**Preparing your PC
for exercises
for Windows PC users**

※ In the explanations of the exercises, we will be using a Mac PC.
But referring to this explanation you will be able to use a Windows PC
in almost the same manner.

In this lecture's exercise portion we will try to write a program using the
Ruby programming language. And to be able to do that, you will have to
have some programming tools installed on your PC. In other words we
must prepare your PCs programming environment.

Basically, there are 2 main tools that you must have on your PC:
(1) A tool that allows you to type and edit a program called a Text Editor.
(Here we will install Notepad++.)
(2) A place on your PC where you can run a program created using Ruby,
which is called the Command Prompt.

In this presentation we will explain the way for you to install the above tools
on your PC. Also,

(3) We will explain a very basic way to use Command Prompt, and the
difference between Mac and Windows.

(1) Installing the text editor Notepad++ （Step1/9, 30 minutes)

※as of June 2019
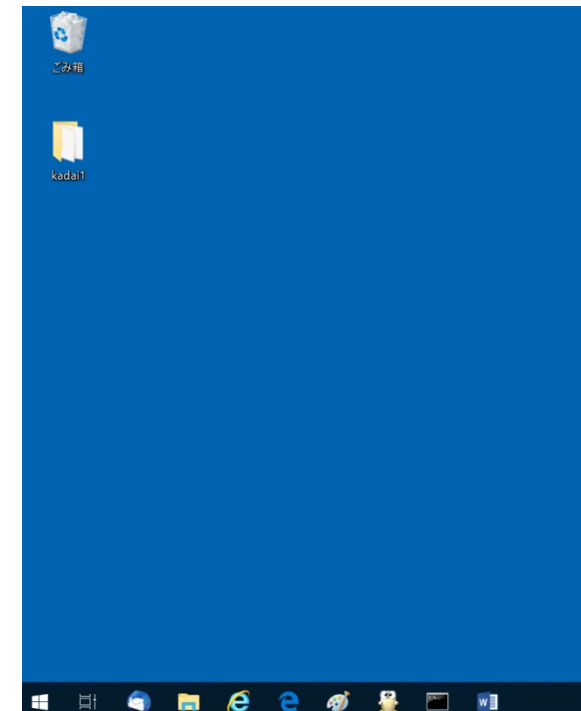screenshots are an example

0．Operating in Desktop mode

For all preparation work, and actual exercise on the PC, we will be operating from the Desktop mode

・From the initial start screen click where → is pointing to initiate Desktop mode.

This screen will appear (color of the screen depends on your settings)
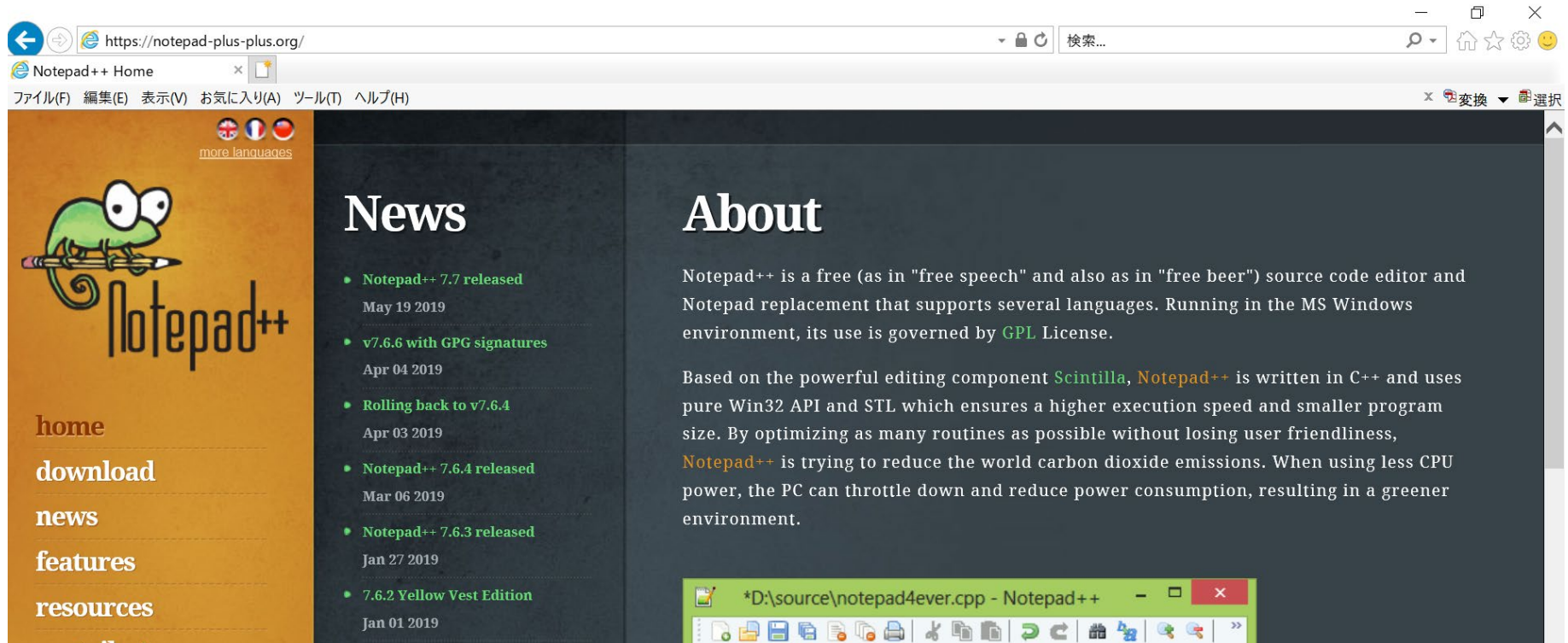
Click Desktop

(1) Installing the text editor Notepad++　(Step2/9, 30 minutes)

1. Downloading Notepad++ from the developer's webpage

・Using your preferred browser, please visit the following website

http://notepad-plus-plus.org

(1) Installing the text editor Notepad++ （Step3/9, 30 minutes）

・Most PCs are 64-bit※ so navigate downwards on this page and download from the menu shown below: ※To learn how to find if your PC is 64-bit, please google "PC bit"

Click here→「Run」

※Wait until the next screen "Download and Run" appears

(1) Installing the text editor Notepad++ （Step4/9, 30 minutes)

・While installing, if the following screen with the message "Do you want to allow this app to make changes to your PC?" appears, Click "run" or "yes"

2．Starting the install

If this screen appears, then you have successfully started the install. From here, follow the instructions on screen.
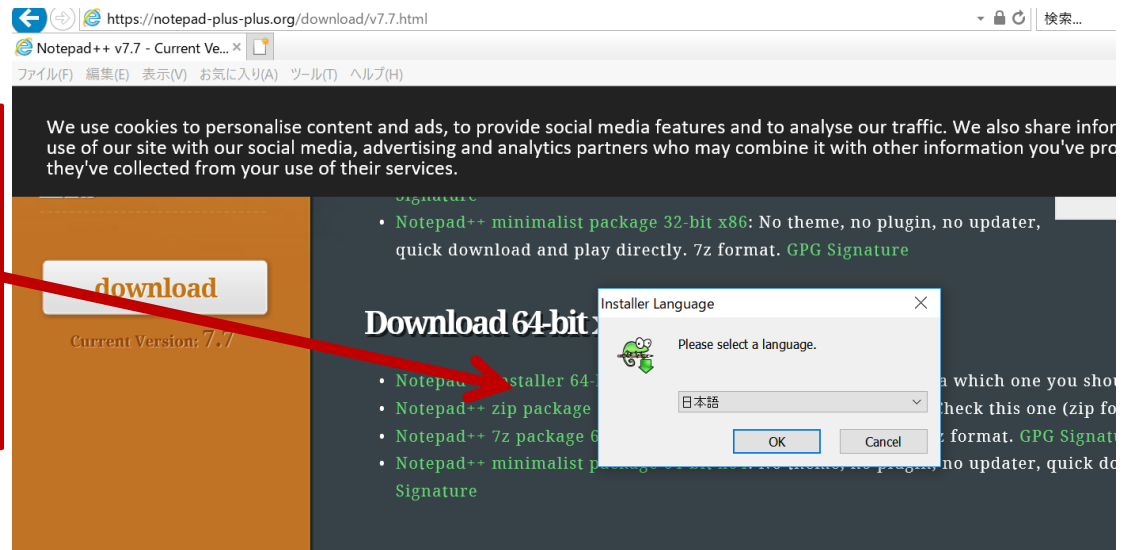
(1) Installing the text editor Notepad++ (Step5/9, 30 minutes)

・Reaching this screen completes the installation.

Remove this check box

Click here

・If the following icon is displayed on your desktop, then the installation is finished,
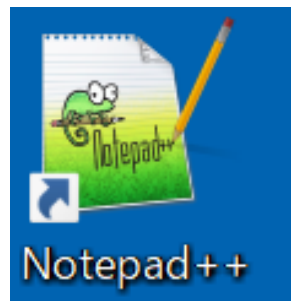
3．Trying out Notepad++

・Let's try to use Notepad++.

Download the exercise file (E.g. kadai.zip) and extract it to the desktop.
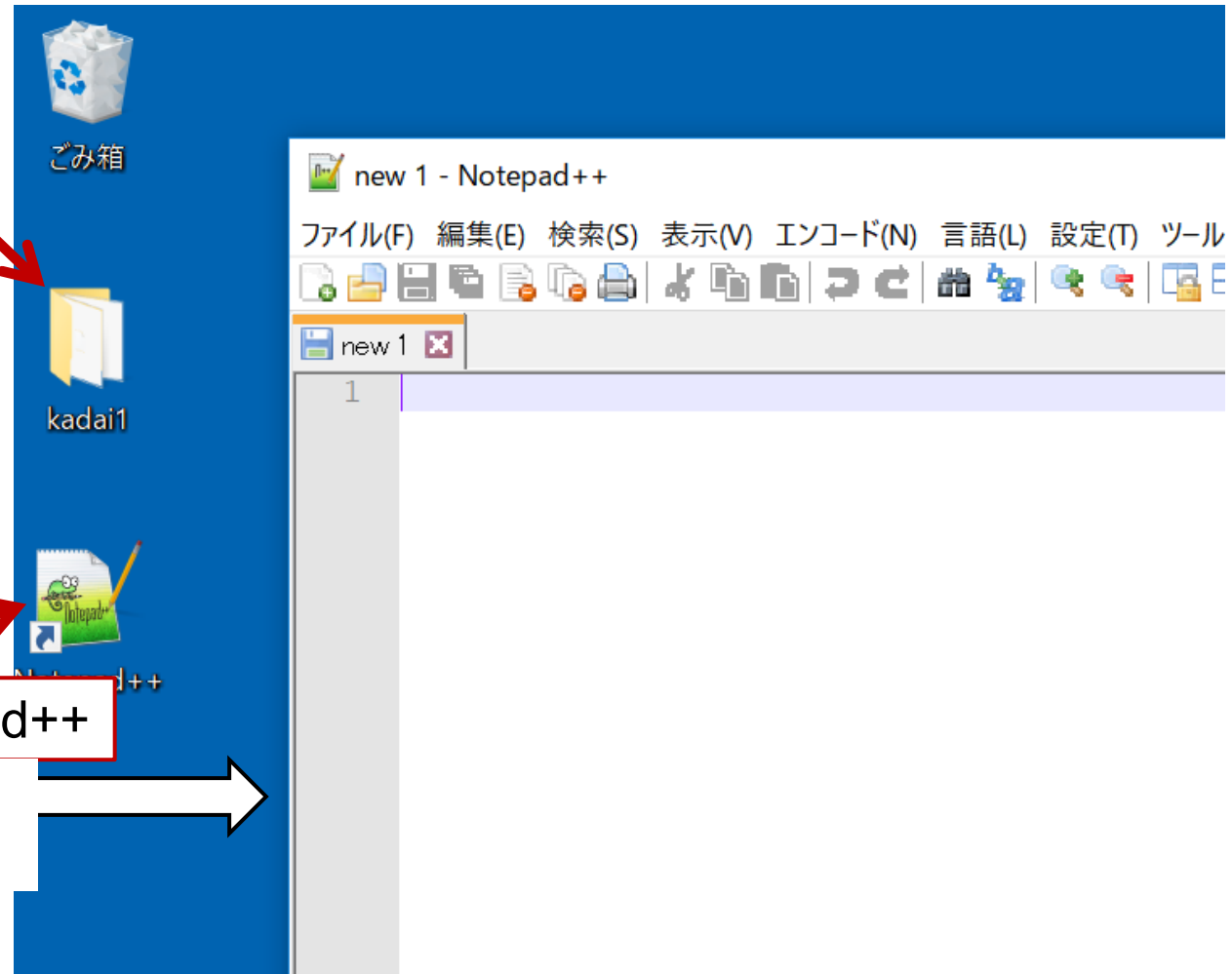
Double click Notepad++

The following screen will appear

(1) Installing the text editor Notepad++ （Step7/9, 30 minutes)

click→「Open」

This screen will appear

※This view will change based on your PC settings. But the important part is that "Desktop" is accessible. If not search for "desktop" on your PC.
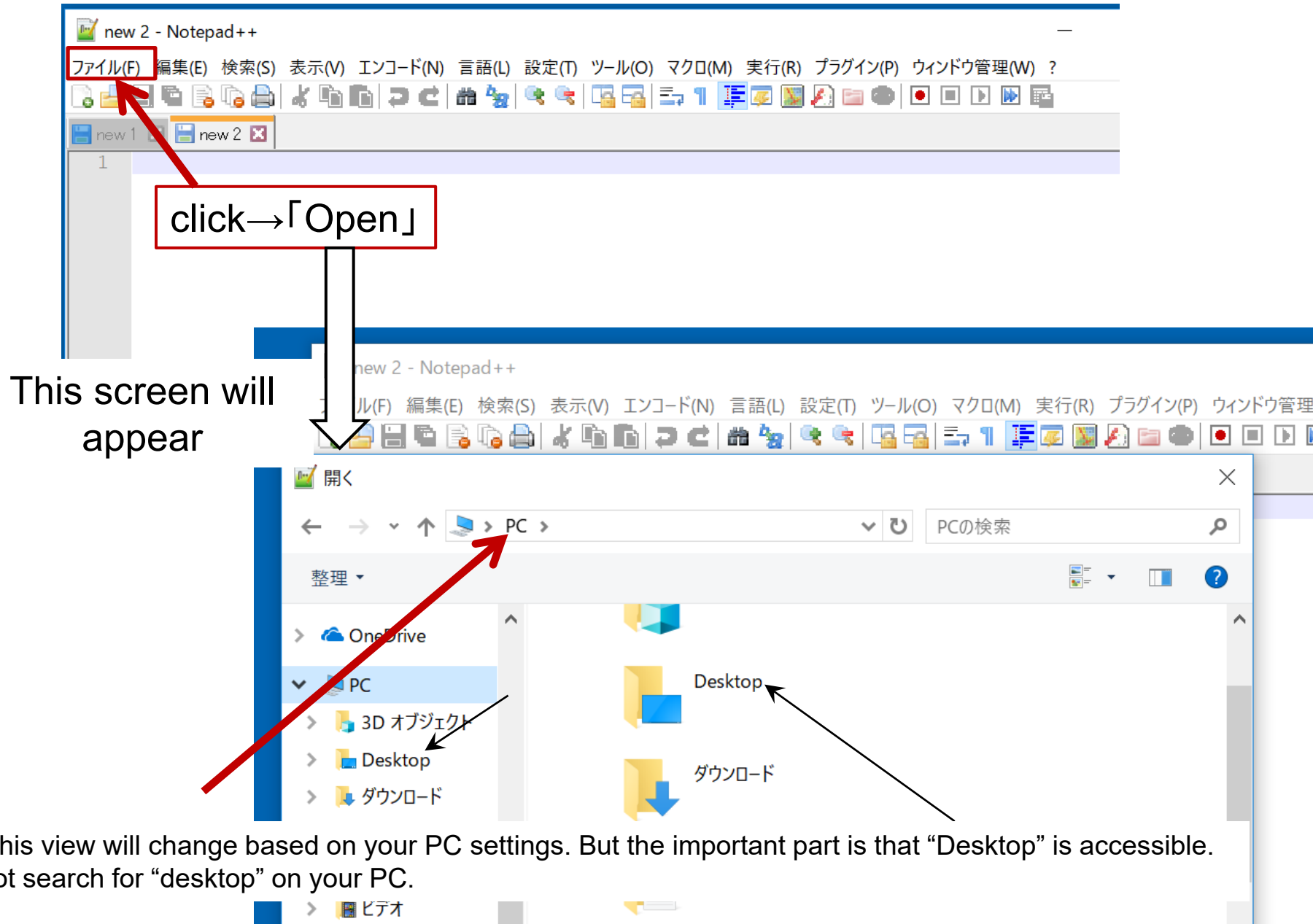
(1) Installing the text editor Notepad++ （Step8/9, 30 minutes)

・Open the file that you want to view or edit.

click

click

click

add.rb will be opened
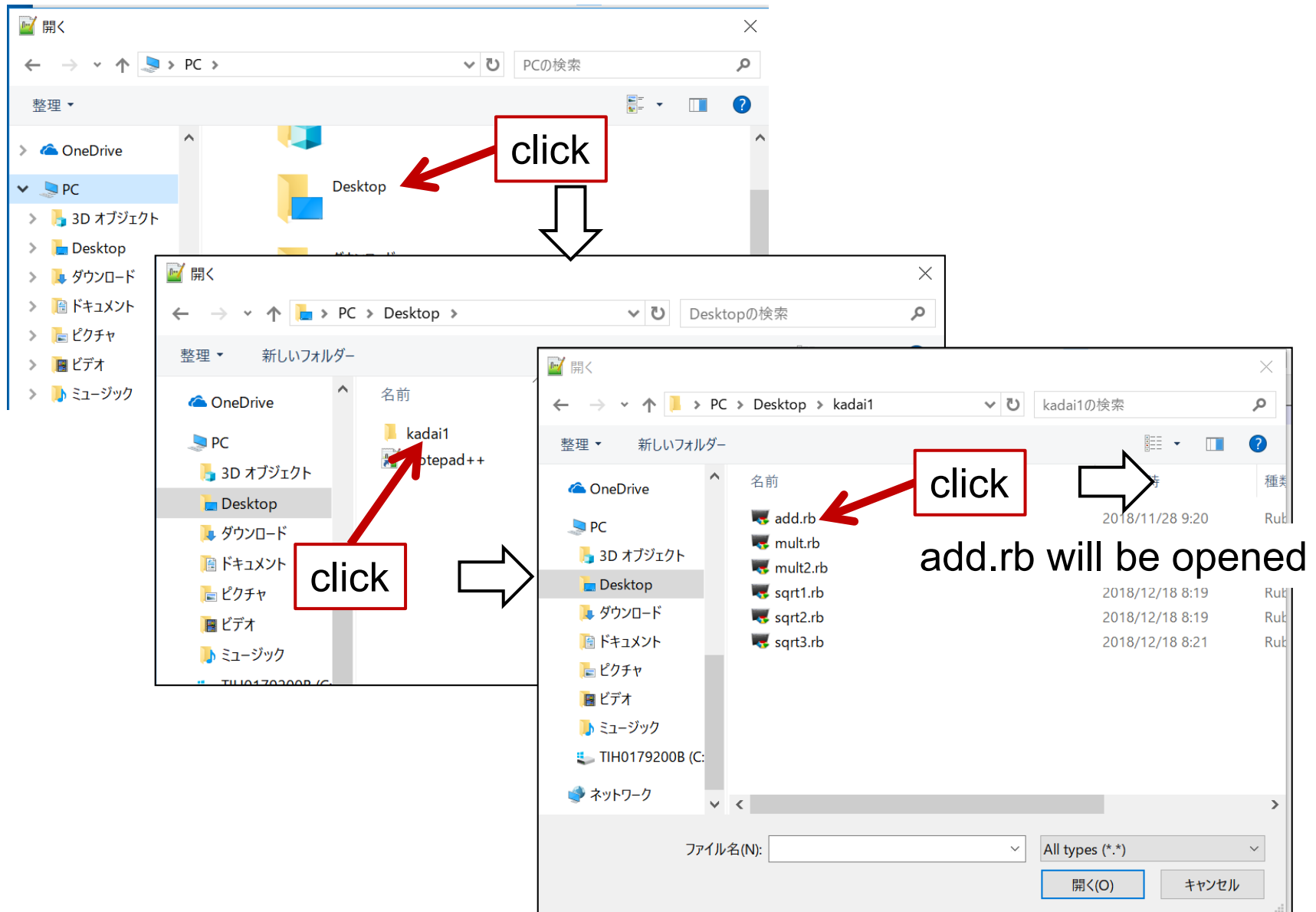
(1) Installing the text editor Notepad++ (Step9/9, 30 minutes)

・Edit your file. ※after that will be the same when using Cot editor.

The name of the file that is currently open

```
C:¥Users¥OWatanabe¥Desktop¥kadai1¥add.rb - Notepad++          —  □  ✕

ファイル(F)  編集(E)  検索(S)  表示(V)  エンコード(N)  言語(L)  設定(T)  ツール(O)  マクロ(M)  実行(R)  プラグイン(P)  ウィンドウ管理(W)  ?          X

add.rb ✕
```

```ruby
 1  # add.rb
 2  # 入力: 自然数 a, b
 3  # 出力: a + b
 4
 5  a = gets().to_i
 6  b = gets().to_i
 7  wa = a
 8  while b > 0
 9    wa = wa + 1
10    b = b - 1
11  end
12  puts(wa)
13
```

Click here when you want to finish

Ruby file   length : 153   lines : 13   Ln : 1   Col : 1   Sel : 0 | 0   Windows (CR LF)   Shift-JIS   IN
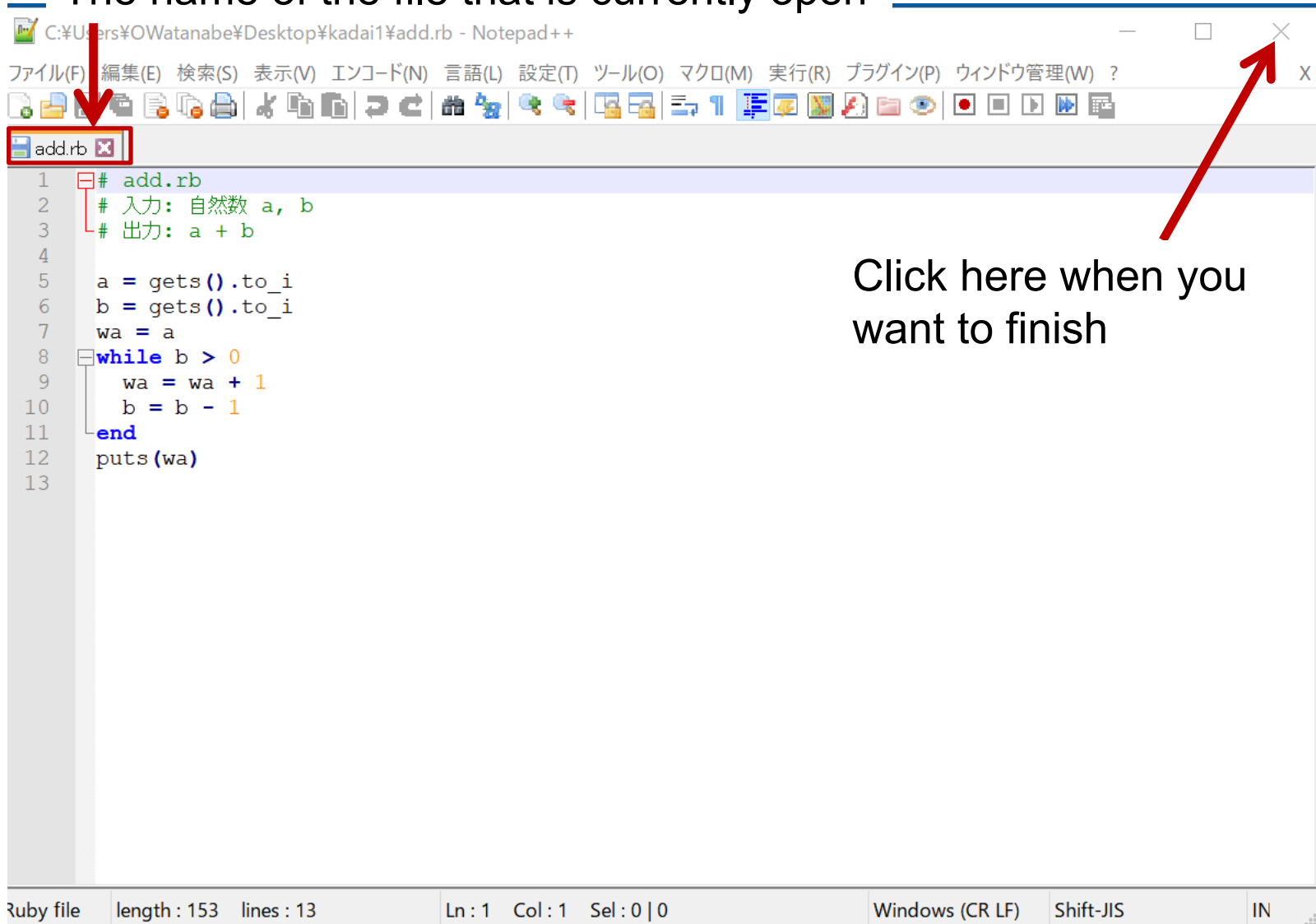
(2) Installing the Ruby Environment（1/5，around 45 mins）

※As of June 2019
screenshots are an example

0. Make sure that you are in desktop mode

1. Download RubyInstaller2 from the developer's web page

・using your browser, access : https://rubyinstaller.org/downloads/

Click→「Run」

※This is for 64-bit PC. To find out more about how to check if your PC is 64-bit, google "PC bit"

RubyInstaller
for Windows

About **Download** Help

Downloads

RubyInstallers   **Archives»**

Not sure what version to download? Please read the right column for recommendations.

WITH DEVKIT

Ruby+Devkit 2.6.3-1 (x64)
Ruby+Devkit 2.6.3-1 (x86)
=> Ruby+Devkit 2.5.5-1 (x64)
Ruby+Devkit 2.5.5-1 (x86)
Ruby+Devkit 2.4.6-1 (x64)
Ruby+Devkit 2.4.6-1 (x86)

WITHOUT DEVKIT

Ruby 2.6.3-1 (x64)
Ruby 2.6.3-1 (x86)
Ruby 2.5.5-1 (x64)
Ruby 2.5.5-1 (x86)

WHICH VERSION TO DOWNLOAD?

If you don't know what version to install and you're getting started with Ruby, we recommend you use **Ruby+Devkit 2.5.X (x64)** installer. It provides the biggest number of compatible gems and installs MSYS2-Devkit alongside Ruby, so that gems with C-extensions can be compiled immediately. The 32 bit (x86) version is recommended only if custom 32 bit native DLLs or COM objects have to be used.

※wait for few minutes

latest patch version (e.g. from 2.4.1 to 2.4.4) by running the new installer version. Installed gems are not overwritten and will work with the new version without re-installation. It's sufficient to use the RubyInstaller without Devkit for update installations. The Devkit can be updated separately per `ridk install` command.
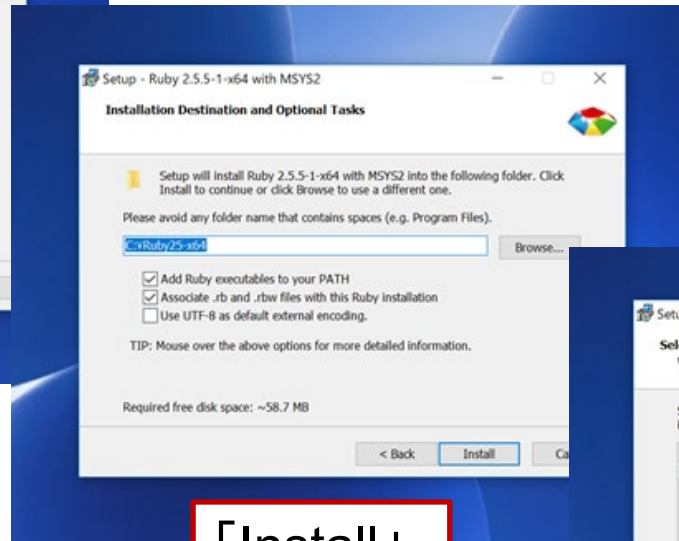
If the new Ruby version is from a different stable branch, then please use a new target directory for installation. That is to say a previous RubyInstaller-

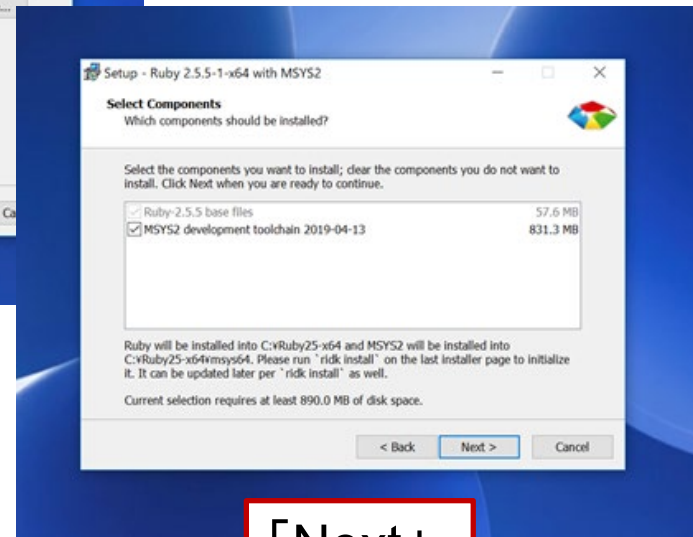# (2) Installing the Ruby Environment（2/5, around 45 mins）

1. Perform the installation
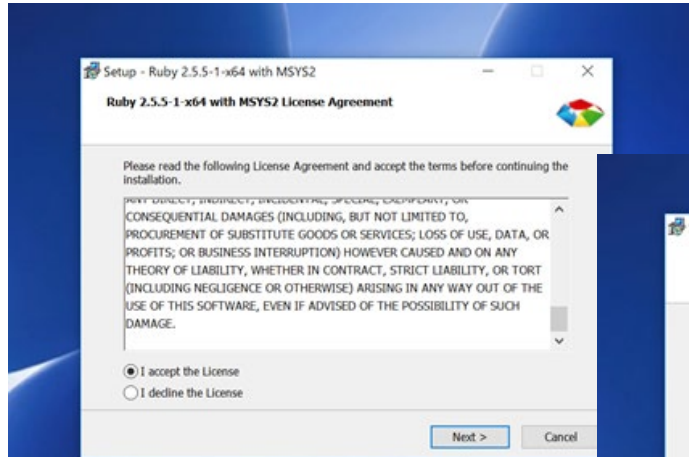
「I accept the License」
→「Next」

「Install」

「Next」

・Follow the above steps and wait for the program to finish installing.

(2) Installing the Ruby Environment（3/5, around 45 mins）

2. Setting the environment of the Command Prompt

「Finish」

・After installation finishes, the screen for setting the program opens automatically

※This step takes a bit of time (around 10 mins). It is better not to touch the PC and let the program run at this point. If the program seems to stop, you can press enter to solve the problem
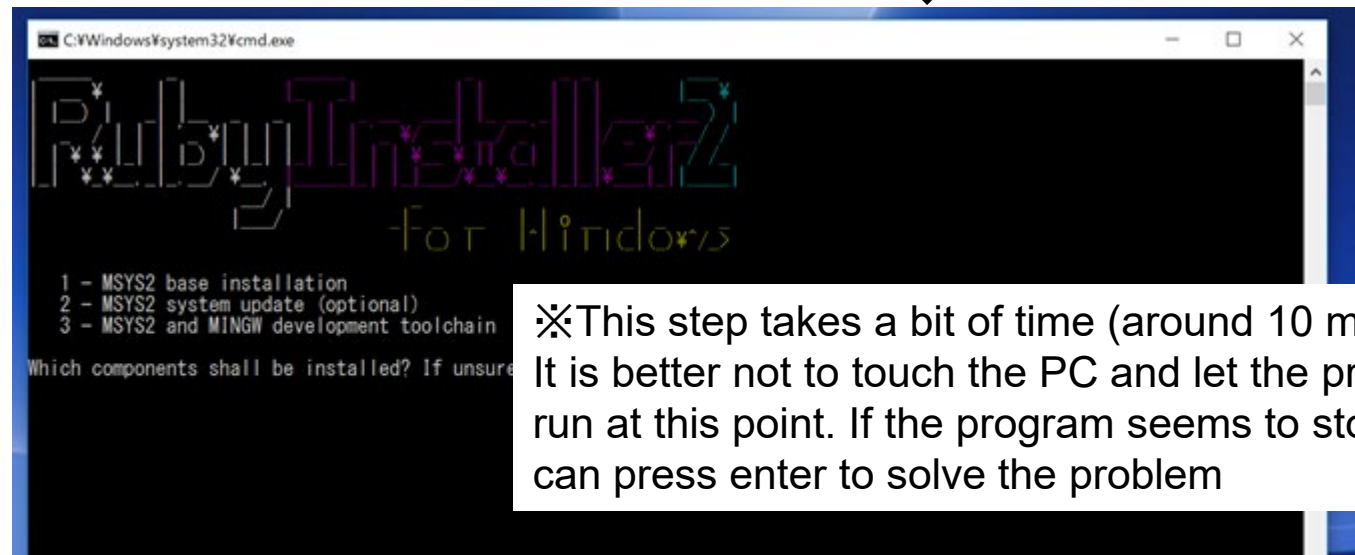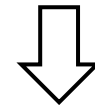
3. Trying out Ruby

・from the start menu choose and click "Start Command Prompt with Ruby"

The command prompt appears
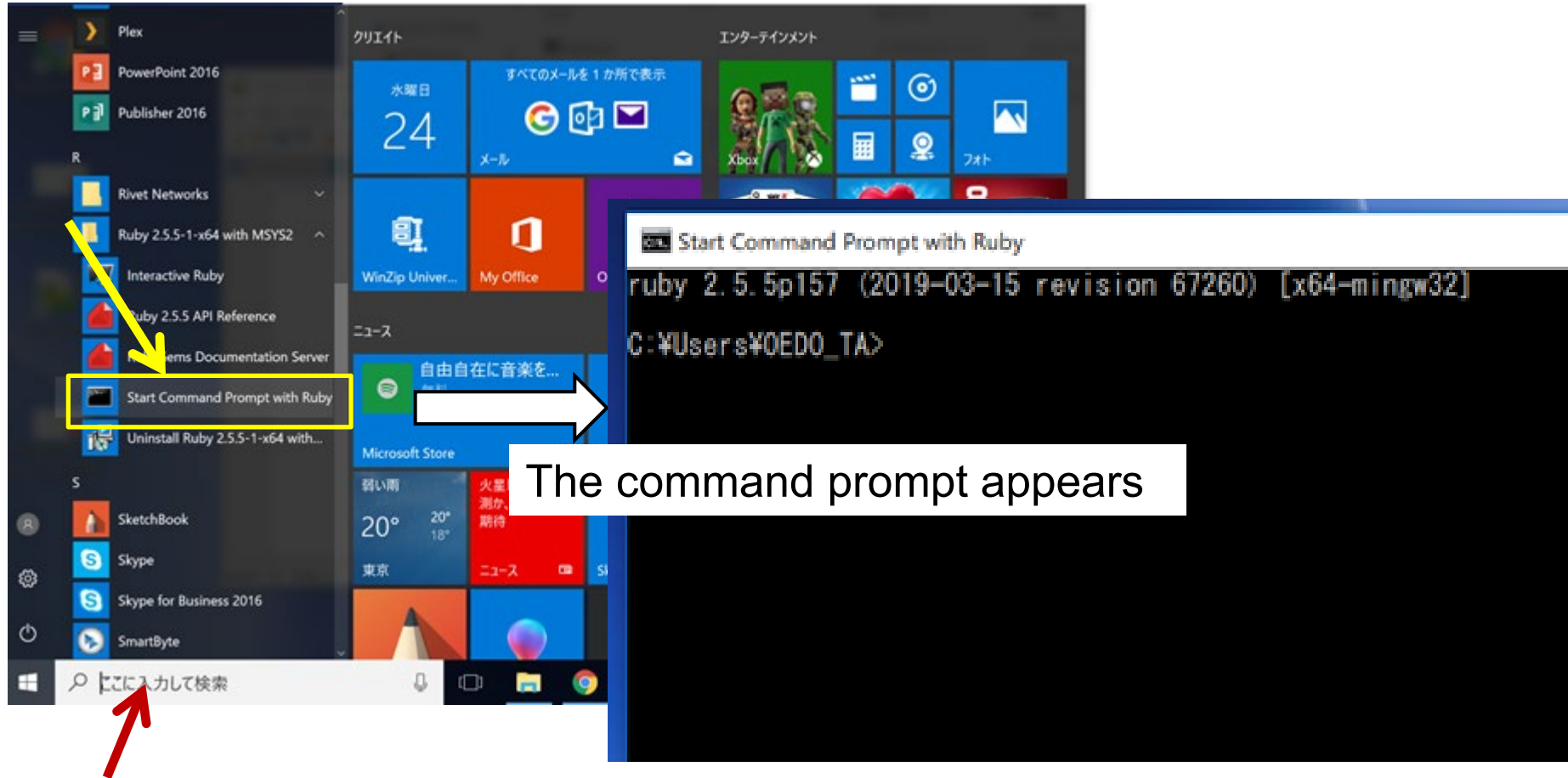
※If you cannot find it, enter "Start Command Prompt with Ruby" in the search bar to search and find it

(2) Installing the Ruby Environment（5/5, around 45 mins）

・Now, let's try to run the Ruby program add.rb using command prompt.

※We assume that you have already downloaded and extracted the files into the folder kadai1

Here you can type commands. For example:
・Type「dir」and press enter
  ⇒ will show the folders and files in the current folder ("Desktop" is supposed to be listed)
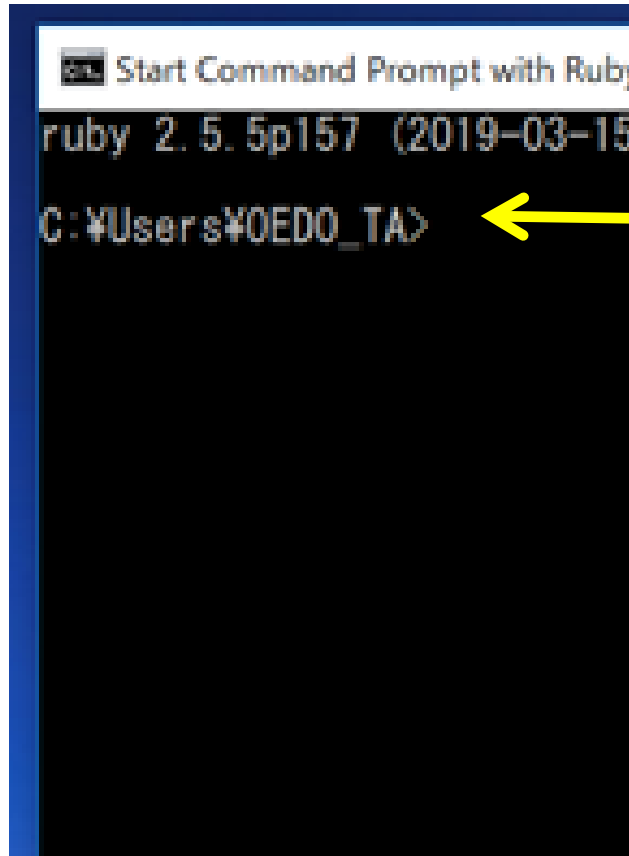・Type「cd Desktop」and press Enter
  ⇒ will move to the folder "Desktop"
・Type「dir」and press Enter
  ⇒ will show the folders and files in "Desktop" (the folder "kadai1" should be there)
・Type「cd kadai1」and press Enter
⇒ will enter the folder called "kadai"
・Type「dir」and press Enter
⇒ will show the folder "Kadai1" and "add.rb" should here.
・Type「ruby add.rb」and press Enter
⇒ will run the program "add.rb" which adds two numbers (enter each number and press enter)

Start Command Prompt with Ruby

ruby 2.5.5p157 (2019-03-15

C:¥Users¥OEDO_TA>

※In this practice, we will create a folder in home (in Windows' case, this assumed to be the Desktop) and create a folder called "cs". We will create a subfolder for each exercise and run it from there.
For more info, watch the video "Preparing for Exercises"

(2) Installing the Ruby Environment (Extra)

How to Change the Command Prompt Screen

・When you want to change the window or the font size.

Right click the
window here

Click on "Properties"
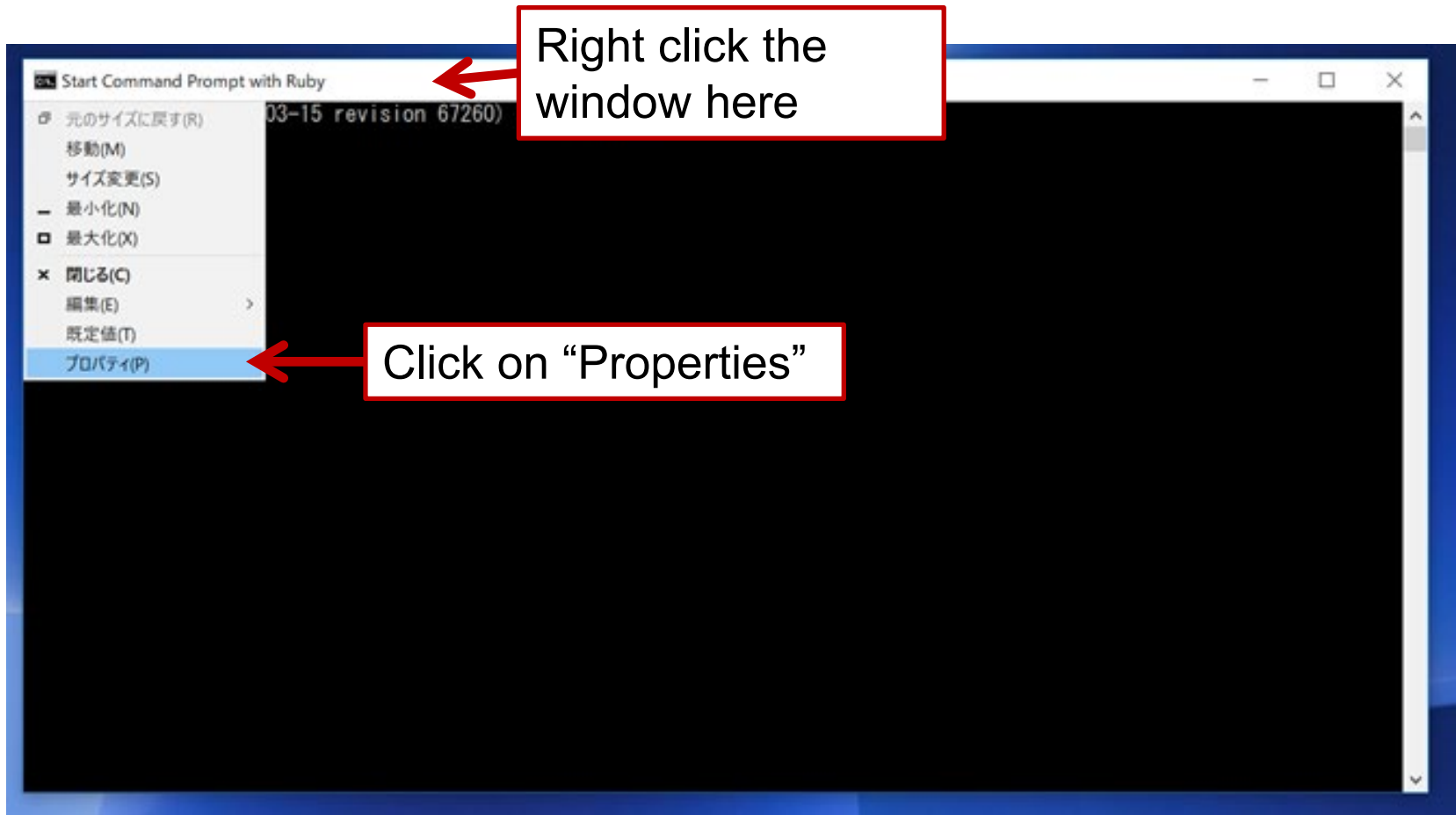
(3) Differences between Windows and Mac

※ In the exercise demo we will be using a Mac. But if you finished your preparation and note the points 2. and 3. below, you can use it in almost the same way.

1. What is "Windows" and what is "Mac"

Windows and Mac are OS (Operating Systems) which are like framework that allows you to operate programs on your PC. To be more exact, both these OS have versions like "Windows 10" or "Mojave". Windows is an OS used on many computers around the world while Mac OS is used on Macintosh computer made by the company Apple.

2. Basic terms for Mac and PC

This is a list of some common terms used in Windows and their Mac equivalent

Windows	Mac	Explanation
folder	directory	A place where you store your files. In this exercise we might refer to these as "rooms" and we might interchange this when talking about Windows and Mac PCs
Desktop	home	The base room from which we will work
Explorer	Finder	The software used to view and manipulate the files in your directories. For example: in Windows, the Explorer is opened by default when you open a folder.
Command Prompt	Terminal	A place to run command on your computer. It is usually referred to as the "Shell"

(3) Differences between Windows and Mac

3. Basic commands used in the Command prompt

The below are the basic commands used in the "Command Prompt" ("Terminal" in case of Mac). Commands in violet font are Mac commands. Except for "dir" and its equivalent "ls", all other commands are the same so you can use them in either OS.

command	Example	Meaning
mkdir	mkdir kadai2	Create a room or Folder (directory) called Kadai2
cd	cd kadai2	Enter the room called Kadai2
	cd **..**	Return to the room one step up from the current one
	cd **../..**	Return to the room 2 steps up from the current one
dir (ls)	dir	Show all files in the room
rm	rm foo.rb	Delete the file foo.rb (Be careful! This cannot be undone)

※In the video "Preparation for Exercises", we will create a folder or room called "cs" on the home (Desktop in windows) and we will move to this sub-folder and use these to run our programs. We will use the home (desktop) as the starting point for all our work so let's keep it nice and tidy. It is said you can learn a lot about the habits of a person from his computers Home or Desktop screens.