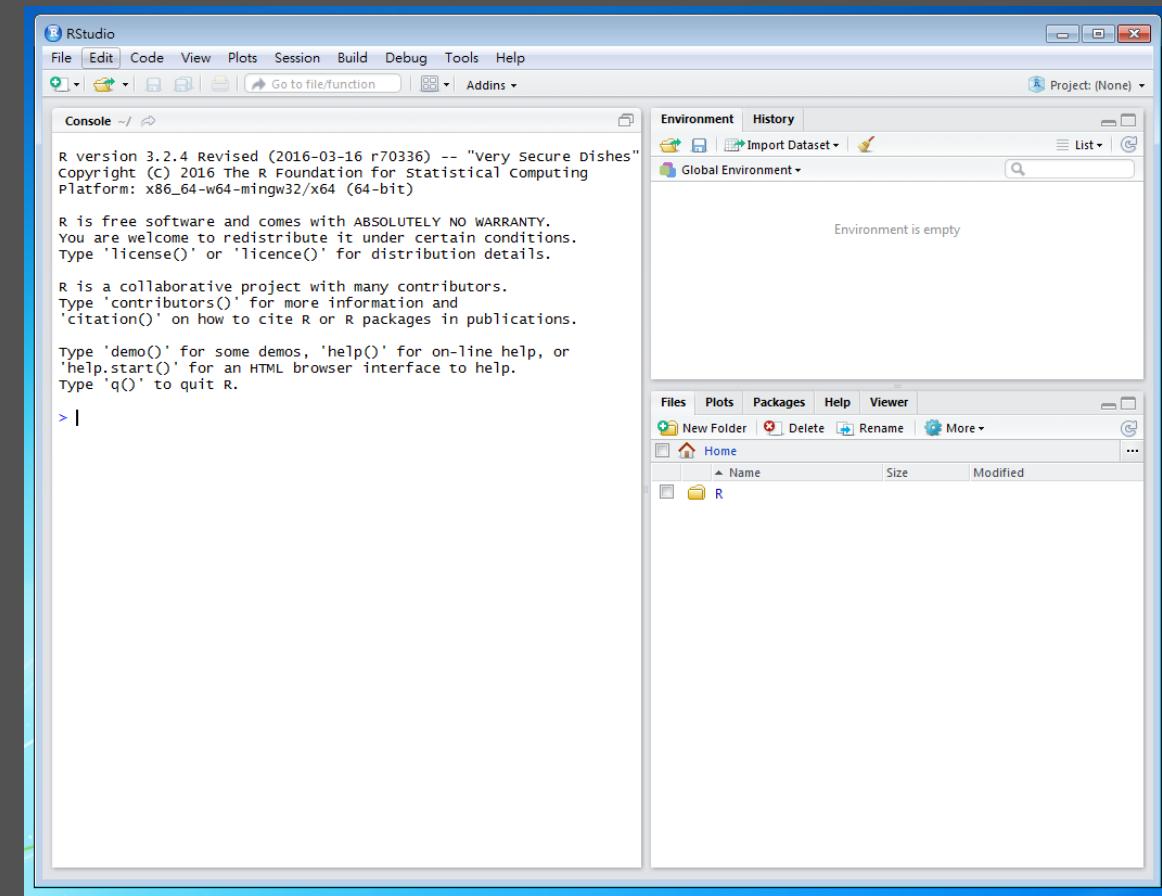
RStudio requires R 2.11.1 (or higher). If you don't already have R, you can download it here.

Installers for Supported Platforms

Installers	Size	Date	MD5
RStudio 0.99.893 - Windows Vista/7/8/10	77.1 MB	2016-03-18	ab70fc73c7bafe0d35ed463abf80552cd
RStudio 0.99.893 - Mac OS X 10.6+ (64-bit)	60.6 MB	2016-03-18	d99a0c5358cffea825a557e4df89e271
RStudio 0.99.893 - Ubuntu 12.04+ (Debian 6+ (32-bit))	81.0 MB	2016-03-18	602be348a05ef48dcacf7b5fdca083cf
RStudio 0.99.893 - Ubuntu 12.04+ (Debian 6+ (64-bit))	88.2 MB	2016-03-18	d48679eb0c3d130922e2793b14b9c786
RStudio 0.99.893 - Fedora 18+ (Redhat 7+ /openSUSE 13.3+ (32-bit))	80.9 MB	2016-03-18	0697ed3b76af0ff51daef0aae7eb5d4b0
RStudio 0.99.893 - Fedora 19+ (Redhat 7+ /openSUSE 13.3+ (64-bit))	81.9 MB	2016-03-18	fbd264c2573fb0d0f8223a5507e7cf651

Zip/Tarballs

Zip/tar archives	Size	Date	MD5
RStudio 0.99.893 - Windows Vista/7/8/10	110.5 MB	2016-03-18	93808ae1e2e8eb2999e8cacde23724c6
RStudio 0.99.893 - Ubuntu 12.04+ (Debian 6+ (32-bit))	82.3 MB	2016-03-18	b0efdf687171ea6418b8920ccdb0ee5c82
RStudio 0.99.893 - Ubuntu 12.04+ (Debian 6+ (64-bit))	89.2 MB	2016-03-18	86c67b8862fa4df1f196a8d4296fb9
RStudio 0.99.893 - Fedora 18+ (Redhat 7+ /openSUSE 13.3+ (32-bit))	81.6 MB	2016-03-18	542a2b13cab05531eb3293daaaef6a
RStudio 0.99.893 - Fedora 19+ (Redhat 7+ /openSUSE 13.3+ (64-bit))	82.8 MB	2016-03-18	d5ef570bddb3b0f8e557c9e0d363724e



Rstudio by Linux Ubuntu

要先裝好 R

RStudio Desktop 0.99.903 — Release Notes

RStudio requires R 2.11.1+. If you don't already have R, download it [here](#).

Installers for Supported Platforms

Installers

RStudio 0.99.903 - Windows Vista/7/8/10

RStudio 0.99.903 - Mac OS X 10.6+ (64-bit)

RStudio 0.99.903 - Ubuntu 12.04+/Debian 8+ (32-bit)

RStudio 0.99.903 - Ubuntu 12.04+/Debian 8+ (64-bit)

RStudio 0.99.903 - Fedora 19+/RedHat 7+/openSUSE 13.1+ (32-bit)

RStudio 0.99.903 - Fedora 19+/RedHat 7+/openSUSE 13.1+ (64-bit)

Zip/Tarballs

Zip/tar archives

RStudio 0.99.903 - Windows Vista/7/8/10

RStudio 0.99.903 - Ubuntu 12.04+/Debian 8+ (32-bit)

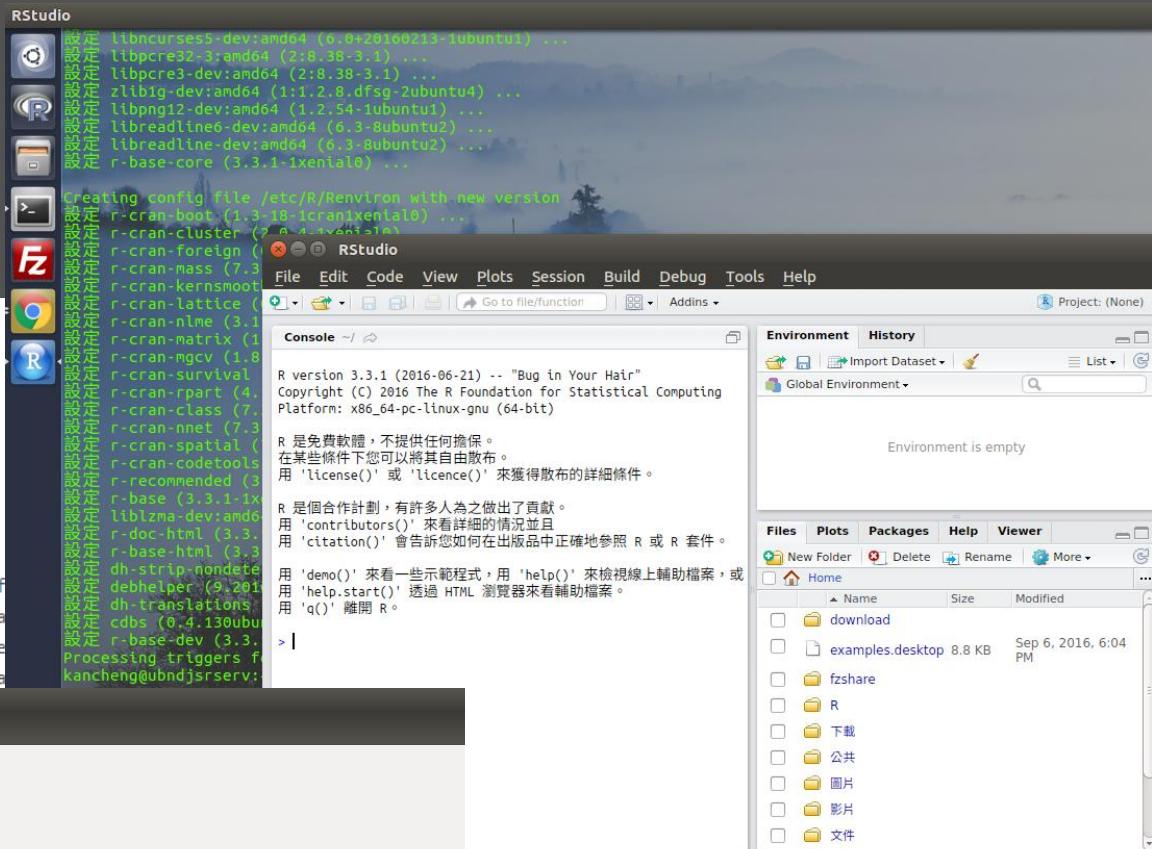
RStudio 0.99.903 - Ubuntu 12.04+/Debian 8+ (64-bit)

RStudio 0.99.903 - Fedora 19+/RedHat 7+/openSUSE 13.1+ (32-bit)

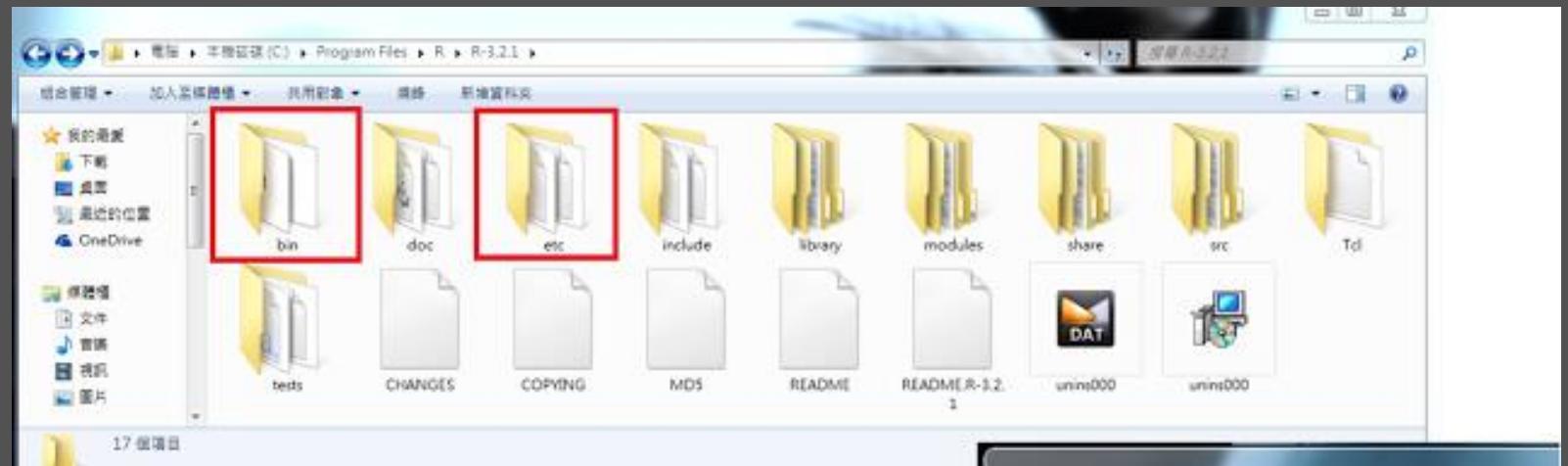
RStudio 0.99.903 - Fedora 19+/RedHat 7+/openSUSE 13.1+ (64-bit)

Source Code

A tarball containing source code for RStudio

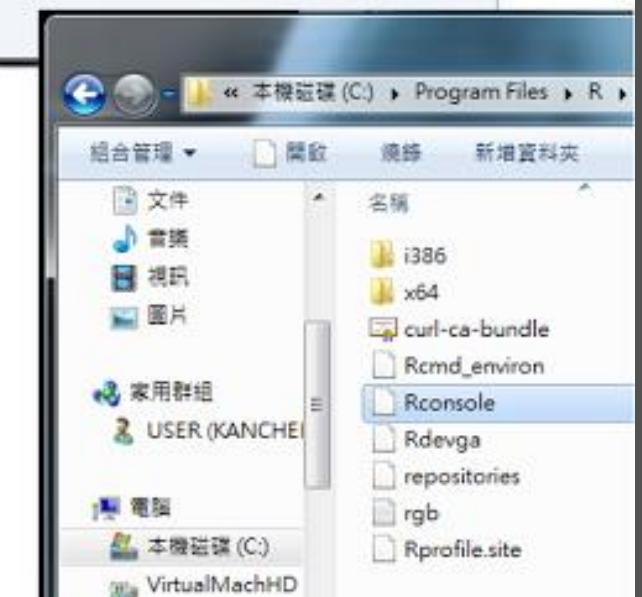


R Windows & Linux Ubuntu



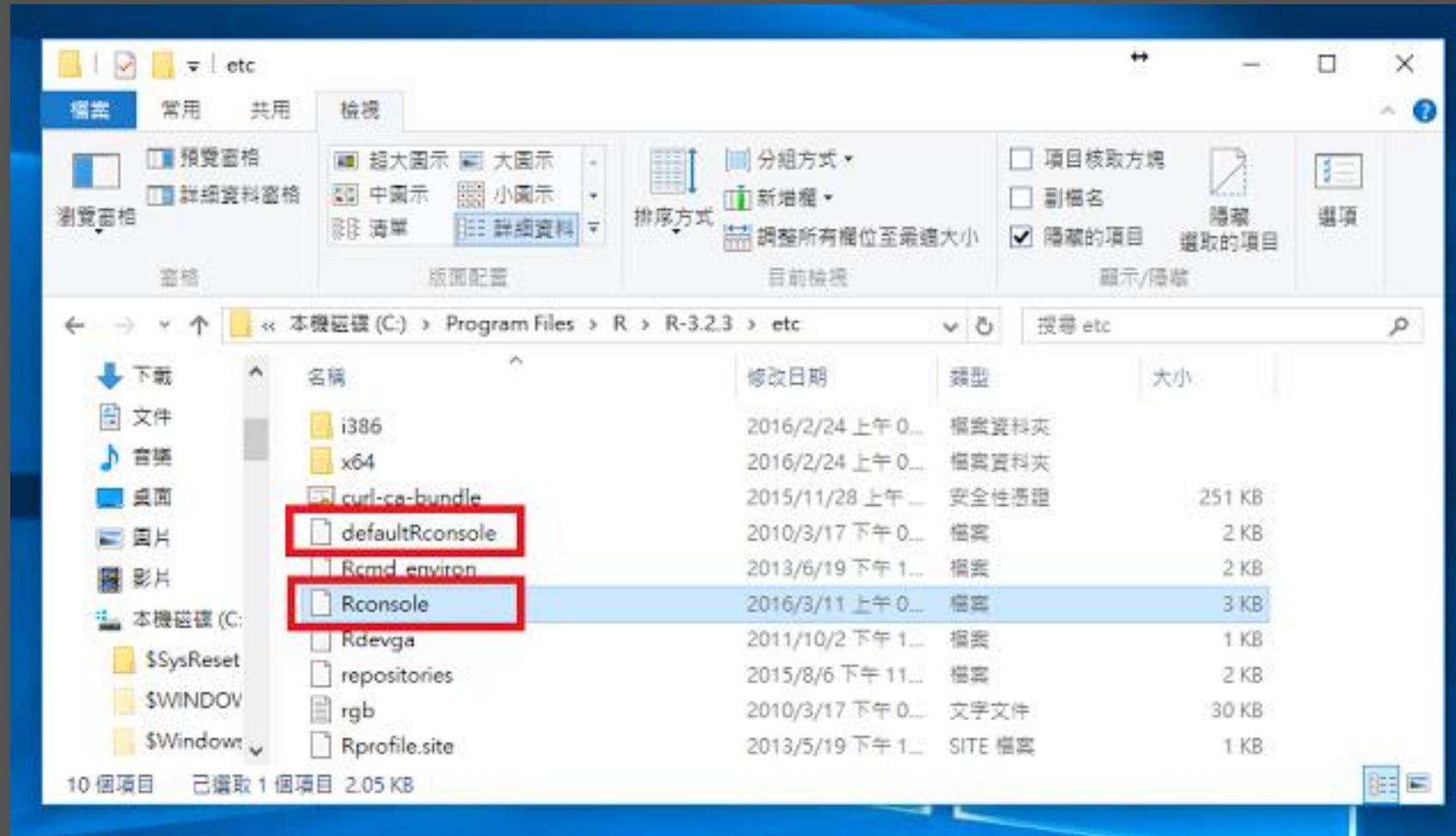
/etc 目錄下的 Rconsole 檔案為 R 語言的設定檔案

```
kancheng@kancheng:/usr/lib/R$ ll
總計 1352
drwxr-xr-x  8 root root  4096  8月  9 06:10 .
drwxr-xr-x 165 root root 20480  8月  9 06:14 ..
drwxr-xr-x  3 root root  4096  8月  9 06:10 bin/
lrfwxrwxrwx  1 root root   33 10月 25 2013 COPYING -> ../../share/common-licenses/GPL-2
drwxr-xr-x  2 root root  4096  8月  9 06:10 etc/
drwxr-xr-x  2 root root  4096  8月  9 06:10 lib/
drwxr-xr-x 32 root root  4096  8月  9 06:10 library/
drwxr-xr-x  2 root root  4096  8月  9 06:10 modules/
-rw-r--r--  1 root root 64059 10月 25 2013 NEWS
-rw-r--r--  1 root root 93568 10月 25 2013 NEWS.0
-rw-r--r--  1 root root 294277 10月 25 2013 NEWS.1
-rw-r--r--  1 root root 641975 10月 25 2013 NEWS.2
-rw-r--r--  1 root root 231787 10月 25 2013 NEWS.pdf
drwxr-xr-x  2 root root  4096 10月 25 2013 site-library/
-rw-r--r--  1 root root    46 10月 25 2013 SVN-REVISION
kancheng@kancheng:/usr/lib/R$ 
```

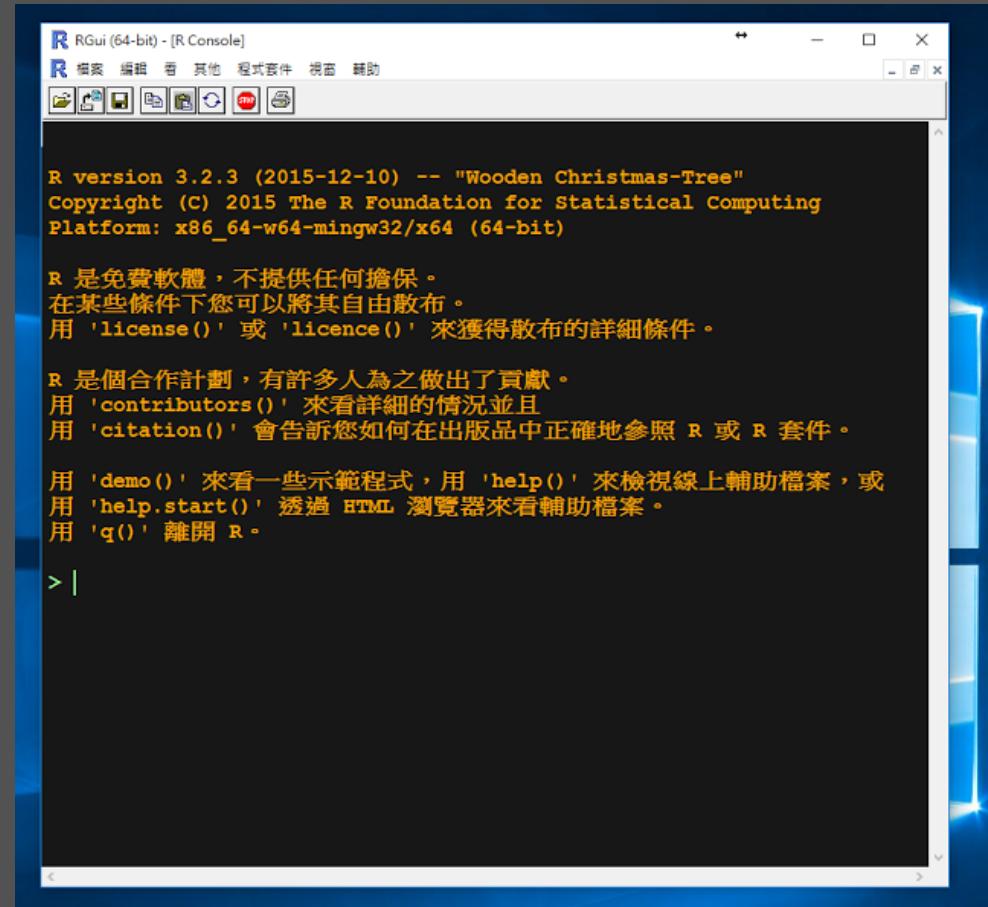
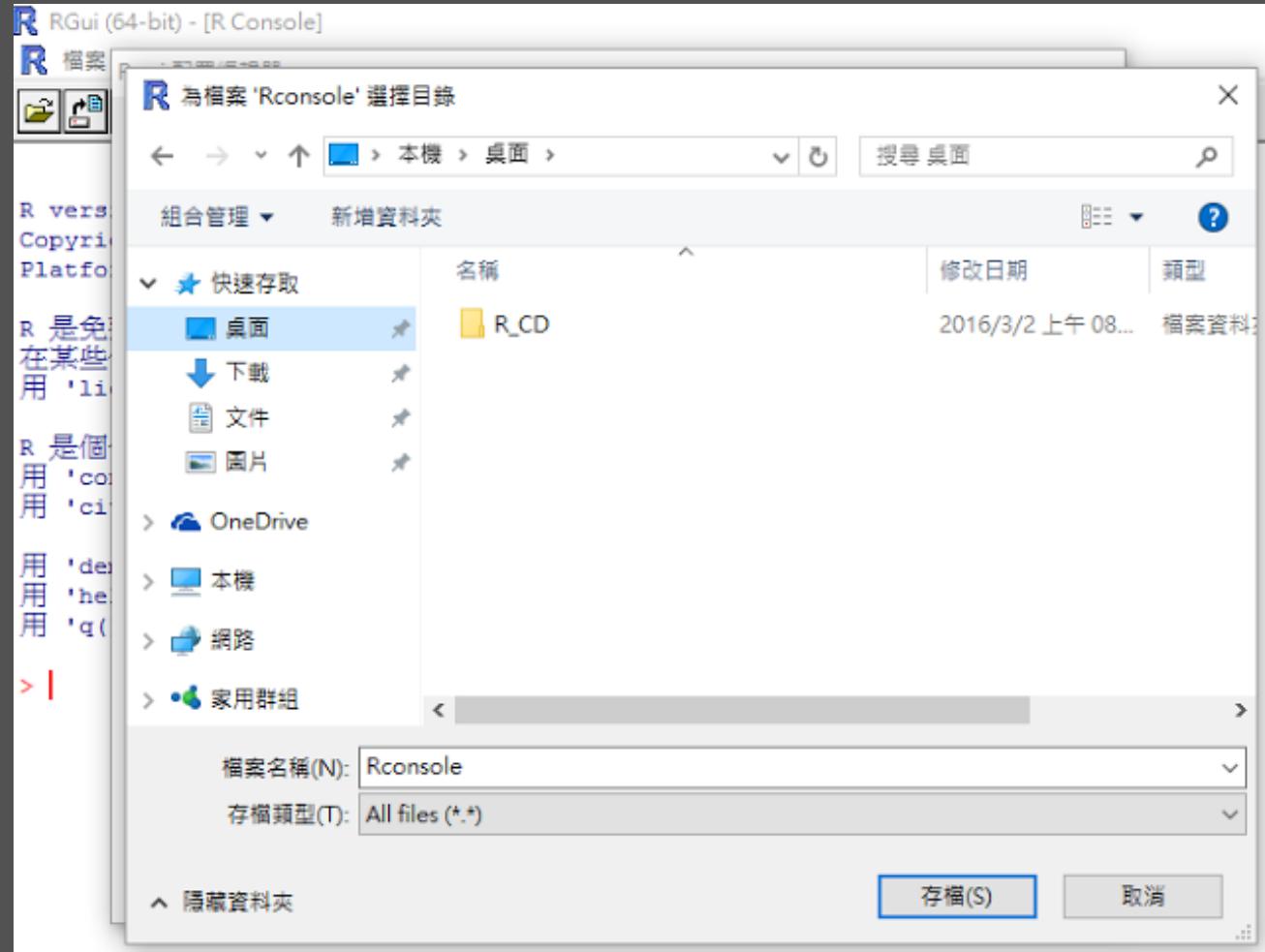


R GUI (Windows) - Rconsole

改前先將 Rconsole 檔案先複製出來，並命名為 defaultRconsole

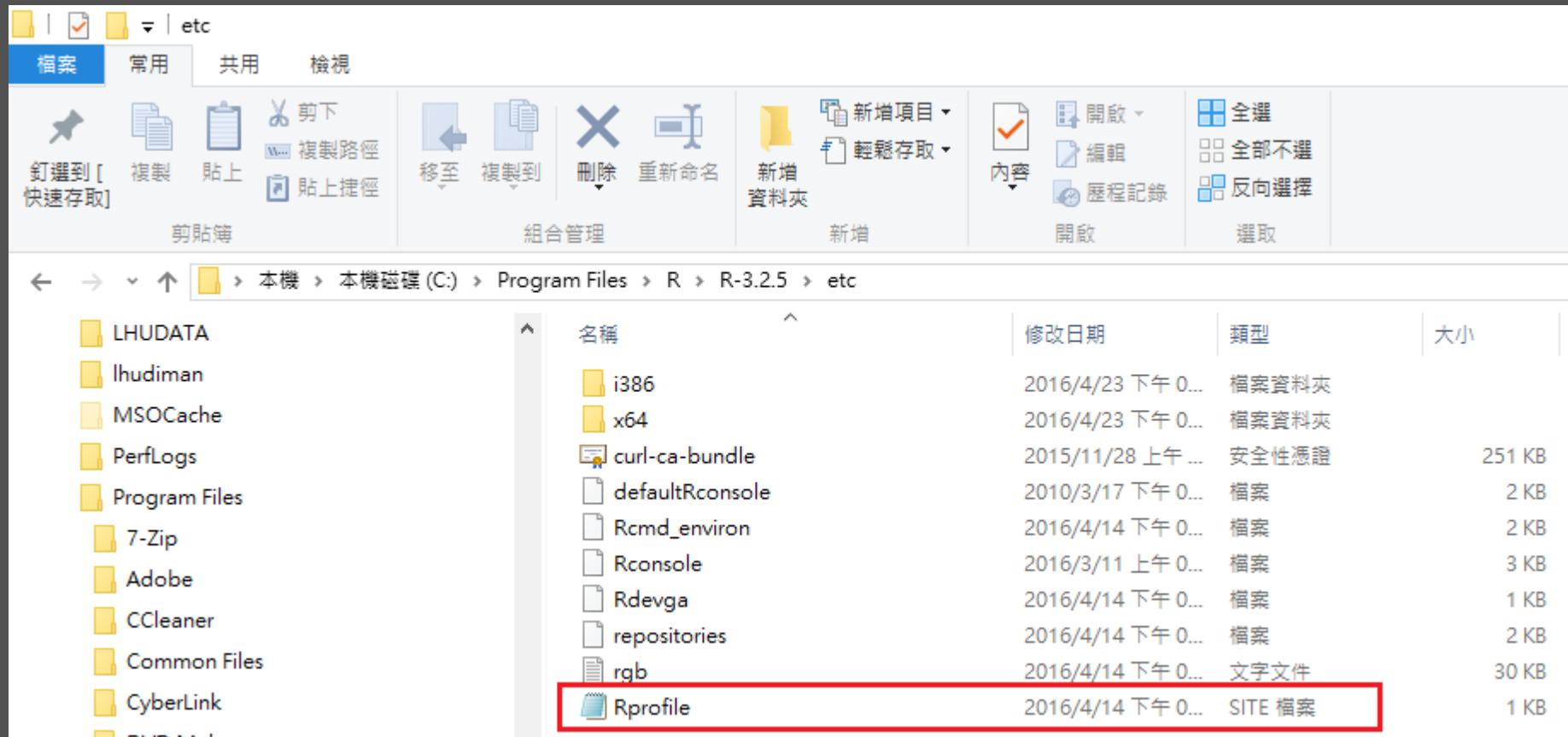


R GUI (Windows) - Rconsole



Rprofile

Rprofile 其實就是設定 R 的環境變數，一些很常用的套件與一些執行R的初始設定，可以丟在Rprofile上面，在執行R時預設直接執行。



Rprofile

增加自己所要的內容

R Gui (64-bit) - [R Console]

用 'demo()' 來看一些示範程式，用 'help()' 來檢視線上輔助檔案，或用 'help.start()' 透過 HTML 瀏覽器來看輔助檔案。用 'q()' 離開 R。

```
Loading required package: GGally
Loading required package: lubridate
Loading required package: stringr
Loading required package: ggplot2
Loading required package: scales
Loading required package: reshape2
Loading required package: data.table
data.table 1.9.6  For help type ?data.table or https://github.com/Rd...
The fastest way to learn (by data.table authors): https://www.dataca...
Attaching package: 'data.table'

The following objects are masked from 'package:reshape2':
  dcast, melt

The following objects are masked from 'package:lubridate':
  hour, mday, month, quarter, wday, week, yday, year

Loading required package: coefplot

Welcome at Thu Jul 07 22:11:56 2016
> |
```

C:\Program Files\R\R-3.3.1\etc\Rprofile.site - Sublime Text (UNRECORDED)

```
File Edit Selection Find View Goto Tools Project Preferences
```

Rprofile.site

```
1 # Things you might want to change
2
3 # options(papersize="a4")
4 # options(editor="notepad")
5 # options(pager="internal")
6
7 # set the default help type
8 # options(help_type="text")
9   options(help_type="html")
10
11 # set a site library
12 # .Library.site <- file.path(chartr("\\", "/", R.home()),
13   "site-library")
14
15 # set a CRAN mirror
16 # local({r <- getOption("repos")
17 #       r["CRAN"] <- "http://my.local.cran"
18 #       options(repos=r)})
19
20 # Give a fortune cookie, but only to interactive sessions
21 # (This would need the fortunes package to be installed.)
22 # if (interactive())
23 #   fortunes::fortune()
```

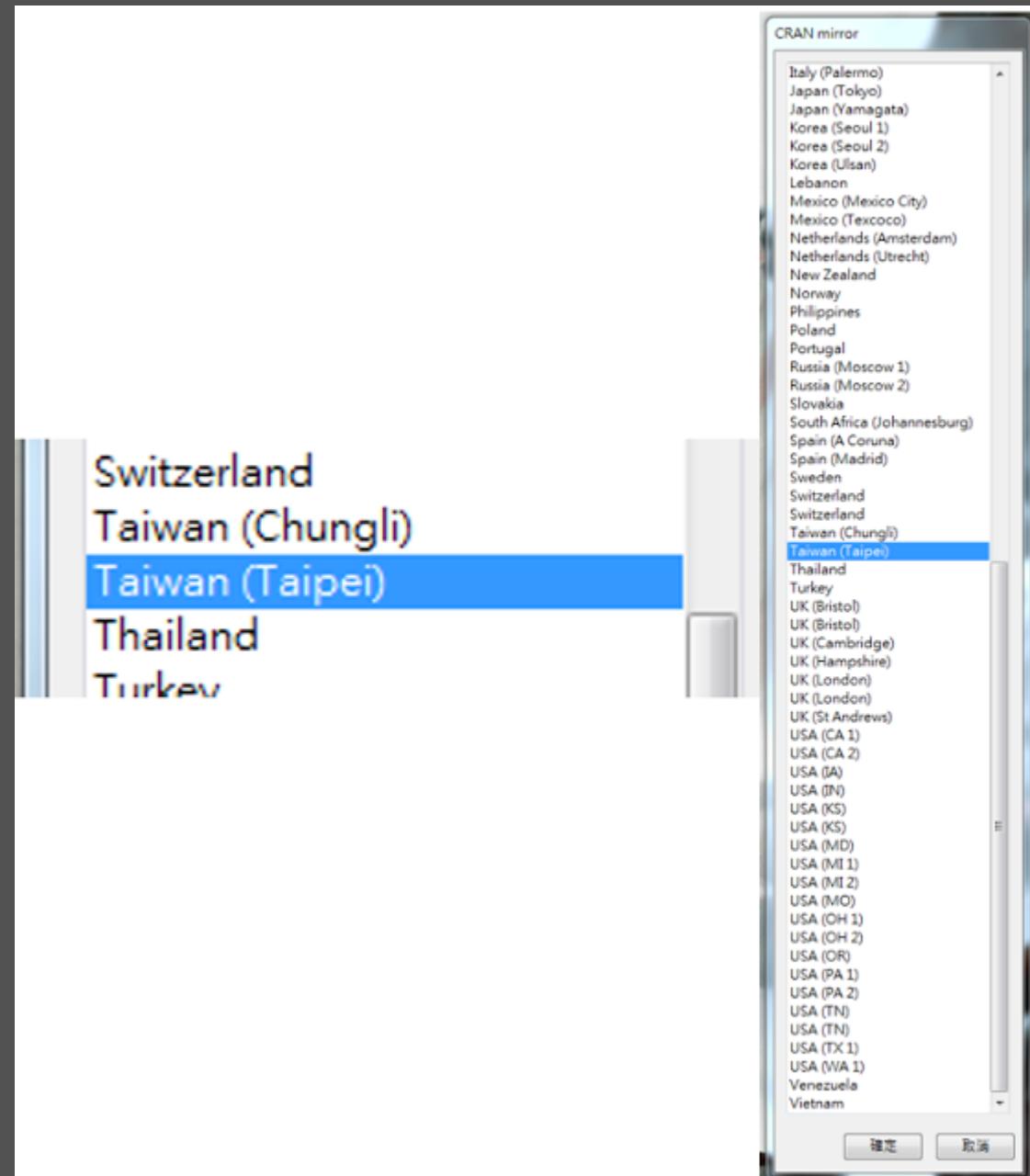
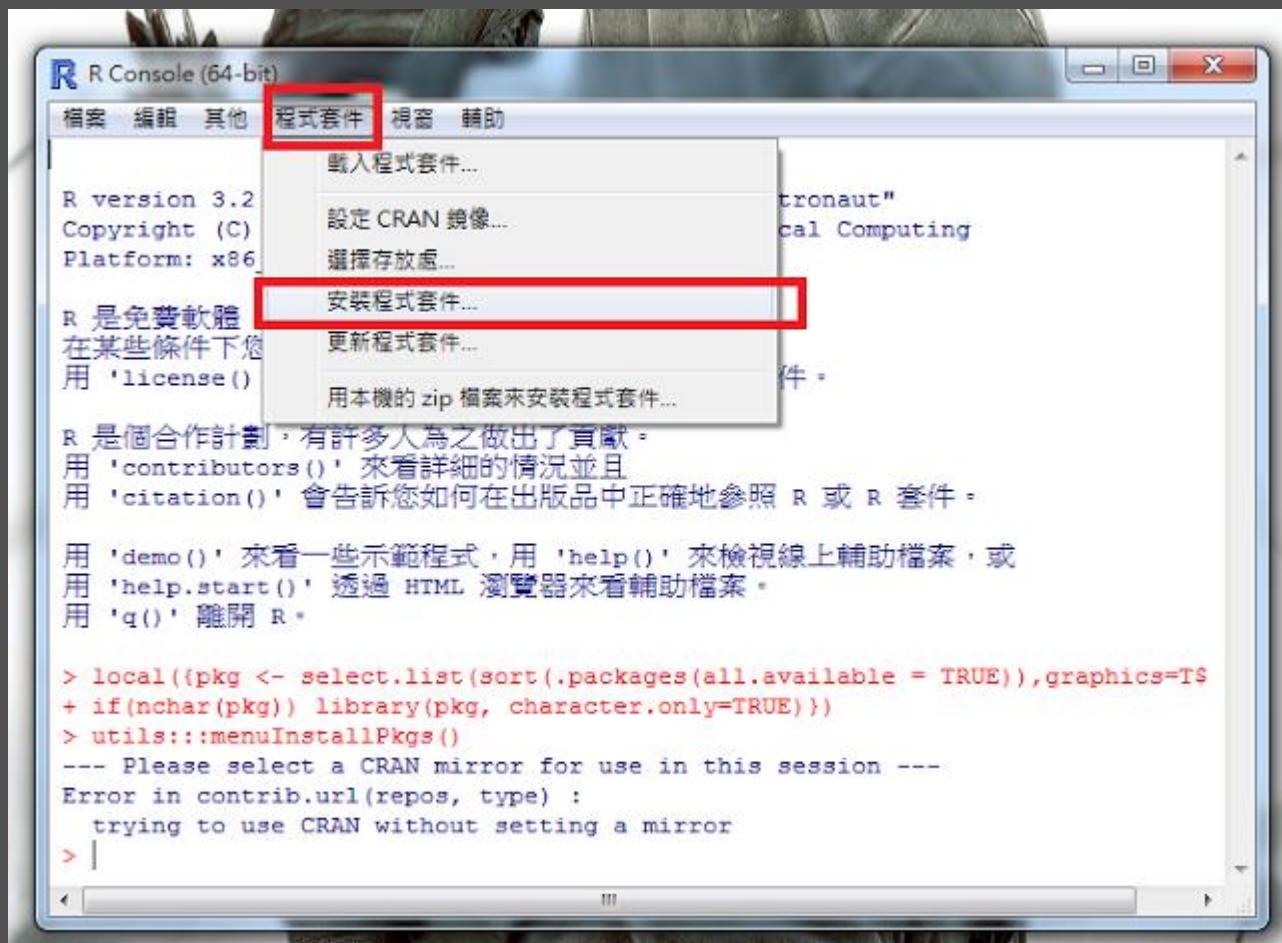
Line 23, Column 1

```
# kan edit
.First = function(){
  require(GGally)
  require(lubridate)
  require(stringr)
  require(ggplot2)
  require(scales)
  require(reshape2)
  require(data.table)
  require(coefplot)
  setwd("C:/data")
  cat("\nWelcome at", date(), "\n")}
```

```
.Last = function(){
}
##
```

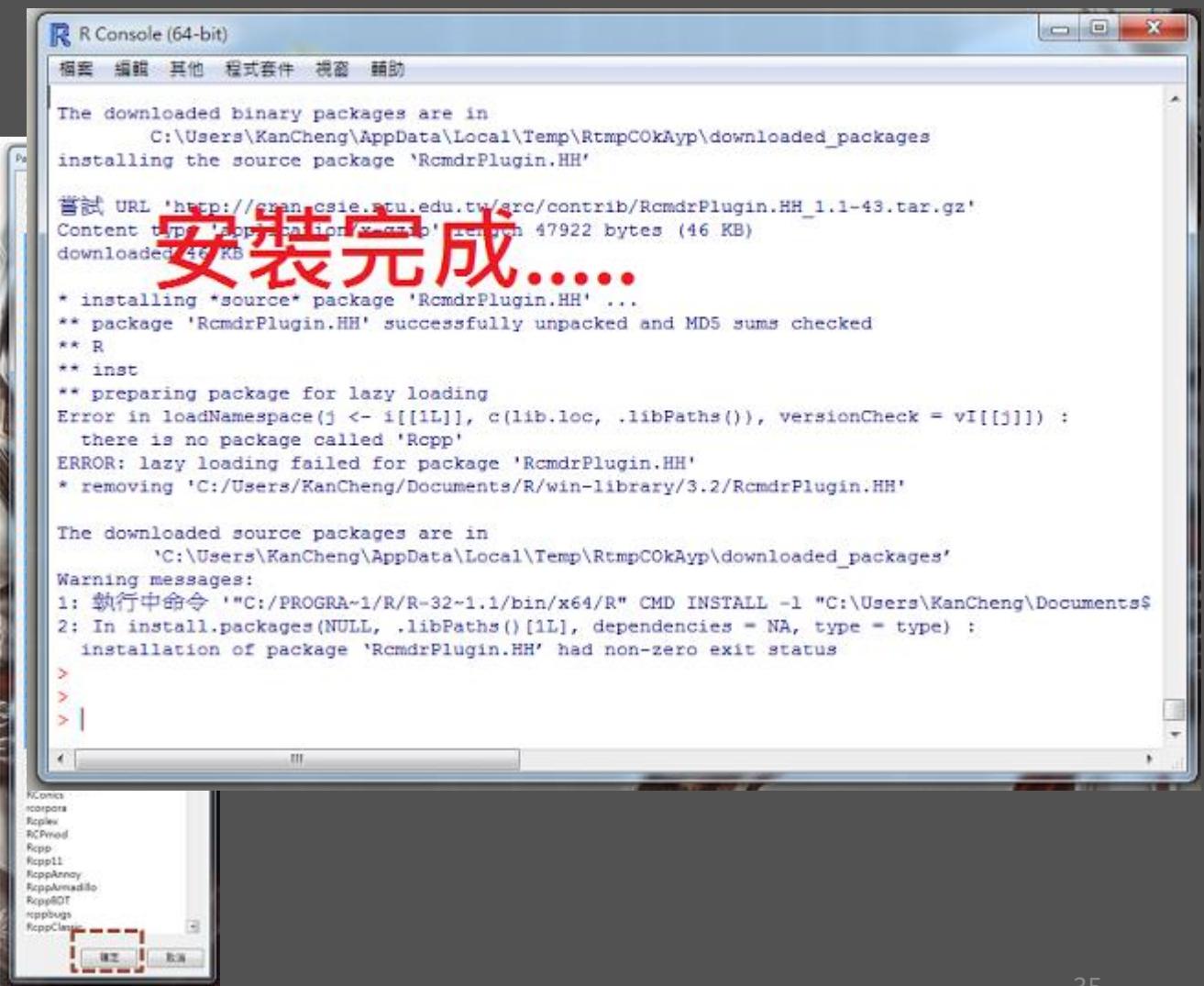
R GUI install packages

用圖形介面安裝套件



R GUI install packages

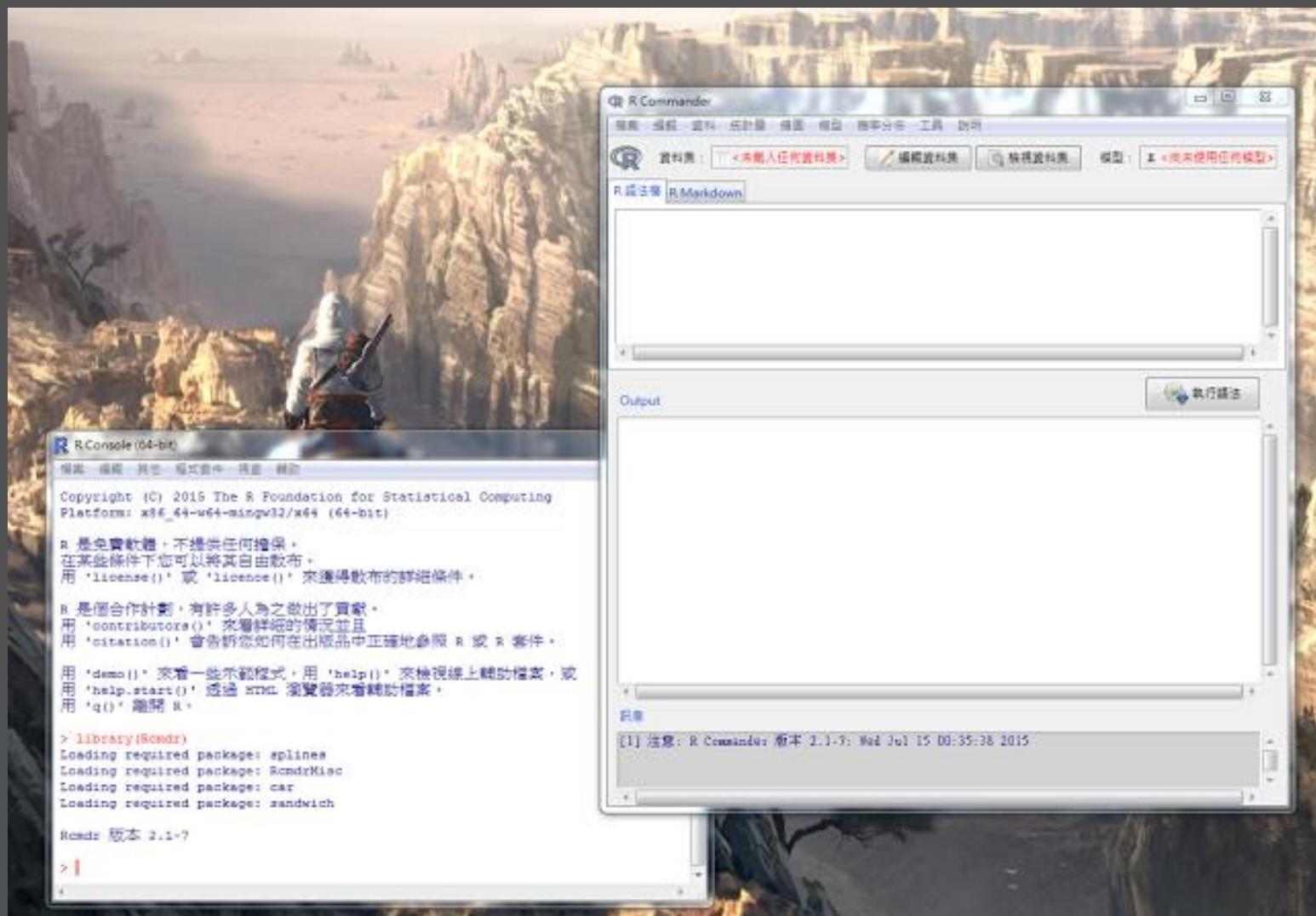
用圖形介面安裝套件



R GUI install packages

匯入套件

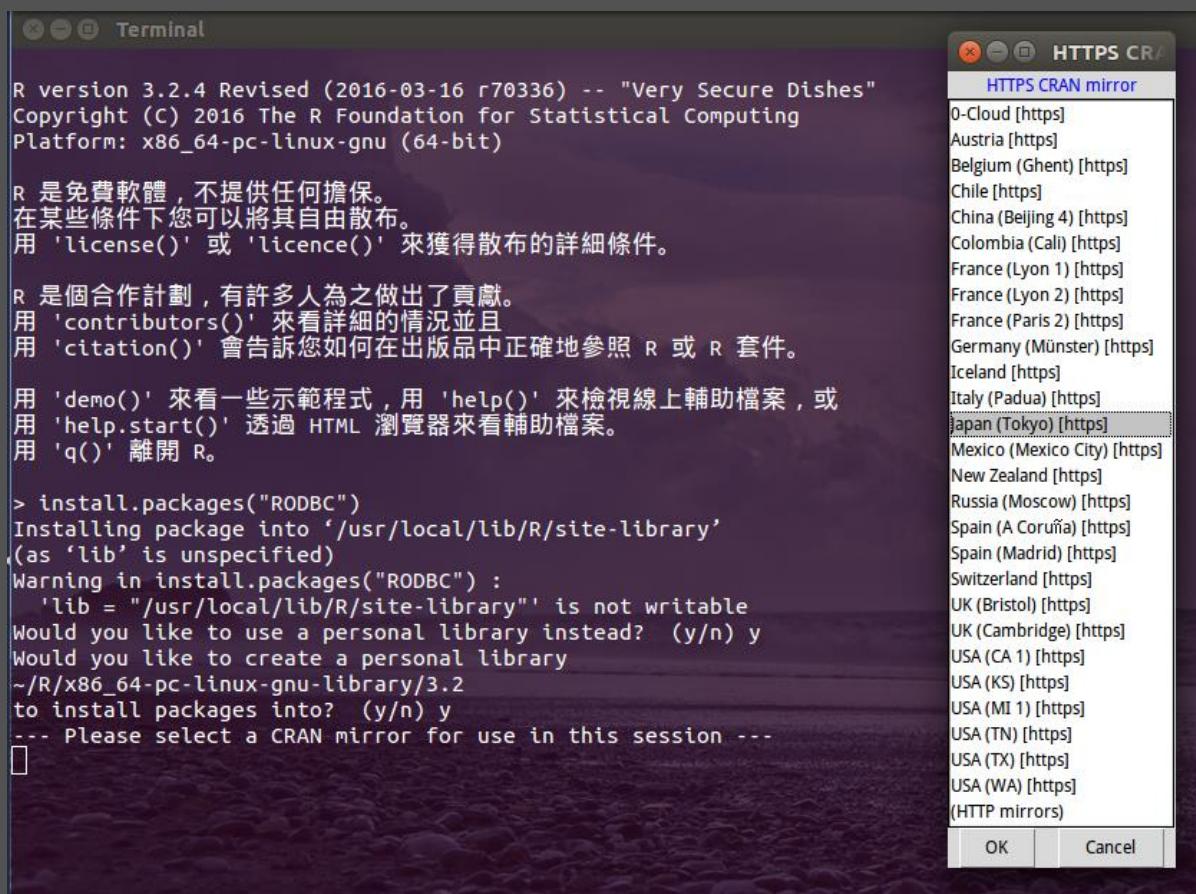
```
> library("Rcmdr")
```



R install packages

匯入套件

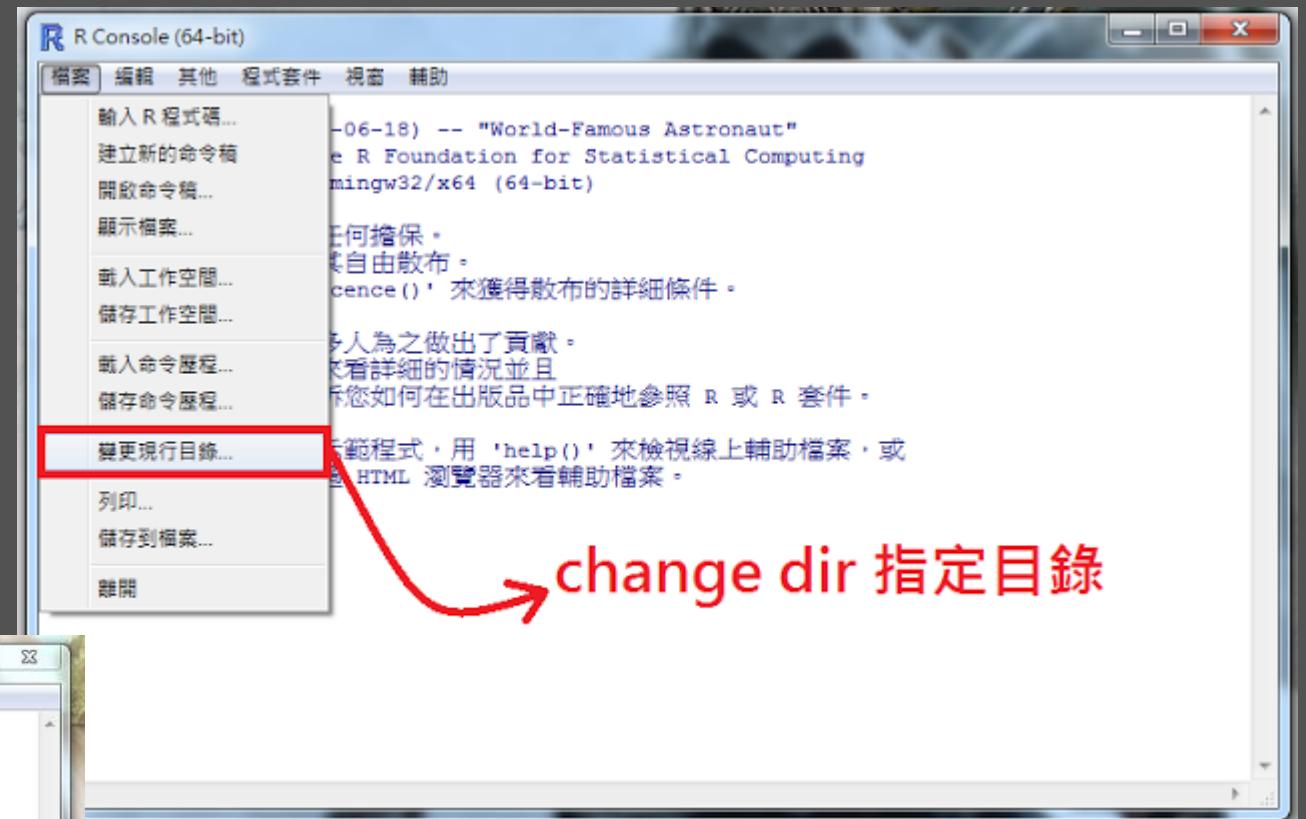
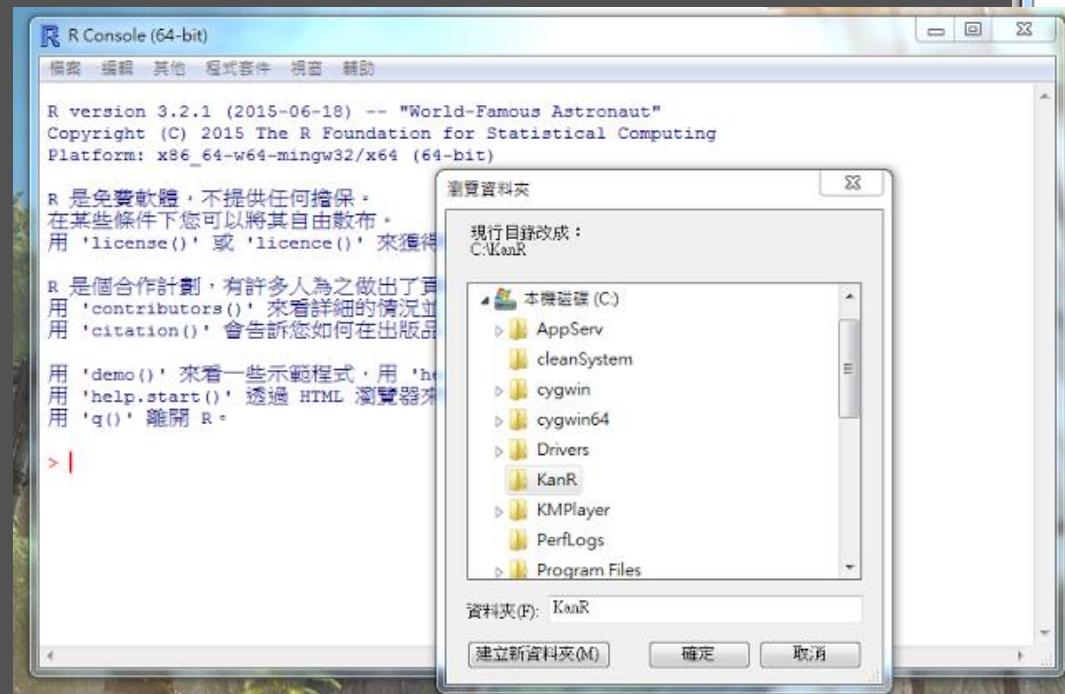
```
> install.packages("[指定的套件名稱]")
>
> install.packages("RODBC")
>
> remove.packages("[套件名稱]")
```



R 設定工作目錄

建議習慣打指令 ... Owo

```
setwd("C://")  
setwd("C:\")  
getwd()
```



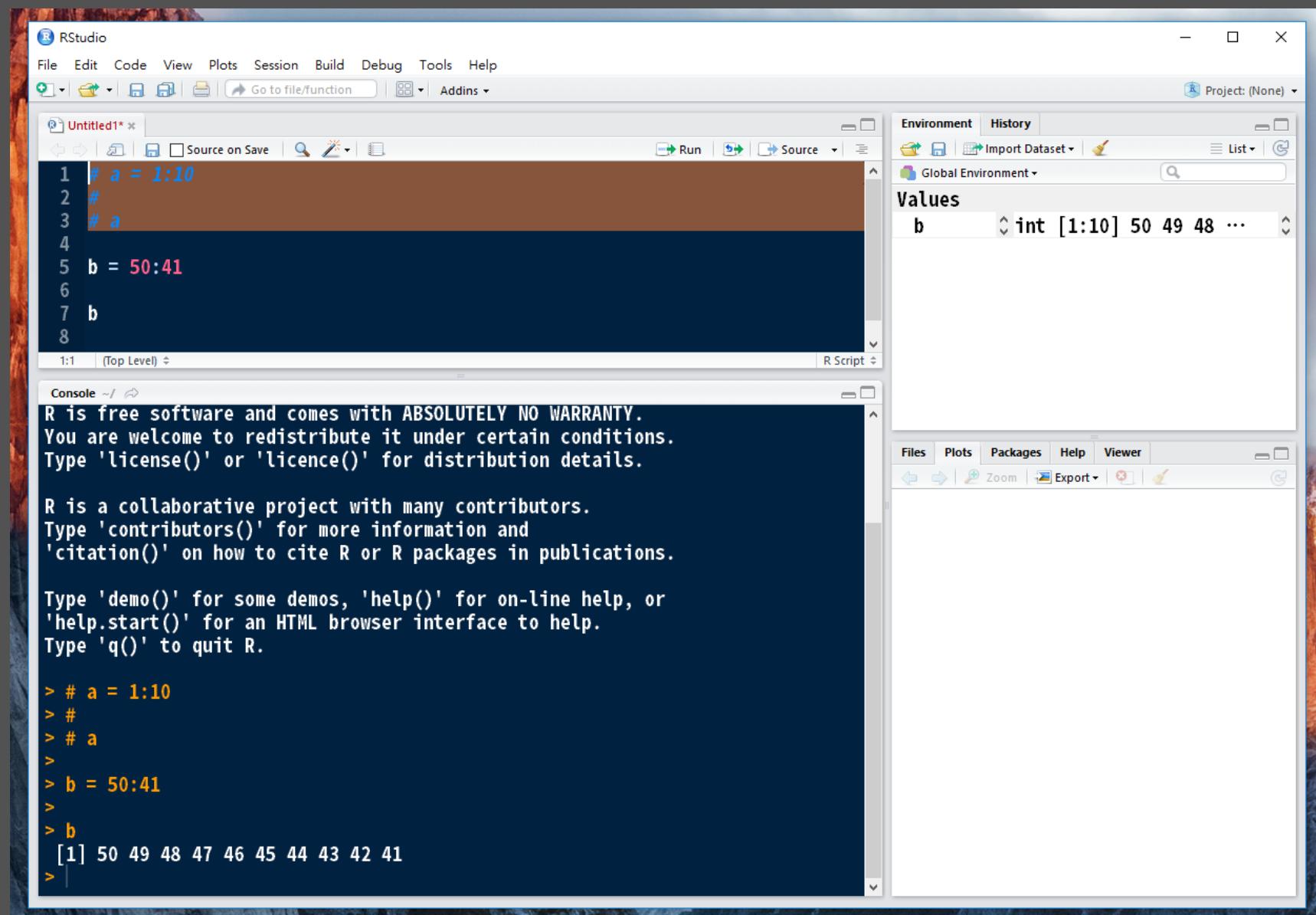
```
> getwd()  
[1] "C:/Users/KanCheng/Documents"  
> setwd("C://KanR")  
> getwd()  
[1] "C:/KanR"  
> |
```

R 註解

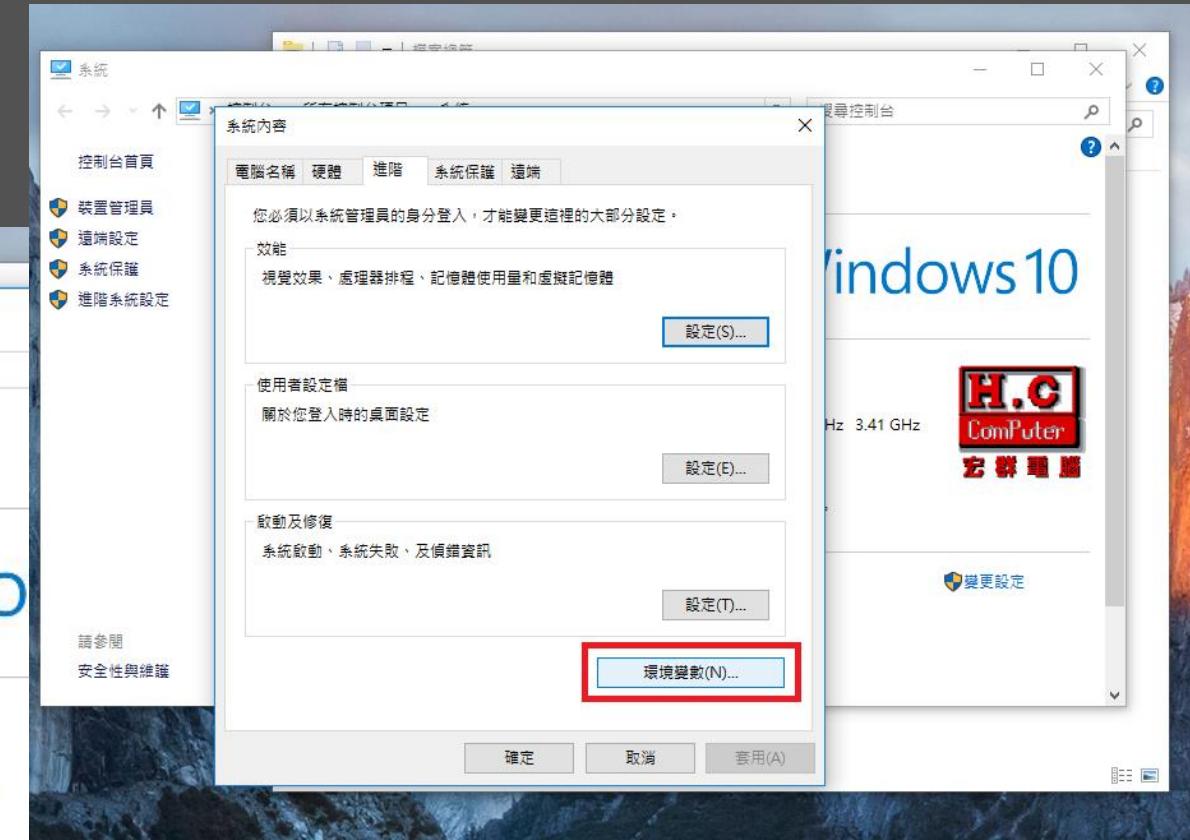
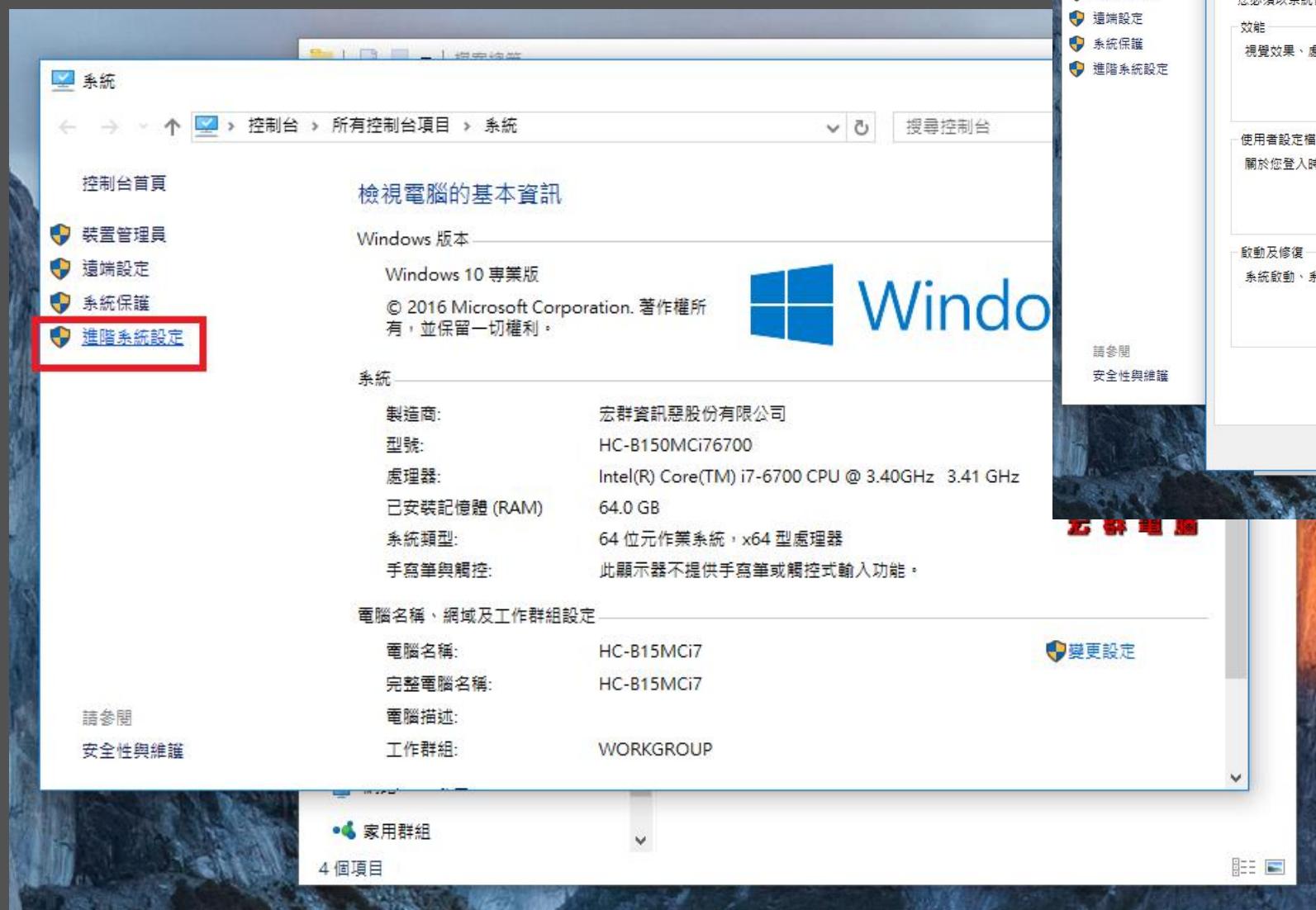
```
#
```

將 R 撰寫在其 R script 上面對其要註解的範圍框起來，只用鍵盤上的 [ctrl] + [shift] + [c]，就會自行註解了。

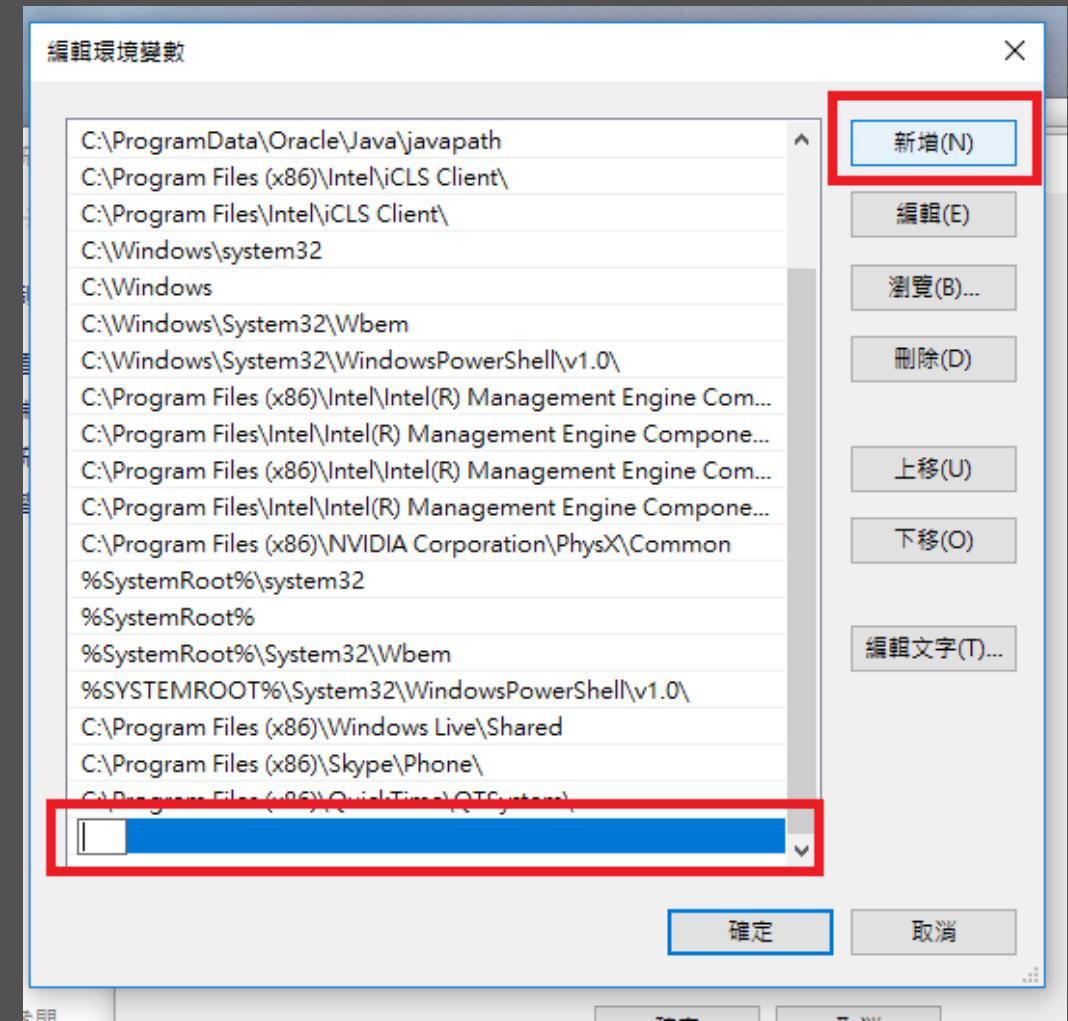
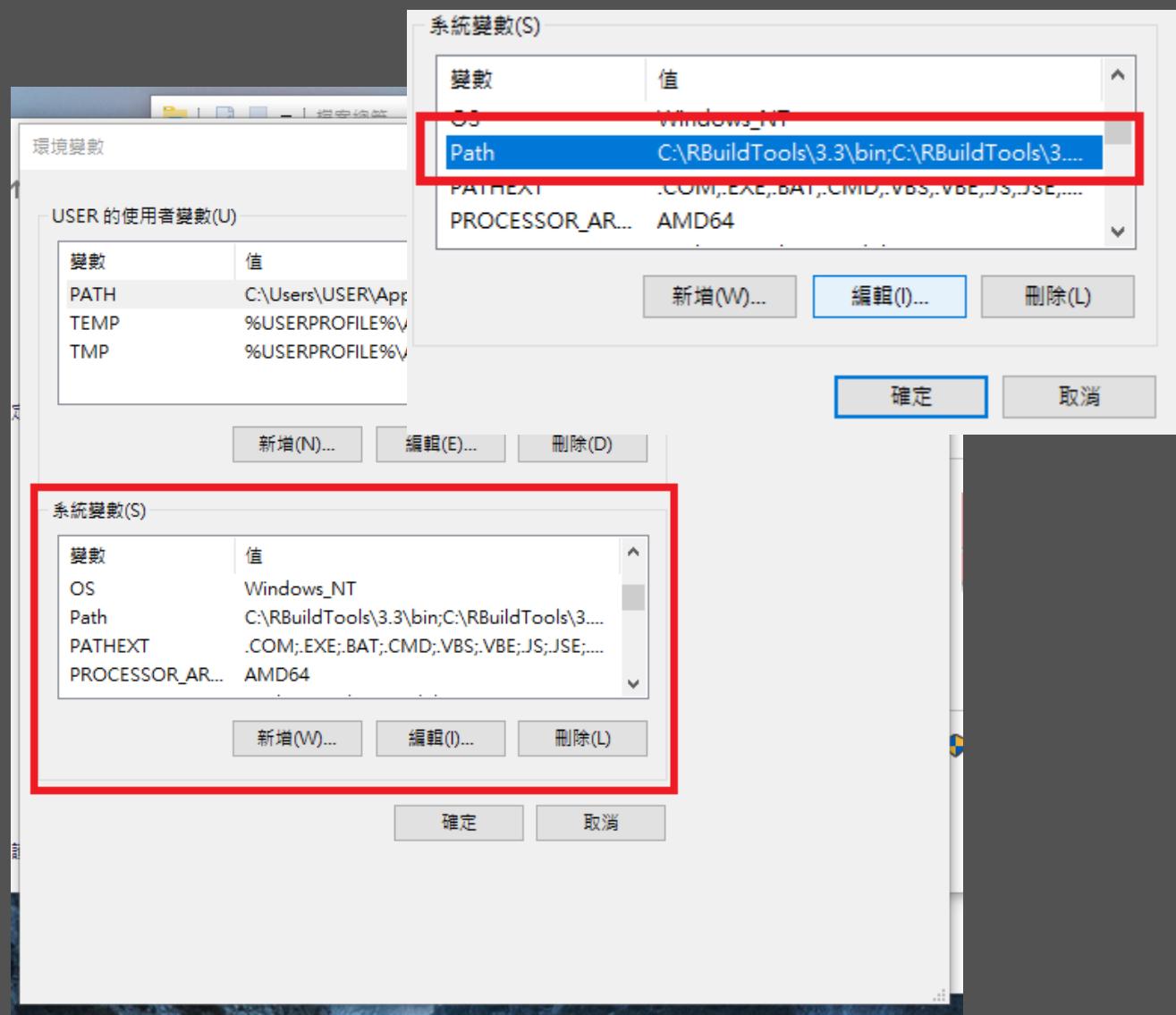
```
> if(1<0) # that is FALSE
+ {
+   a = 1:10
+   a
+ }
>
> |
```



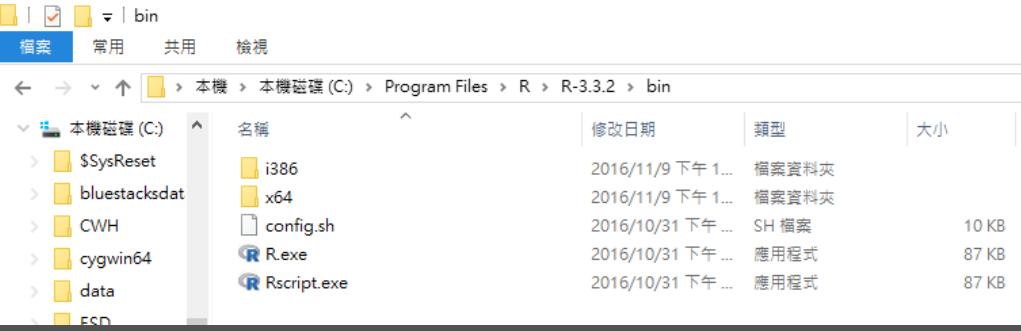
R script CMD (Windows)



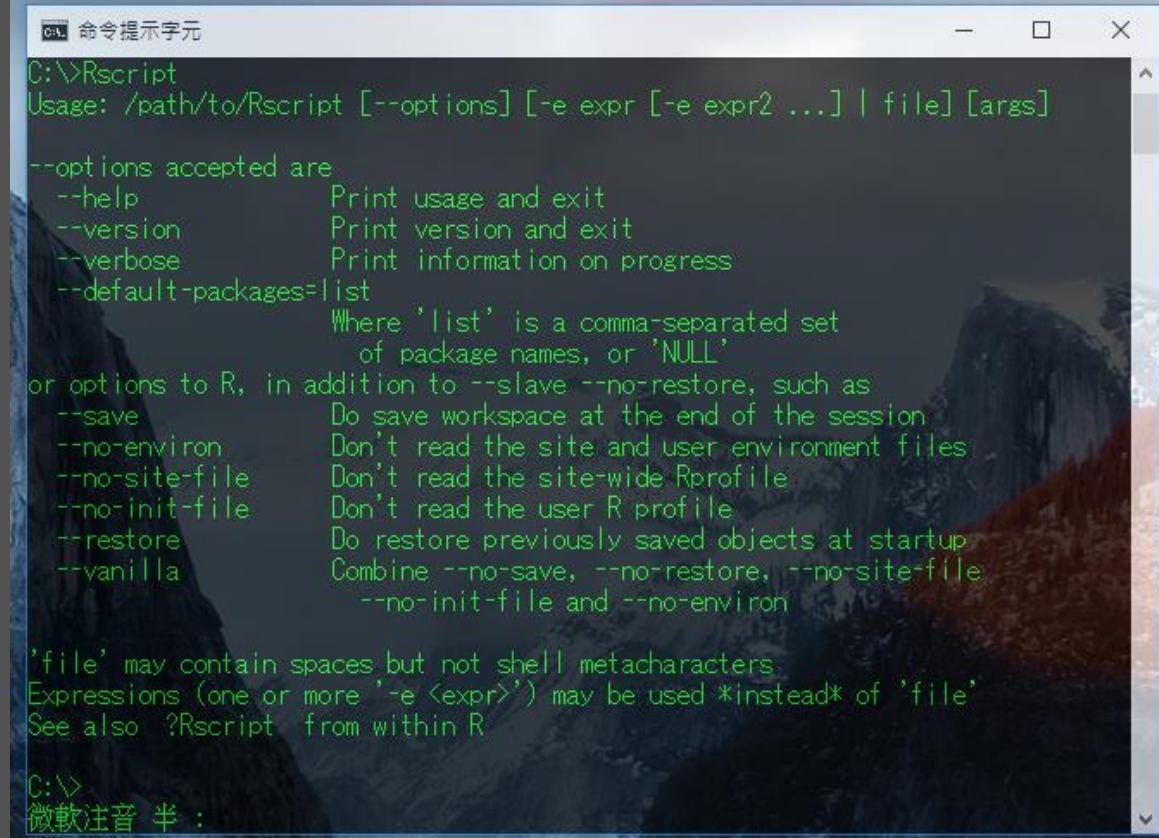
R script CMD (Windows)



R script CMD (Windows)



A screenshot of a Windows File Explorer window. The path is C:\Program Files\R\R-3.3.2\bin. The contents include several folders (i386, x64, config.sh) and two executable files (R.exe, Rscript.exe). The file Rscript.exe is selected.



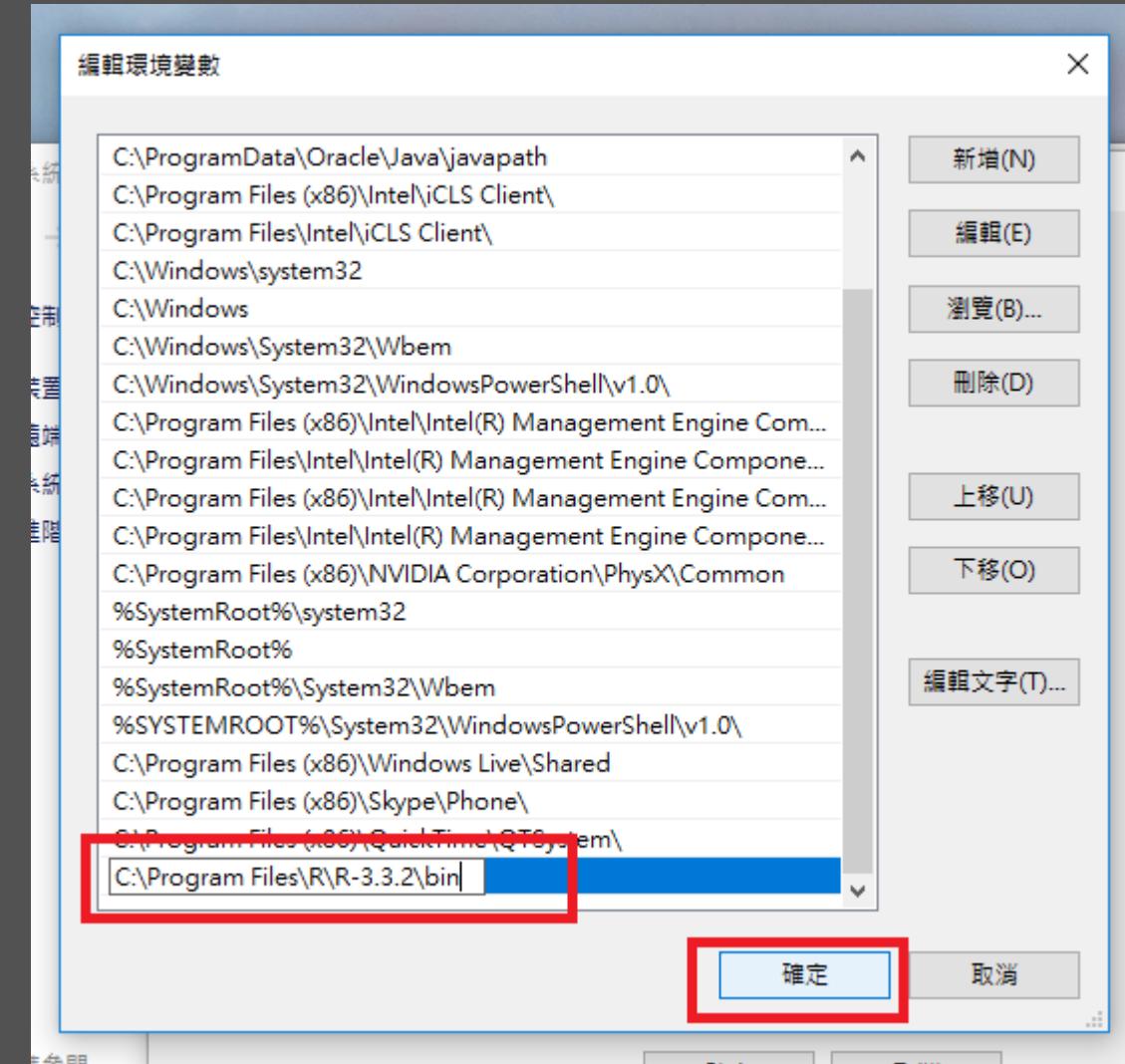
A screenshot of a Windows Command Prompt window titled "命令提示字元". The command C:\>Rscript is entered, followed by its usage information:

```
C:\>Rscript
Usage: /path/to/Rscript [--options] [-e expr [-e expr2 ...] | file] [args]

--options accepted are
  --help          Print usage and exit
  --version       Print version and exit
  --verbose       Print information on progress
  --default-packages=list
                  Where 'list' is a comma-separated set
                  of package names, or 'NULL'
or options to R, in addition to --slave --no-restore, such as
  --save          Do save workspace at the end of the session
  --no-environ    Don't read the site and user environment files
  --no-site-file  Don't read the site-wide Rprofile
  --no-init-file  Don't read the user R profile
  --restore       Do restore previously saved objects at startup
  --vanilla       Combine --no-save, --no-restore, --no-site-file
                  --no-init-file and --no-environ

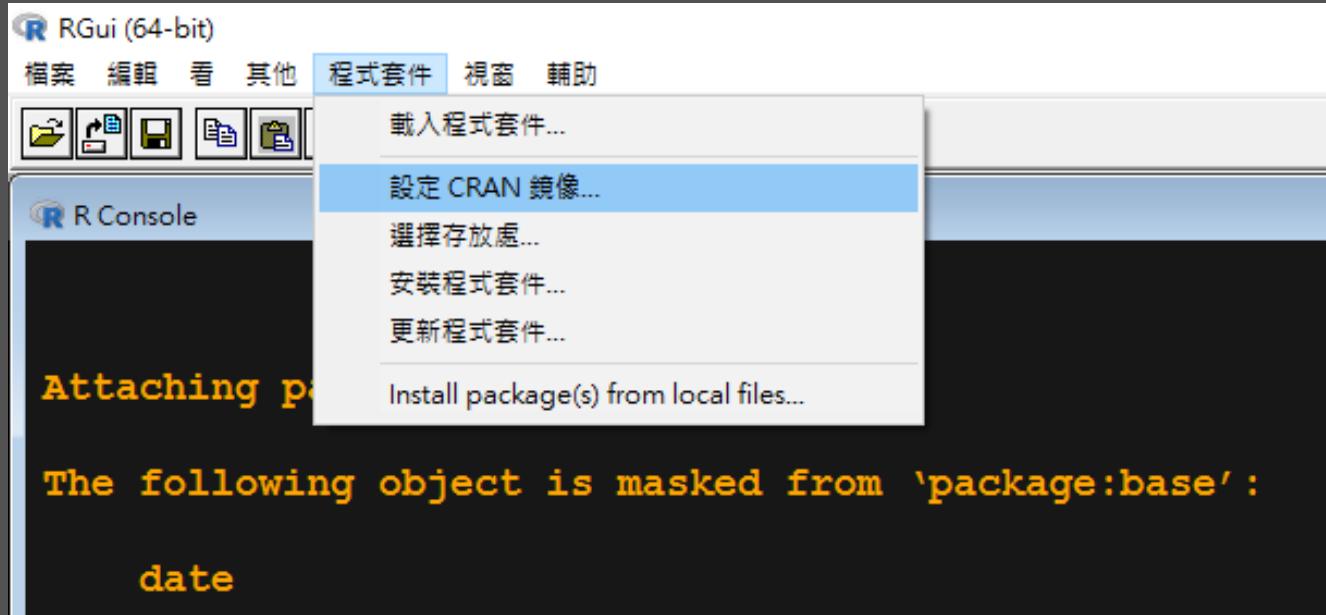
'file' may contain spaces but not shell metacharacters
Expressions (one or more '-e <expr>') may be used *instead* of 'file'
See also ?Rscript from within R
```

C:\>



設定預設 CRAN mirror

增加自己所要的內容



設定預設 CRAN mirror

將這段直接加進 Rprofile

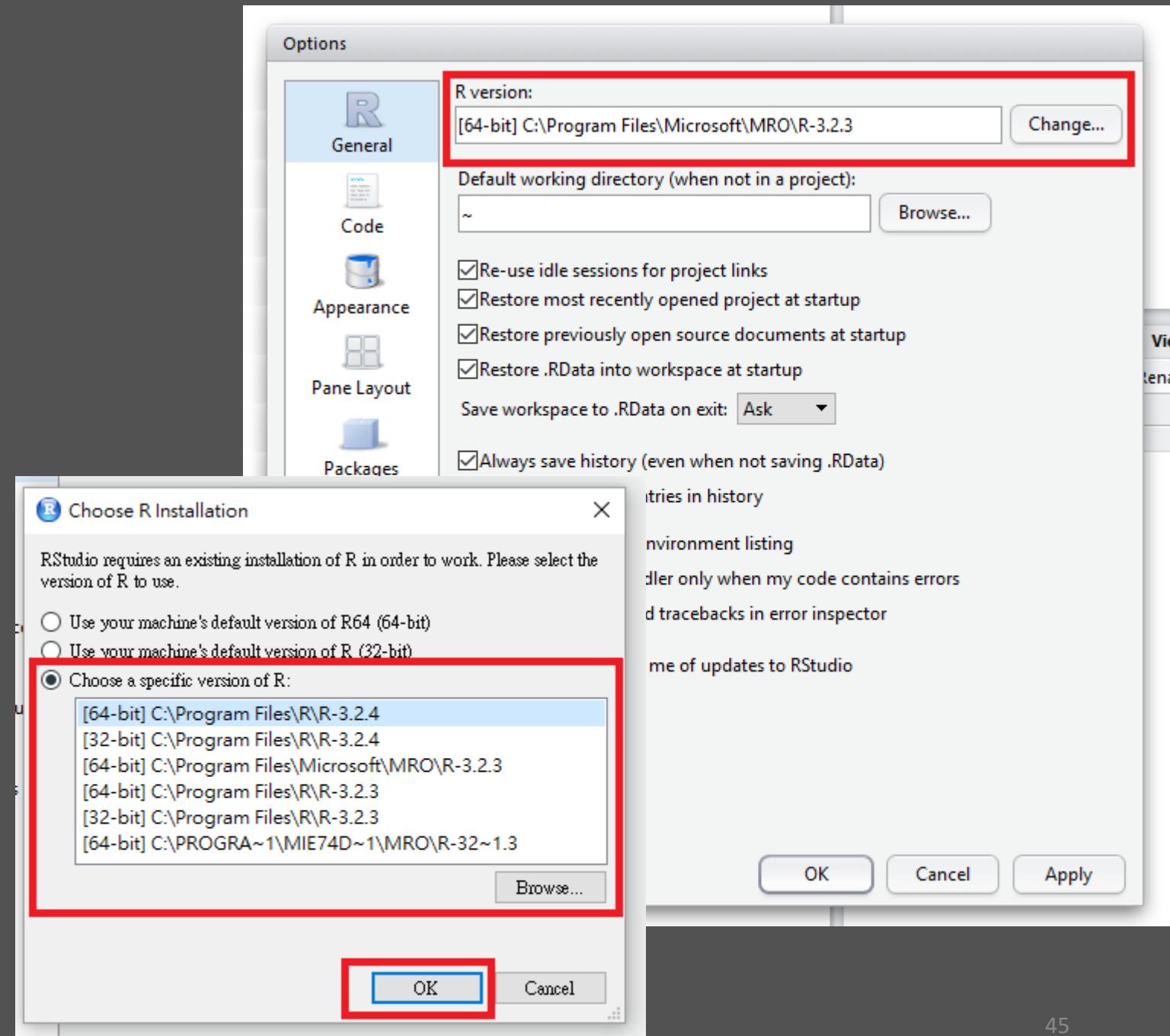
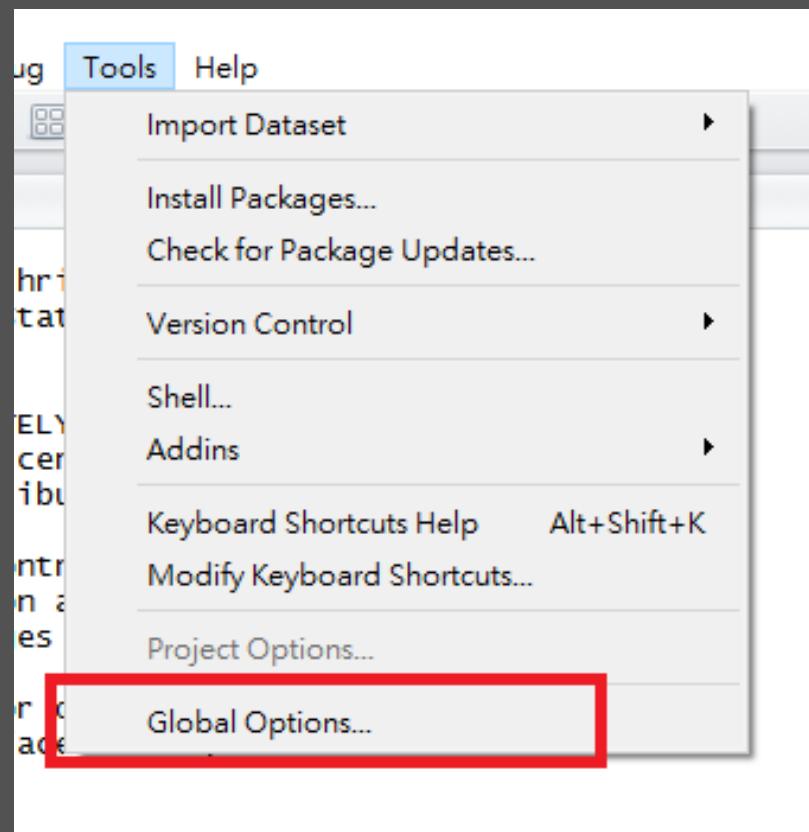
```
local({r =getOption("repos")  
r["CRAN"] = "https://cloud.r-project.org/"  
options(repos=r)})
```

```
# kan haoye edit  
  
.First = function(){  
  
# work dir  
setwd("C:/data")  
  
# set a CRAN mirror  
#Automatic redirection to servers worldwide, currently sponsored by Rstudio  
local({r =getOption("repos")  
r["CRAN"] = "https://cloud.r-project.org/"  
options(repos=r)})
```

```
# require package  
library(GGally)  
library(lubridate)  
library(stringr)  
library(ggplot2)  
library(scales)  
library(reshape2)  
library(data.table)  
library(coefplot)  
library(broom)  
}
```

```
.Last = function(){  
  
}
```

RStudio 更改版本



Microsoft R Open

MRAN About R Microsoft R Open Community Download

Microsoft R Open: The Enhanced R Distribution



ANNOUNCEMENT
Revolution R Open is now known as Microsoft R Open.
[Download version 3.2.3 today.](#)

Microsoft R Open, formerly known as Revolution R Open (RRO), is **the enhanced distribution of R** from Microsoft Corporation. It is a complete open source platform for statistical analysis and data science.

The current version, Microsoft R Open 3.2.3, is based on (and 100% compatible with) R-3.2.3, the most widely used statistics software in the world, and is therefore fully compatible with all packages, scripts and applications that work with that version of R. It includes additional capabilities for **improved performance, reproducibility**, as well as **Windows, Mac OS X, and Linux** based platform support.

Like R, Microsoft R Open is open source and free to download, use, and share.

[Learn more...](#)

More Resources

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Get Started!

- [Download Microsoft R Open 3.2.3](#)
- [Installation Docs](#)
- [Startup Tips & Tutorials](#)

Microsoft R Open & MKL Downloads

Download Microsoft R Open 3.2.3 & MKL today. While MKL, used for multithreaded performance, is optional, we recommend you install both Microsoft R Open & MKL for optimal performance on Windows and Linux. Mac OS X users have Math Libraries by default.

[Click here for Microsoft R Open for Microsoft R Server/RRE 2016.](#)

Download the Microsoft R Open & MKL 3.2.3 installer(s) for your platform.

Platform	Software	Math Library
Windows*	Microsoft R Open***	MKL***
	Microsoft R Open***	(included)
	Microsoft R Open	MKL***
	Microsoft R Open	MKL***
	Microsoft R Open	MKL***
	Microsoft R Open	MKL***
	Microsoft R Open	MKL***
	Microsoft R Open	MKL***
	Microsoft R Open	MKL***
	Microsoft R Open	MKL***
	Microsoft R Open	MKL***
	Microsoft R Open	MKL
	Microsoft R Open Source Code	**

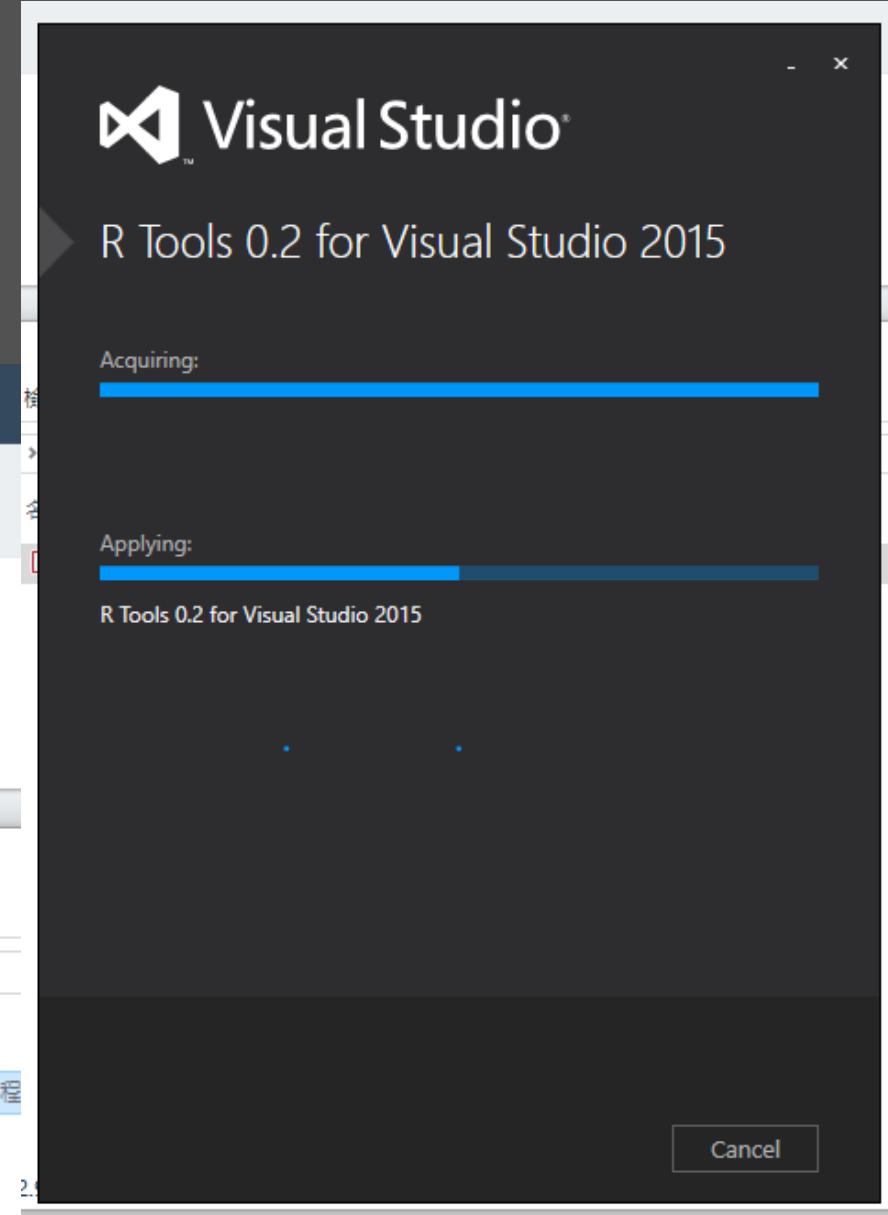
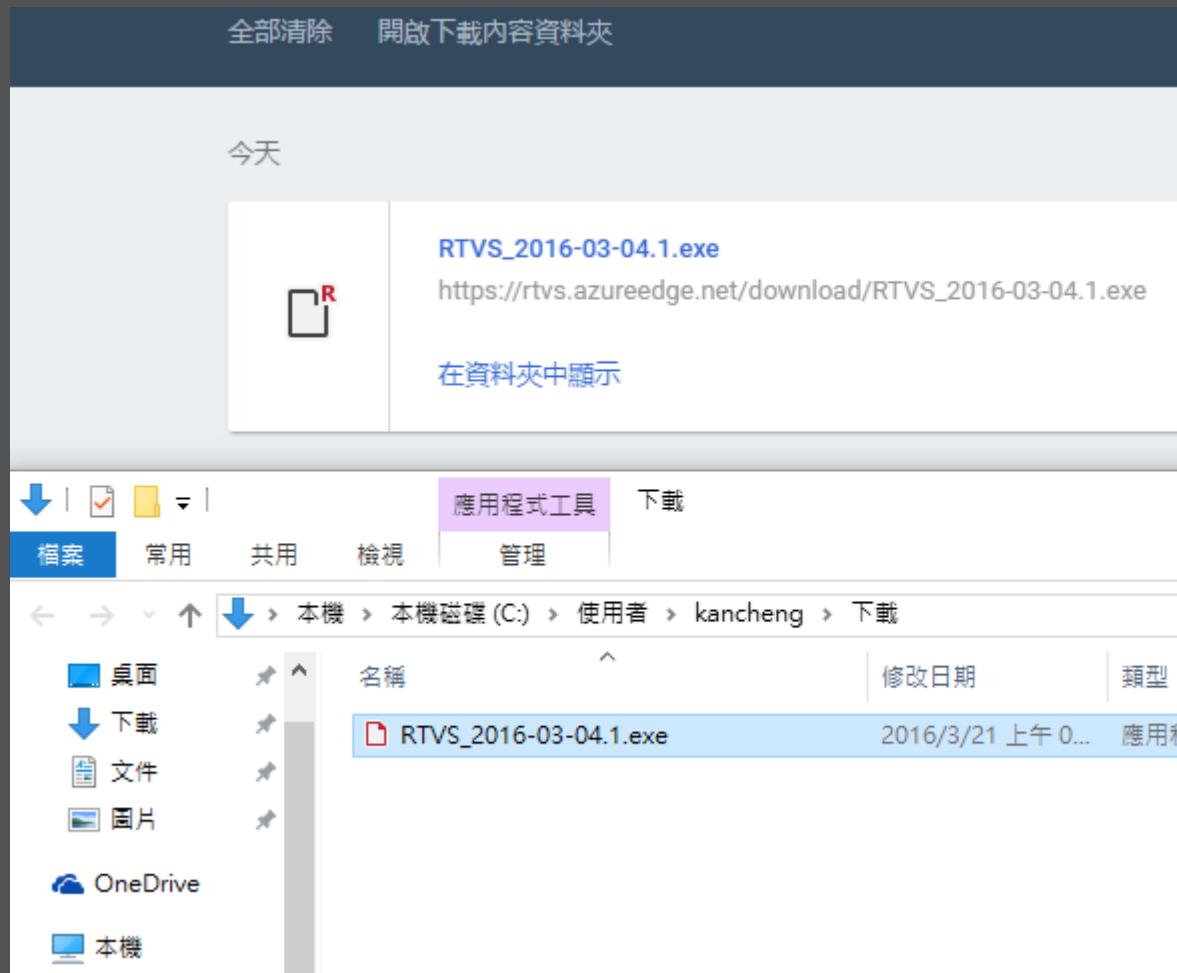
R Open 3.2.3.

forms on 2/17.

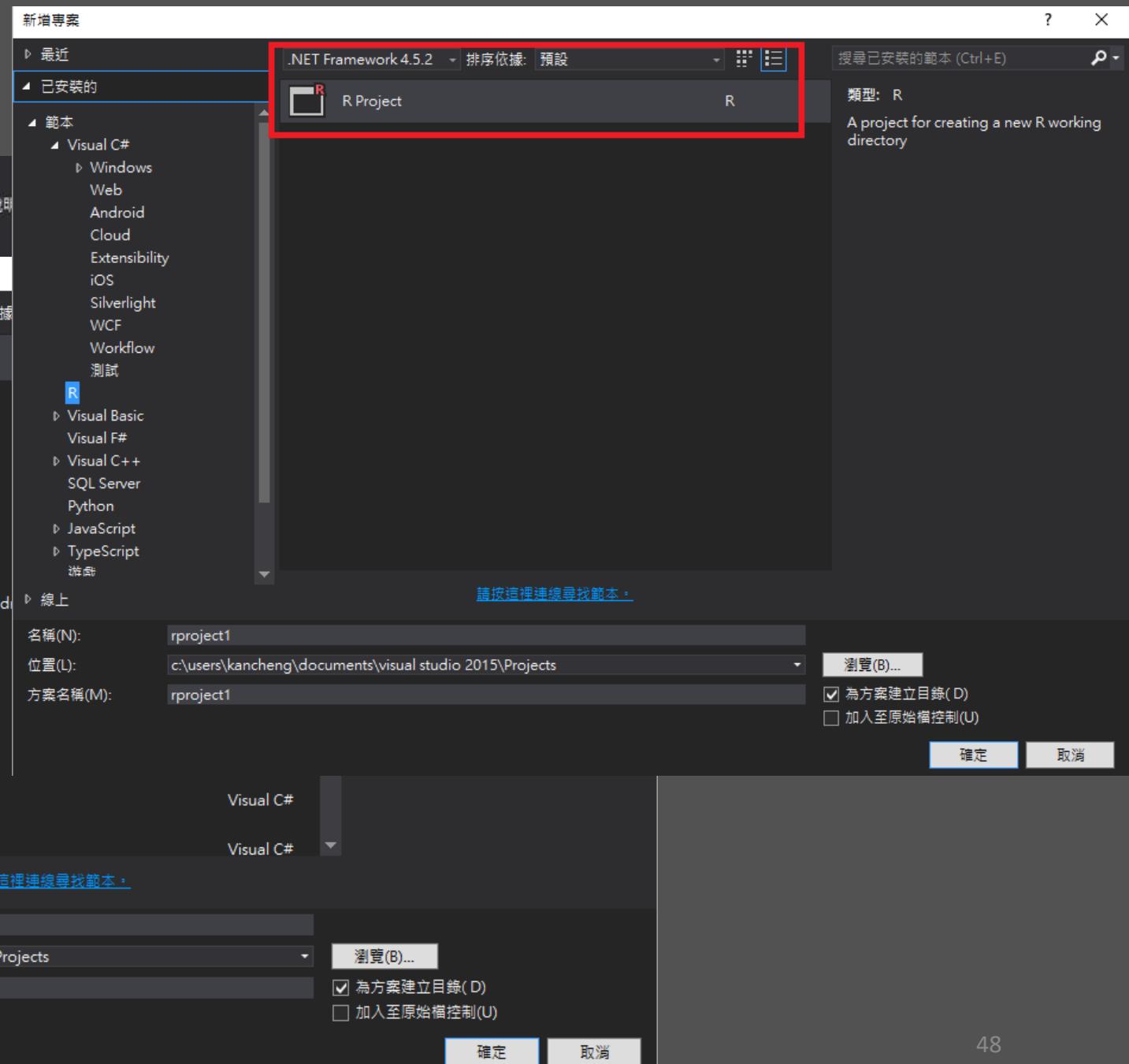
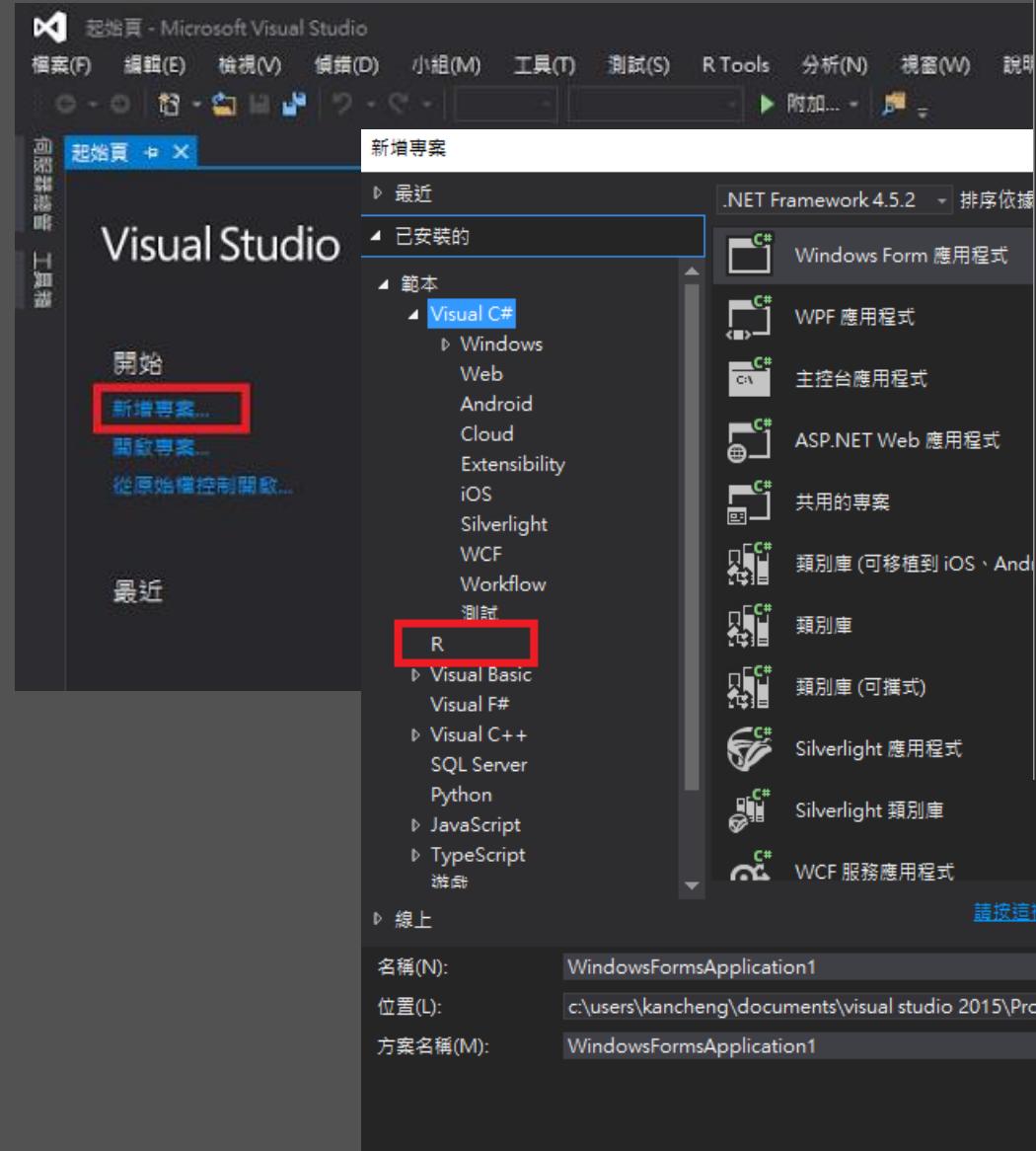
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Visual Studio R tool

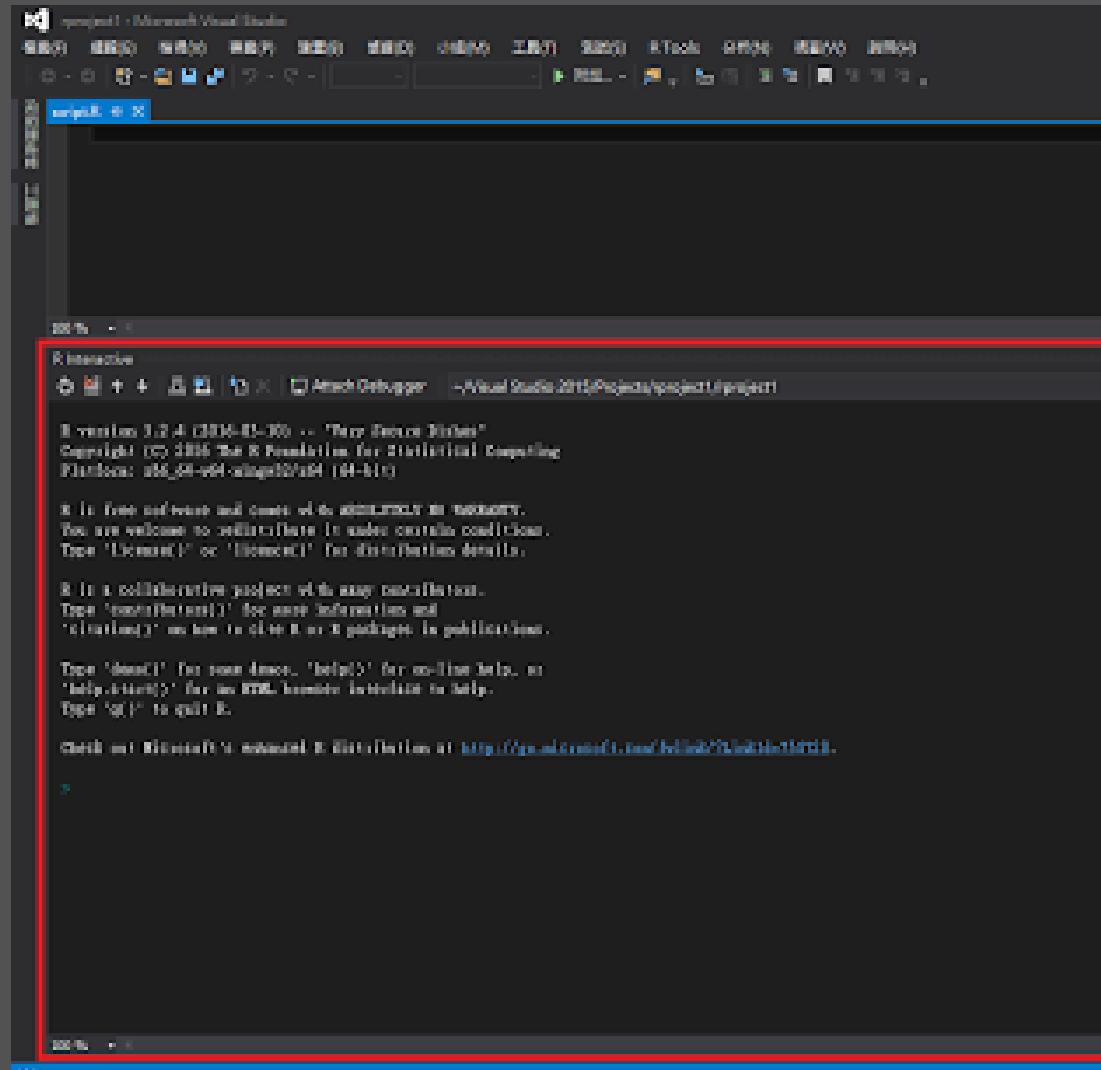
<http://aka.ms/rtvs-current>



Visual Studio R tool



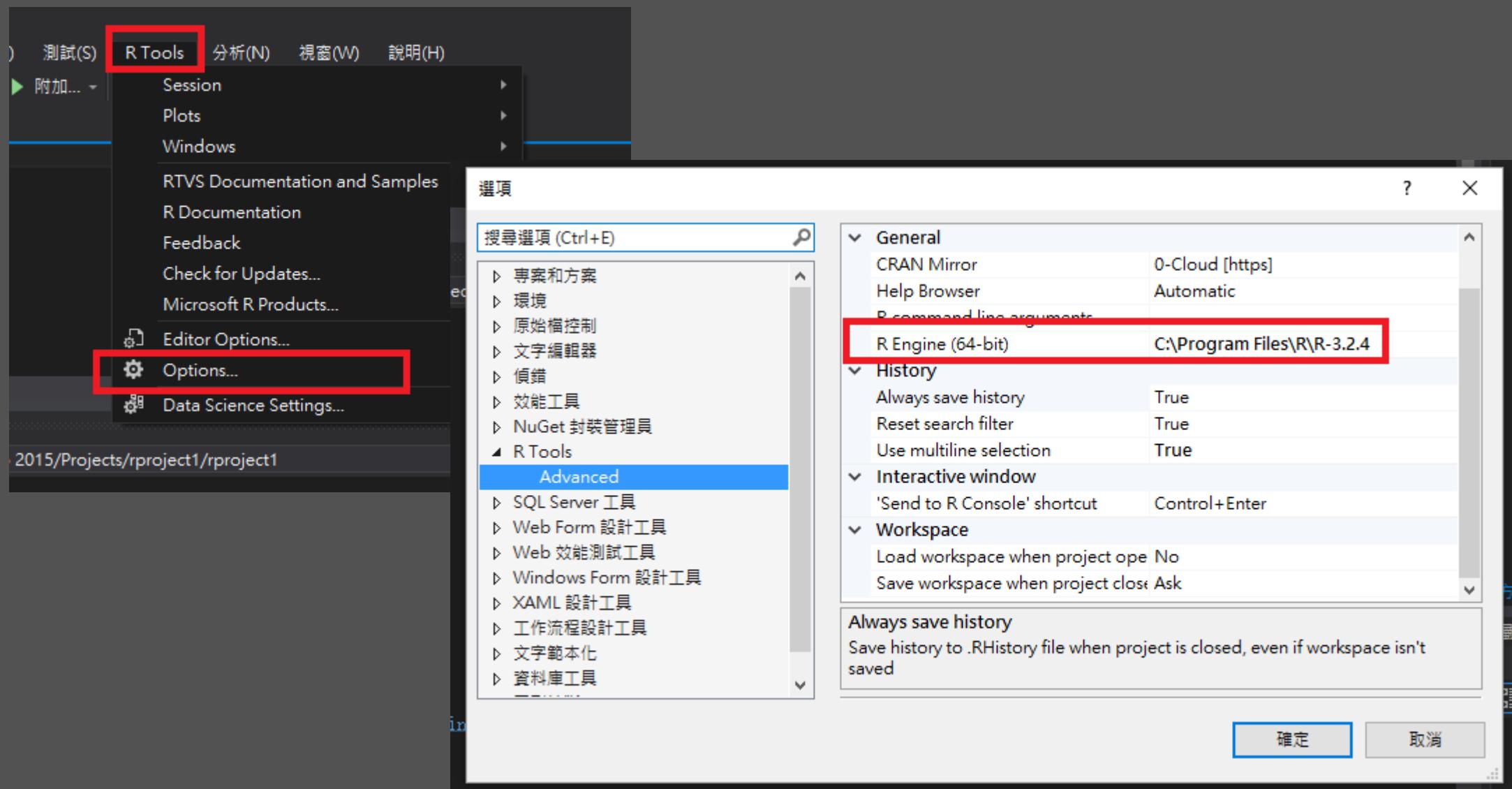
Visual Studio R tool



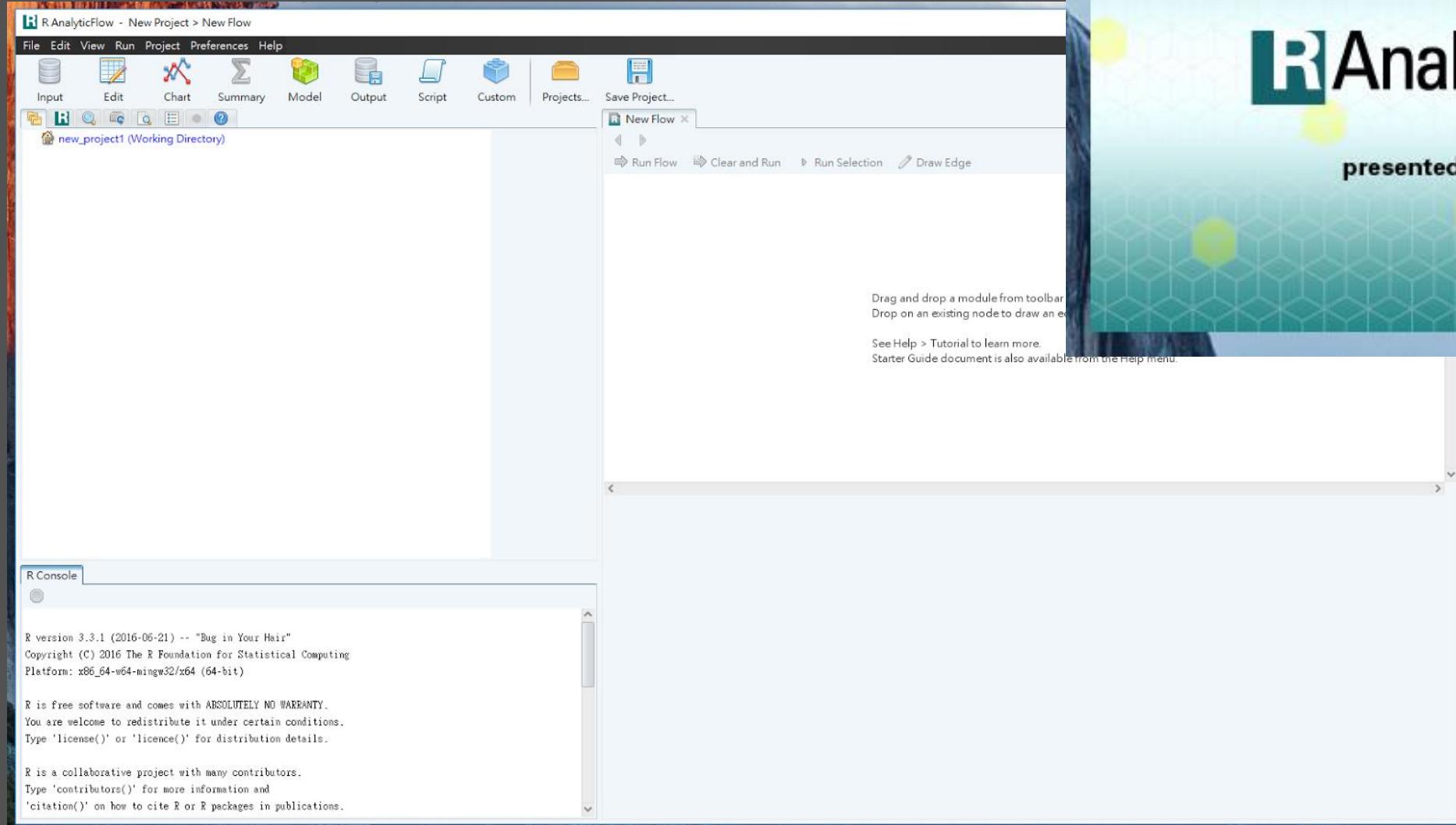
The R Interactive window shows a command prompt with the following session:

```
> z = c(1, 2, 3)
> z
[1] 1 2 3
>
```

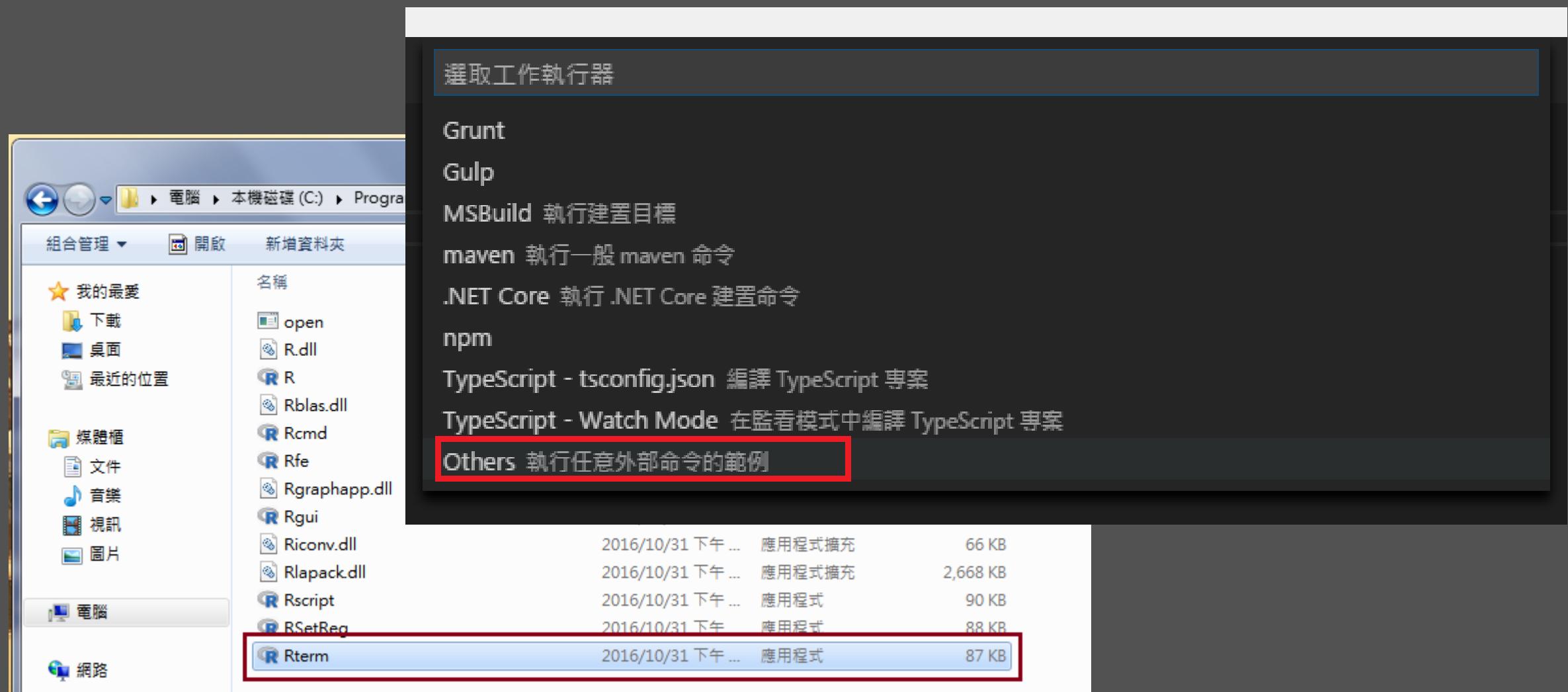
Visual Studio R tool



RAnalyticFlow

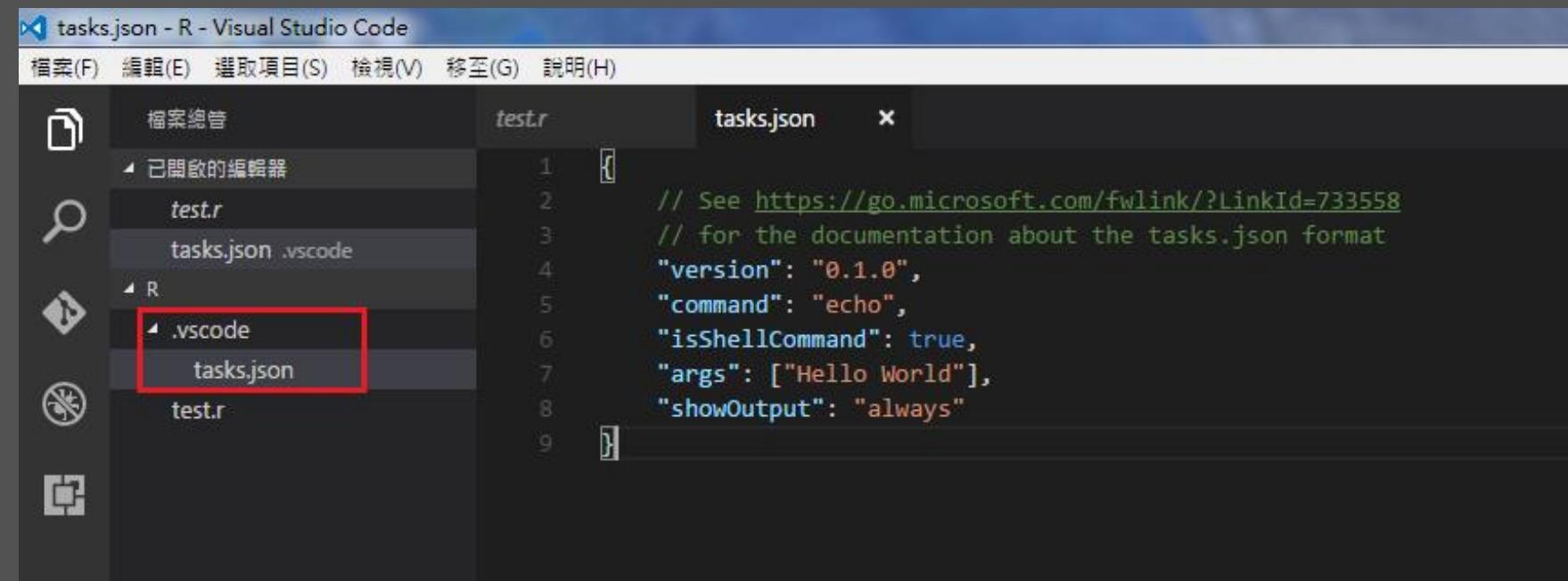


Visual Studio Code use R



Visual Studio Code use R

```
{  
  "version": "0.1.0",  
  "command": "C:\\Program Files\\R\\R-[版本]\\bin\\x64\\rterm.exe",  
  "showOutput": "always",  
  "args": [  
    "--no-restore",  
    "--no-save",  
    "--quiet",  
    "--file=${file}"  
  ]  
}
```



The screenshot shows the Visual Studio Code interface with a dark theme. On the left, the Explorer sidebar displays a file tree with the following structure:

- Folder: 已開啟的編輯器
 - test.r
 - tasks.json .vscode
- Folder: R
 - .vscode
 - tasks.json
 - test.r

The file `tasks.json` in the `R/.vscode` folder is highlighted with a red box. The main editor area shows the contents of the `tasks.json` file:

```
1 // See https://go.microsoft.com/fwlink/?LinkId=733558  
2 // for the documentation about the tasks.json format  
3 {  
4   "version": "0.1.0",  
5   "command": "echo",  
6   "isShellCommand": true,  
7   "args": ["Hello World"],  
8   "showOutput": "always"  
9 }
```

Visual Studio Code use R

The screenshot shows the Visual Studio Code interface with the title bar "test.r - R - Visual Studio Code". The left sidebar displays the file tree with "test.r" selected. The main editor area shows the R code:

```
test.r
1 a = 1:20
2 b = 21:40
3 c = a + b
4 c
5 
```

The terminal below shows the execution of the R script:

問題	輸出	值錯主控台	終端機
> a = 1:20			
> b = 21:40			
> c = a + b			
> c	[1] 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60		
>			

R The downloaded source packages 問題

如果在 Windows，套件安裝完後無法順利載入，就用本地安裝方式進行，不論任何平台路徑大多如下。

```
/Rtmp*****/downloaded_packages
```

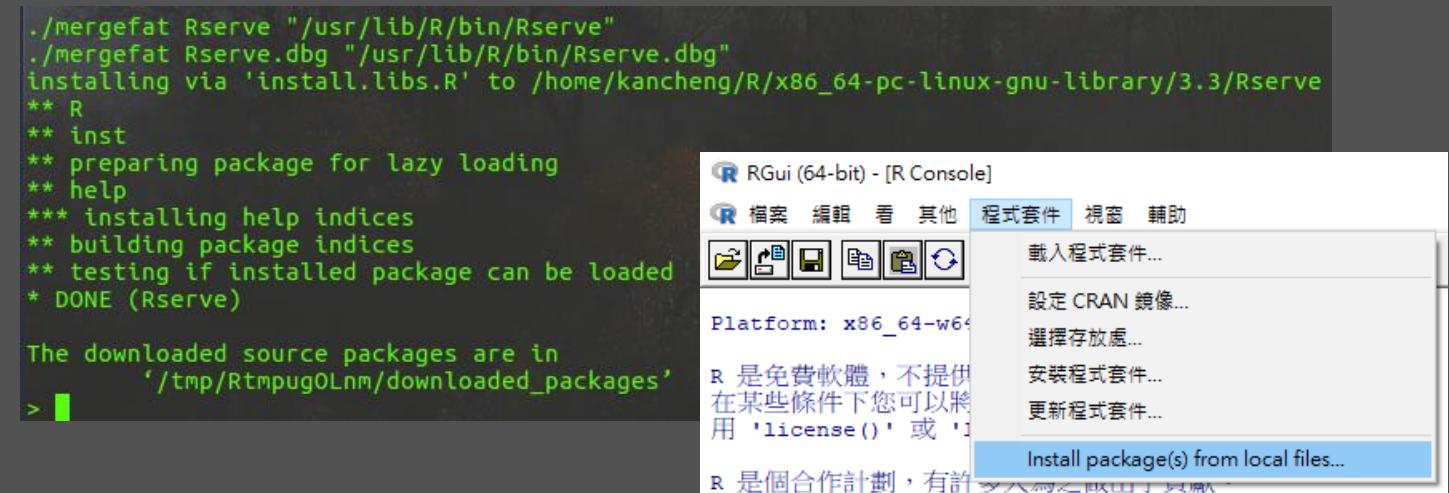
所以 Linux & Mac 可以打如下指令

```
~$ su -
```

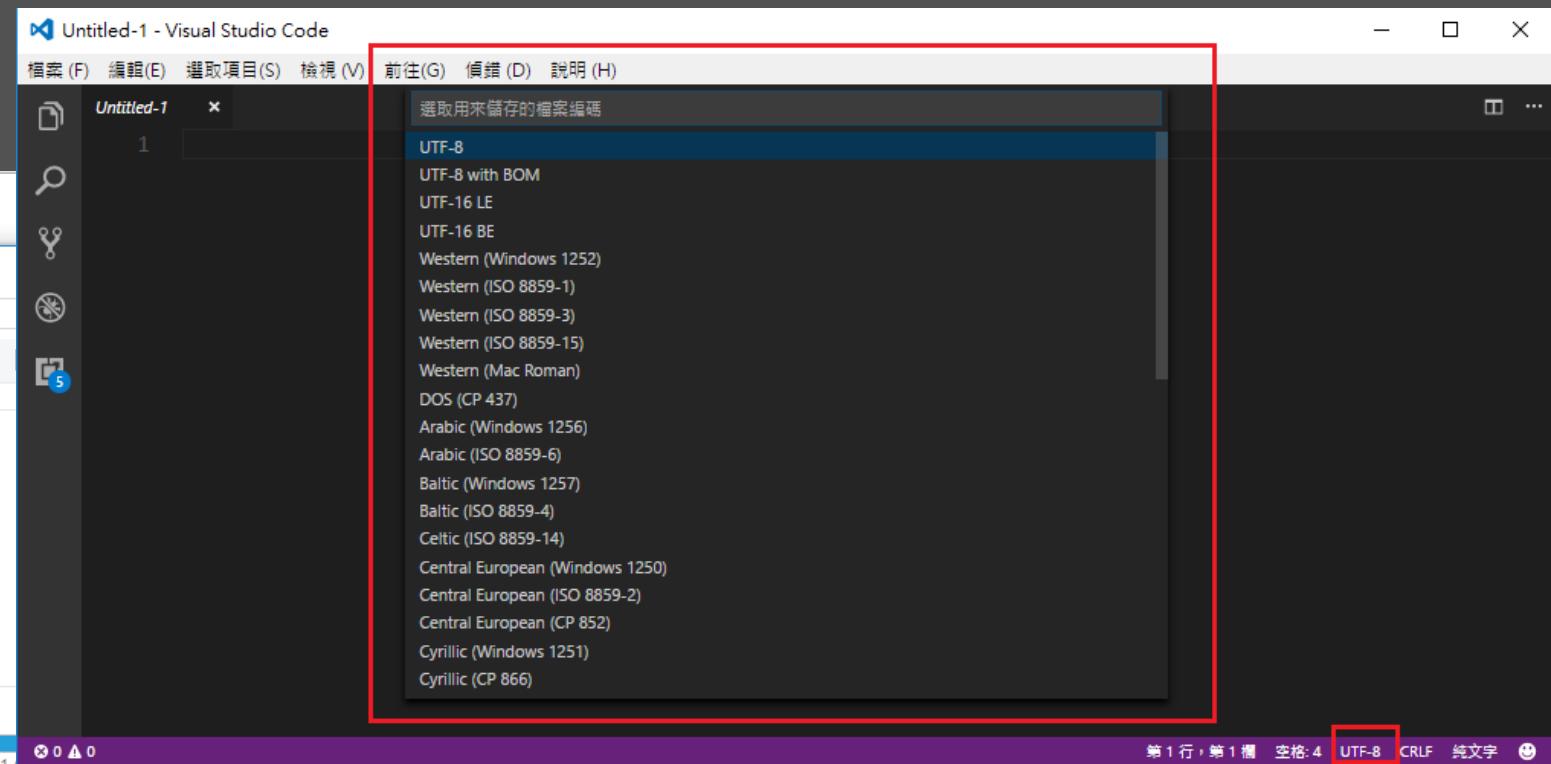
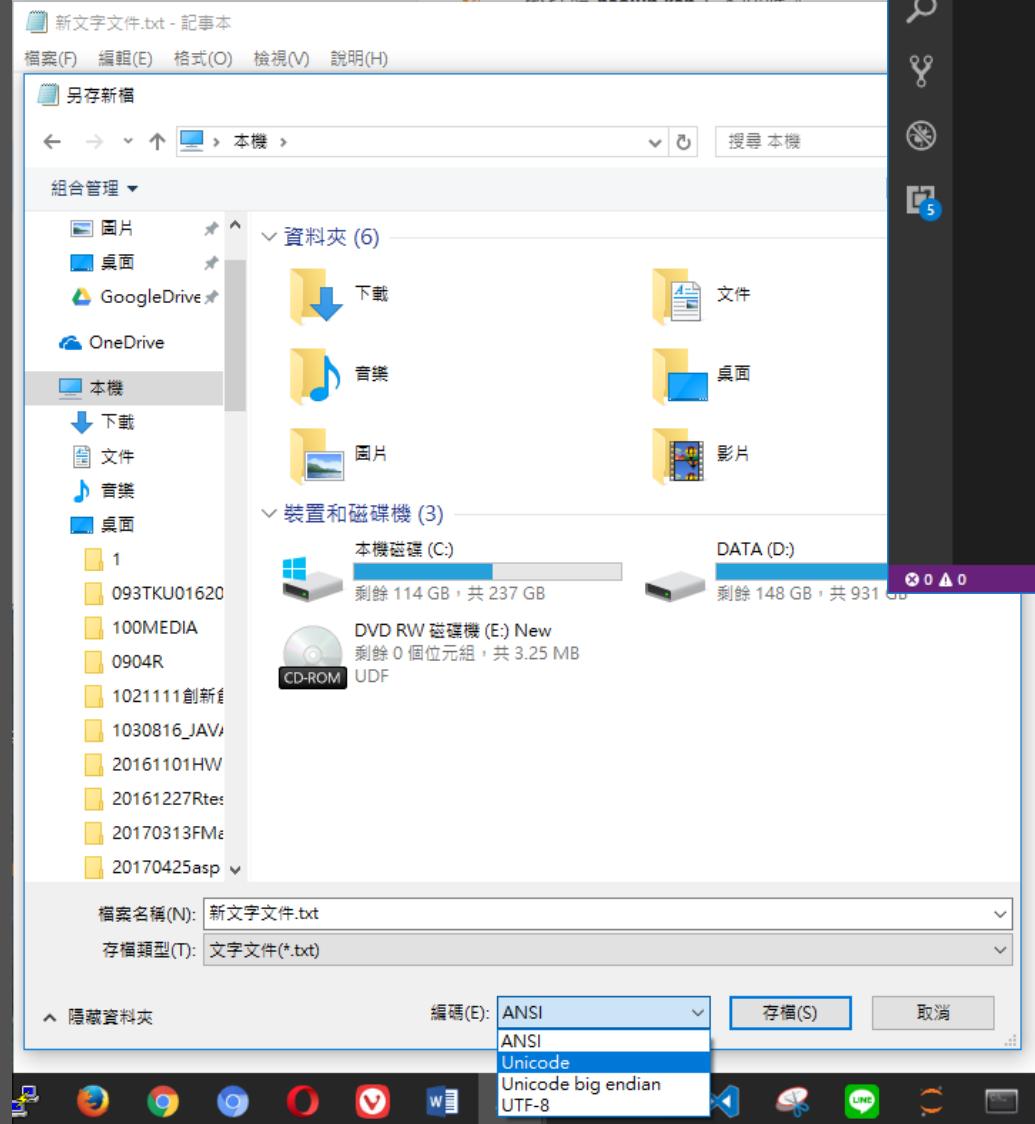
```
~# R CMD INSTALL [R套件檔案名稱].tar.gz
```

```
~# R CMD INSTALL Rserve_1.7-3.tar.gz
```

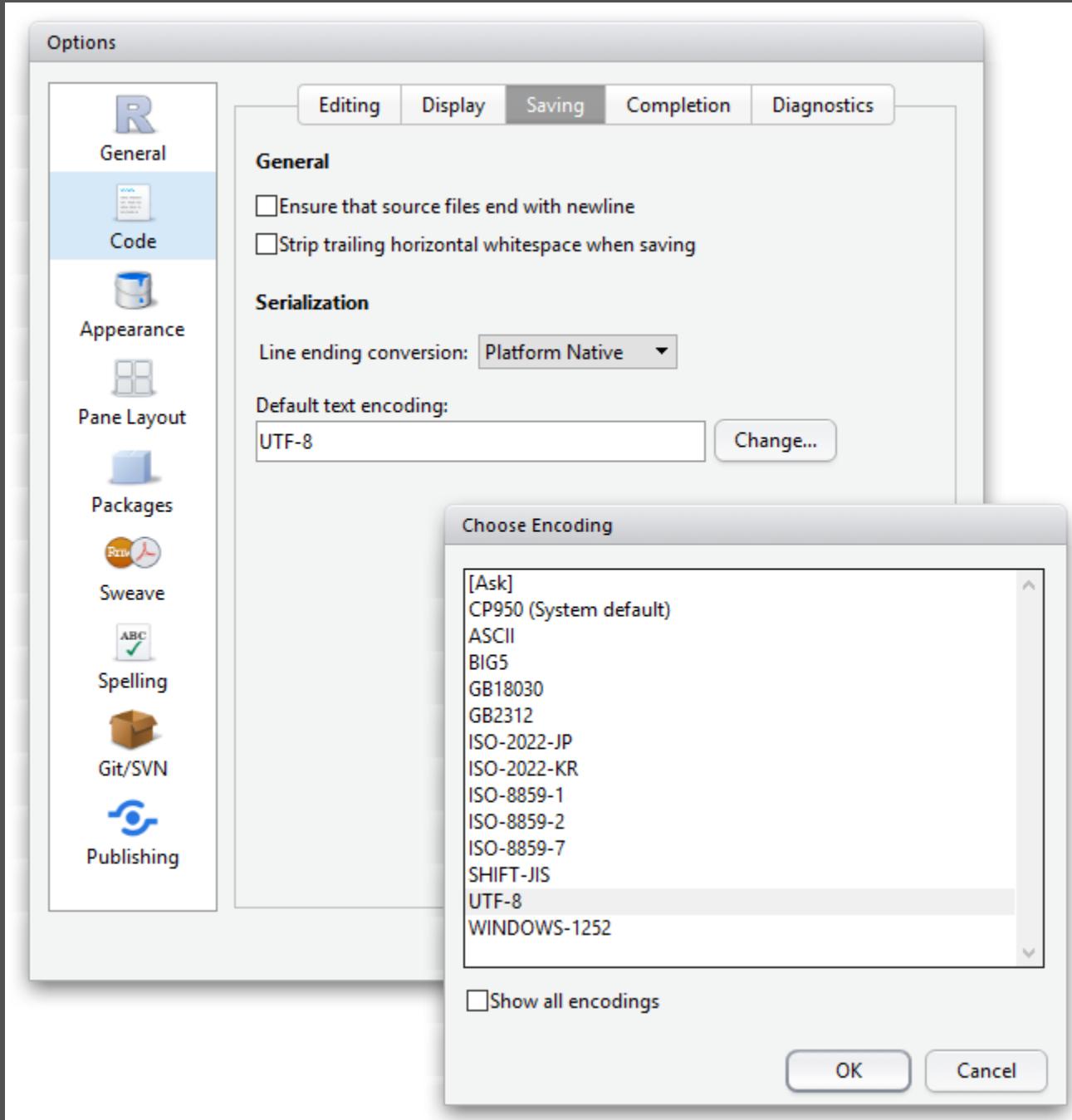
```
~# R CMD INSTALL /tmp/RtmpugOLnm/downloaded_packages/Rserve_1.7-3.tar.gz
```



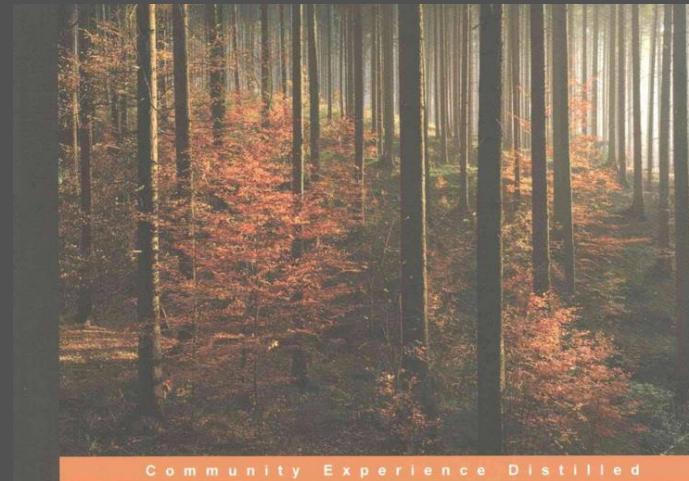
R 編碼問題



R 編碼問題



Book

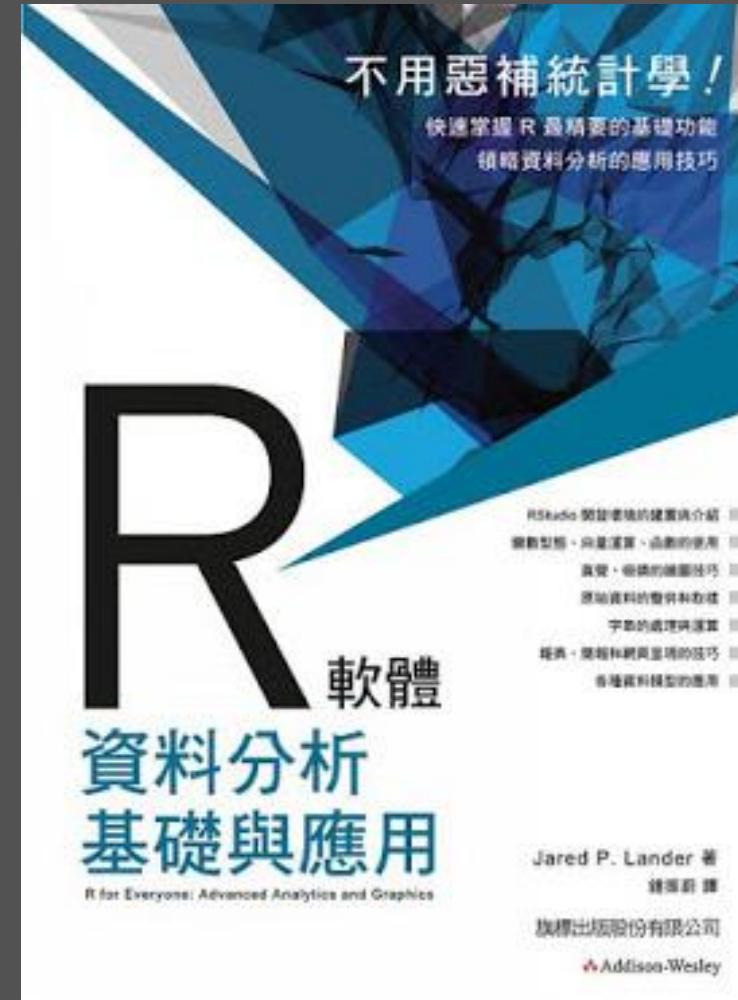
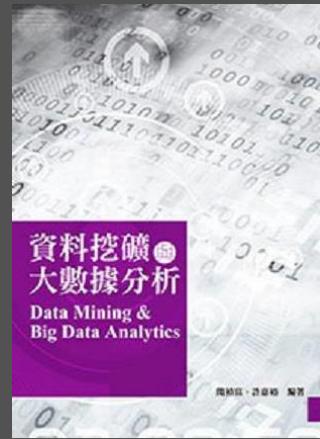


Web Application Development with R Using Shiny *Second Edition*

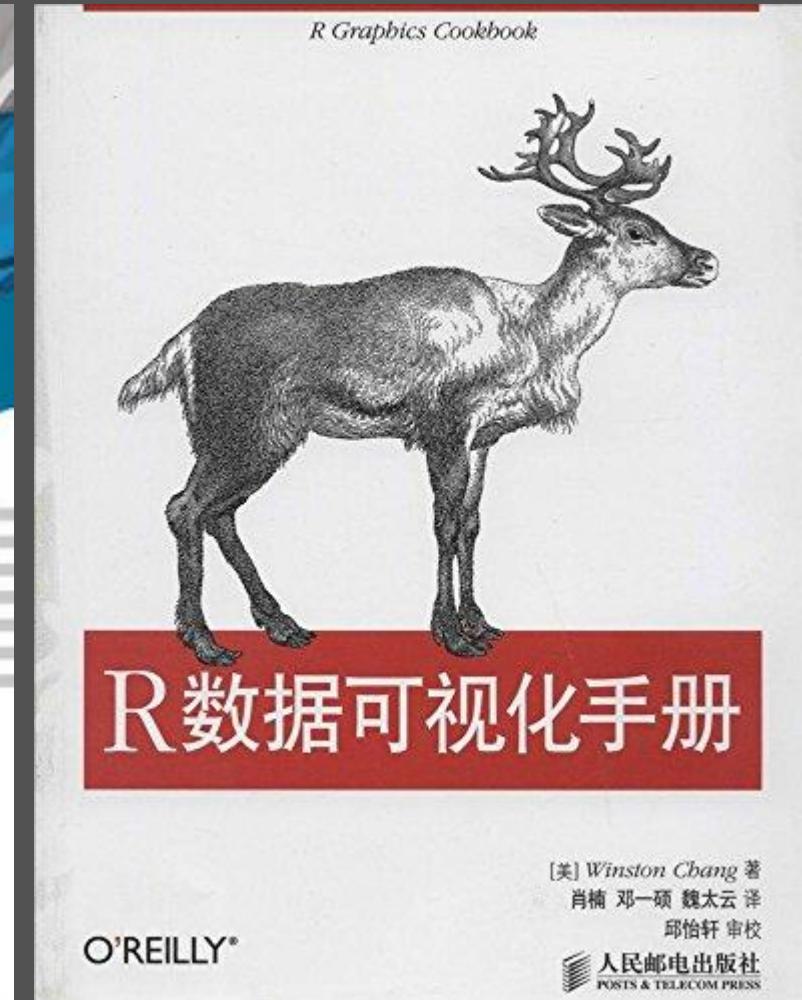
Integrate the power of R with the simplicity of Shiny to deliver cutting-edge analytics over the Web

Chris Beeley

[PACKT] open source*



1. R 軟體資料分析基礎與應用 - Jared P. Lander
2. 資料挖礦與大數據分析 - 簡禎富, 許嘉裕
3. R 數據可視化手冊 (R Graphics Cookbook) - Winston Chang
4. Web Application Development with R Using Shiny - Chris Beeley



[美] Winston Chang 著
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