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 IDE (integrated development environment) for R. It includes the environmental 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 m

If you want to double-check that the package you have downloaded matches the package distributed by CRAN, you can compare the md5sum of t 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.

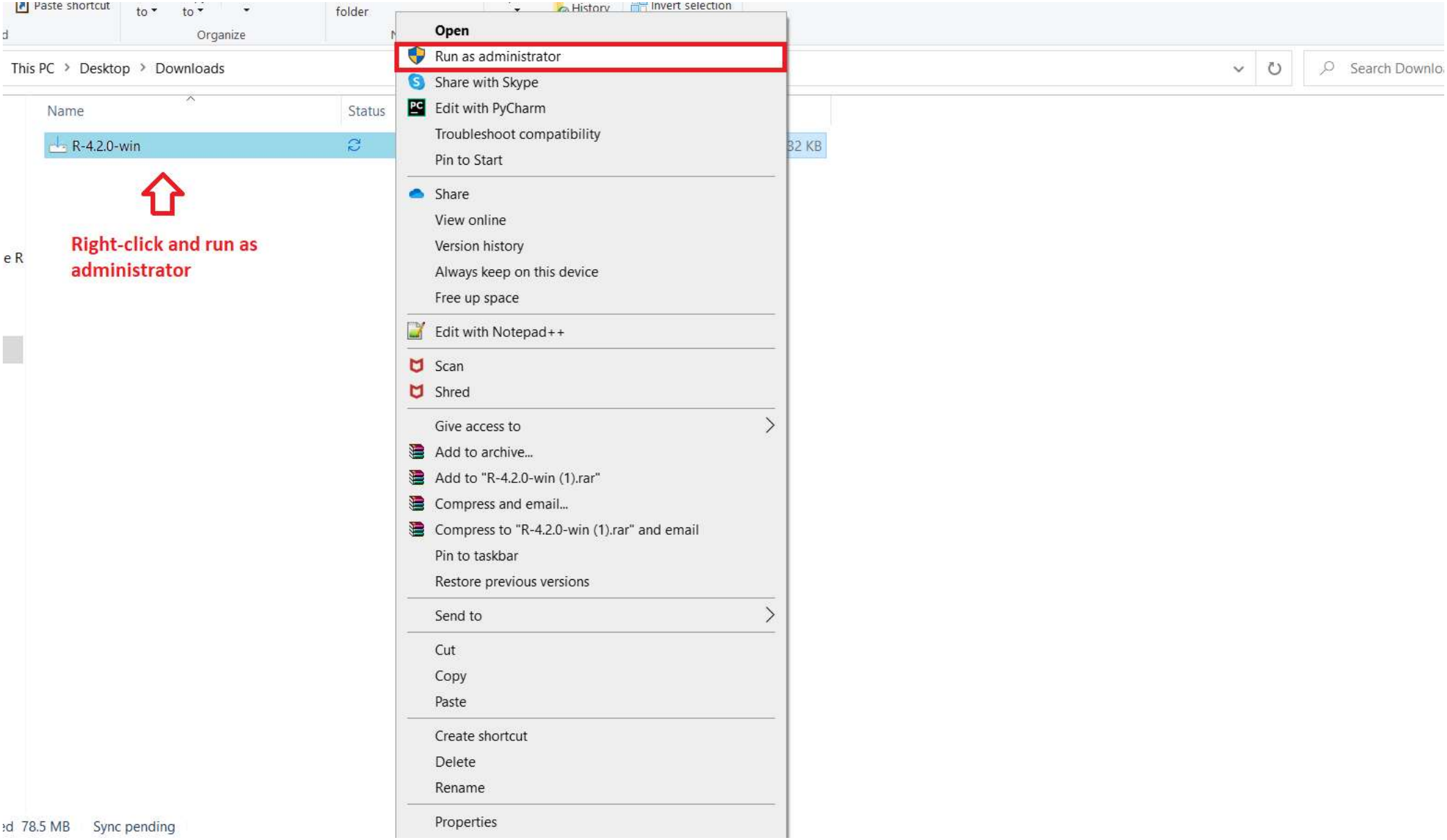
Other builds

- 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

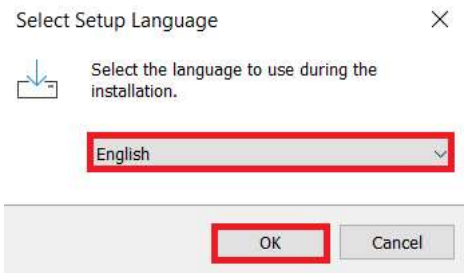
Note to webmasters: A stable link which will redirect to the current Windows binary release is <CRAN MIRROR>/bin/windows/base/release.html.

Last change: 2022-04-22

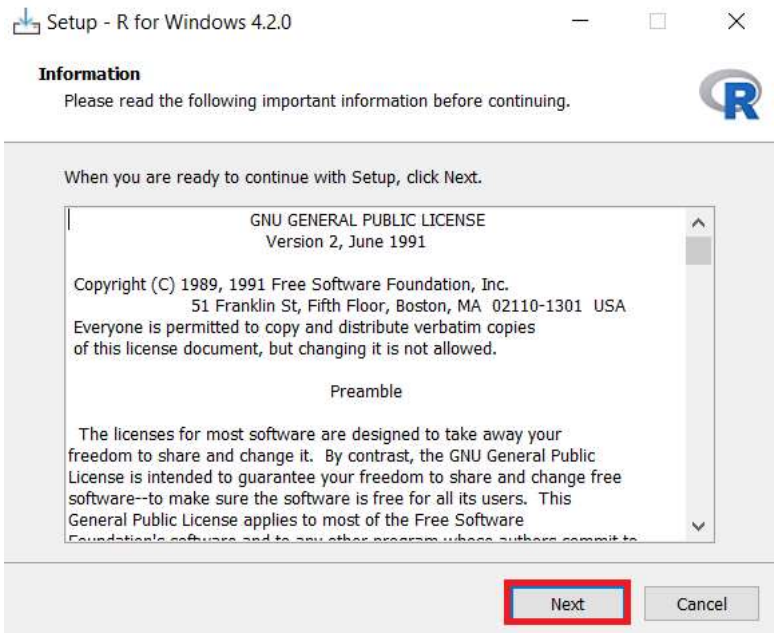
Step 2: Once the download completes, **right-click** the downloaded file, and click **Run as administrator**.



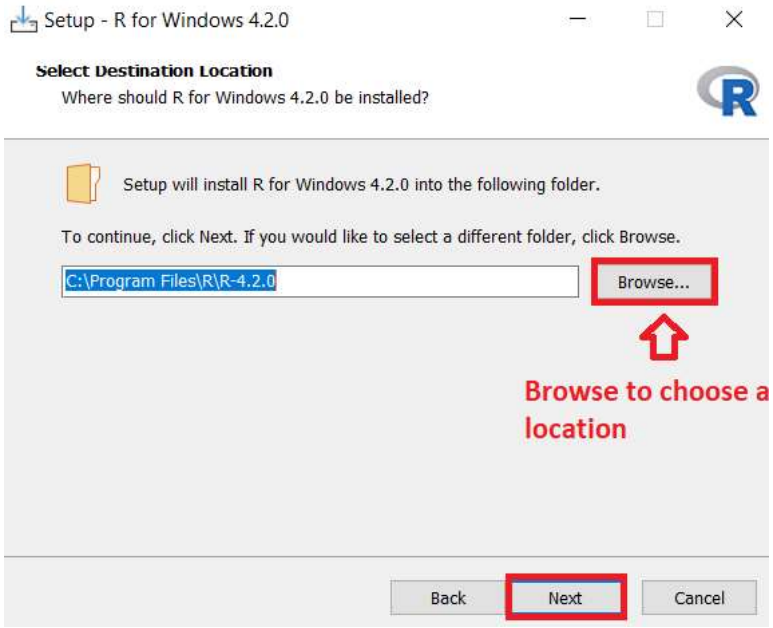
Step 3: Select your preferred installation **language**, and click **OK**.



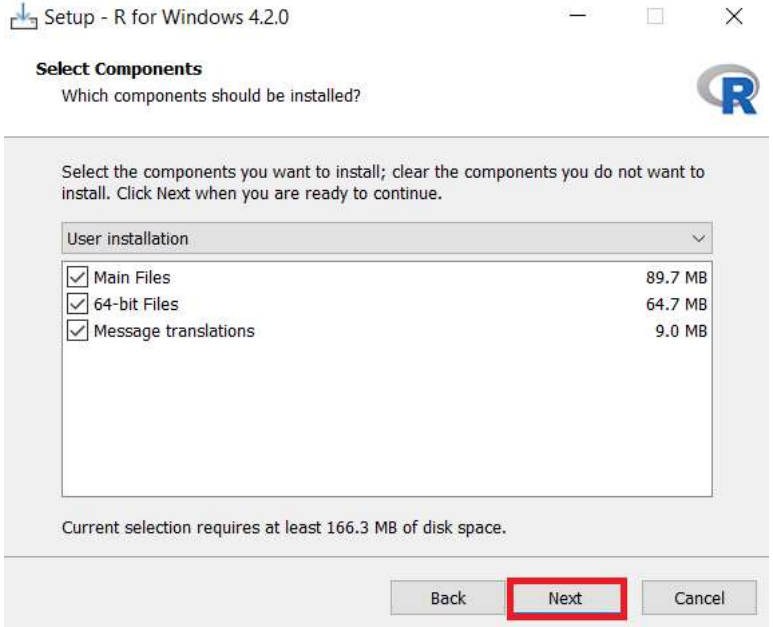
Step 4: Read and accept the license and click **Next**.



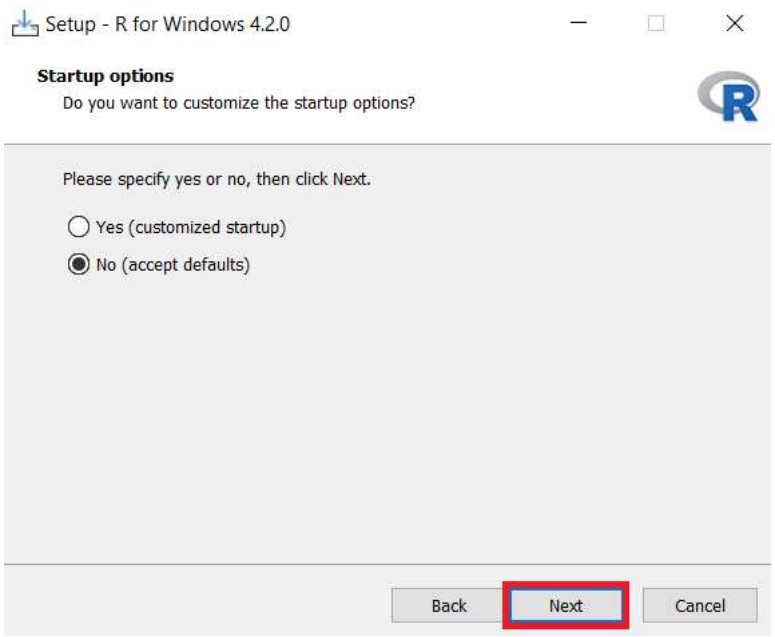
Step 5: Select the **Folder** where you would like to install R, or use the **Default** location, and click **Next**.



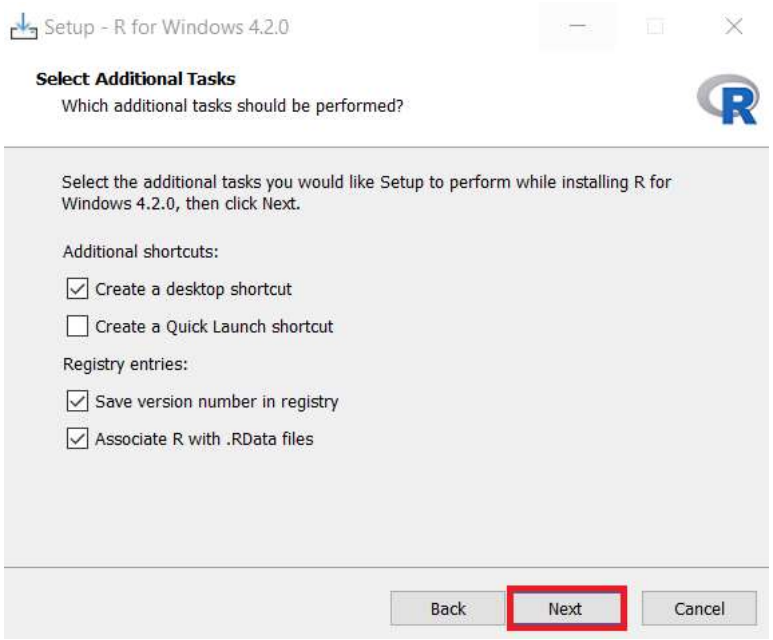
Step 6: Select the **Components** you want to install and click **Next**.



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



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



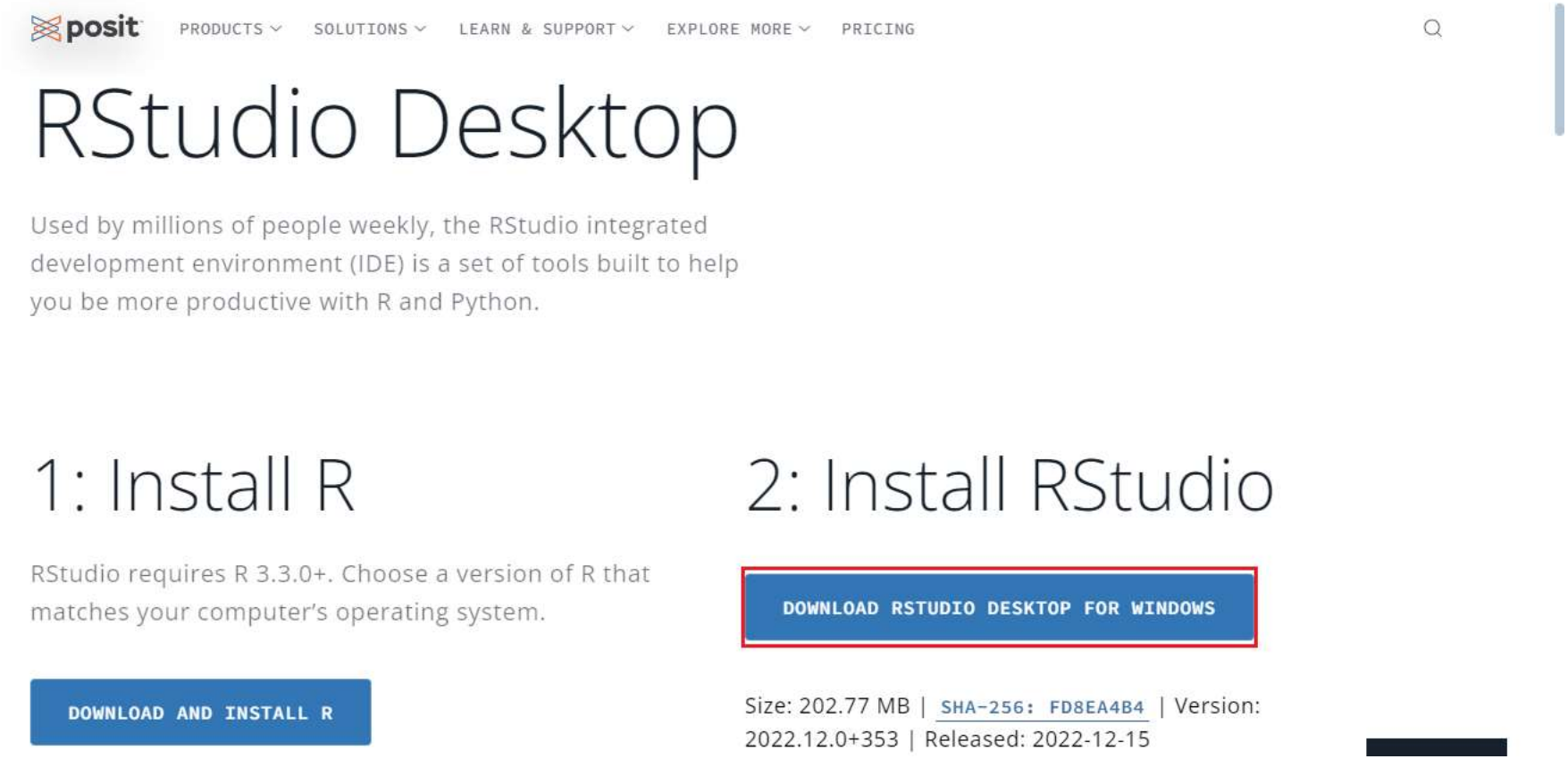
Step 9: Once installation is successful, click **Finish** to close the setup.

Exercise 2: Download & Install RStudio

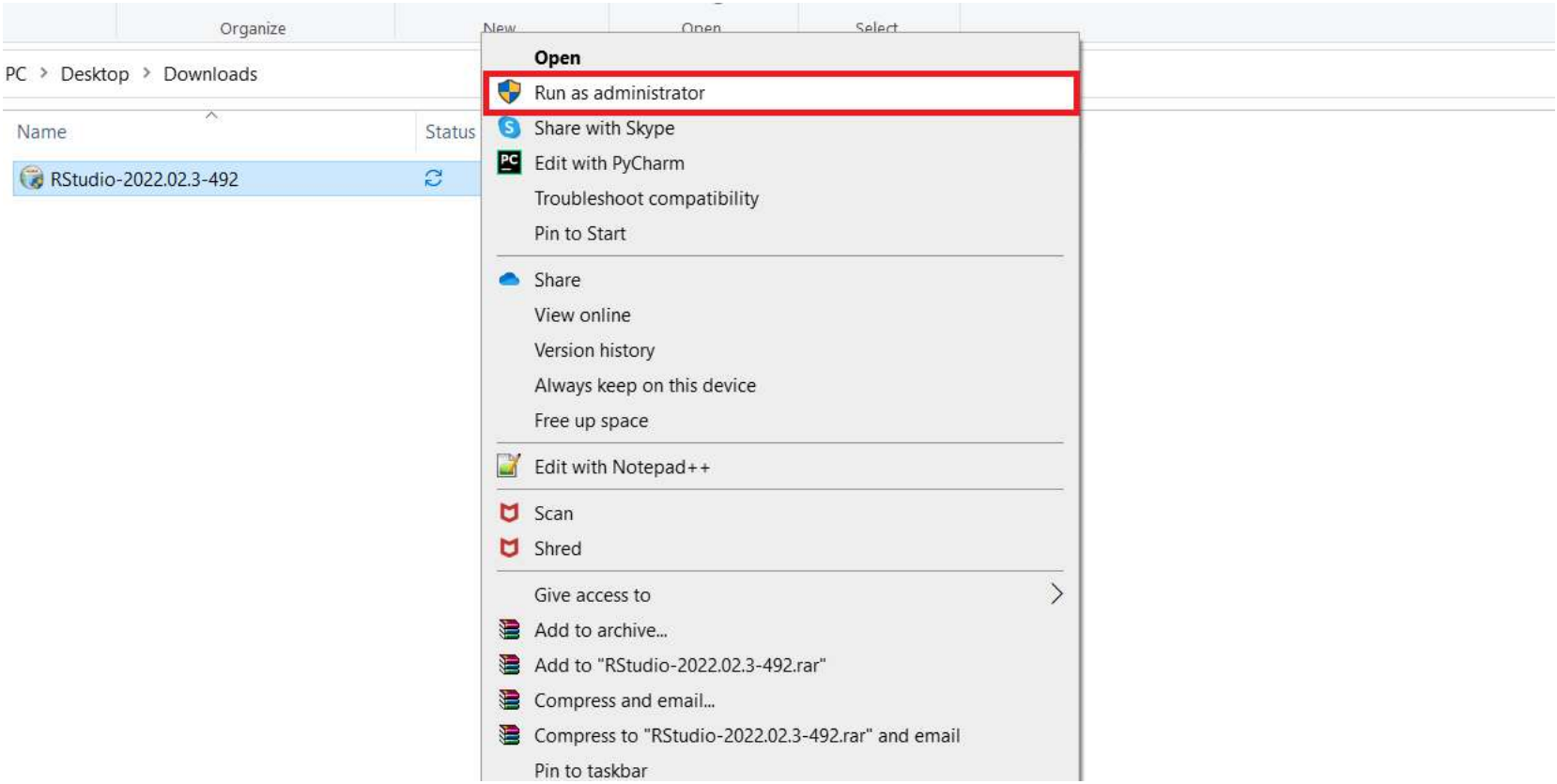
Step 1: Use the link below to download **RStudio Desktop** on your local machine.

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

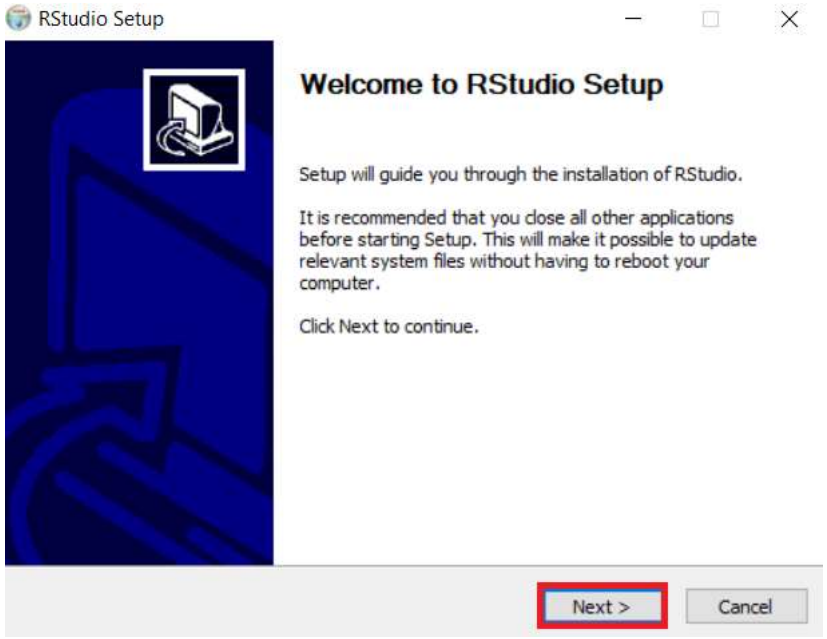
Step 2: Click **Download RStudio desktop For Windows**, and your download will start.



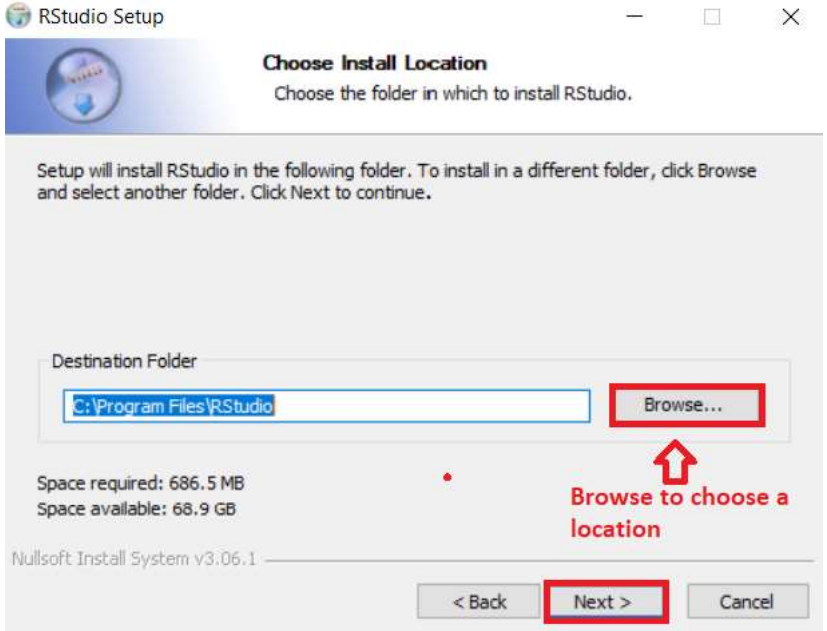
Step 3: Once the download completes, **right-click** the setup file, and click **Run as administrator**.



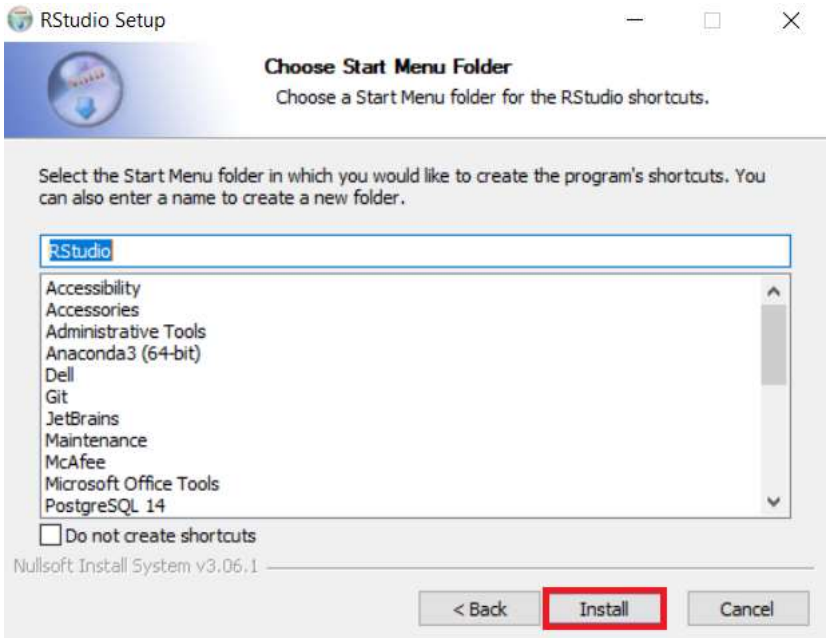
Step 4: In the RStudio setup window, click **Next**.



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



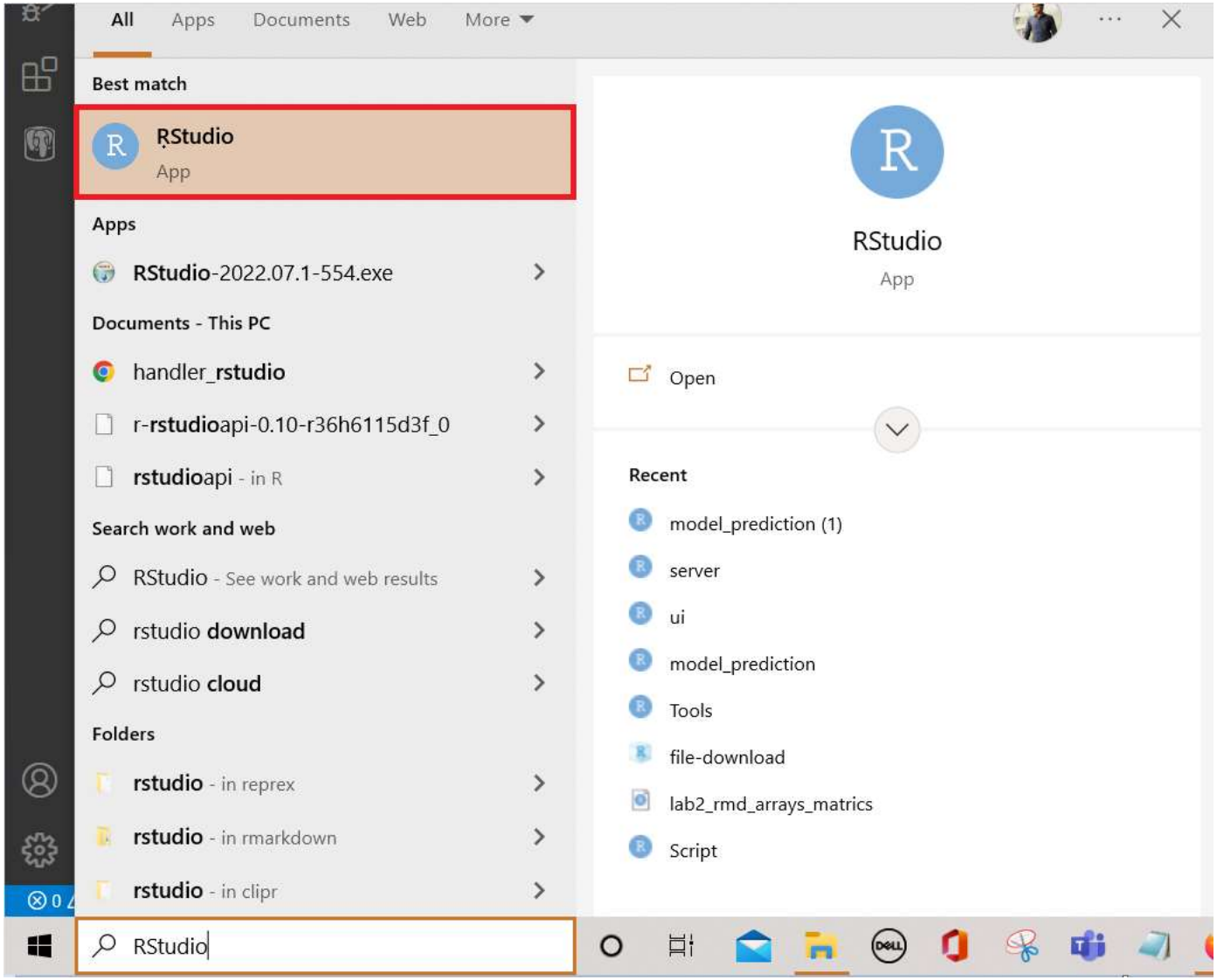
Step 6: In the Start menu window, click **Install** to install RStudio.



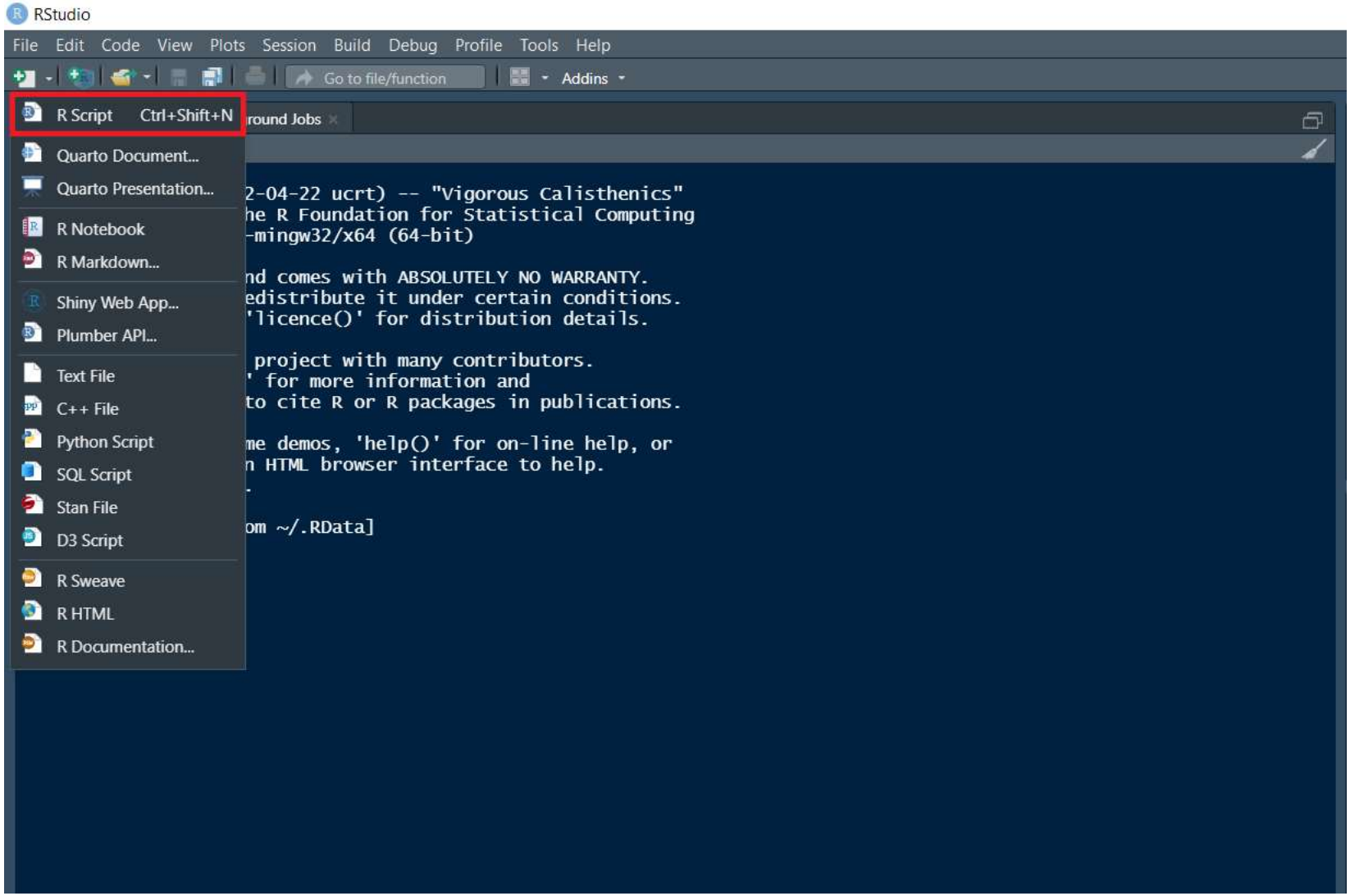
Step 7: Once installation completes, click **Finish** to close the window.

Exercise 3: Execute R code in RStudio

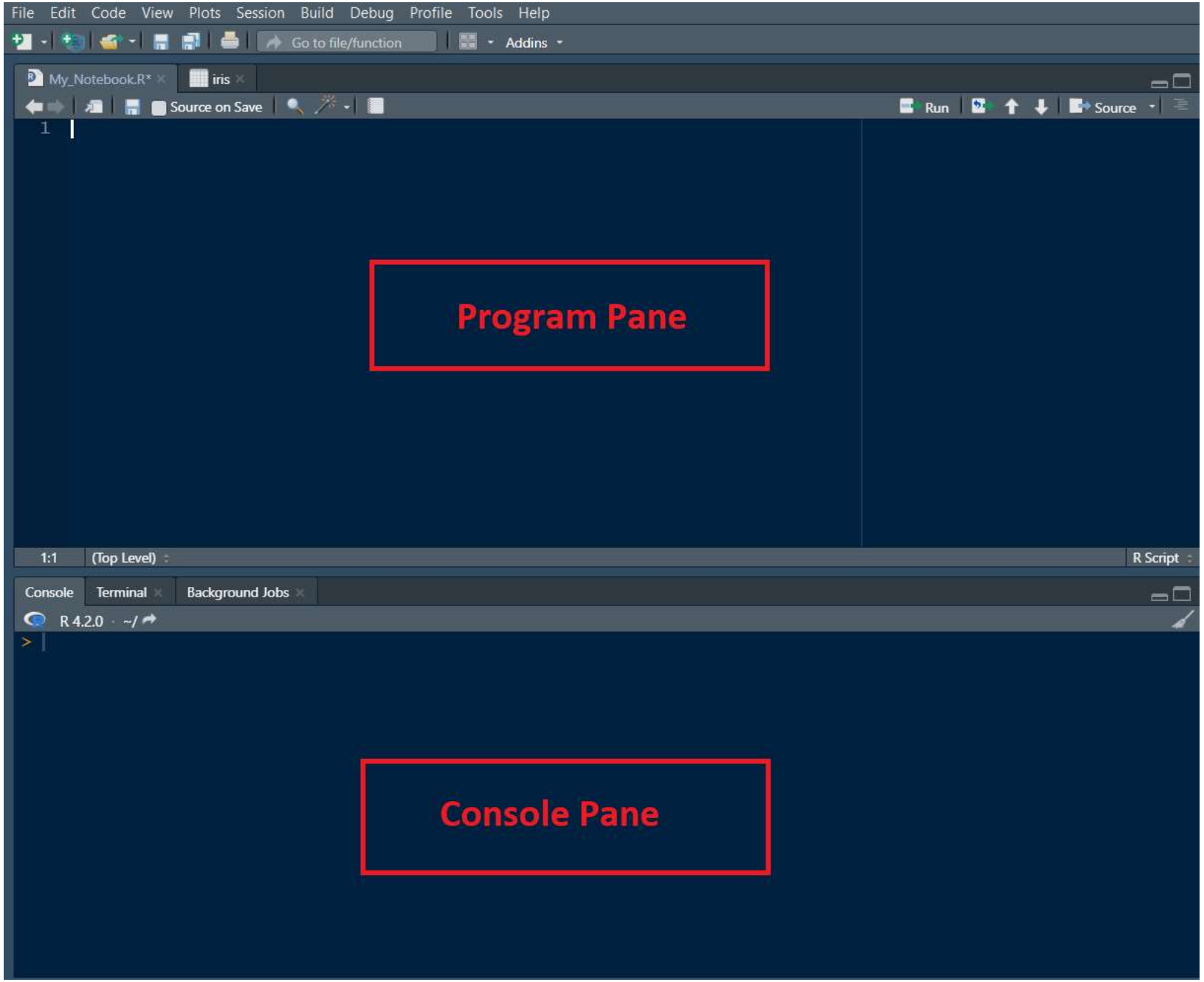
1. Open **RStudio** from the Windows start menu.



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
```

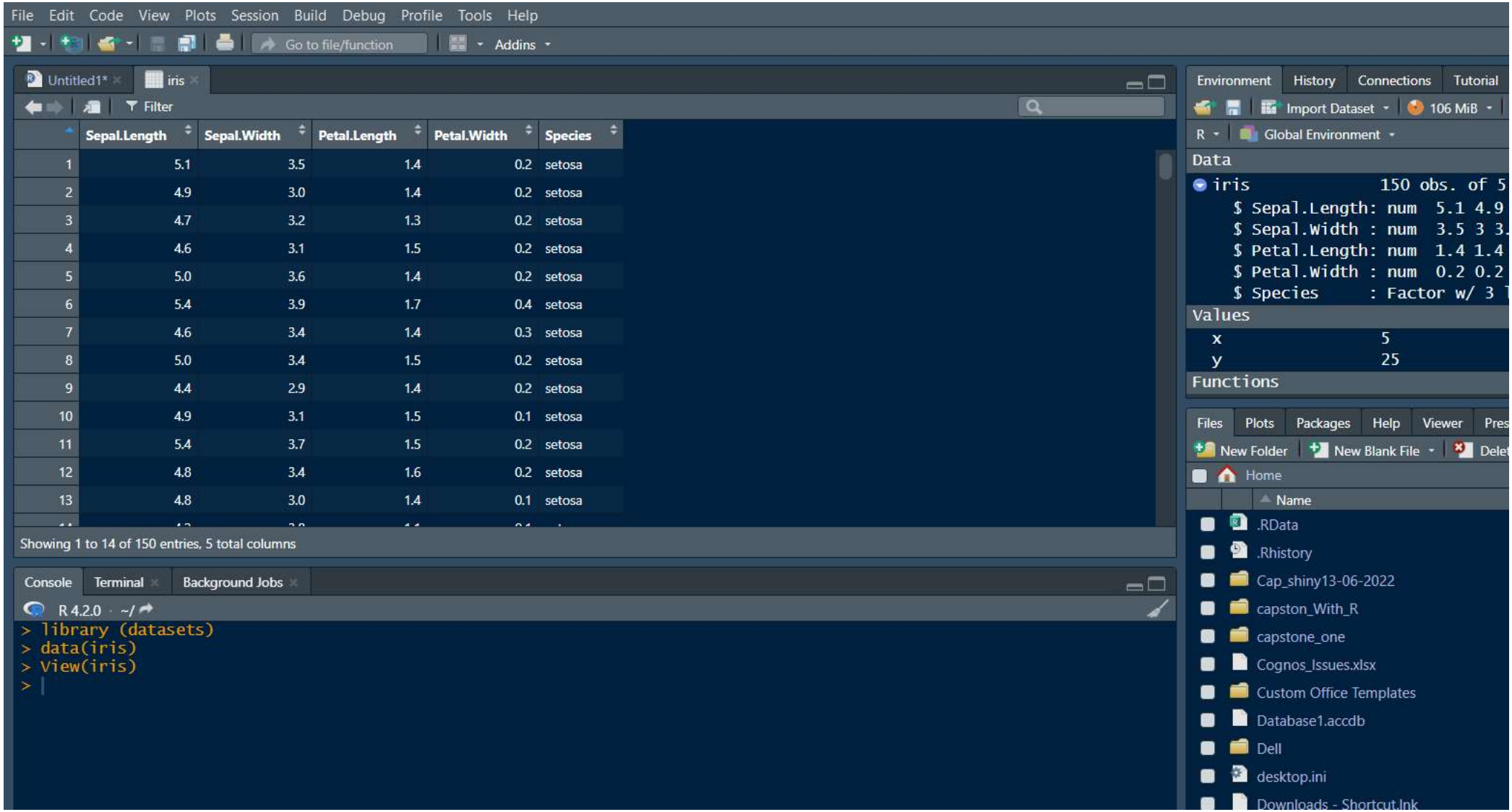
```
3. 3
```

```
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 data set, 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. 1
```

```
1. unique(iris$Species)
```

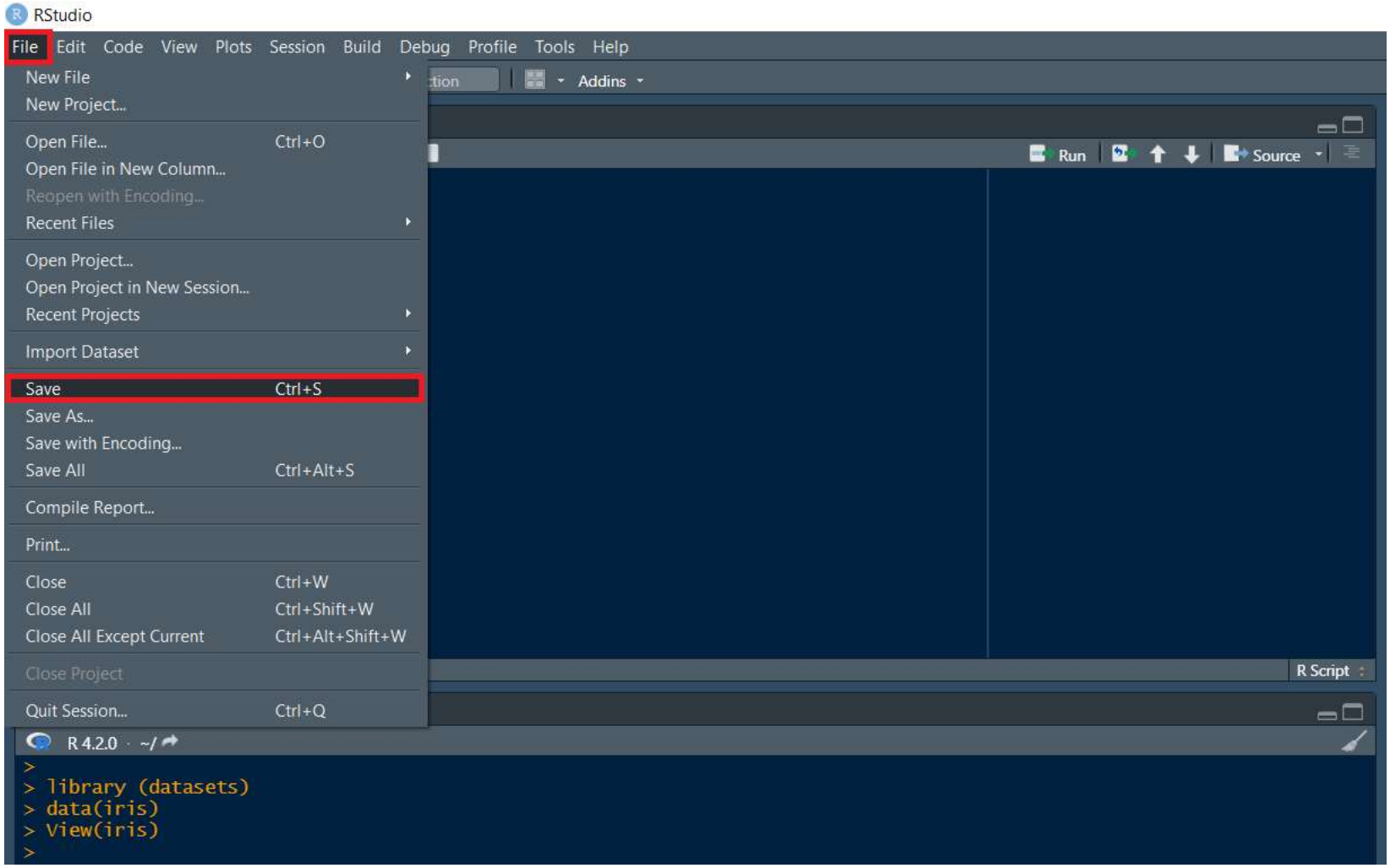
Copied!

▶ Output

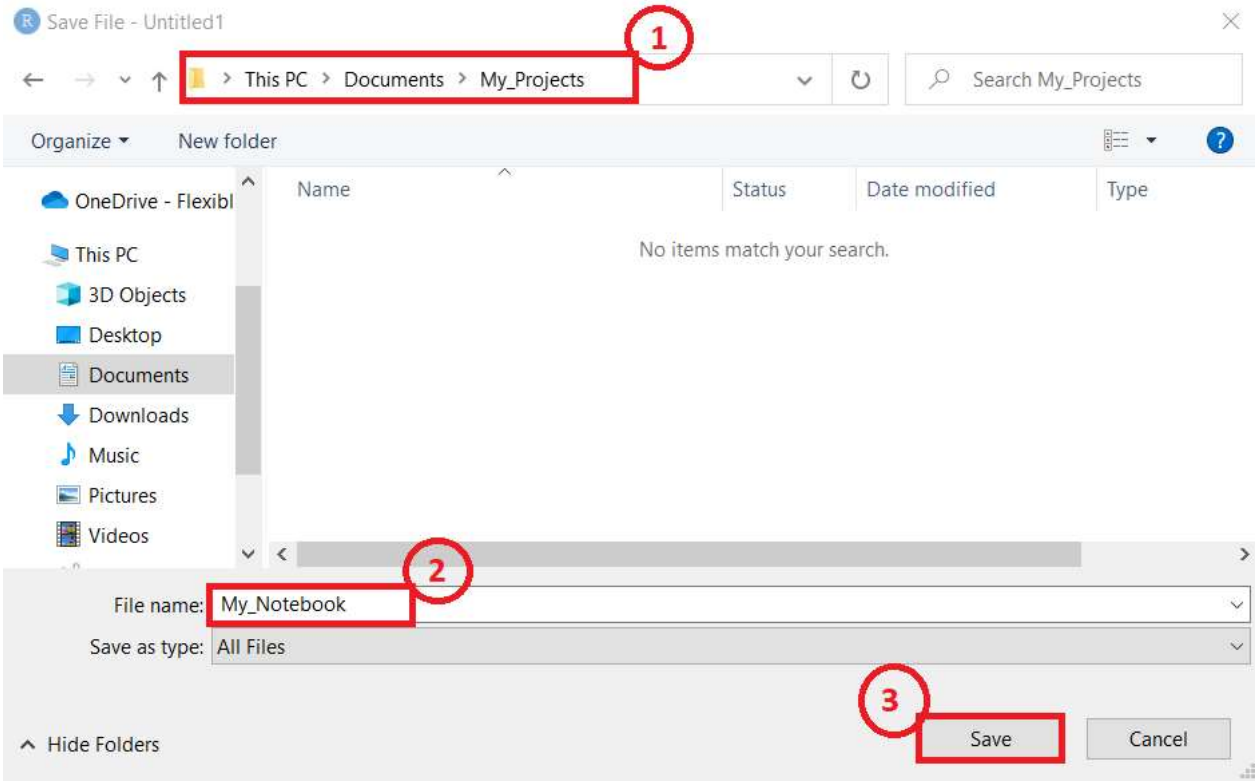
***Note**: In the Console window at the bottom, you will see the result of the executed command and know that only three different species are present in the data set.*

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***.


Save File - Untitled1
1
This PC
Documents
My_Projects
Search My_Projects
Organize
New folder
OneDrive - Flexibl
This PC
3D Objects
Desktop
Documents
Downloads
Music
Pictures
Videos
Name
Status
Date modified
Type
No items match your search.
2
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My_Notebook
Save as type:
All Files
3
Hide Folders
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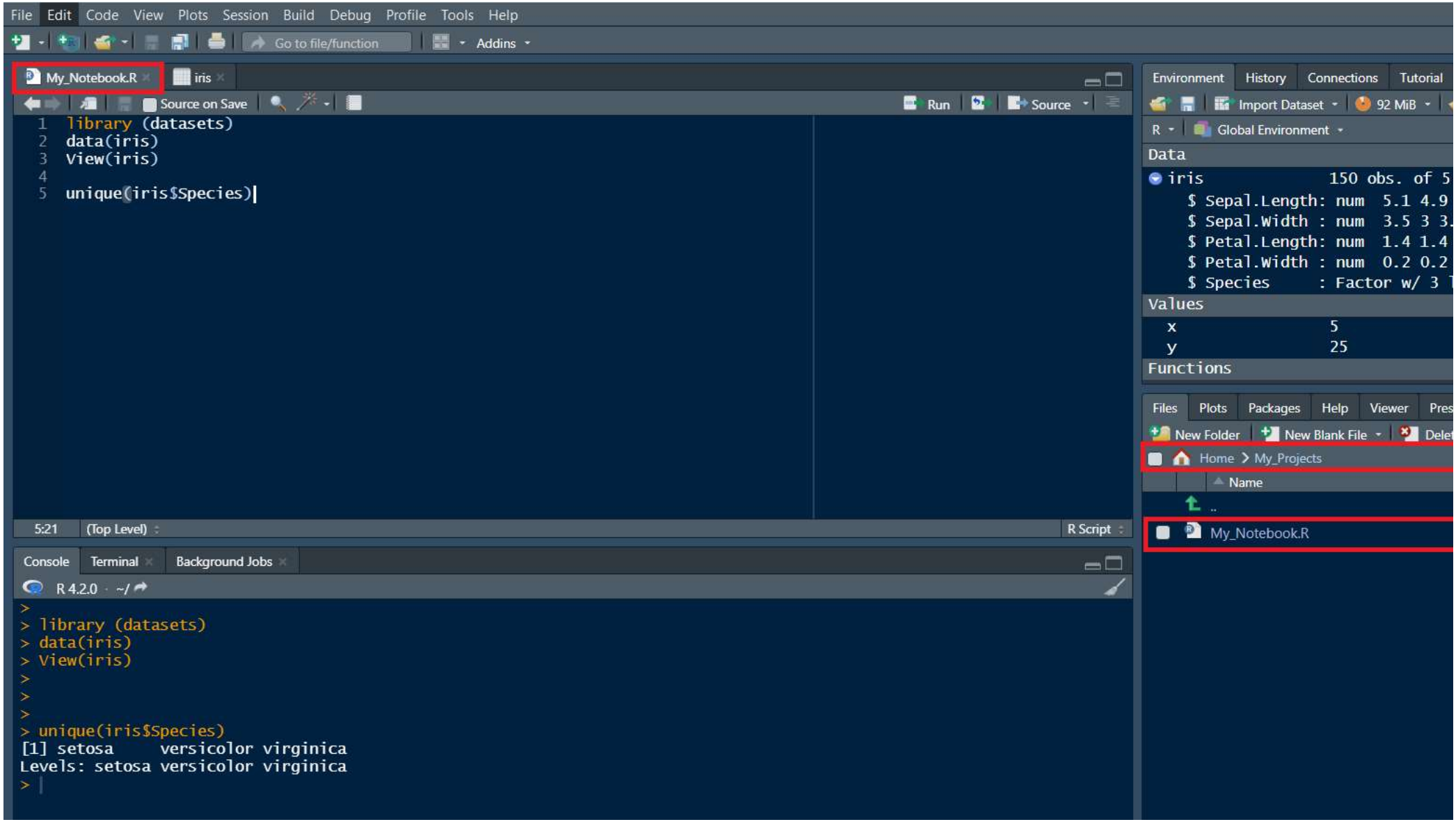
Cancel



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.

Author(s)

D.M.Naidu

Change Log

Date (YYYY-MM-DD)	Version	Changed By	Change Description
2022-12-27	0.2	Steve Hord	QA pass
2022-06-17	0.1	D.M.N	Created Initial Version