

Hands-on Lab: Download & Install R and RStudio

Estimated time needed: **15** minutes

Multiple programmers are moving towards data science, and in this process, R and RStudio play an essential role. So in this lab, you will understand how to install R and RStudio.

Objectives

- Download and Install R
- Download and Install RStudio

Overview of R and RStudio

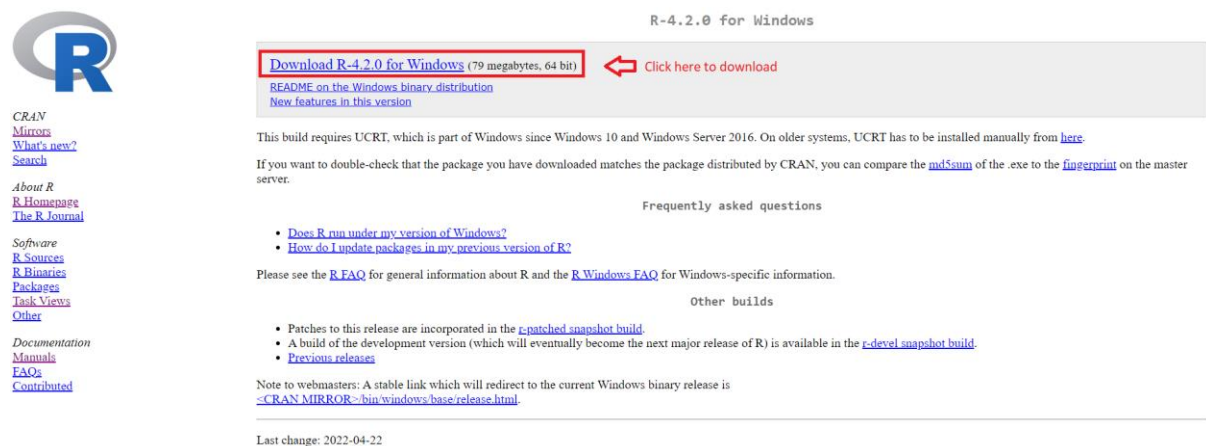
There are several cloud based data science tools that make team collaboration accessible. At times it is useful to work directly on your desktop.

R is a command-line interface; there are several graphical front-ends available. RStudio is an integrated development environment (IDE) for R. It includes the environment tab, which shows the generated variables. In the history tab, you can see the commands used since starting, and there are other tabs such as files, plots, packages, help, and viewer. It has binaries available for major platforms, including Windows, Linux, and MacOS. This lab includes instructions for downloading and installing R and RStudio on Windows. Mac OS users can download the appropriate .pkg file from <https://cran.r-project.org/bin/macosx/> and follow the instructions.

Exercise 1: Download & Install R on Windows

Step 1: The **latest version** of R can be downloaded by clicking the link.

Windows: <https://cran.r-project.org/bin/windows/base/>



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R-4.2.0 for Windows

[Download R-4.2.0 for Windows \(79 megabytes, 64 bit\)](#) [Click here to download](#)

[README on the Windows binary distribution](#)
[New features in this version](#)

This build requires UCRT, which is part of Windows since Windows 10 and Windows Server 2016. On older systems, UCRT has to be installed manually from [here](#).

If you want to double-check that the package you have downloaded matches the package distributed by CRAN, you can compare the [md5sum](#) of the .exe to the [fingerprint](#) on the master server.

Frequently asked questions

- [Does R run under my version of Windows?](#)
- [How do I update packages in my previous version of R?](#)

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

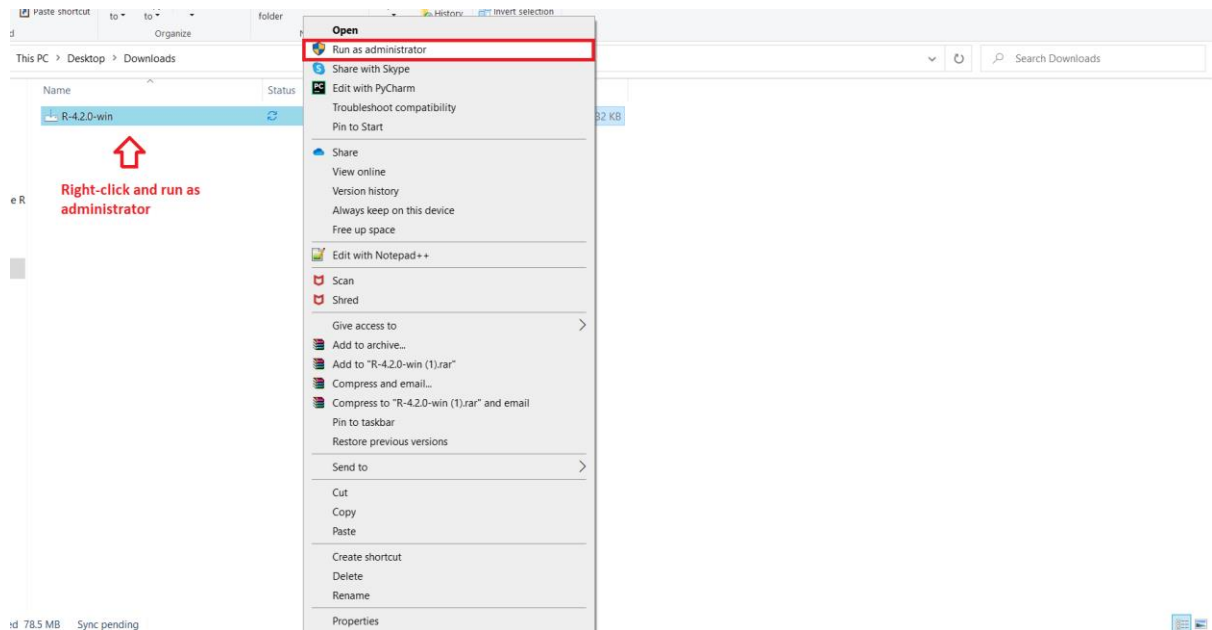
Other builds

- 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](#)

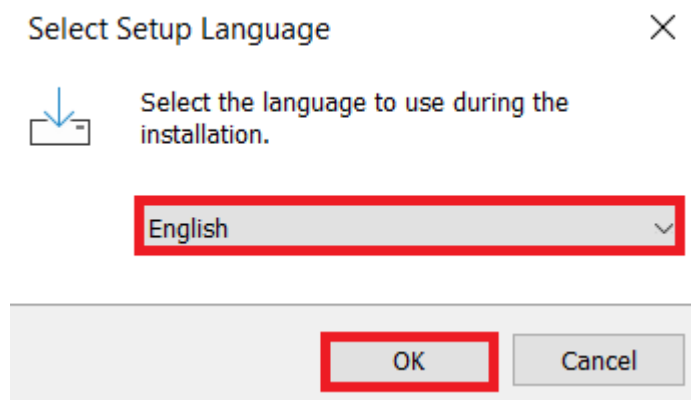
Note to webmasters: A stable link which will redirect to the current Windows binary release is [<CRAN_MIRROR>/bin/windows/base/release.html](#).

Last change: 2022-04-22

Step 2: Once the download completes, **right-click** the downloaded file, and click **Run as administrator**.



Step 3: Select your preferred installation **language**, and click **OK**.



Step 4: Read and accept the license and click **Next**.

Setup - R for Windows 4.2.0

Information

Please read the following important information before continuing.



When you are ready to continue with Setup, click Next.

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Version 2, June 1991

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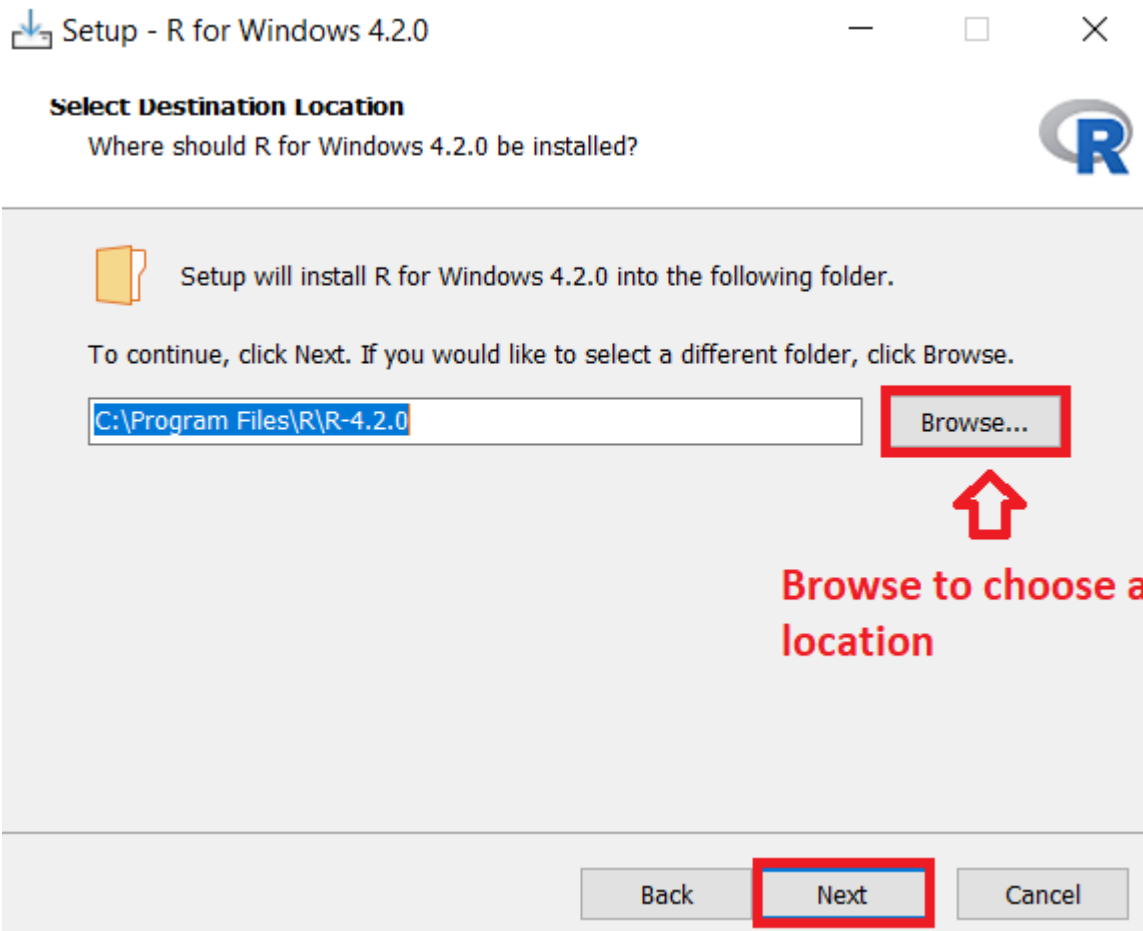
Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users. This
General Public License applies to most of the Free Software
Foundation's software and to any other program whose authors commit to

Next

Cancel

Step 5: Select the **Folder** where you would like to install R, or use the **Default** location, and click **Next**.



Step 6: Select the **Components** you want to install and click **Next**.

Select Components

Which components should be installed?



Select the components you want to install; clear the components you do not want to install. Click Next when you are ready to continue.

User installation ▾

<input checked="" type="checkbox"/> Main Files	89.7 MB
<input checked="" type="checkbox"/> 64-bit Files	64.7 MB
<input checked="" type="checkbox"/> Message translations	9.0 MB

Current selection requires at least 166.3 MB of disk space.

Back

Next

Cancel

Step 7: In the **Startup options**, select the **Default** option and click **Next**.

Setup - R for Windows 4.2.0



Startup options

Do you want to customize the startup options?



Please specify yes or no, then click Next.

☐ Yes (customized startup)

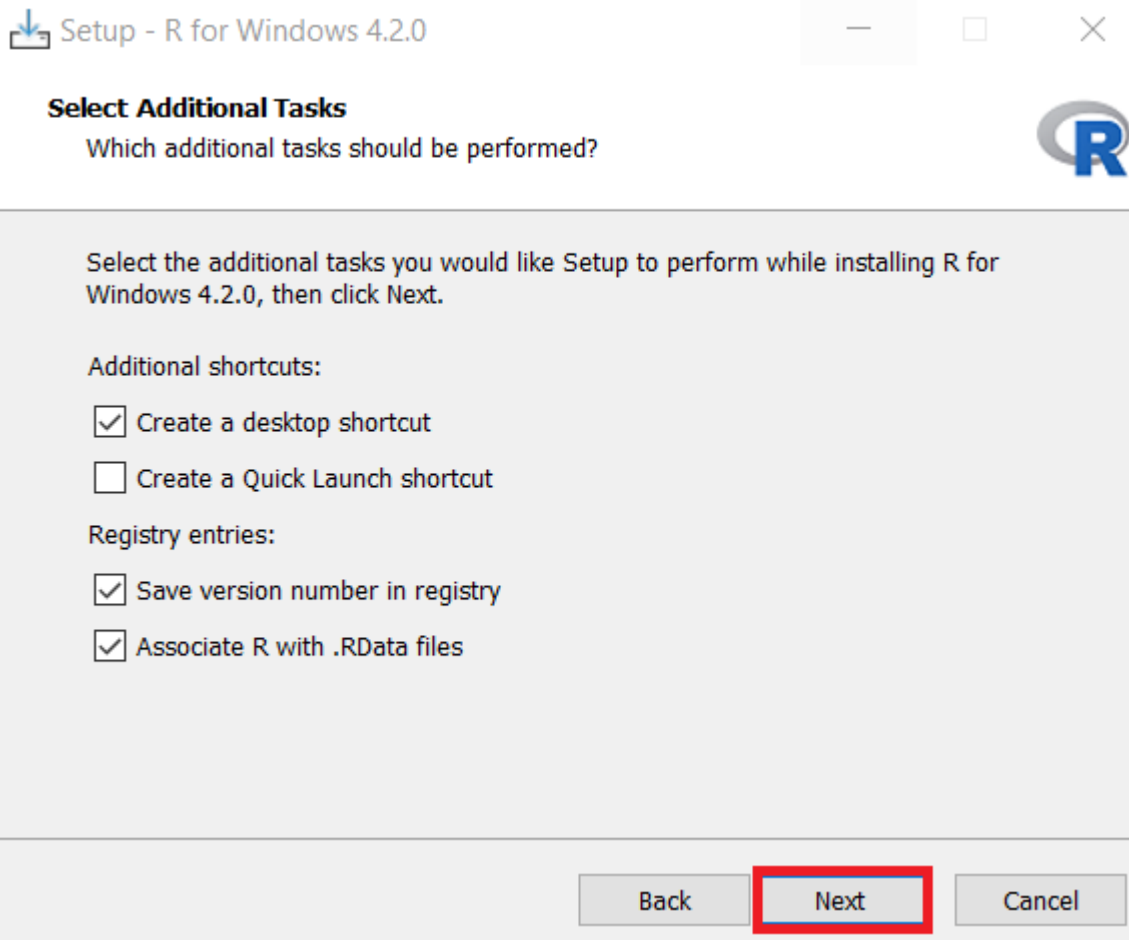
☒ No (accept defaults)

Back

Next

Cancel

Step 8: In the **Select Additional Tasks** window, retain **Default** and click **Next**.




Step 9: Once installation is successful, click **Finish** to close the setup.

Exercise 2: Download & Install RStudio

Step 1: Use the link below to download **RStudio Desktop** on your local machine.

Link for Download RStudio for windows and mac: <https://posit.co/download/rstudio-desktop/>

Step 2: Click **Download RStudio desktop For Windows**, and your download will start.

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RStudio Desktop

Used by millions of people weekly, the RStudio integrated development environment (IDE) is a set of tools built to help you be more productive with R and Python.

1: Install R

RStudio requires R 3.3.0+. Choose a version of R that matches your computer's operating system.

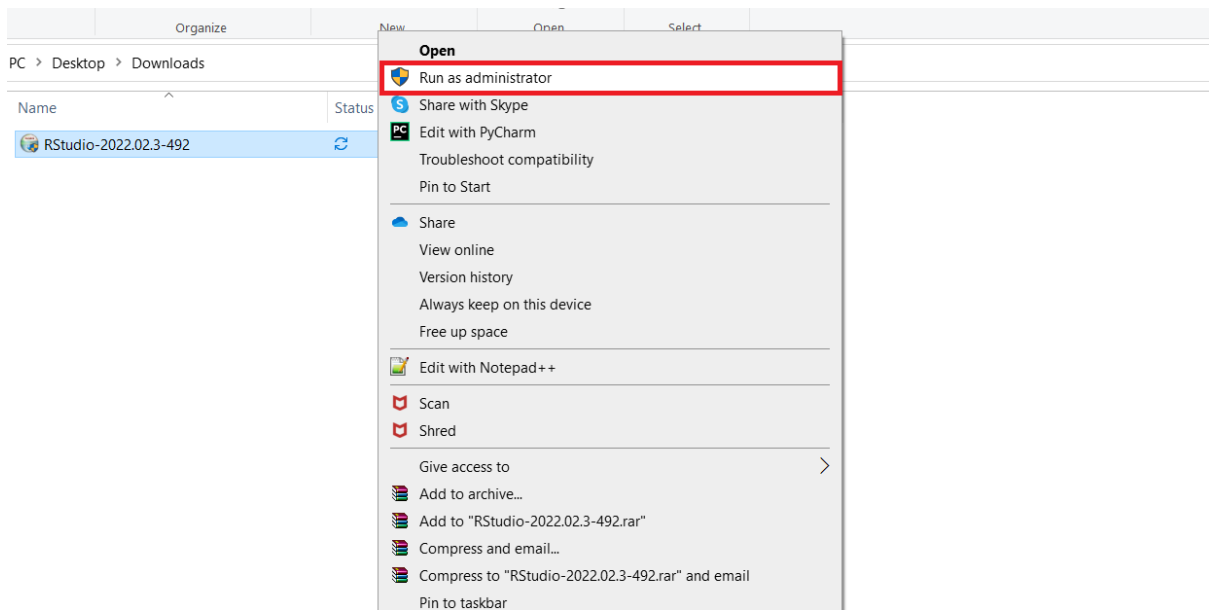
[DOWNLOAD AND INSTALL R](#)

2: Install RStudio

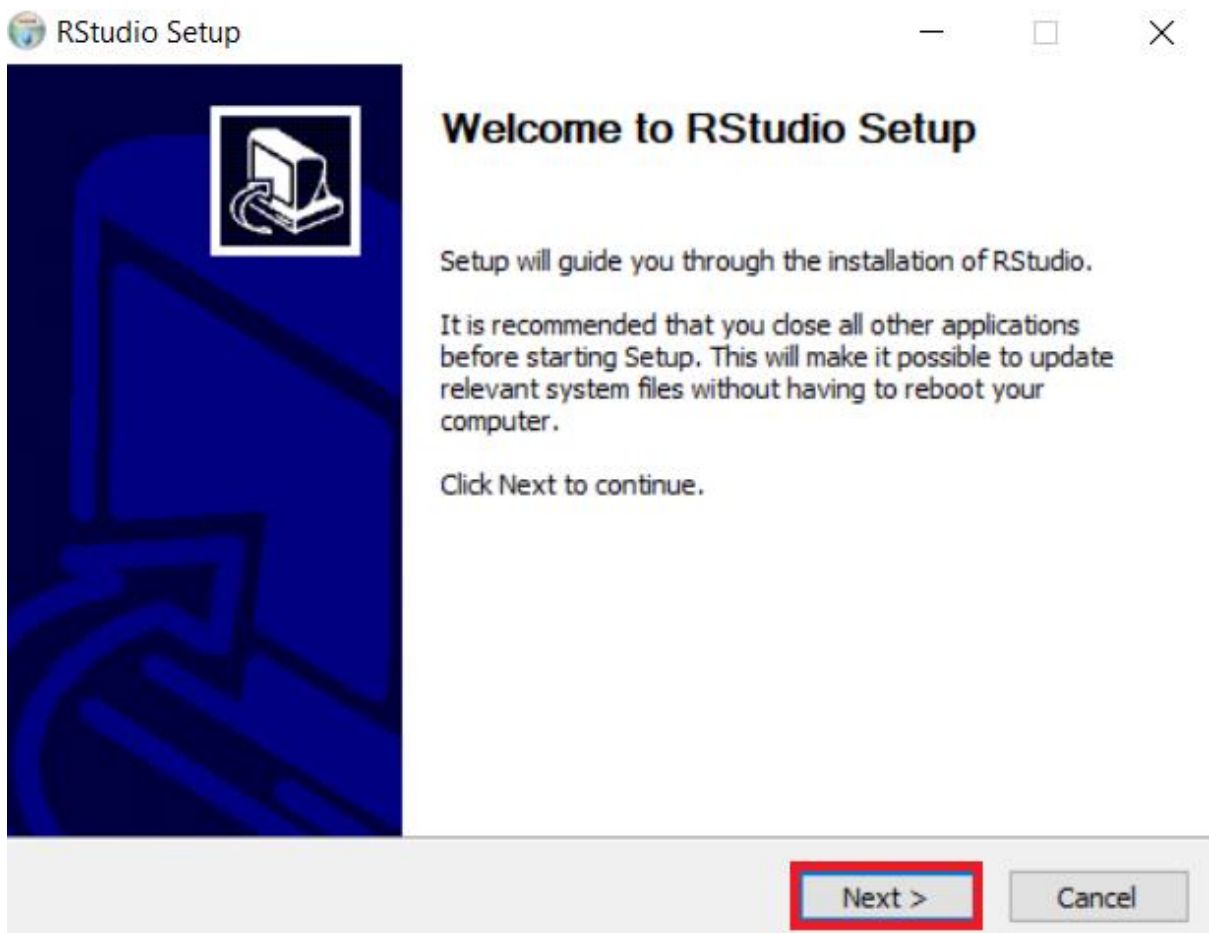
[DOWNLOAD RSTUDIO DESKTOP FOR WINDOWS](#)

Size: 202.77 MB | [SHA-256: FD8EA4B4](#) | Version: 2022.12.0+353 | Released: 2022-12-15

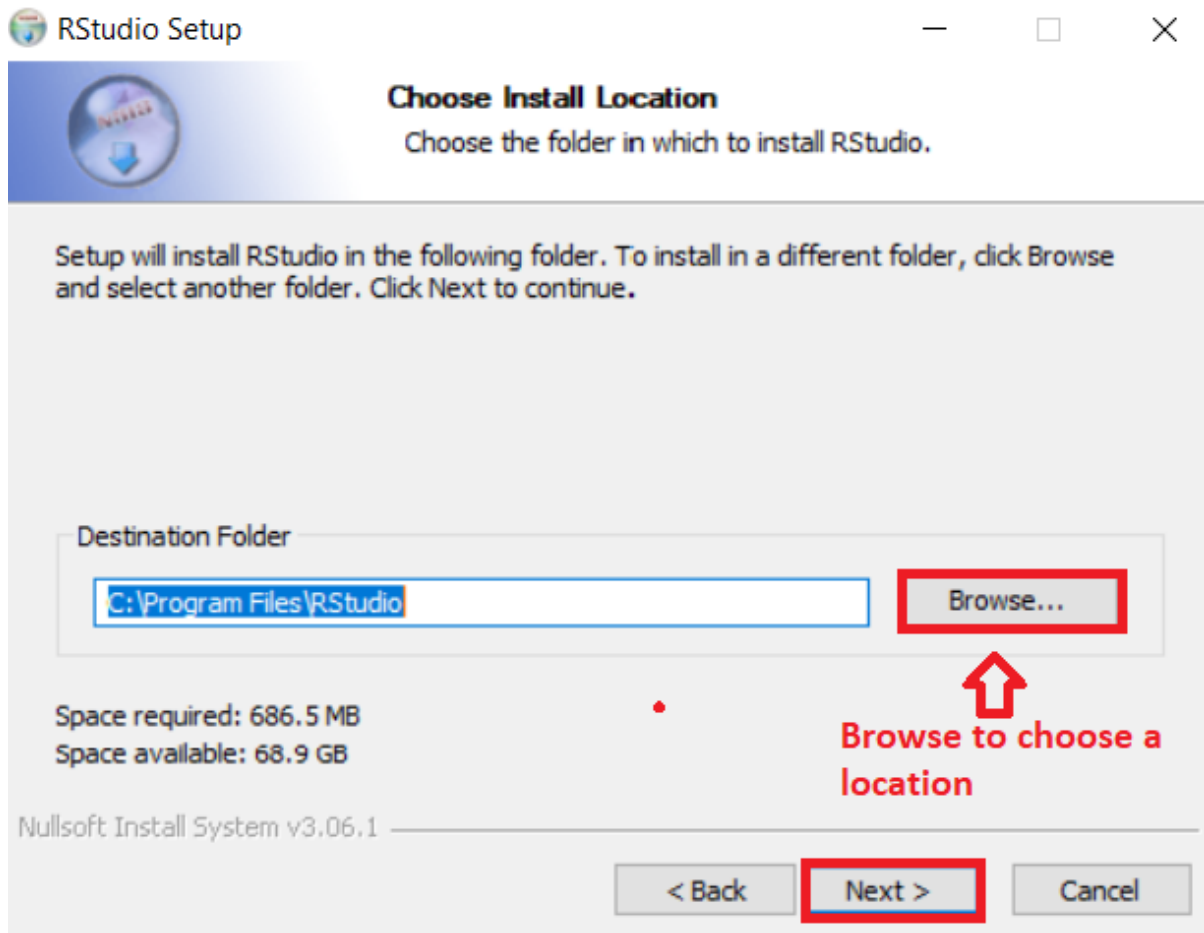
Step 3: Once the download completes, **right-click** the setup file, and click **Run as administrator**.



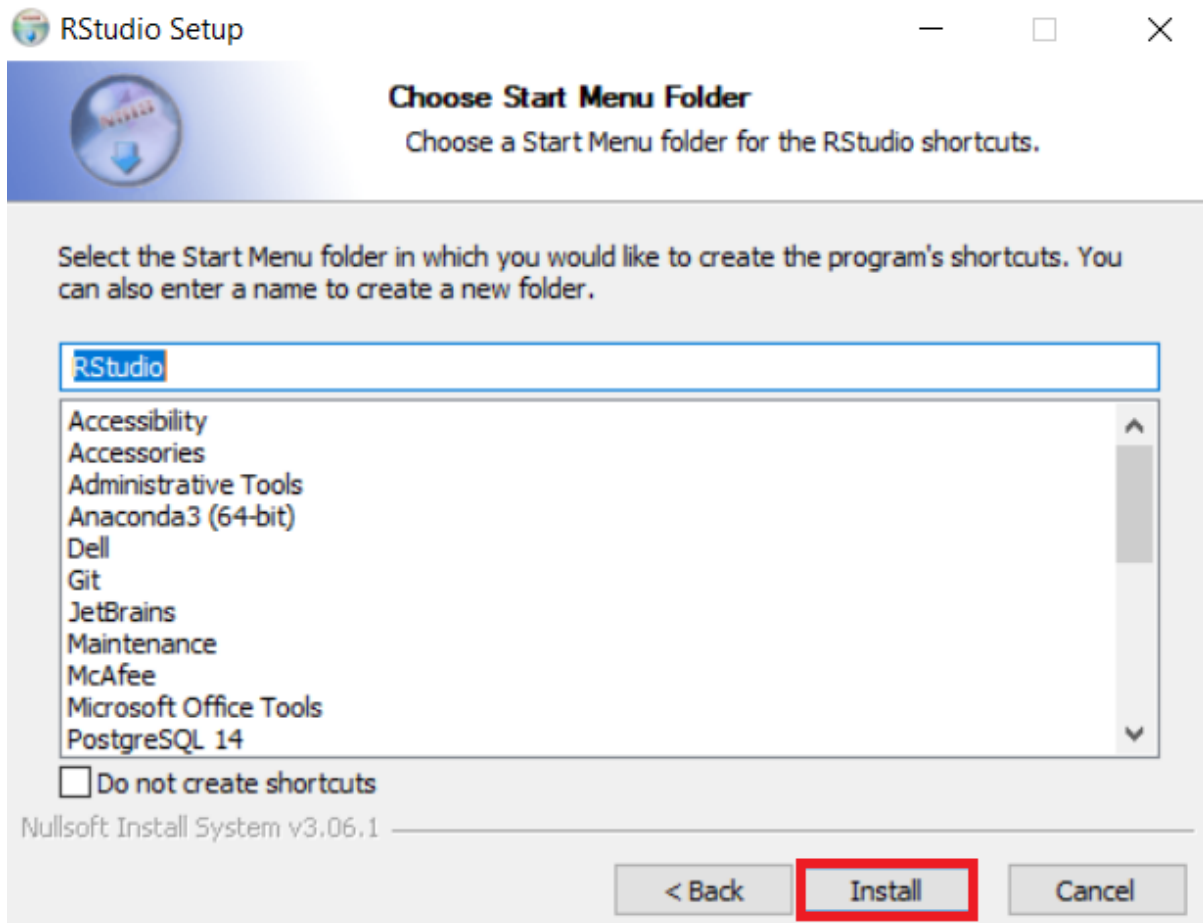
Step 4: In the RStudio setup window, click **Next**.



Step 5: Select the folder where you would like to install RStudio, or retain the **Default** installation location and click **Next**.



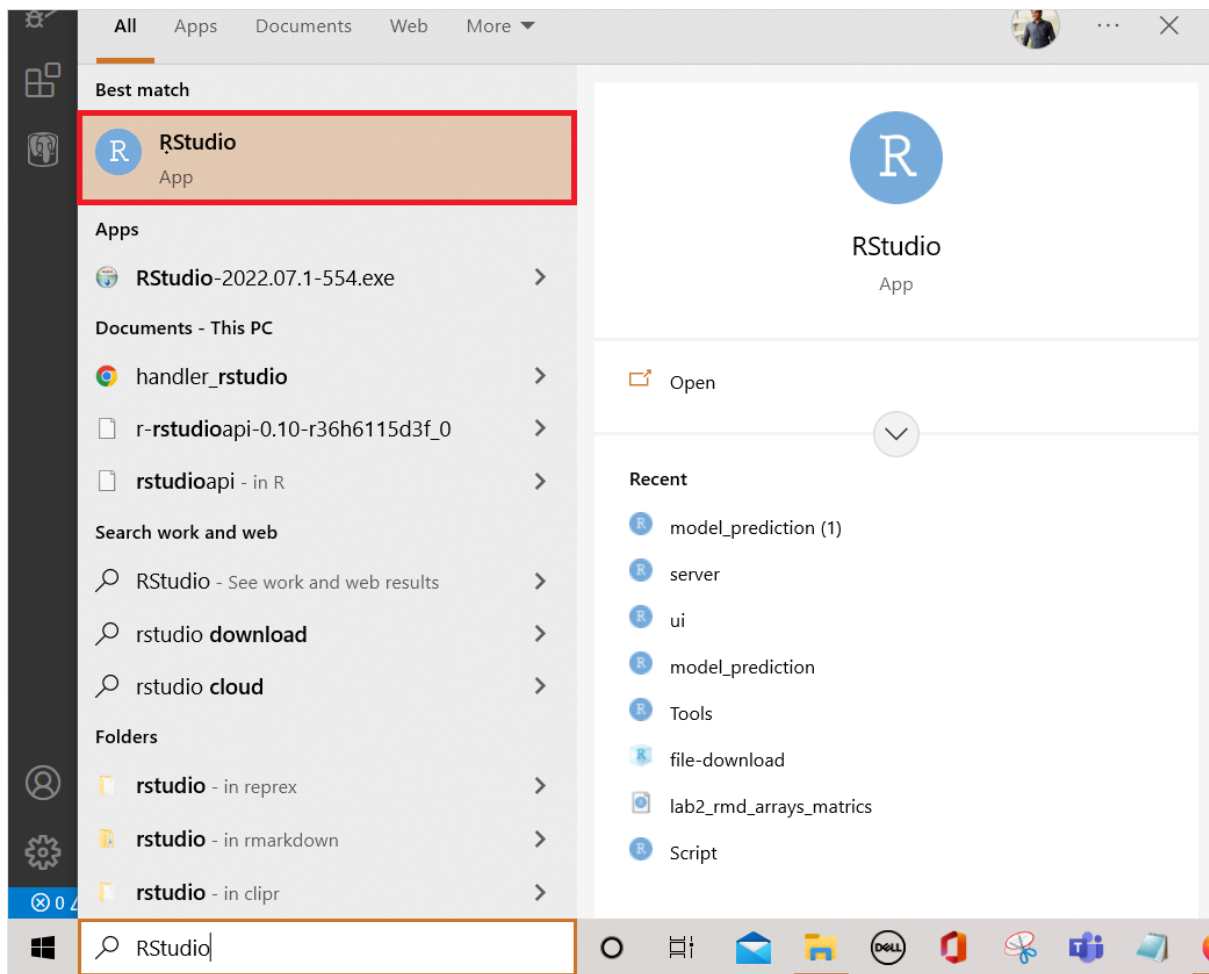
Step 6: In the Start menu window, click **Install** to install RStudio.



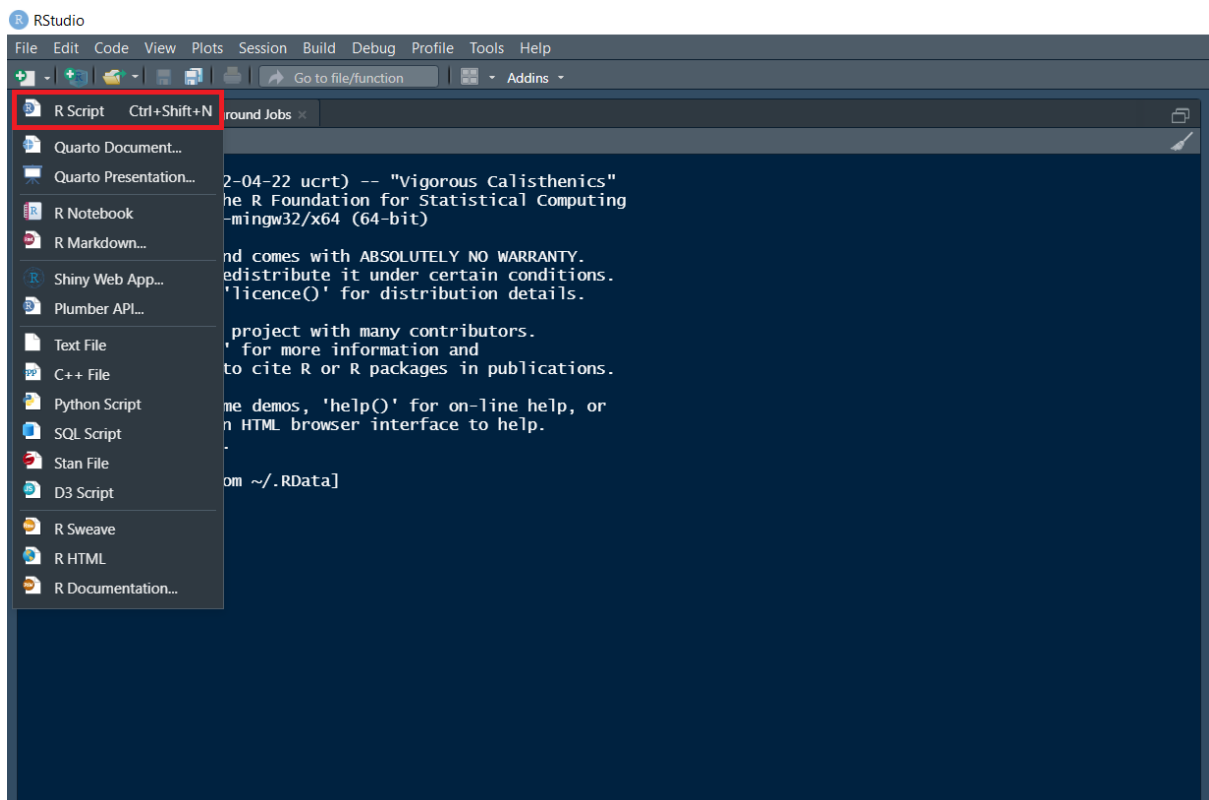
Step 7: Once installation completes, click **Finish** to close the window.

Exercise 3: Execute R code in RStudio

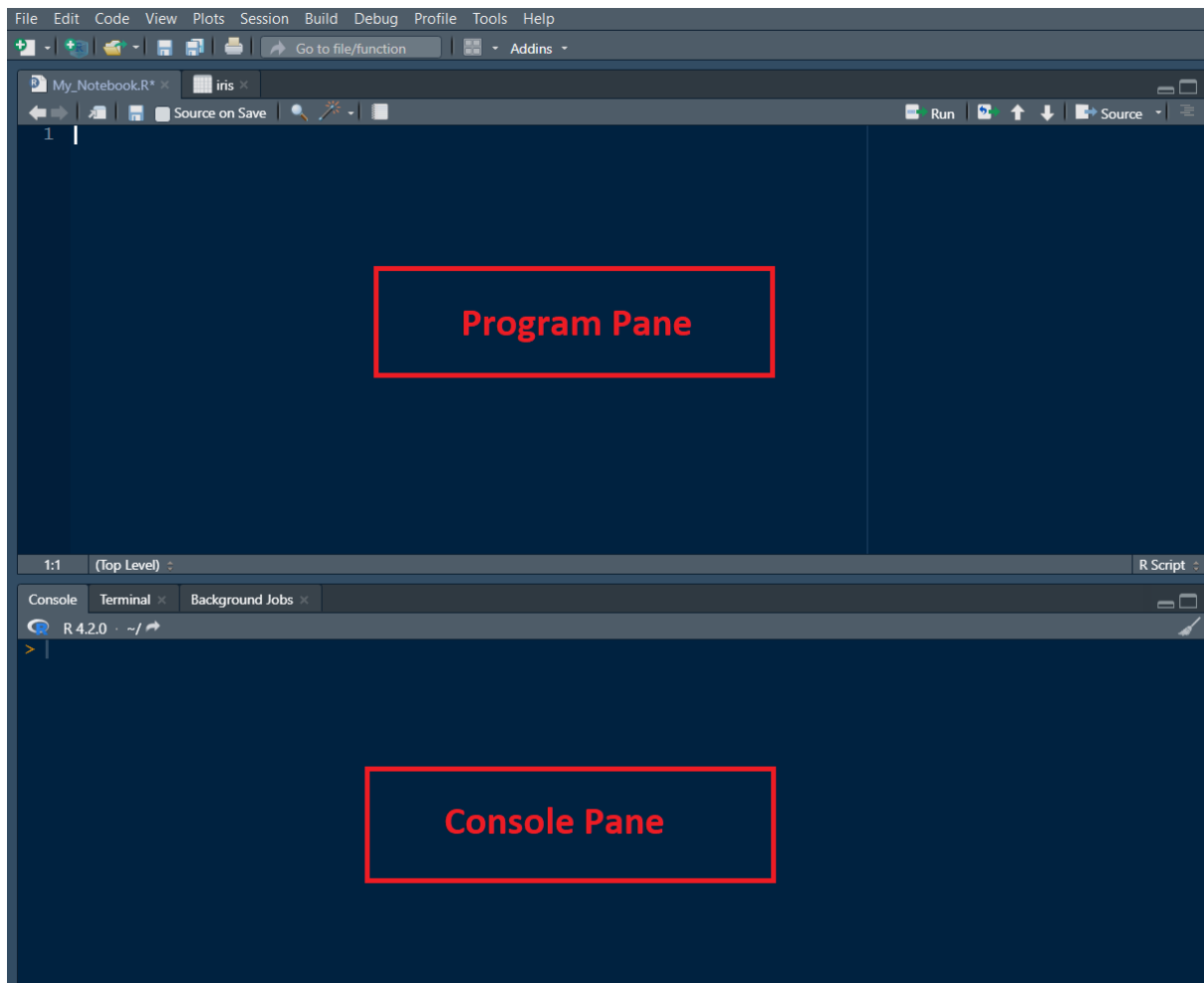
1. Open **RStudio** from the Windows start menu.



2. Click the **plus symbol** on the top left and select **R Script**.



3. An **untitled** R Script panel opens. It would look as follows.

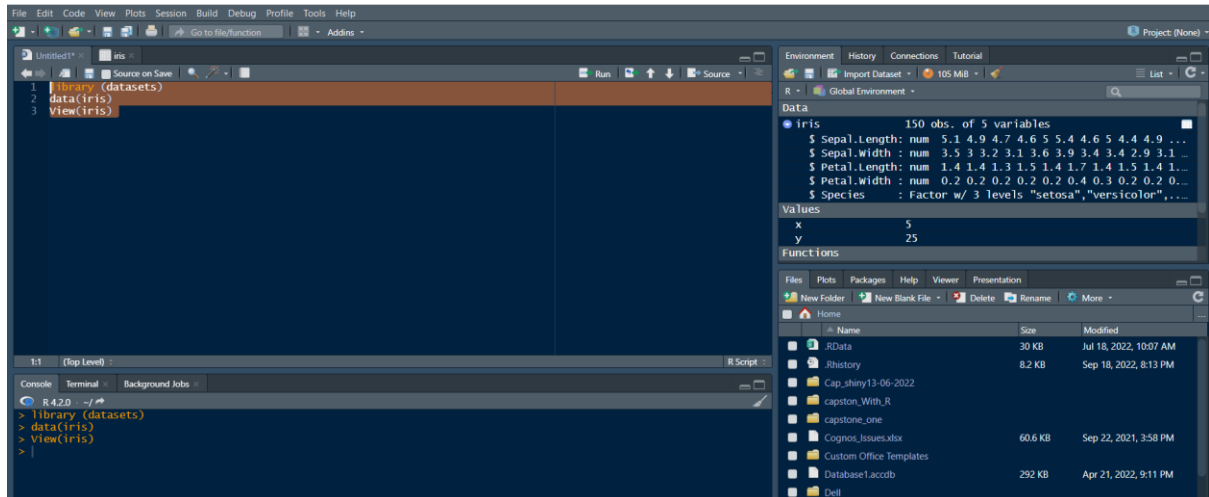


4. Now, load the **iris dataset**. Enter the following **lines** into the **Editor window** which appears. Next, select all of them. Then click the **Run icon** just above the Editor window.

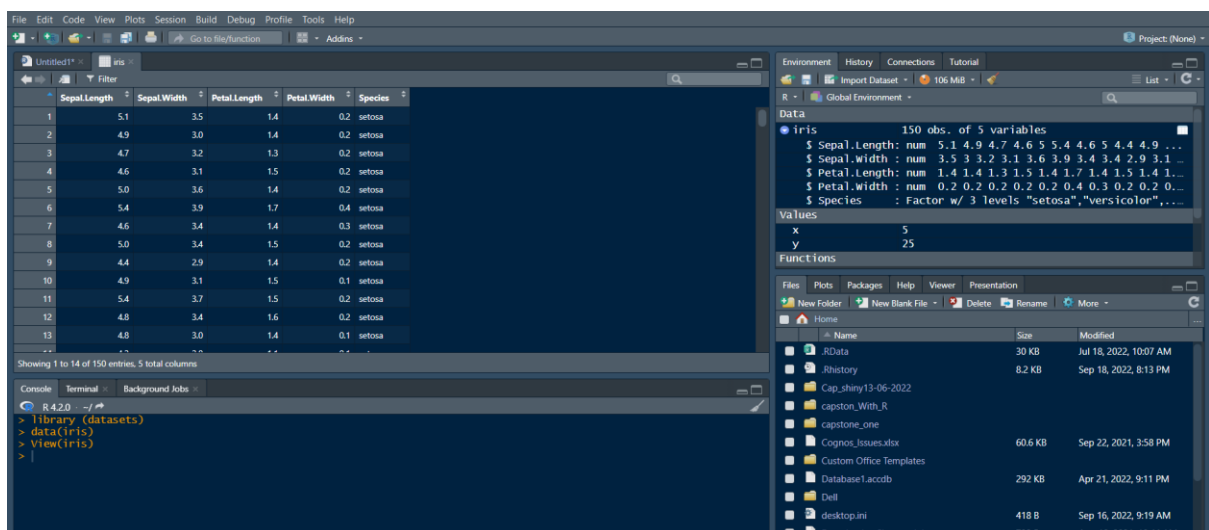
1. 1
2. 2
3. 3
1. library(datasets)
2. data(iris)
3. View(iris)

Copied!

Output



5. You are taken directly to the data view tab to inspect your dataset. You can see five columns in this dataset, the first four are floating point, and the last one is the label of the data type string, which contains the category value of your data set. You can see that there are total of 150 entries.

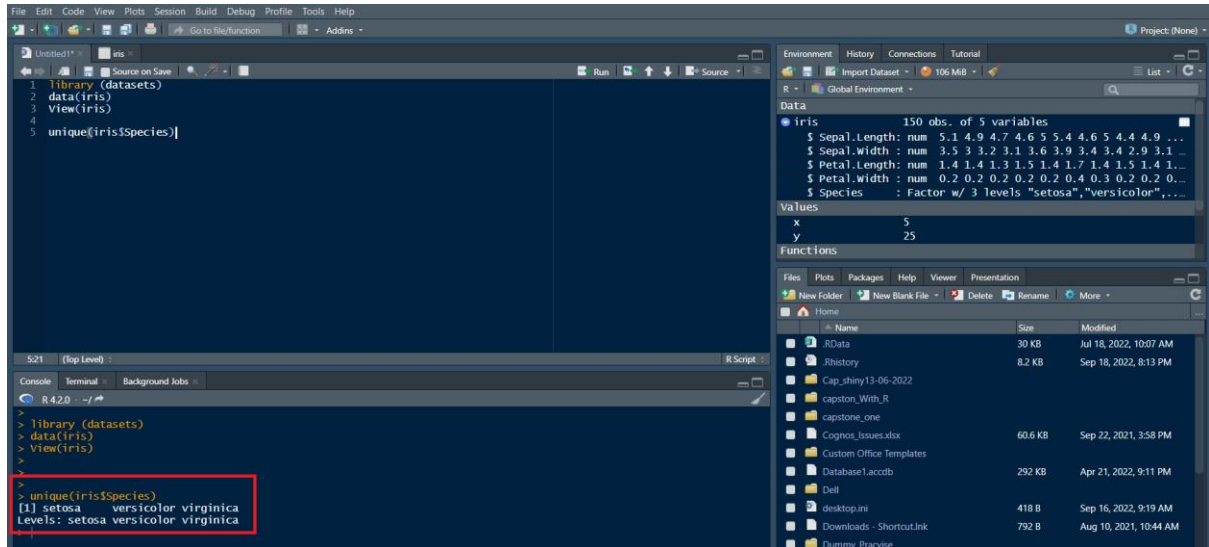


6. Now let's find how many **different species** are present in the data set. Type the following command in the **Editor window** and click **Run**.

- 1
- unique(iris\$Species)

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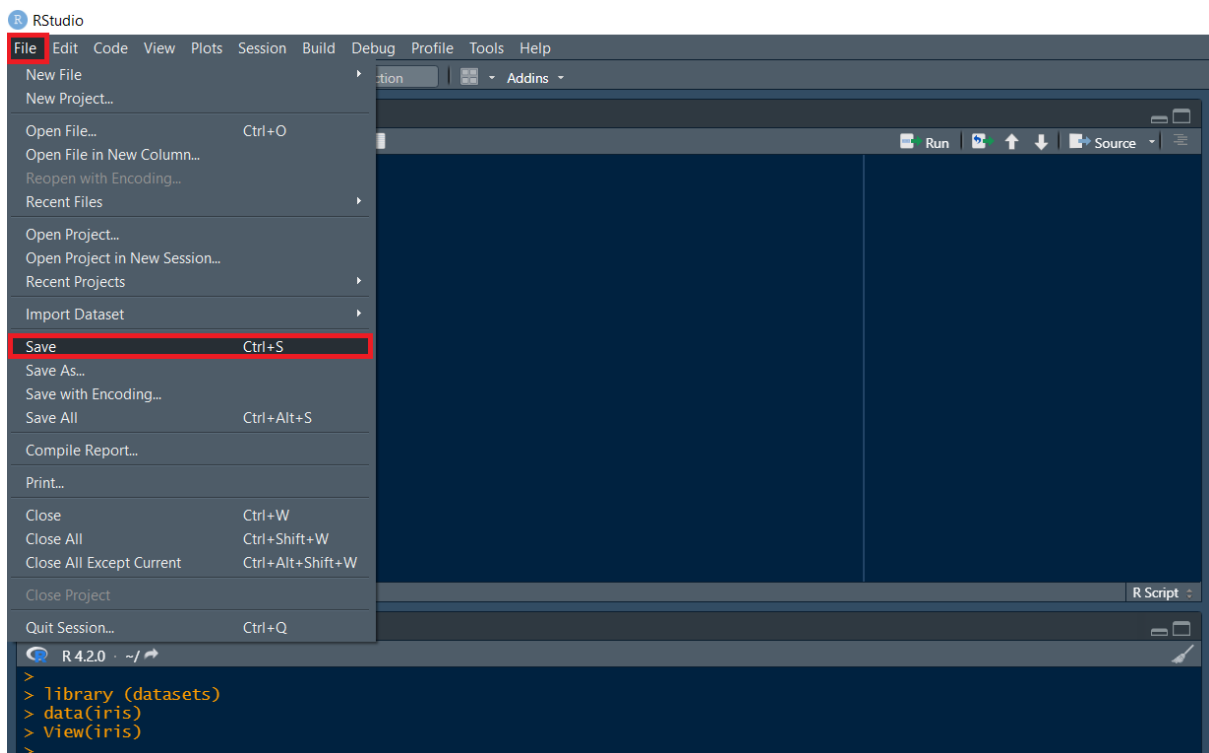
Output



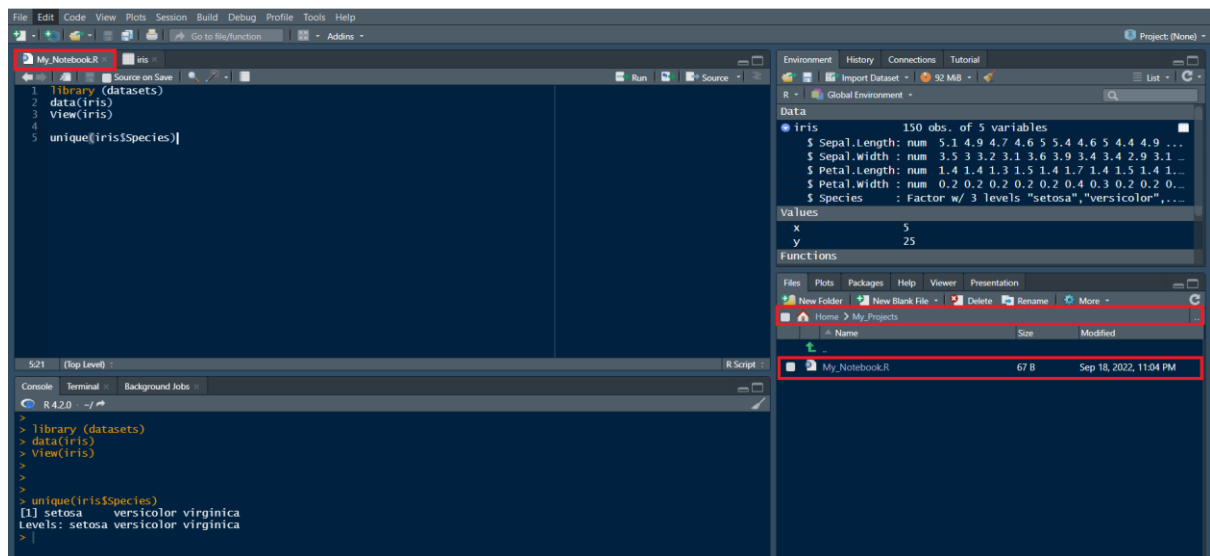
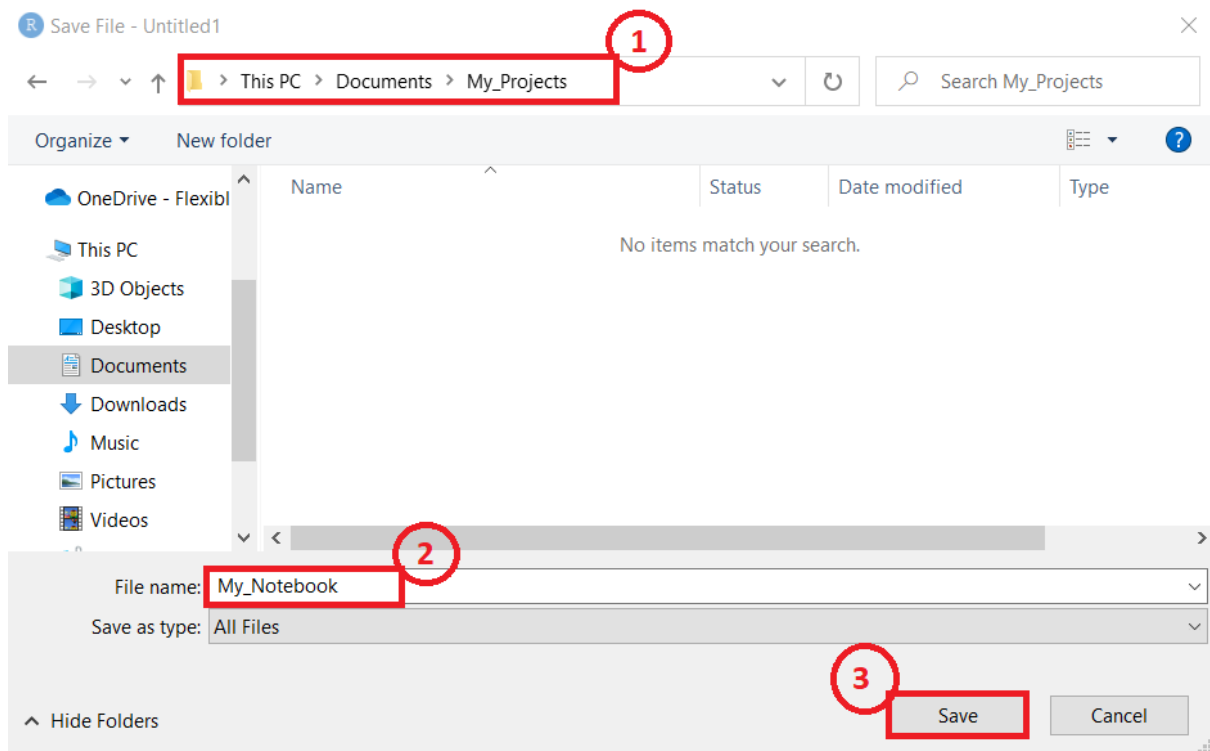
Note: In the Console window at the bottom, you will see the result of the executed command and know that only three different species are present in the dataset.

7. Save & provide a name to your Notebook.

- To save the notebook, click **Save** or **Save as** in the **File** menu.



- Select the working folder to rename your notebook to **My_Notebook**.



Congratulations! In this document, you have learned how to download and install R and RStudio on your local machine. You also created a R notebook and saved it.