

R 언어 환경 설정

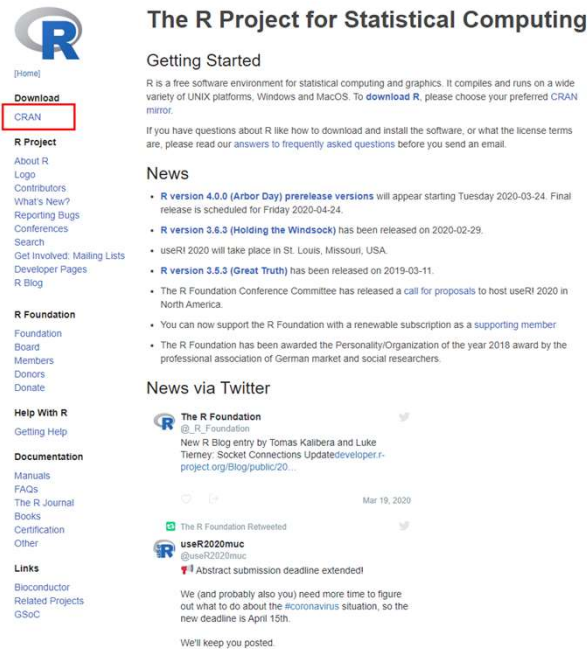
소프트웨어융합대학 김병정

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R 다운로드 및 설치

- CRAN Site
- <https://www.r-project.org/>



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

- **R version 4.0.0 (Arbor Day)** prerelease versions will appear starting Tuesday 2020-03-24. Final release is scheduled for Friday 2020-04-24.
- **R version 3.6.3 (Holding the Windsock)** has been released on 2020-02-29.
- useR! 2020 will take place in St. Louis, Missouri, USA.
- **R version 3.5.3 (Great Truth)** has been released on 2019-03-11.
- The R Foundation Conference Committee has released a call for proposals to host useR! 2020 in North America.
- You can now support the R Foundation with a renewable subscription as a supporting member
- The R Foundation has been awarded the Personality/Organization of the year 2018 award by the professional association of German market and social researchers.

News via Twitter

The R Foundation @R_Foundation
New R Blog entry by Tomas Kalibera and Luke Tierney: Socket Connections Updated
<https://developer.r-project.org/Blog/public/2020-03-19-socket-connections/>
Mar 19, 2020

The R Foundation Retweeted
useR2020muc @useR2020muc
Abstract submission deadline extended
We (and probably also you) need more time to figure out what to do about the coronavirus situation, so the new deadline is April 15th.
We'll keep you posted.

Italy

<http://cran.mirror.garr.it/mirrors/CRAN/>
<https://cran.stat.unipd.it/>

Japan

<https://cran.ism.ac.jp/>
<https://ftp.yz.yamagata-u.ac.jp/pub/cran/>

Korea

<https://ftp.harukasan.org/CRAN/>
<https://cran.yu.ac.kr/>
<https://cran.seoul.go.kr/>
<http://healthstat.snu.ac.kr/CRAN/>
<https://cran.biodisk.org/>

Mexico

<https://cran.itam.mx/>
<http://www.est.colpos.mx/R-mirror/>

Morocco

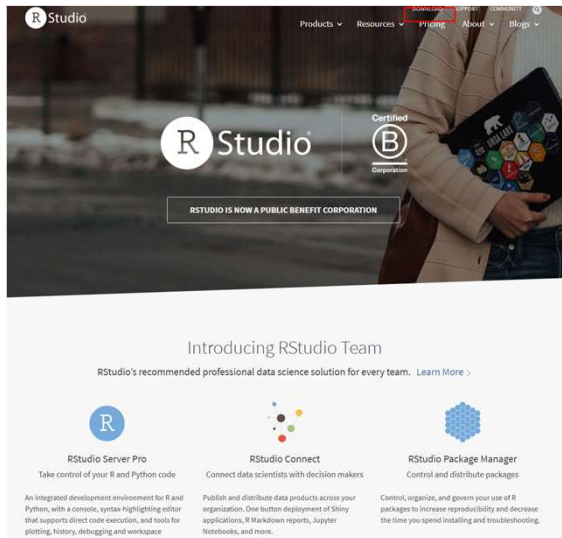
<https://mirror.marwan.ma/cran/>

New Zealand

<https://cran.stat.auckland.ac.nz/>

R-Studio 설치

- <https://rstudio.com/>



	RStudio Desktop Open Source License Free	RStudio Desktop Commercial License \$995 /year	RStudio Server Open Source License Free	RStudio Server Pro Commercial License \$4,975 /year (5 Named Users)
	DOWNLOAD <small>Learn more</small>	BUY <small>Learn more</small>	DOWNLOAD <small>Learn more</small>	BUY <small>Evaluation Learn more</small>
Integrated Tools for R	✓	✓	✓	✓
Priority Support		✓		✓
Access via Web Browser			✓	✓
Enterprise Security				✓
Project Sharing				✓
Manage Multiple R Sessions & Versions				✓
Admin Dashboard				✓
Load Balancing				✓
Auditing and Monitoring				✓
Data Connectivity				✓

RStudio Desktop 1.2.5033 - Release Notes

1. Install R. RStudio requires R 3.0.1+.
2. Download RStudio Desktop. Recommended for your system:



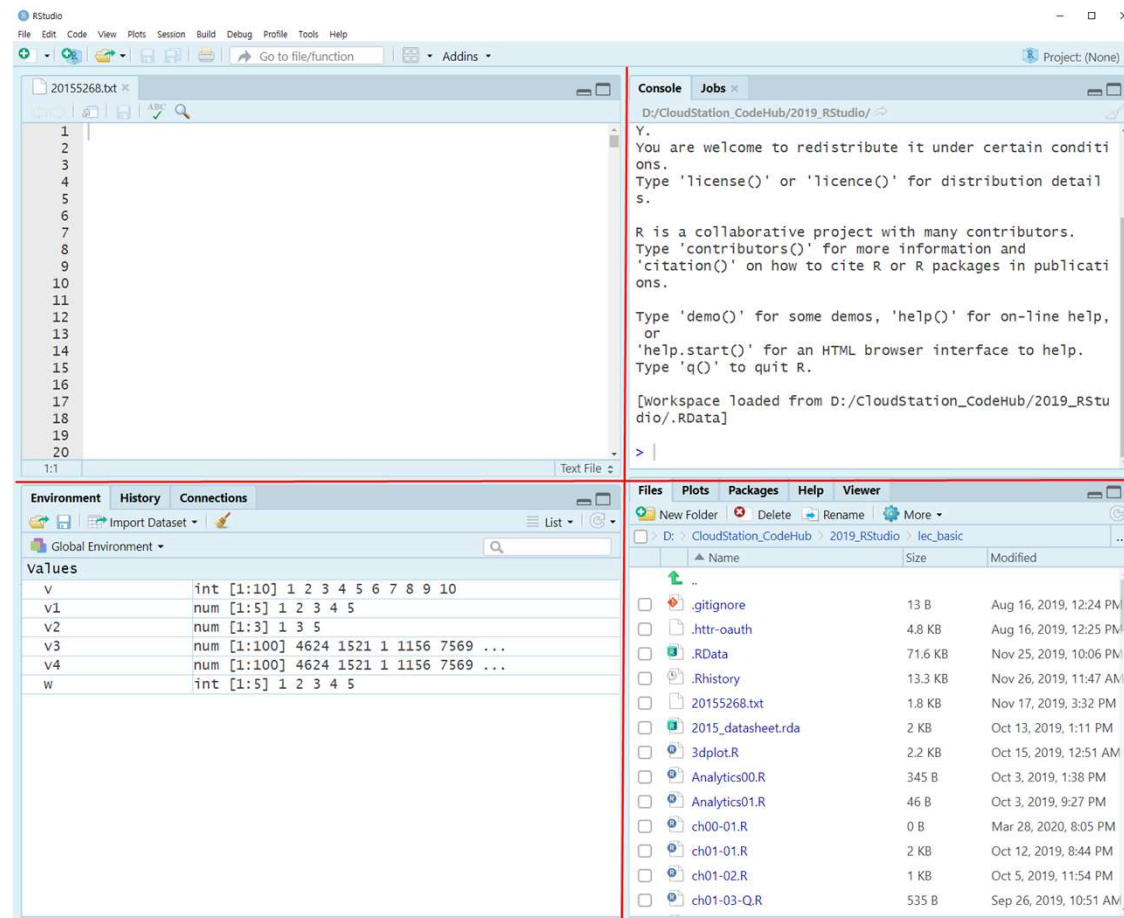
All Installers

Linux users may need to import RStudio's public code-signing key prior to installation, depending on the operating system's security policy.

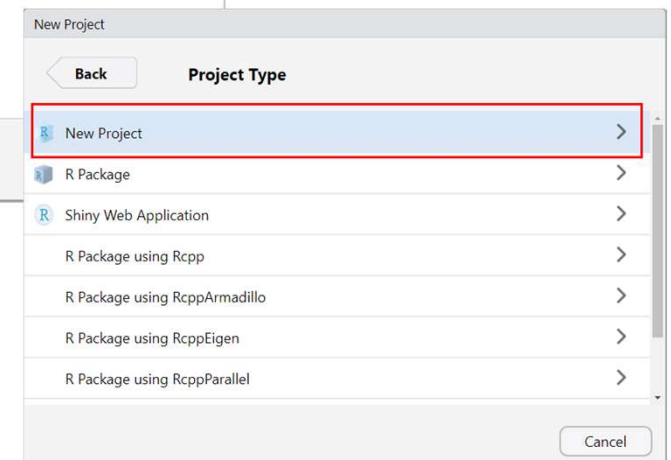
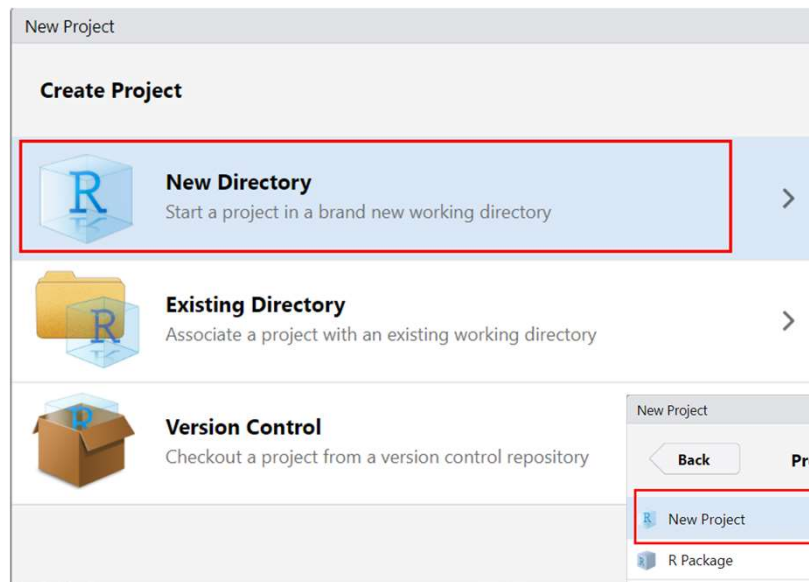
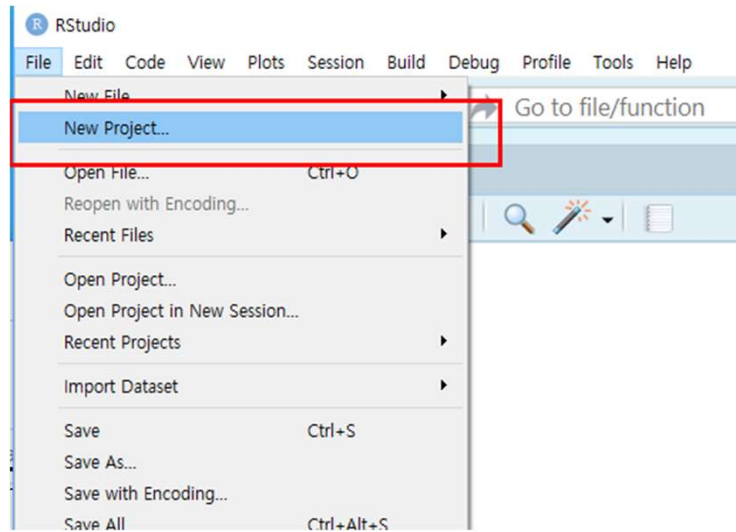
RStudio 1.2 requires a 64-bit operating system. If you are on a 32 bit system, you can use an older version of RStudio.

OS	Download	Size	SHA-256
Windows 10/8/7	RStudio-1.2.5033.exe	149.83 MB	71d3c1b
macOS 10.13+	RStudio-1.2.5033.dmg	126.89 MB	b67c9875
Ubuntu 14/Debian 8	rstudio-1.2.5033-amd64.deb	96.18 MB	89dc2a22
Ubuntu 16	rstudio-1.2.5033-amd64.deb	104.14 MB	a1591ed7
Ubuntu 18/Debian 10	rstudio-1.2.5033-amd64.deb	105.21 MB	08eaa295
Fedora 19/Red Hat 7	rstudio-1.2.5033-x86_64.rpm	120.23 MB	38c143c6
Fedora 28/Red Hat 8	rstudio-1.2.5033-x86_64.rpm	120.87 MB	452bc0d0
Debian 9	rstudio-1.2.5033-amd64.deb	105.45 MB	27c59722
SLES/OpenSUSE 12	rstudio-1.2.5033-x86_64.rpm	98.87 MB	9c1e200c
OpenSUSE 15	rstudio-1.2.5033-x86_64.rpm	106.91 MB	98fd2259

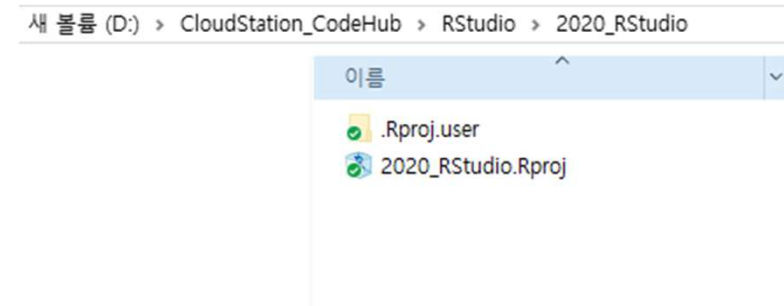
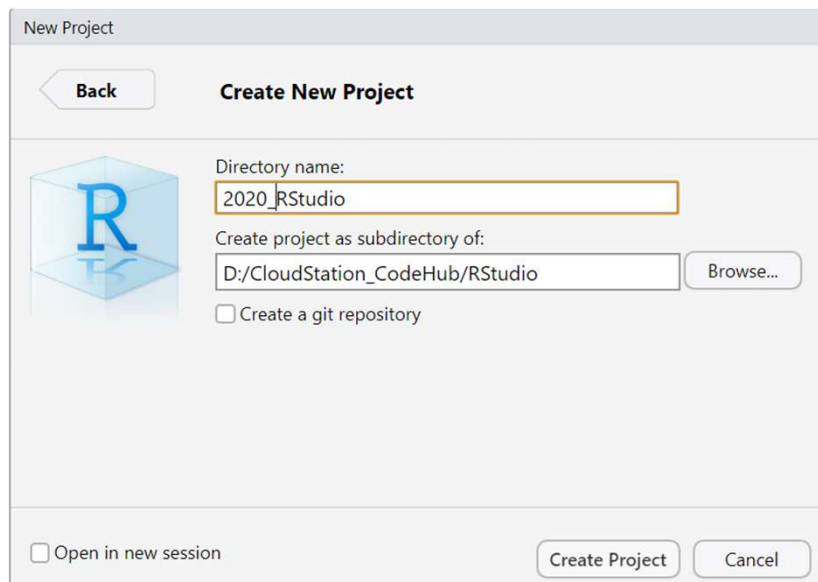
R-Studio 초기화면



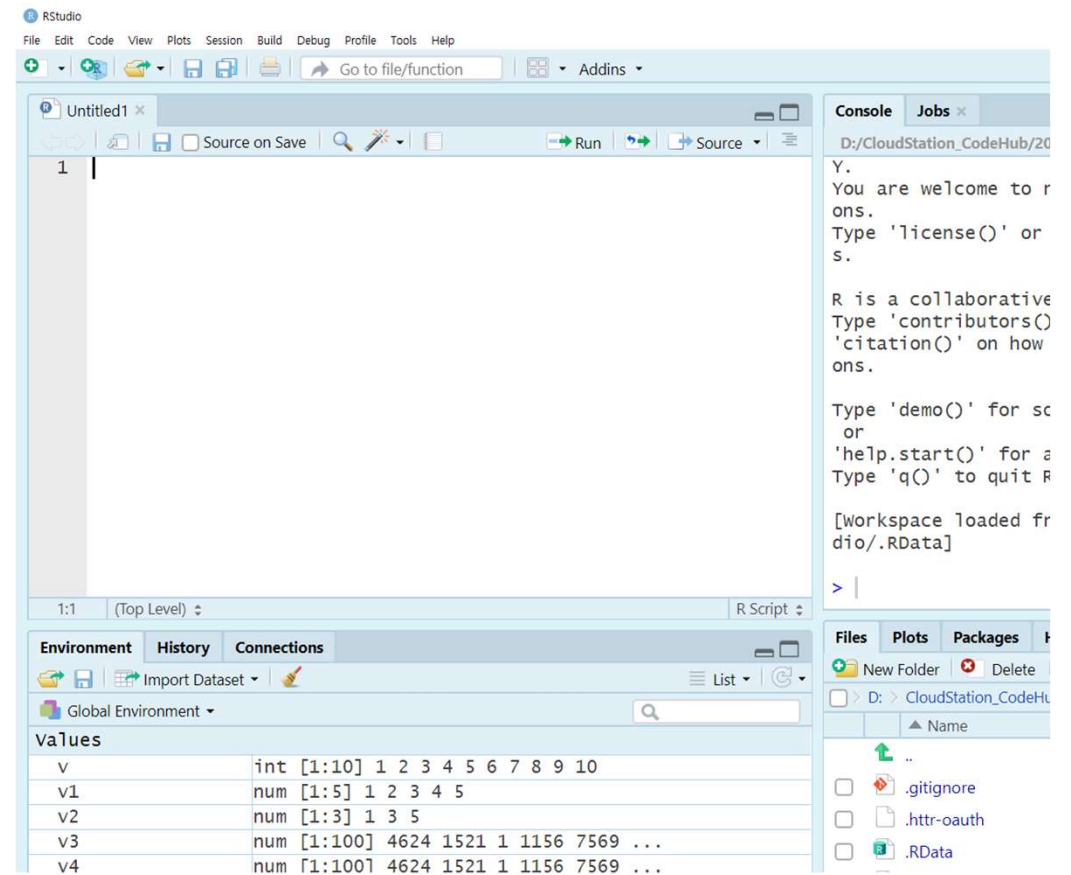
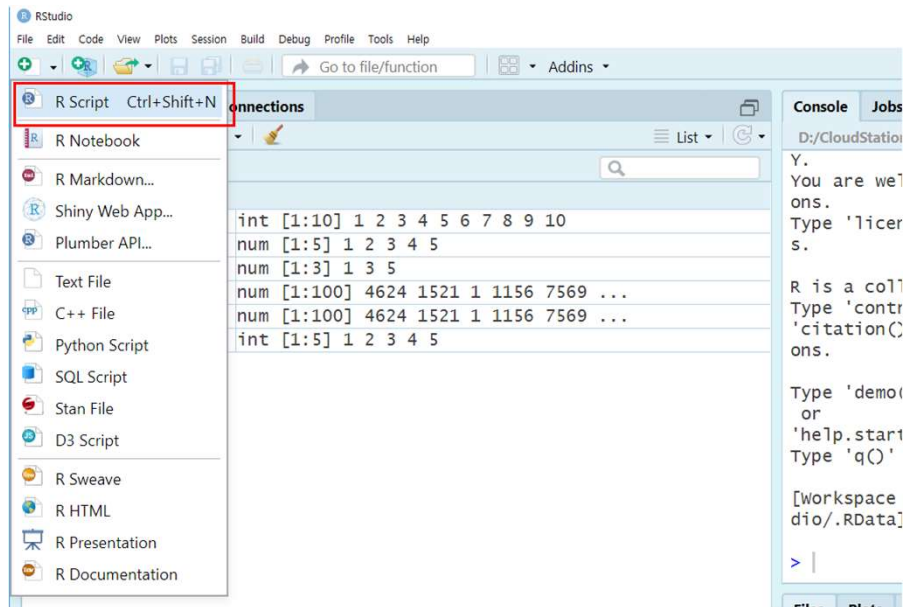
프로젝트 생성



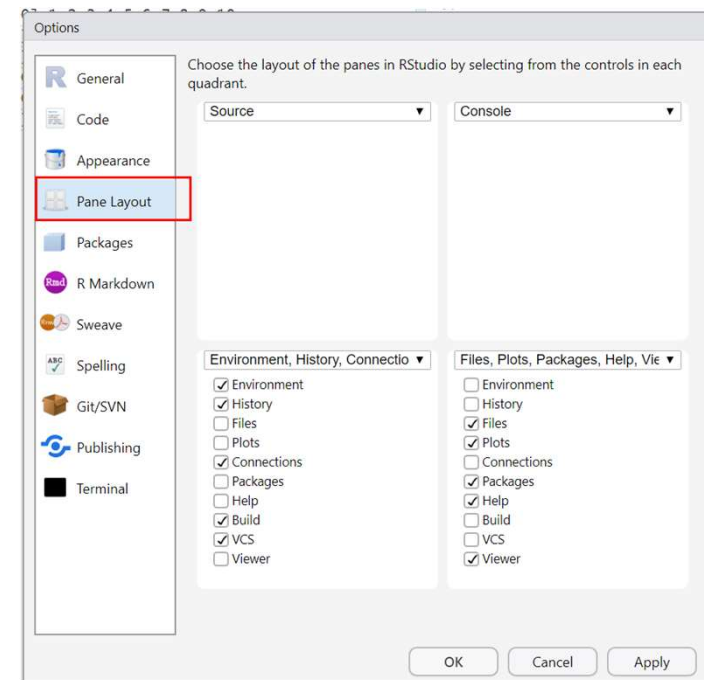
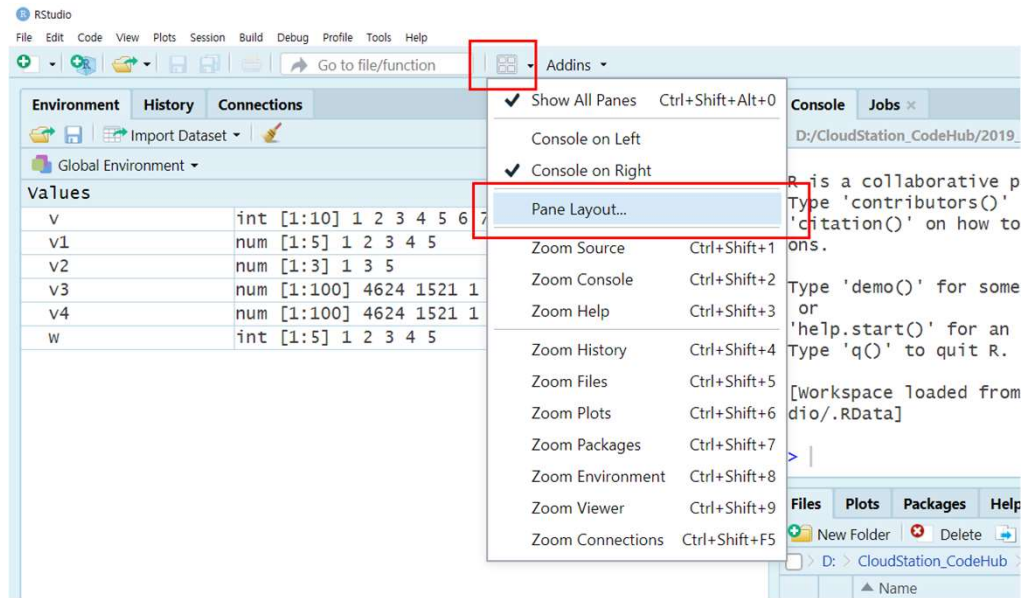
프로젝트 경로 생성



스크립트 생성

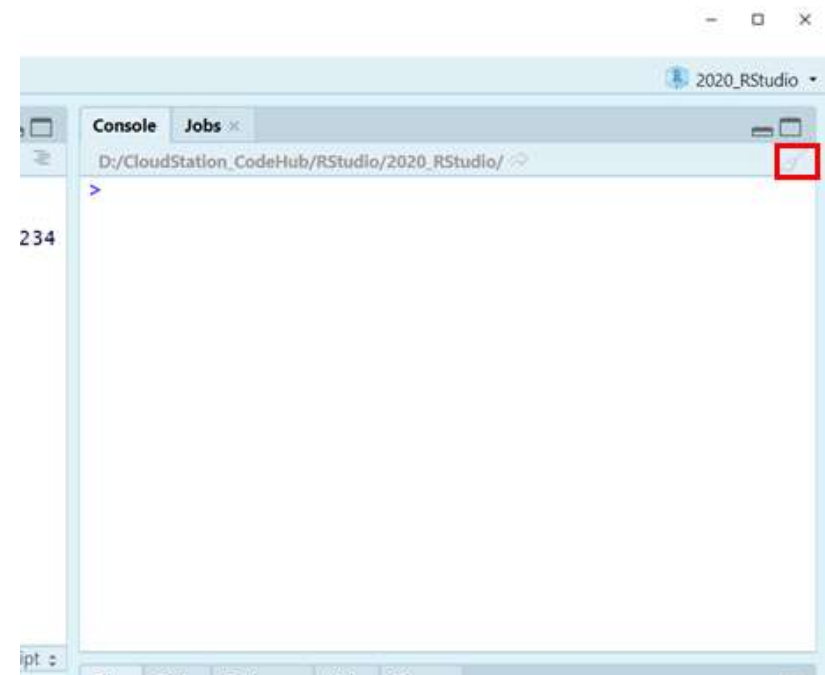
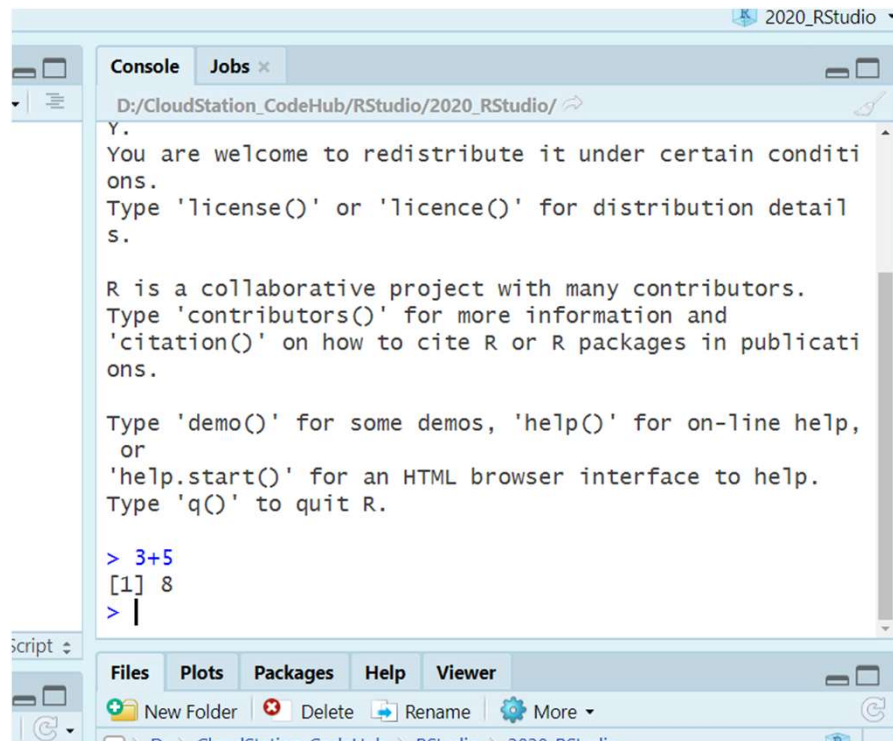


Option Layout 변경



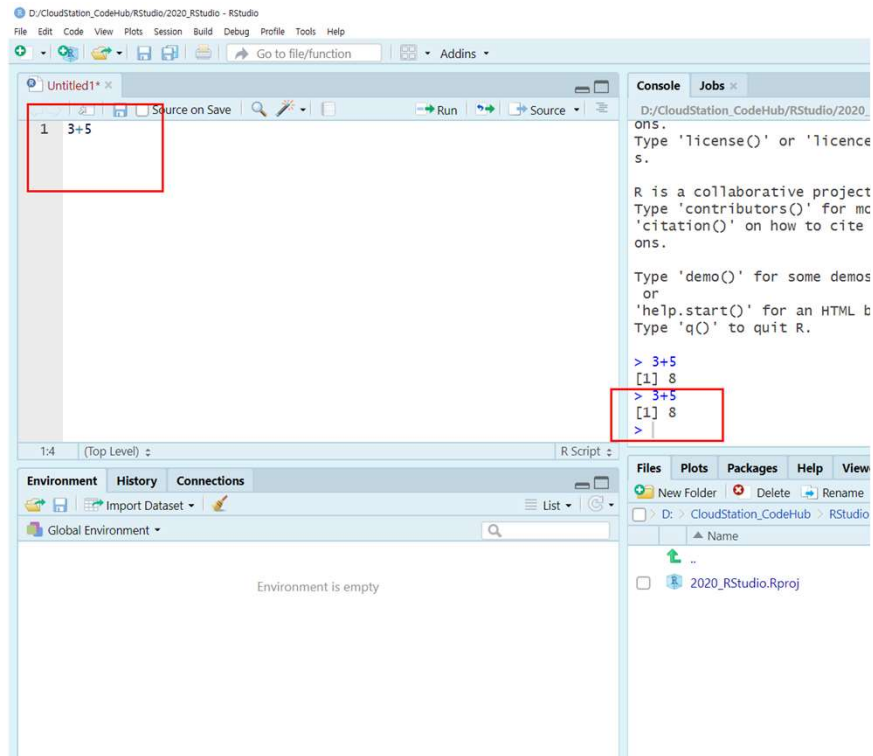
콘솔 테스트

- Ctrl + L : 콘솔 지우기

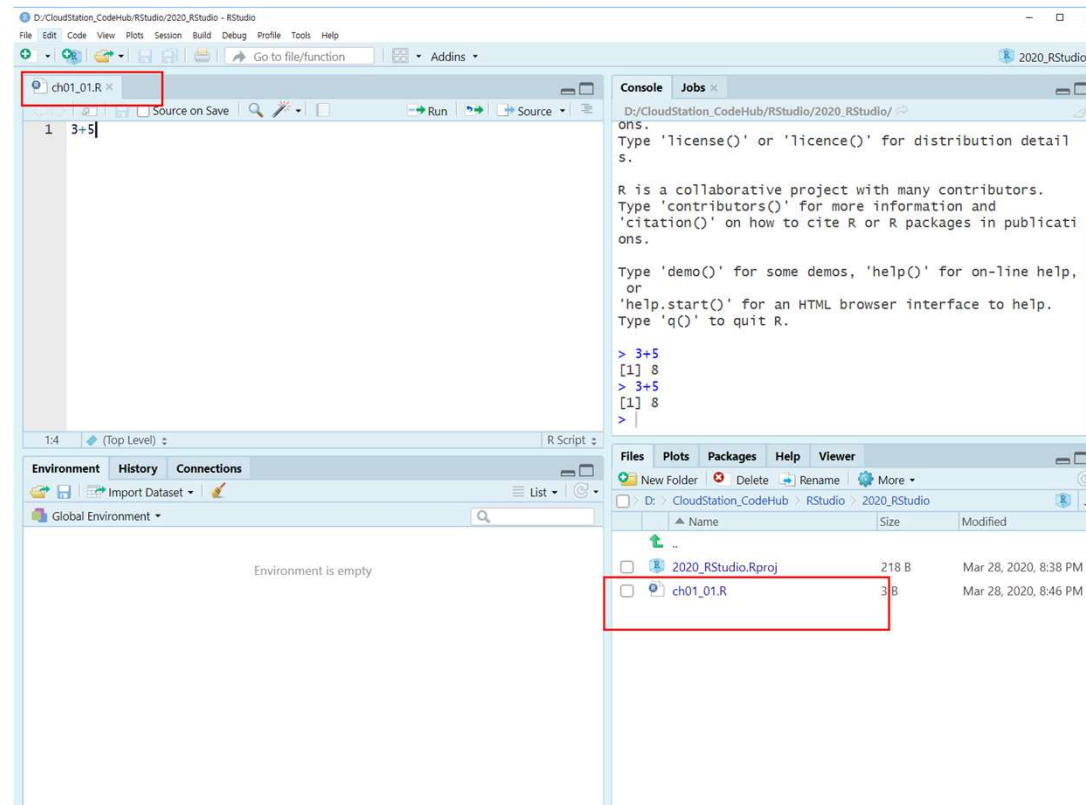


스크립트 테스트

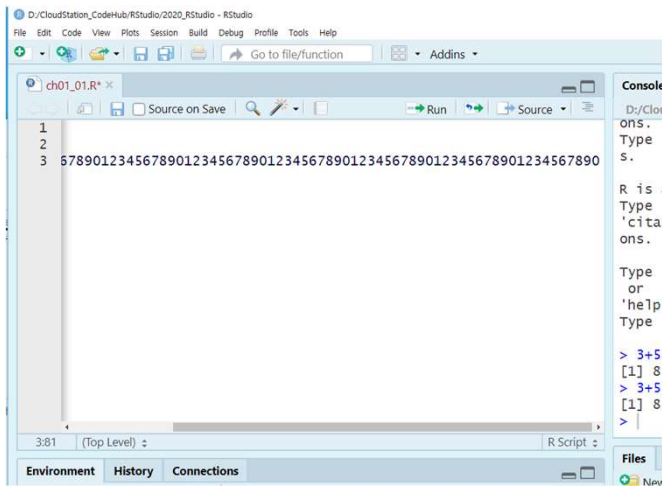
- Ctrl + Enter : 실행



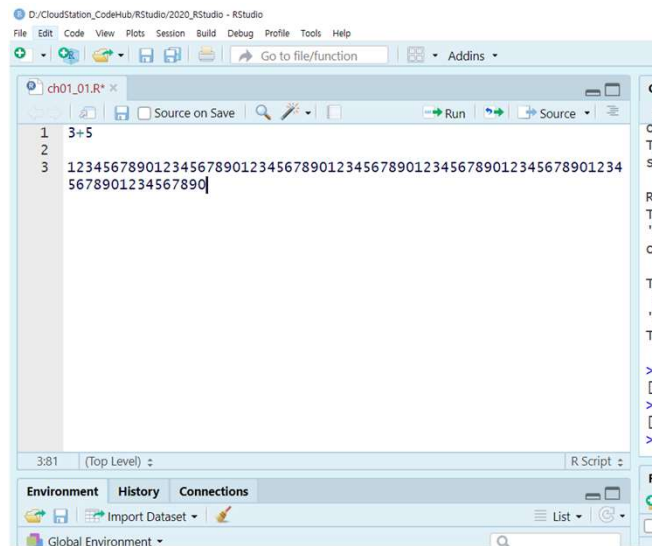
스크립트 저장확인



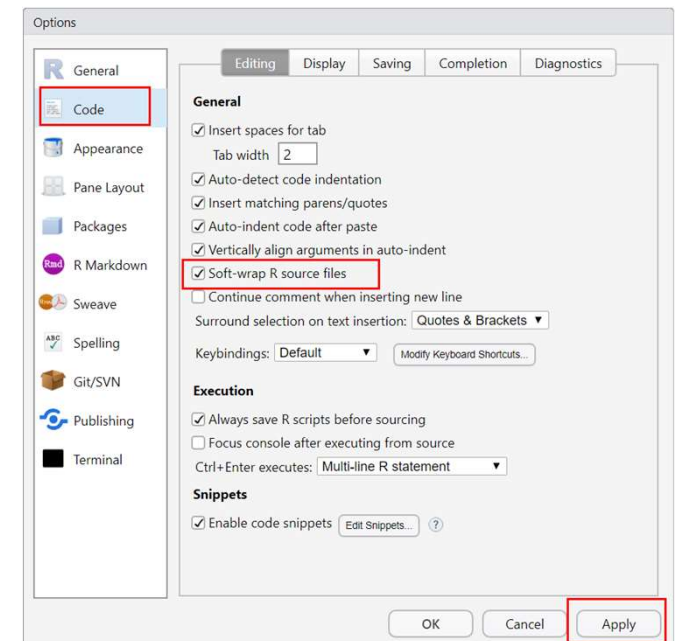
Soft-wrap Option 설정



The screenshot shows the RStudio interface. The editor window contains a single line of text: `567890123456789012345678901234567890123456789012345678901234567890`. The console window on the right shows the output of the command, which is wrapped across multiple lines.

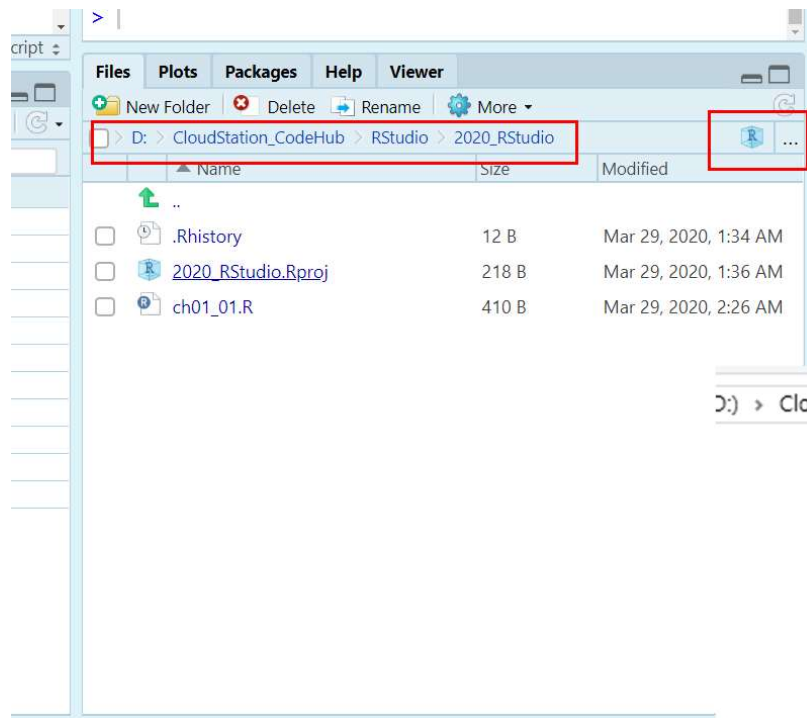


The screenshot shows the RStudio interface. The editor window contains a single line of text: `567890123456789012345678901234567890123456789012345678901234567890`. The console window on the right shows the output of the command, which is wrapped across multiple lines.



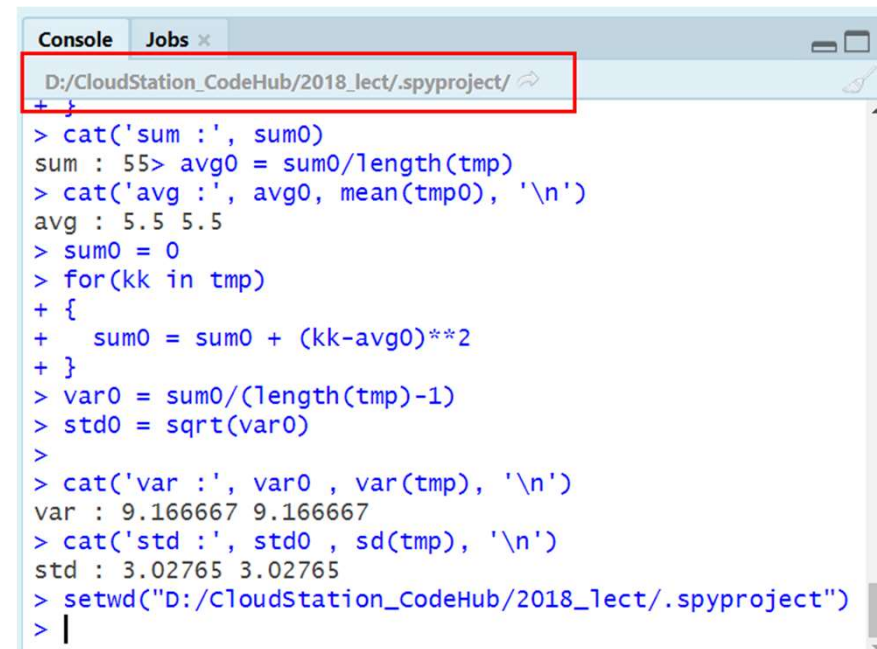
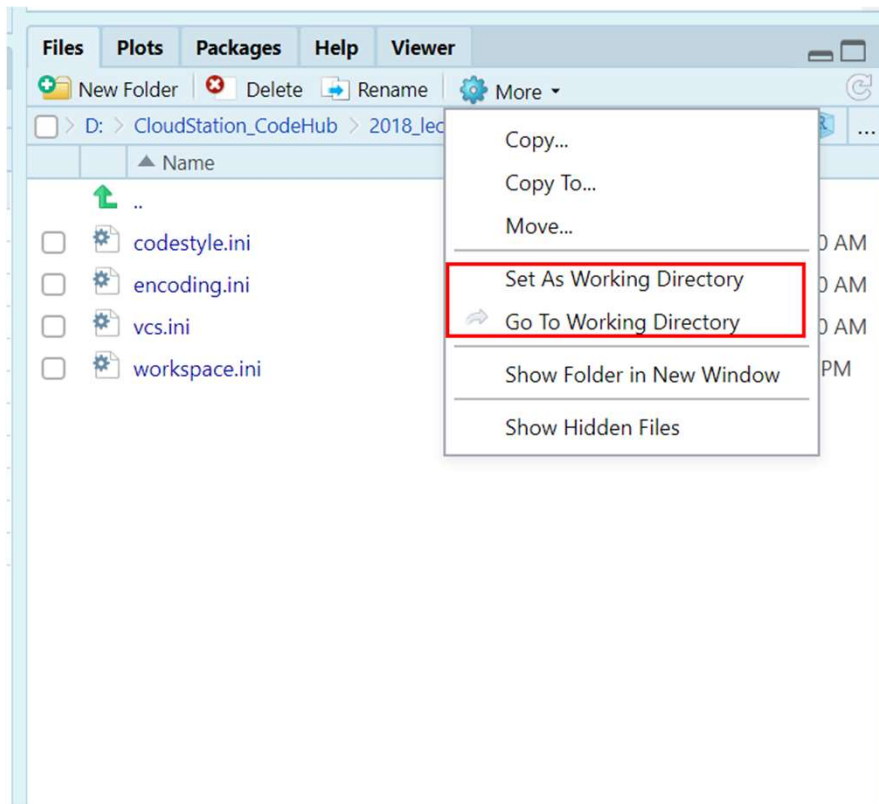
프로젝트위치 (Project Directory) 확인

- 프로젝트 불러오기



D:\CloudStation_CodeHub\RStudio\2020_RStudio				
이름	수정된 날짜	유형	크기	
.Rproj.user	2020-03-28 오후...	파일 폴더		
.Rhistory	2020-03-28 오후...	RHISTORY 파일	1KB	
2020_RStudio.Rproj	2020-03-28 오후...	R Project	1KB	
ch01_01.R	2020-03-28 오후...	R 파일	1KB	

작업위치(Working Directory) 확인



문제1

- Excel 과 R 언어를 이용해서 평균, 분산, 표준편차를 모두 구할 수 있었다. 두 방법의 차이를 설명하시오.

The screenshot shows the Microsoft Excel interface. The data is entered in column B, rows 2 through 11, with values 1 through 10. A red rectangle highlights this data range. To the right, in columns D and E, rows 11 through 13, the summary statistics are calculated: sum (55), var (9.166667), and std (3.02765). Another red rectangle highlights this summary table.

	A	B	C	D	E	F	G
1							
2		1					
3		2					
4		3					
5		4					
6		5					
7		6					
8		7					
9		8					
10		9					
11		10		sum	55		
12				var	9.166667		
13				std	3.02765		
14							
15							
16							
17							

문제2

- 1부터10까지 자연수의 평균, 분산, 표준편차를 구하시오 (단, 표준함수를 사용하시오)

	A	B	C	D	E	F	G
1							
2		1					
3		2					
4		3					
5		4					
6		5					
7		6					
8		7					
9		8					
10		9					
11		10		sum	55		
12				var	9.166667		
13				std	3.02765		
14							
15							
16							
17							

Variance and Standard Deviation

Population	Sample
Mean = μ	Mean = \bar{x}
Variance $\sigma^2 = \frac{\sum (X_i - \mu)^2}{N}$	Variance $s^2 = \frac{\sum_{i=1}^n (x_i - \bar{x})^2}{n - 1}$
Standard Deviation $\sigma = \sqrt{\frac{\sum (X_i - \mu)^2}{N}}$	Standard Deviation $s = \sqrt{\frac{\sum (x - \bar{x})^2}{N - 1}}$

문제3

- 1부터10까지 자연수의 평균을 구하시오 (단, 반복문을 사용하시오)

문제4

- 1부터10까지 자연수의 평균, 분산, 표준편차를 구하시오 (단, 반복문을 사용하시오)

수고하셨습니다.