

پرفنامه نویسی پاپتون مقدماتی

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گروه فیزیک، دانشکده علوم پایه

دانشگاه قم

جلسه سوم



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- دانلود PyCharm
- نصب PyCharm
- راه‌اندازی و ایجاد پروژه در PyCharm
- نصب Numpy، Scipy و Matplotlib برای پروژه‌ها مورد نیاز
- ایجاد و بارگذاری چندین پروژه بطور همزمان

The screenshot shows a Windows 10 desktop with a blue background. On the left, there is a taskbar with icons for 'This PC', 'Adobe Connect', 'Control Panel', 'AnyDesk', 'MinGW Installer', 'Adobe Acrobat ...', 'POWERPNT - Shortcut', 'WINWORD - Shortcut', 'EXCEL - Shortcut', and 'Adobe FormsCentral'. The taskbar at the bottom contains icons for the Start menu, search, Edge, Chrome, File Explorer, and a 'DEV' folder. A Google search window is open, displaying results for 'pycharm'. The search results include a link to 'www.jetbrains.com › pycharm' with the title 'PyCharm: the Python IDE for Professional Developers by ...'. Below the title, there is a description: 'Intelligent Python Assistance. PyCharm provides smart code completion, code inspections, on-the-fly error highlighting and quick-fixes, along with automated code ...'. The developer is listed as 'JetBrains'. There are four main sections: 'Download' (with a sub-link 'Download the latest version of PyCharm for Windows, macOS ...'), 'Buy' (with a sub-link 'Buy PyCharm Professional: Get JetBrains Toolbox subscription ...'), 'Learn' (with sub-links 'Get started - PyCharm Guide -' and 'Jupyter notebook support - ...'), and 'PyCharm Edu' (with a sub-link 'A smart IDE to help you learn and teach programming with Python.'). Other sections include 'Features' (with sub-links 'PyCharm Features · Intelligent Coding Assistance · Built-in ...') and 'What's New' (with sub-links 'What's New in PyCharm 2020.3 ·' and 'Project setup and navigation ...'). On the right side of the search results, there is a knowledge panel for 'PyCharm' (Computer program). It features the PyCharm logo (a green and yellow hexagon with 'PC' and a horizontal line) and a small image of the IDE interface. The text in the knowledge panel reads: 'PyCharm is an integrated development env used in computer programming, specifically Python language. It is developed by the Czi company JetBrains. Wikipedia'. Below this, it lists 'Size: 174-270 MB' and 'Stable release: 2020.3 (Build: 203.5981.16 December 2020; 2 months ago)'. The system tray at the bottom right shows the time '11:55 AM 3/2/2021' and the language 'ENG'. A 'Recycle Bin' icon is visible in the bottom right corner of the desktop.

دانلود PyCharm

The screenshot shows a Windows 10 desktop environment. The taskbar at the bottom includes icons for the Start menu, search, Edge browser, Chrome, File Explorer, and several application icons. The desktop background is blue. On the left side, there are several shortcuts: This PC, Adobe Connect, Control Panel, AnyDesk, MinGW Installer, Adobe Acrobat, PowerPoint, Word, Excel, and Adobe FormsCentral. The main window is a Google search for 'pycharm'. The search results show 'About 5,280,000 results (0.55 seconds)'. The top result is from 'www.jetbrains.com' for 'PyCharm: the Python IDE for Professional Developers by ...'. Below the title are several sections: 'Download' (with a link to download the latest version), 'Buy' (with a link to buy PyCharm Professional), 'Learn' (with links to get started and Jupyter notebook support), 'PyCharm Edu' (described as a smart IDE for learning), 'Features' (listing intelligent coding assistance and built-in features), and 'What's New' (with a link to what's new in PyCharm 2020.3). On the right side of the search results, there is a knowledge panel for 'PyCharm' with a 'Computer program' label. It includes a description: 'PyCharm is an integrated development env used in computer programming, specifically Python language. It is developed by the Czi company JetBrains. Wikipedia'. It also lists 'Size: 174-270 MB' and 'Stable release: 2020.3 (Build: 203.5981.16 December 2020; 2 months ago)'. The desktop taskbar shows the system tray with the time '11:56 AM' and date '3/2/2021'.

دانلود PyCharm

The image shows a Windows desktop environment with a browser window open to the PyCharm website. The desktop background is blue. On the left side, there is a taskbar with icons for 'This PC', 'Adobe Connect', 'Control Panel', 'AnyDesk', 'MinGW Installer', 'Adobe Acrobat...', 'POWERPNT - Shortcut', 'WINWORD - Shortcut', 'EXCEL - Shortcut', and 'Adobe FormsCentral'. The browser window displays the PyCharm website with the following content:

- Browser address bar: jetbrains.com/pycharm/
- Page title: PyCharm
- Navigation menu: Developer Tools, Team Tools, Learning Tools, Solutions, Store
- Sub-navigation: Coming in 2021.1, What's New, Features, Learn, Buy, Download
- Main heading: **PyCharm**
- Text: The Python IDE for Professional Developers
- Call to action: **DOWNLOAD**

The system tray at the bottom right shows the time as 11:58 AM on 3/2/2021 and the language set to ENG.

دانلود PyCharm

The screenshot shows a Windows desktop environment with a browser window open to the JetBrains website. The browser address bar shows the URL: jetbrains.com/pycharm/download/#section=windows. The website header includes the JetBrains logo and navigation links: Developer Tools, Team Tools, Learning Tools, Solutions, Store, and a search icon. The main content area is titled "PyCharm" and features a large "Download" button. Below this, there is a section for "Download PyCharm" with tabs for Windows, Mac, and Linux. The "Windows" tab is selected. Underneath, there are two columns: "Professional" and "Community". The "Professional" column describes it as "For both Scientific and Web Python development. With HTML, JS, and SQL support." and offers a "Download" button for a "Free trial". The "Community" column describes it as "For pure Python development" and offers a "Download" button for "Free, open-source". On the left side of the page, there is a "PC" logo and version information: "Version: 2020.3.3", "Build: 203.7148.72", and "27 January 2021". There are also links for "System requirements", "Installation Instructions", and "Other versions". The desktop taskbar at the bottom shows the Start button, search icon, and several application icons including Chrome, File Explorer, and IDEs. The system tray in the bottom right corner shows the time as 11:58 AM on 3/2/2021 and the language set to ENG.

دانلود PyCharm

Download PyCharm: Python IDE | x +

jetbrains.com/pycharm/download/#section=windows

JET BRAINS

Developer Tools Team Tools Learning Tools Solutions Store

PyCharm

Coming in 2021.1 What's New Features Learn Buy [Download](#)

Download PyCharm

Windows Mac Linux

Professional

For both Scientific and Web Python development. With HTML, JS, and SQL support.

[Download](#)

Free trial

Community

For pure Python development

[Download](#)

Free, open-source

Version: 2020.3.3
Build: 203.7148.72
27 January 2021

[System requirements](#)
[Installation Instructions](#)
[Other versions](#)

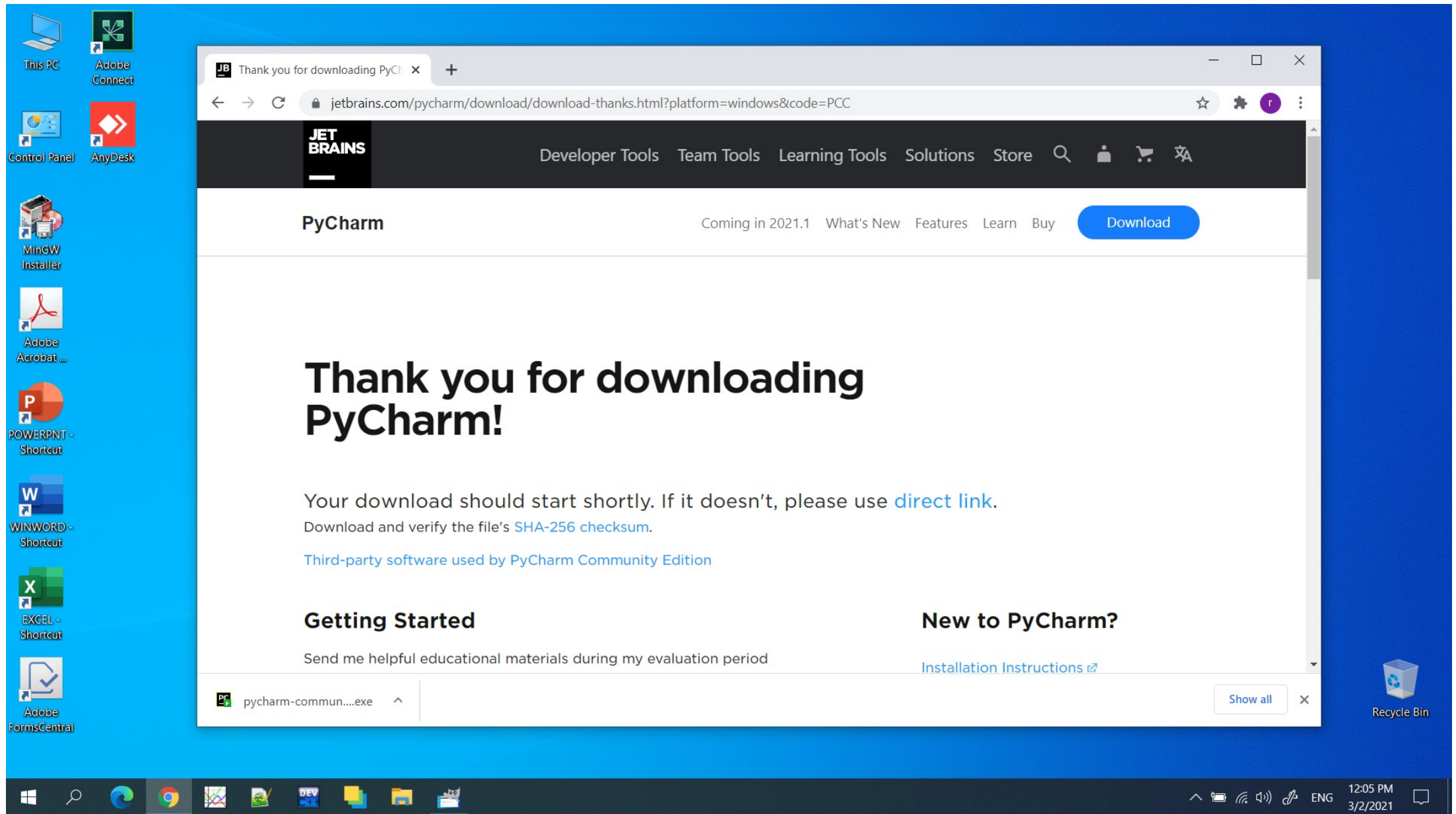
Recycle Bin

11:59 AM
3/2/2021

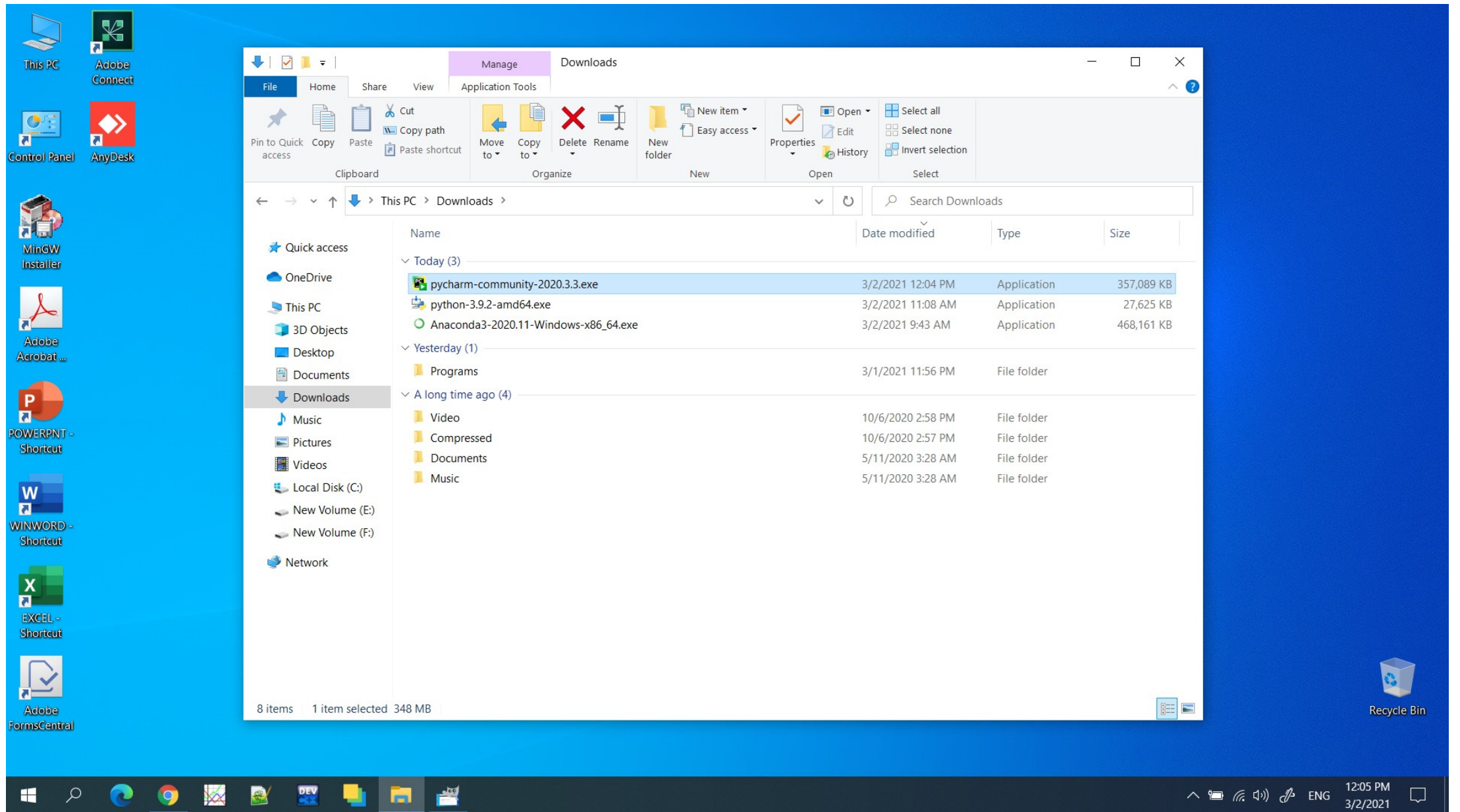
دانلود PyCharm

The screenshot shows a Windows desktop environment. On the left side, there is a taskbar with several application icons: This PC, Adobe Connect, Control Panel, AnyDesk, MinGW Installer, Adobe Acrobat, PowerPoint, Word, Excel, and Adobe FormsCentral. The main area of the desktop is occupied by a web browser window. The browser's address bar shows the URL: jetbrains.com/pycharm/download/download-thanks.html?platform=windows&code=PCC. The page content includes the JetBrains logo, navigation links for Developer Tools, Team Tools, Learning Tools, Solutions, and Store, and a prominent blue 'Download' button. The main heading reads 'Thank you for downloading PyCharm!'. Below this, there is a message: 'Your download should start shortly. If it doesn't, please use [direct link](#). Download and verify the file's [SHA-256 checksum](#).' There are also links for 'Getting Started', 'New to PyCharm?', and 'Installation Instructions'. At the bottom of the browser window, a download progress bar is visible, showing the file 'pycharm-commun...exe' with a size of 22.9/349 MB and 3 minutes left. The Windows taskbar at the bottom shows the Start button, search icon, and several open applications. The system tray on the right indicates the time as 11:59 AM on 3/2/2021.

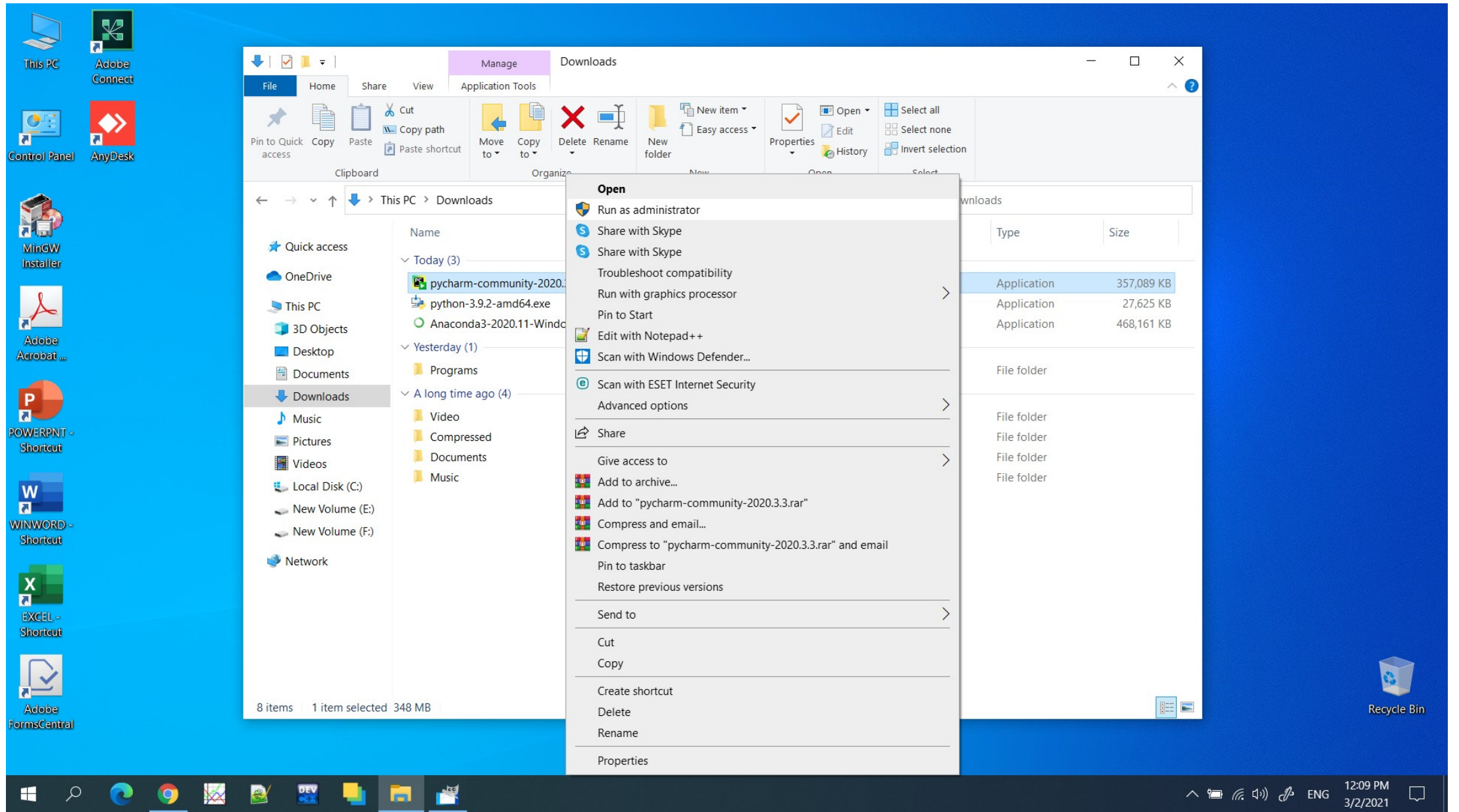
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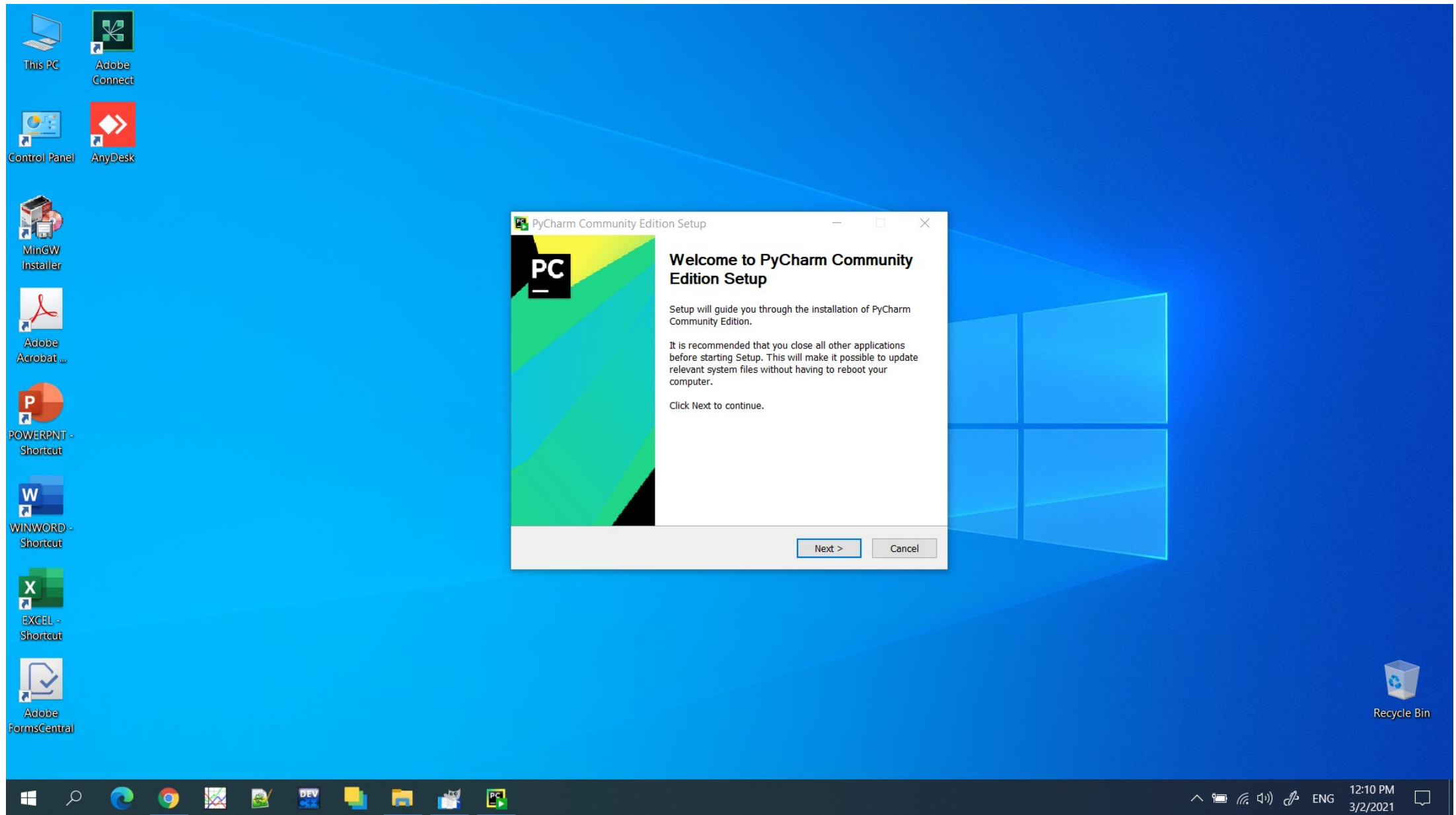
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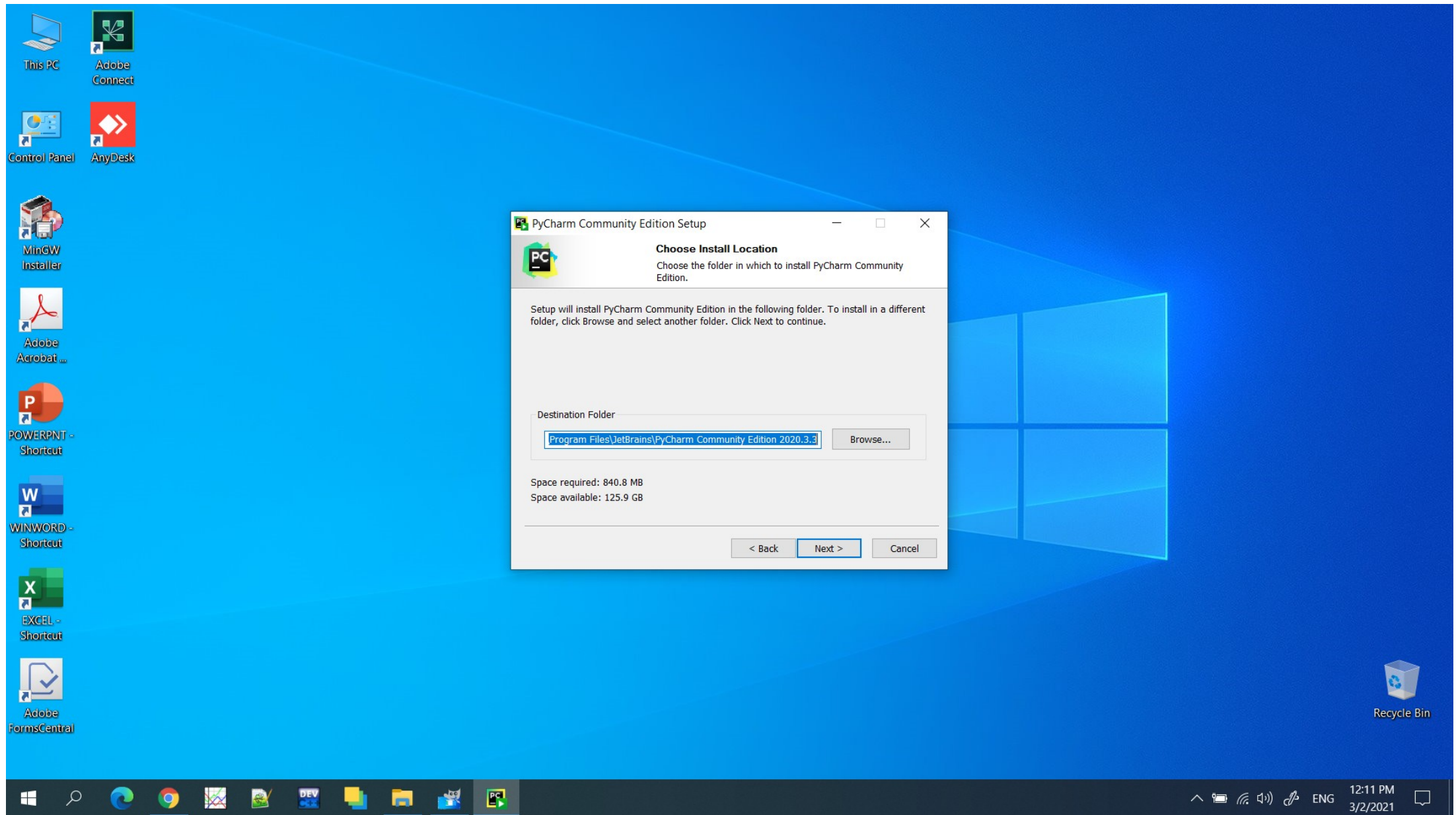
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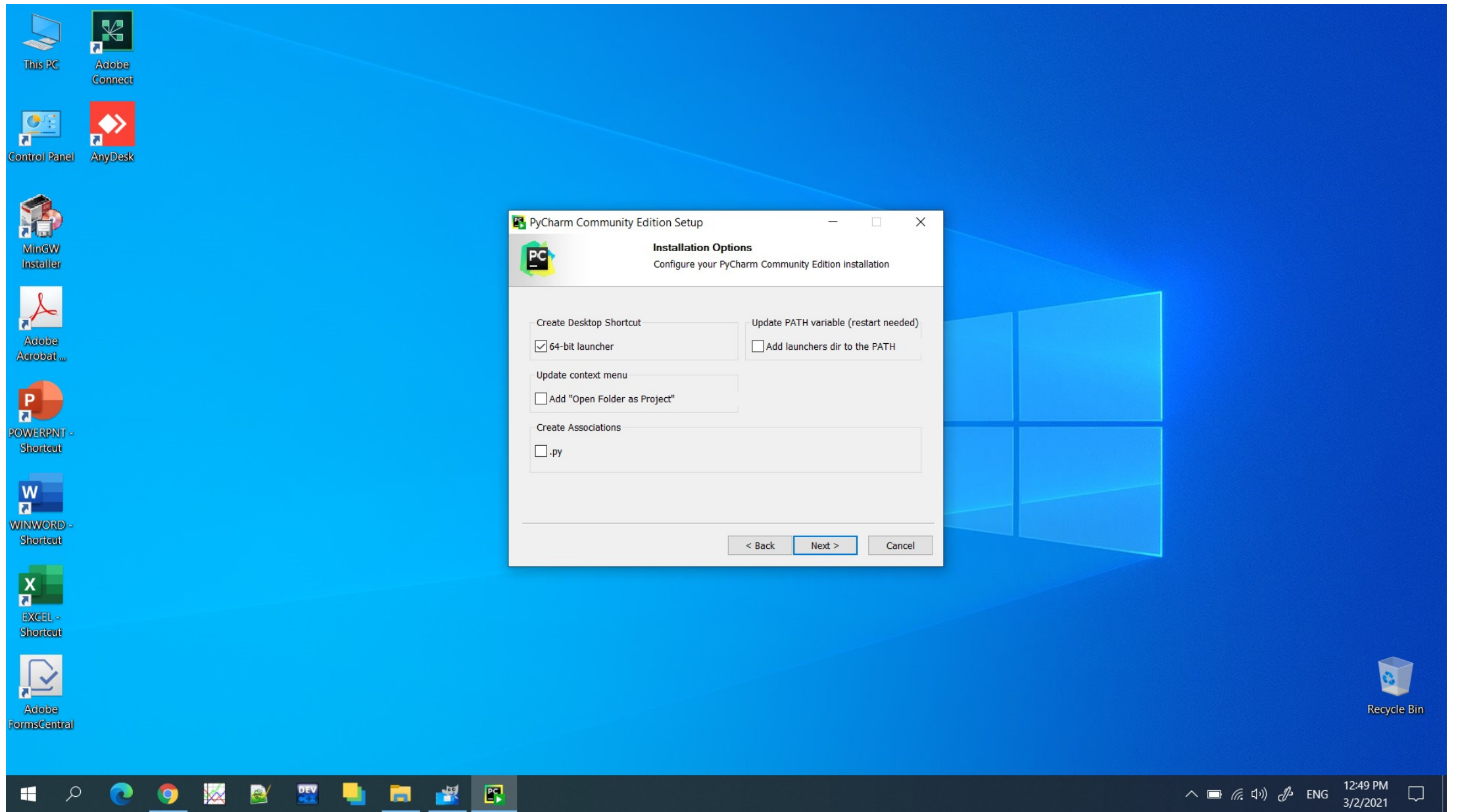
نصب PyCharm



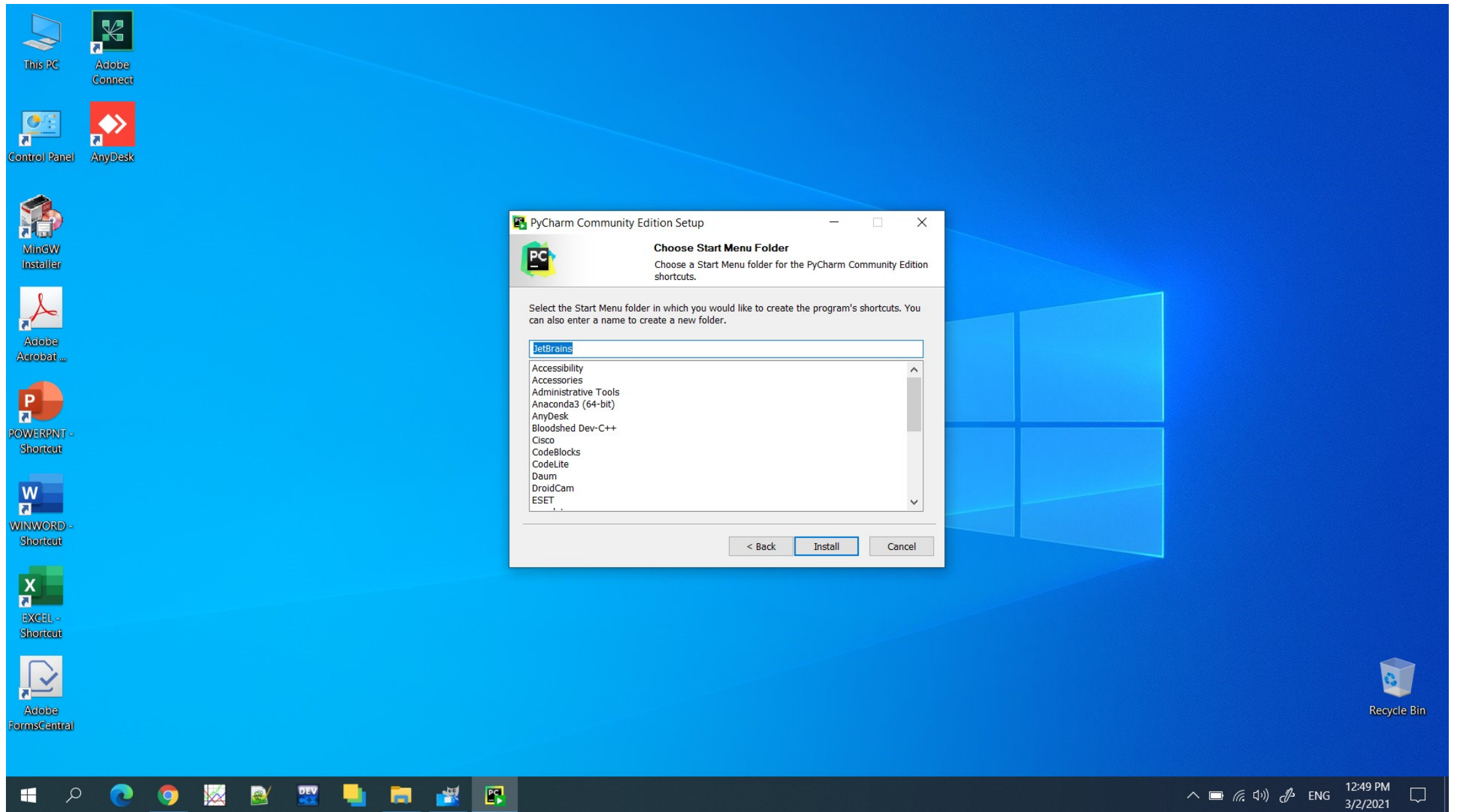
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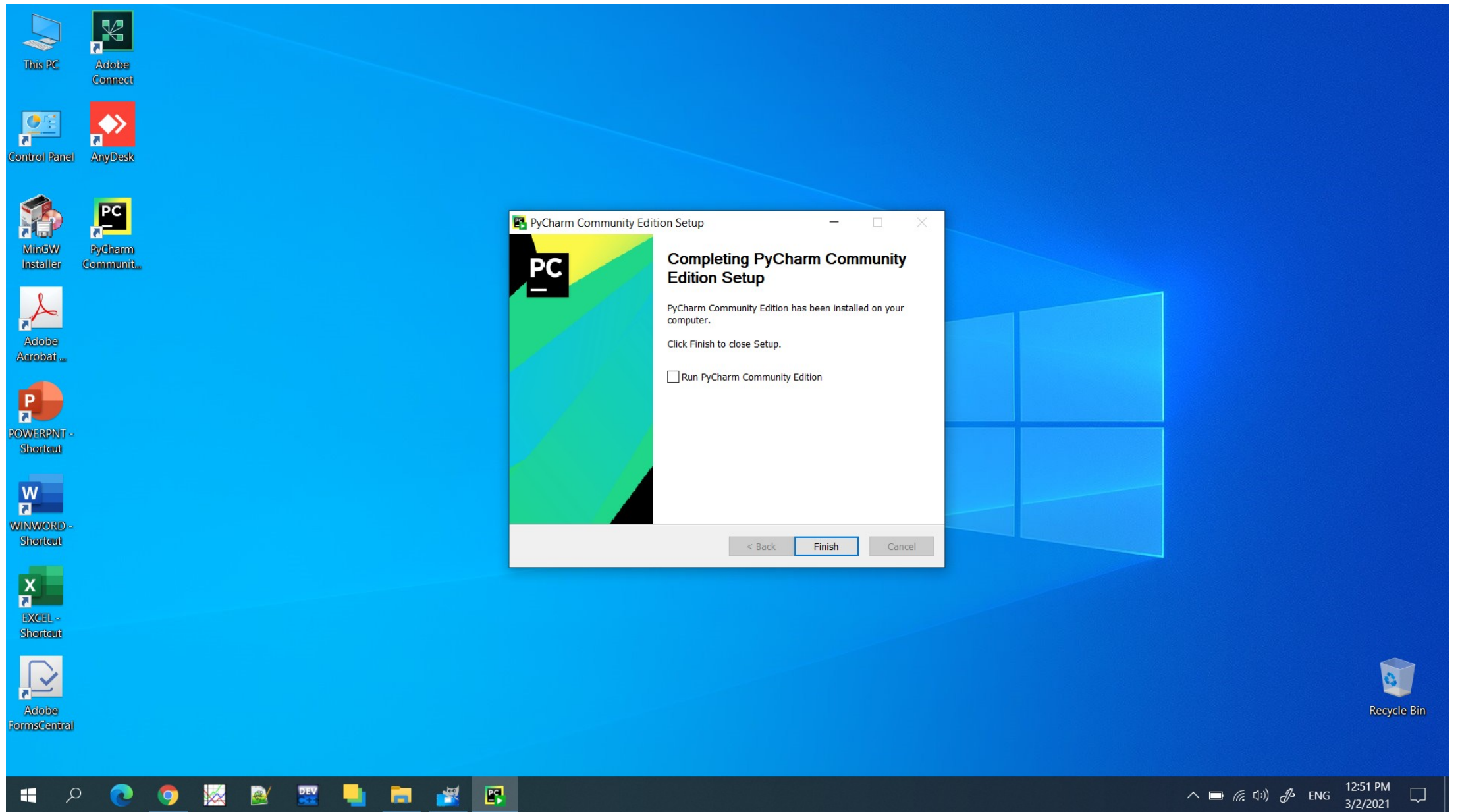
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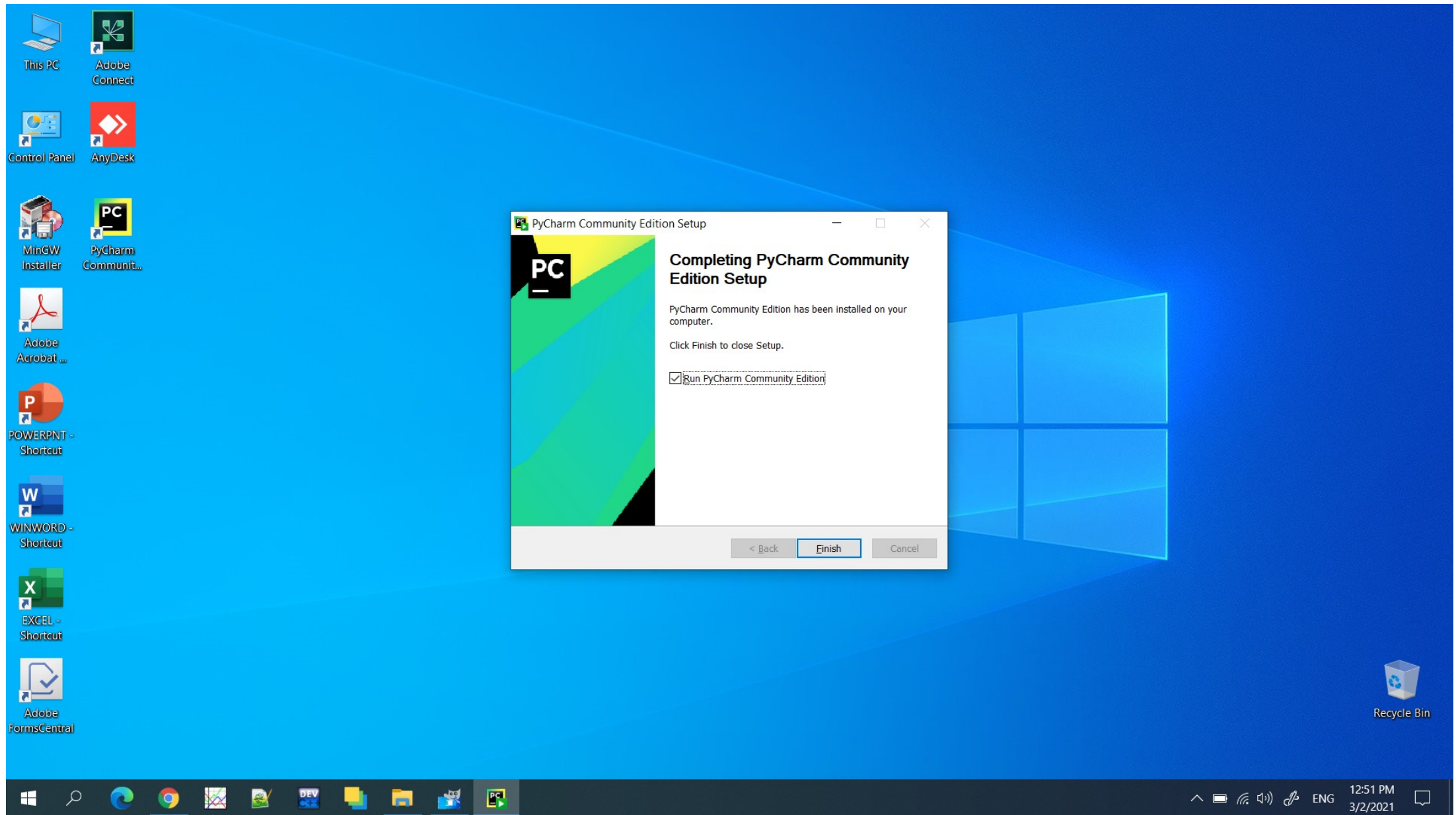
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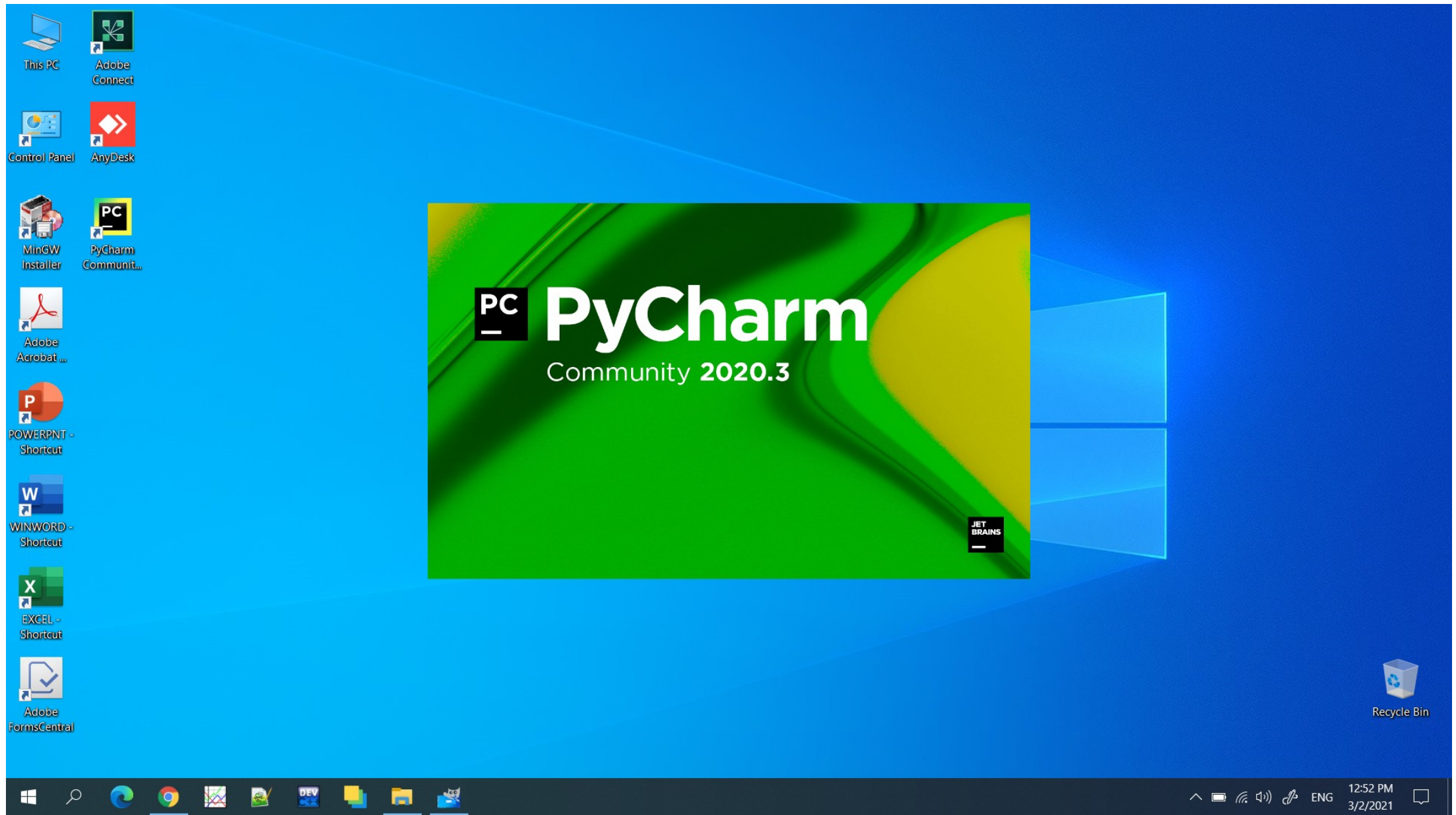
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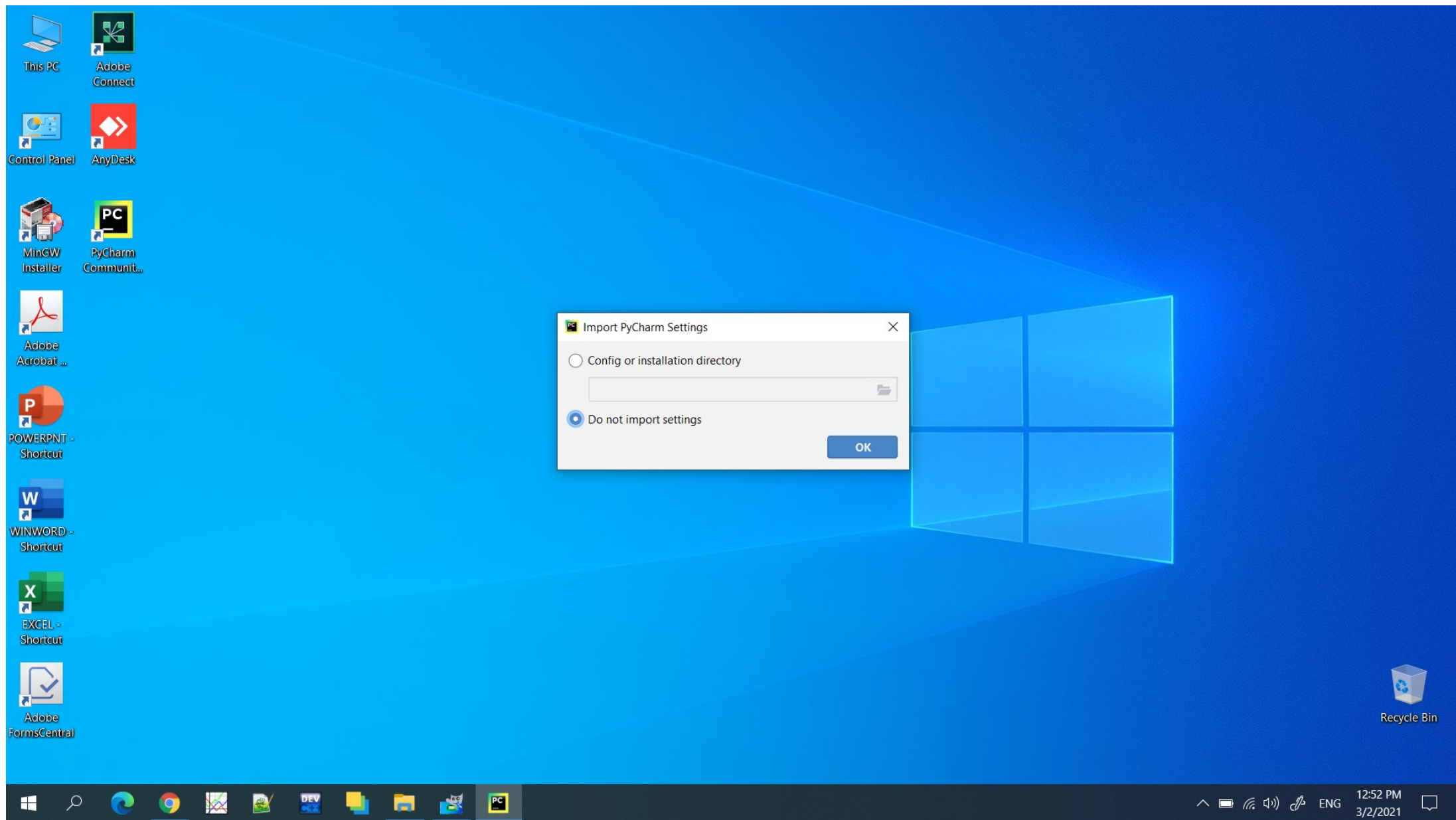
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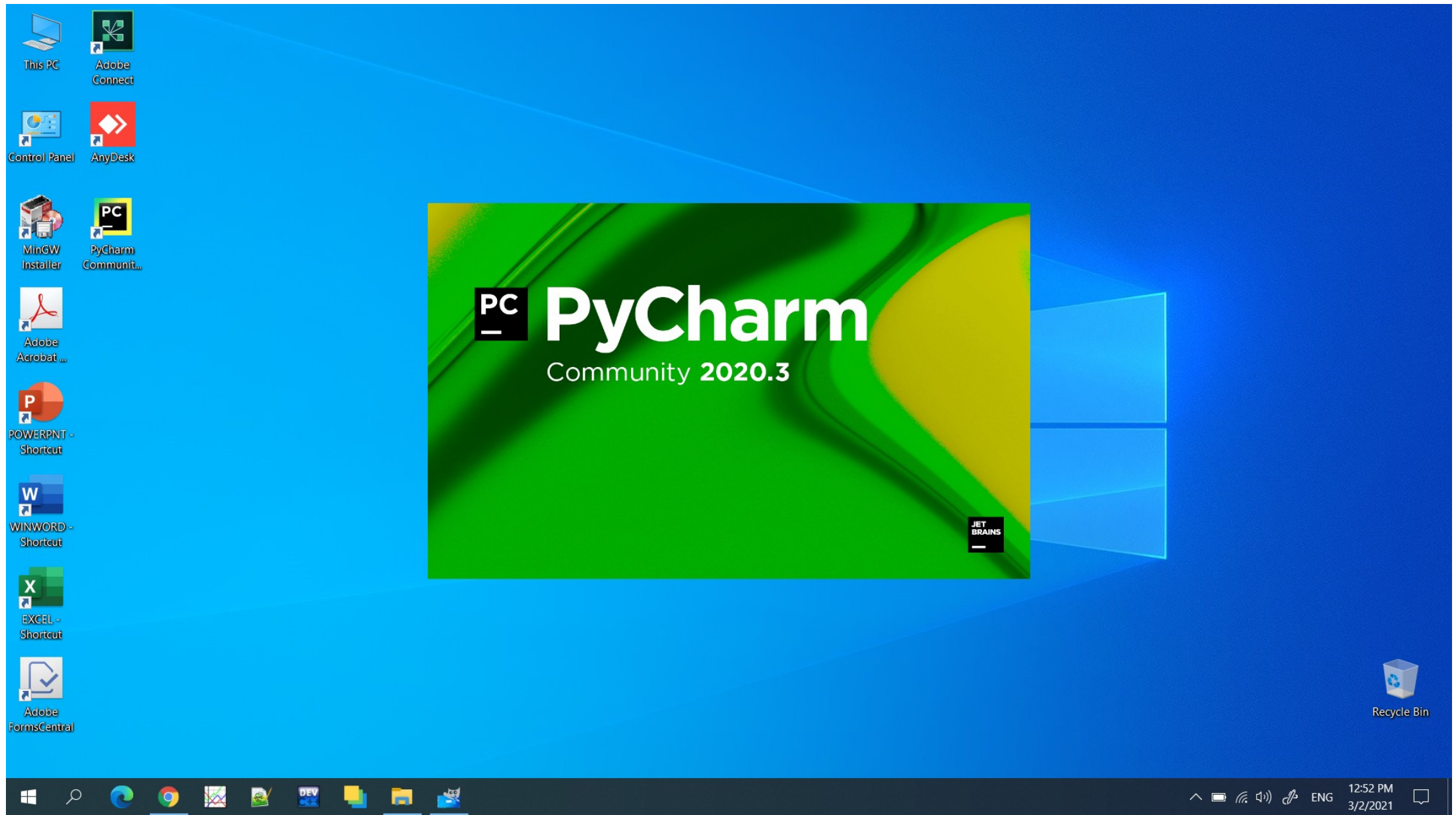


نصب PyCharm

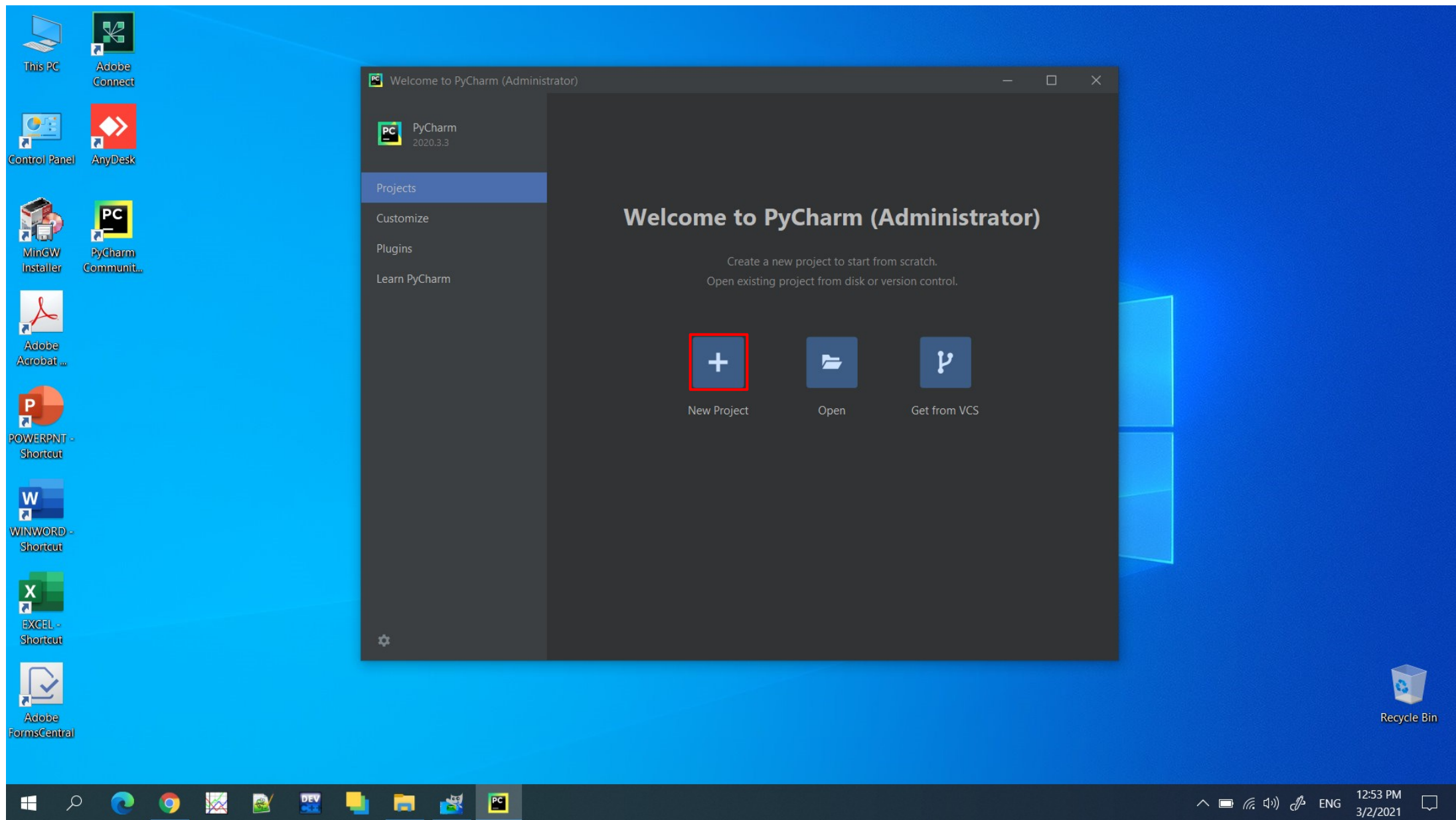


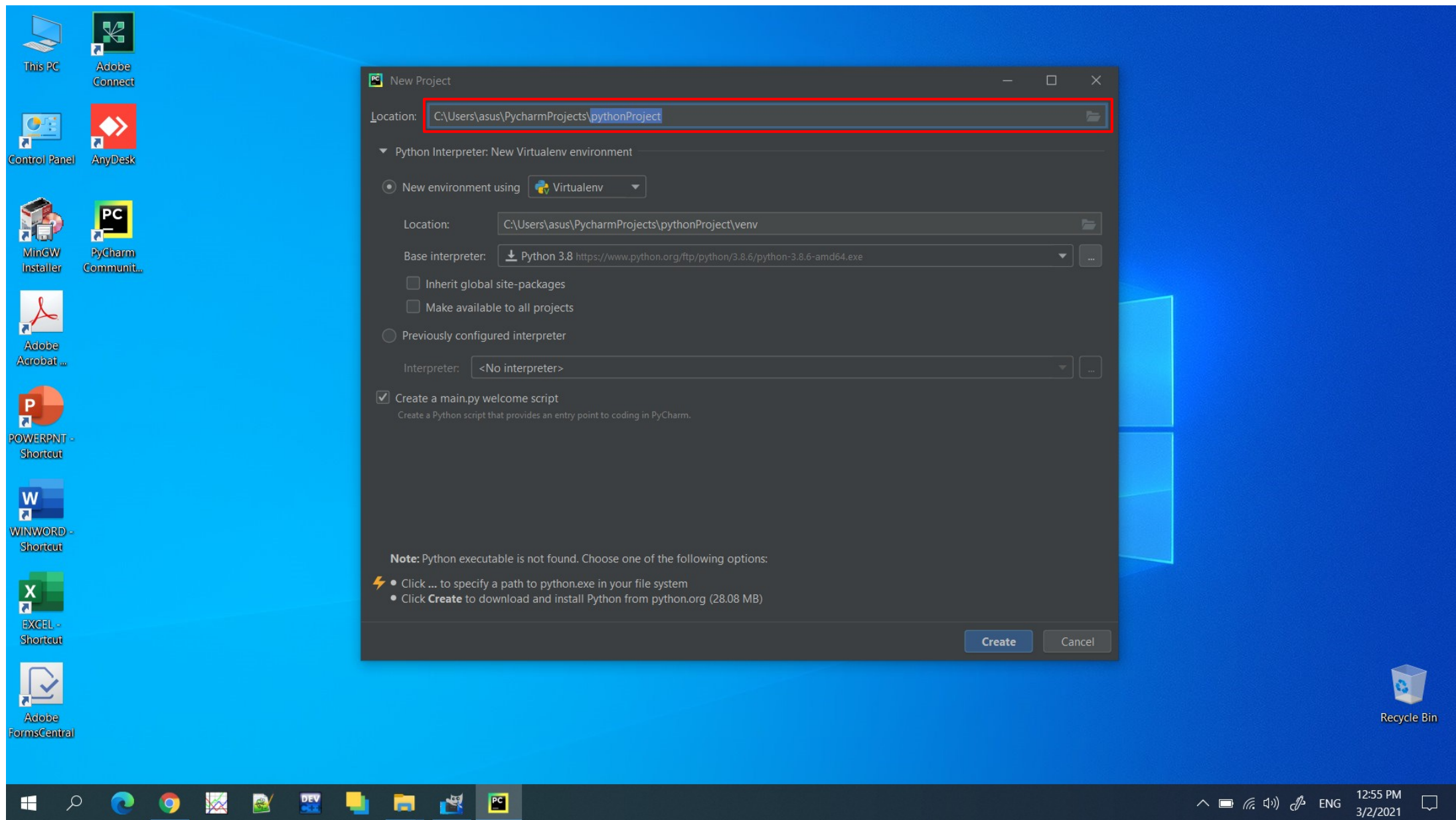
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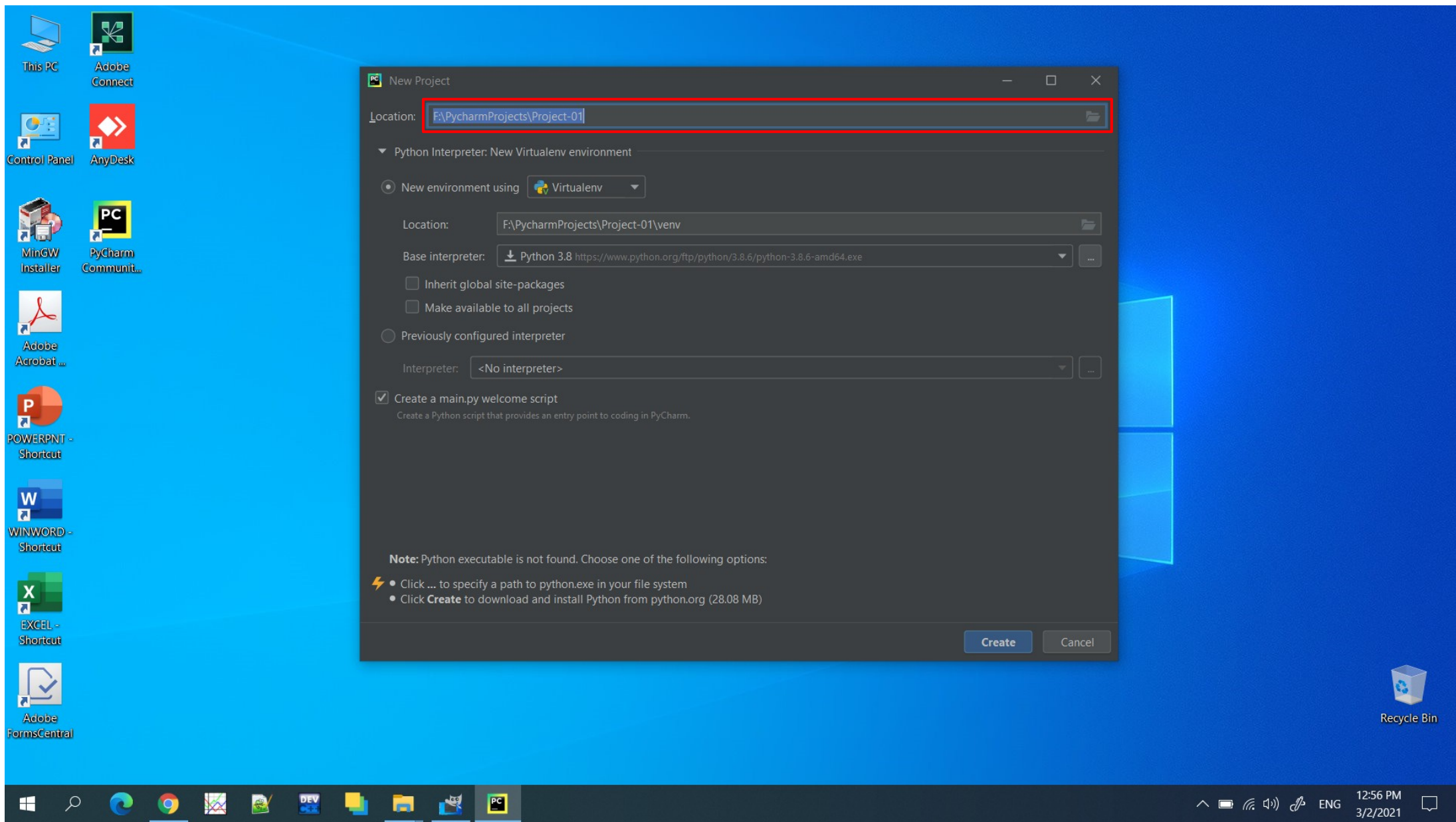


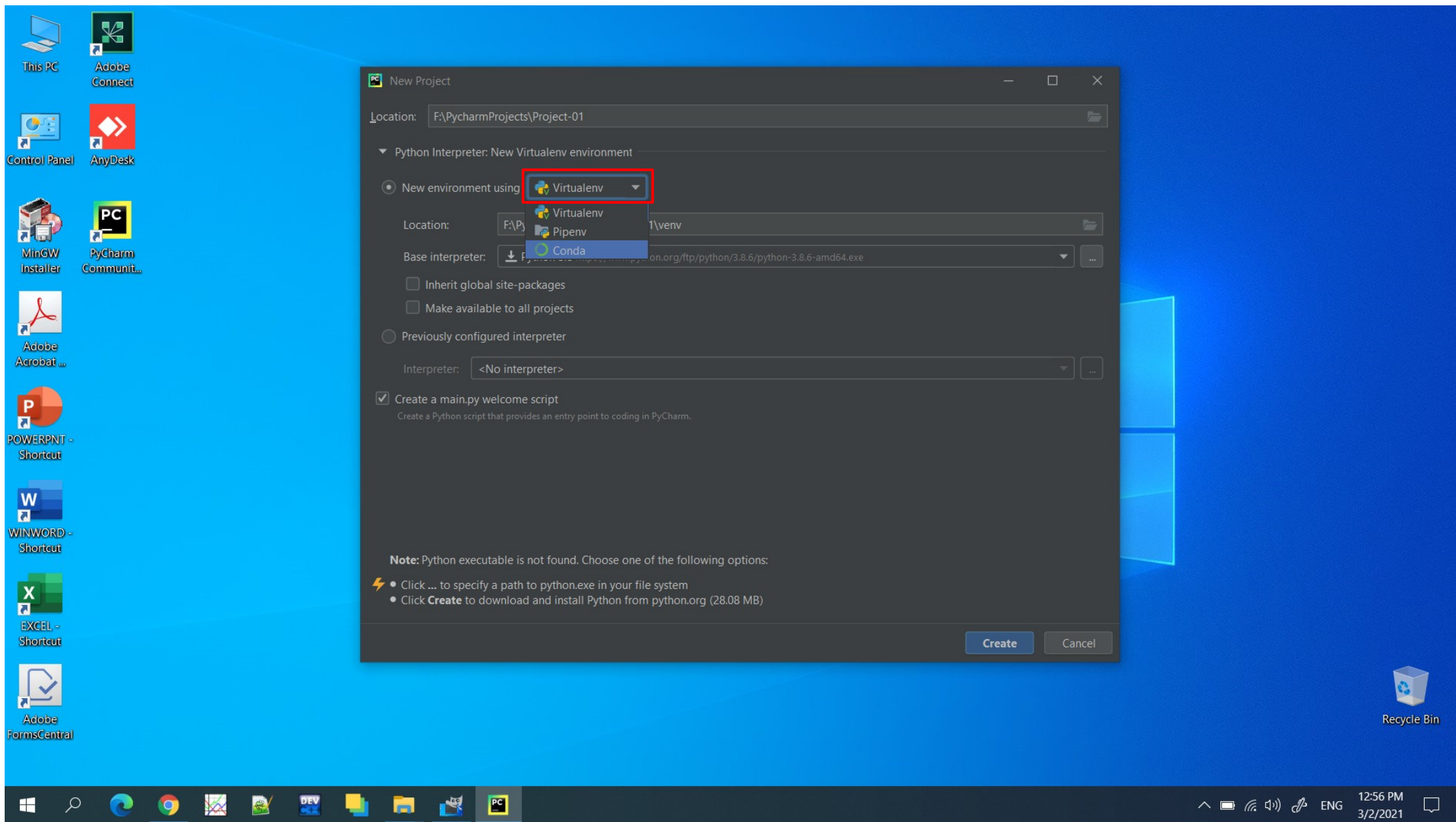


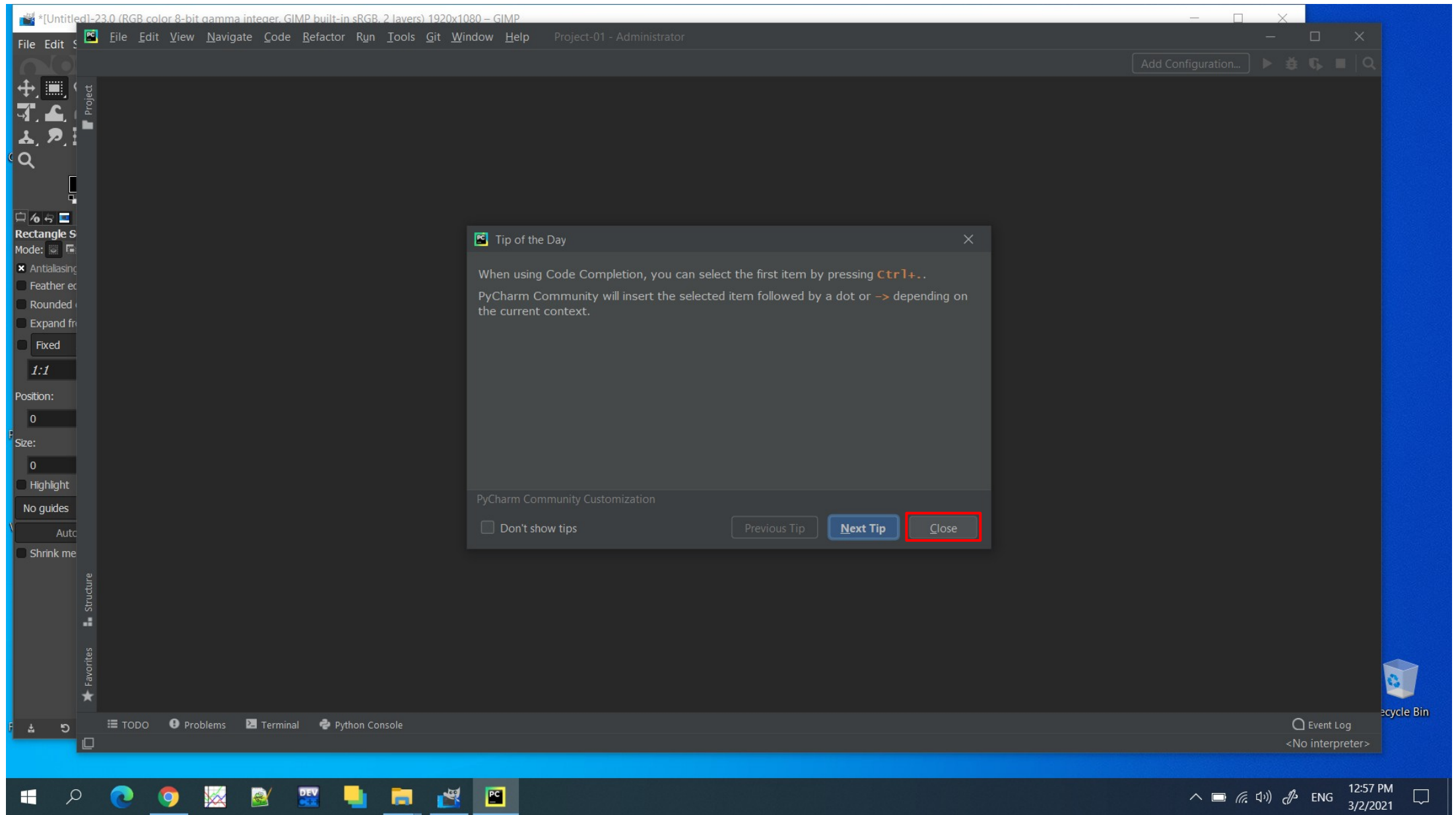
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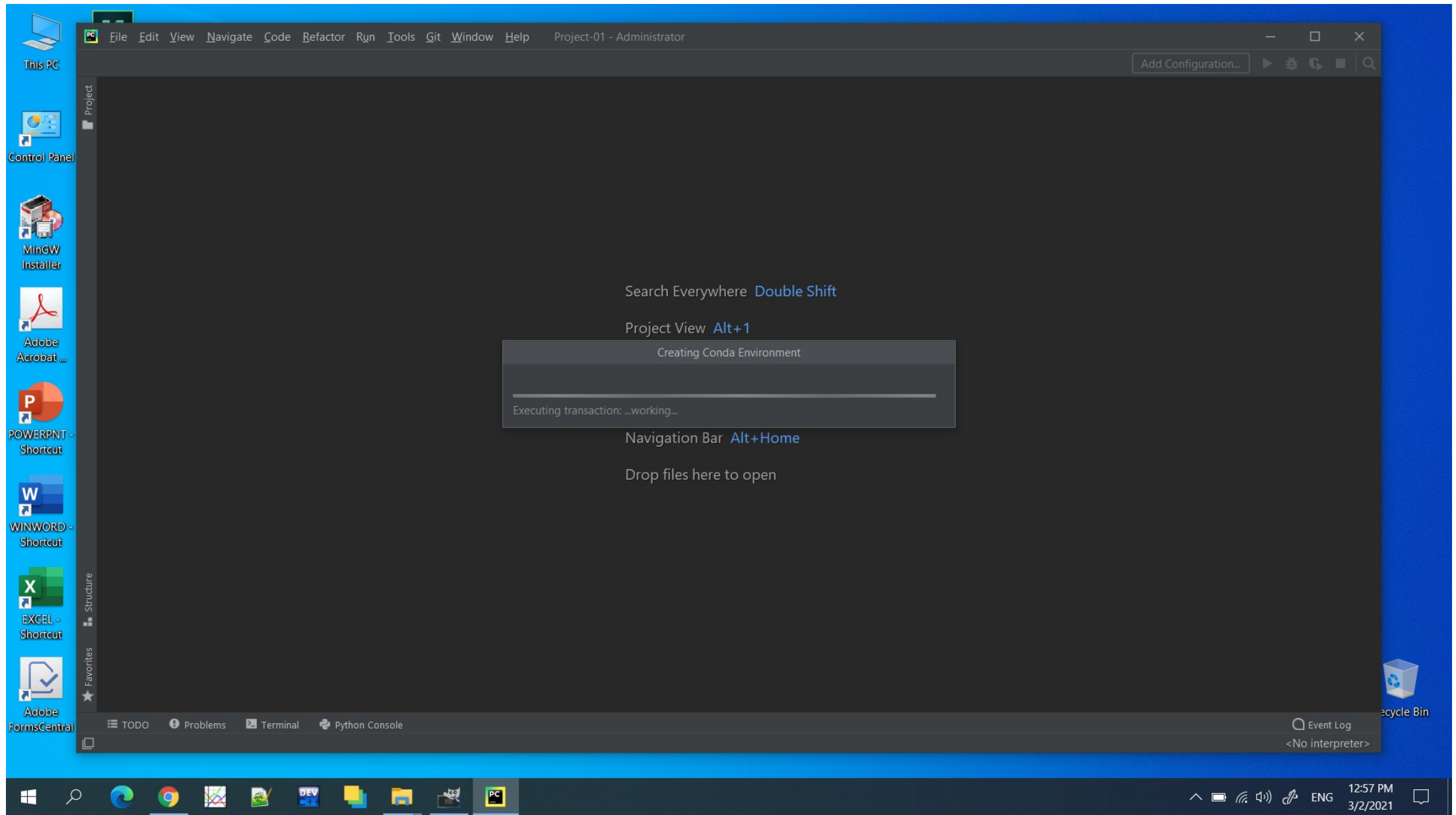






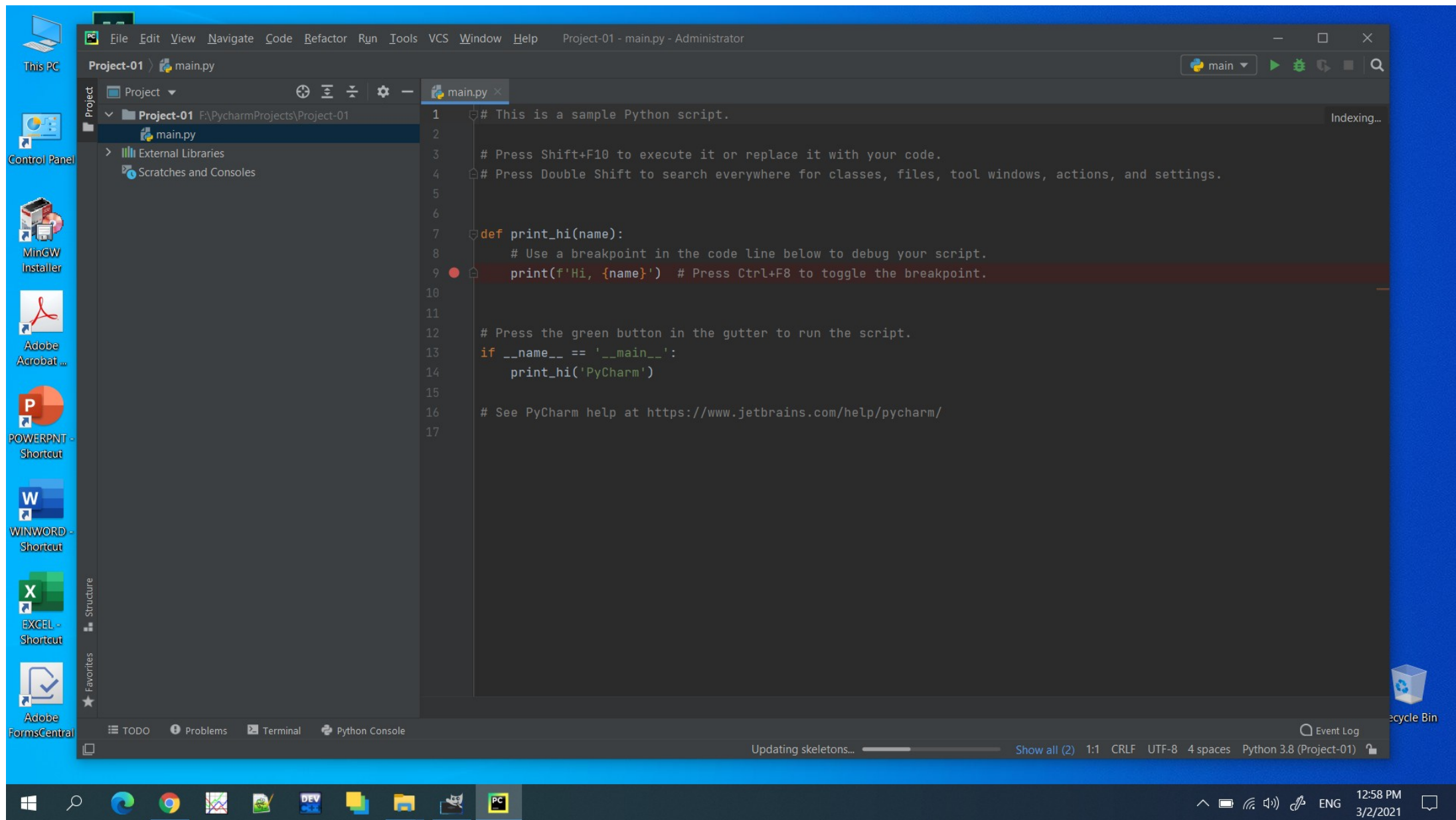


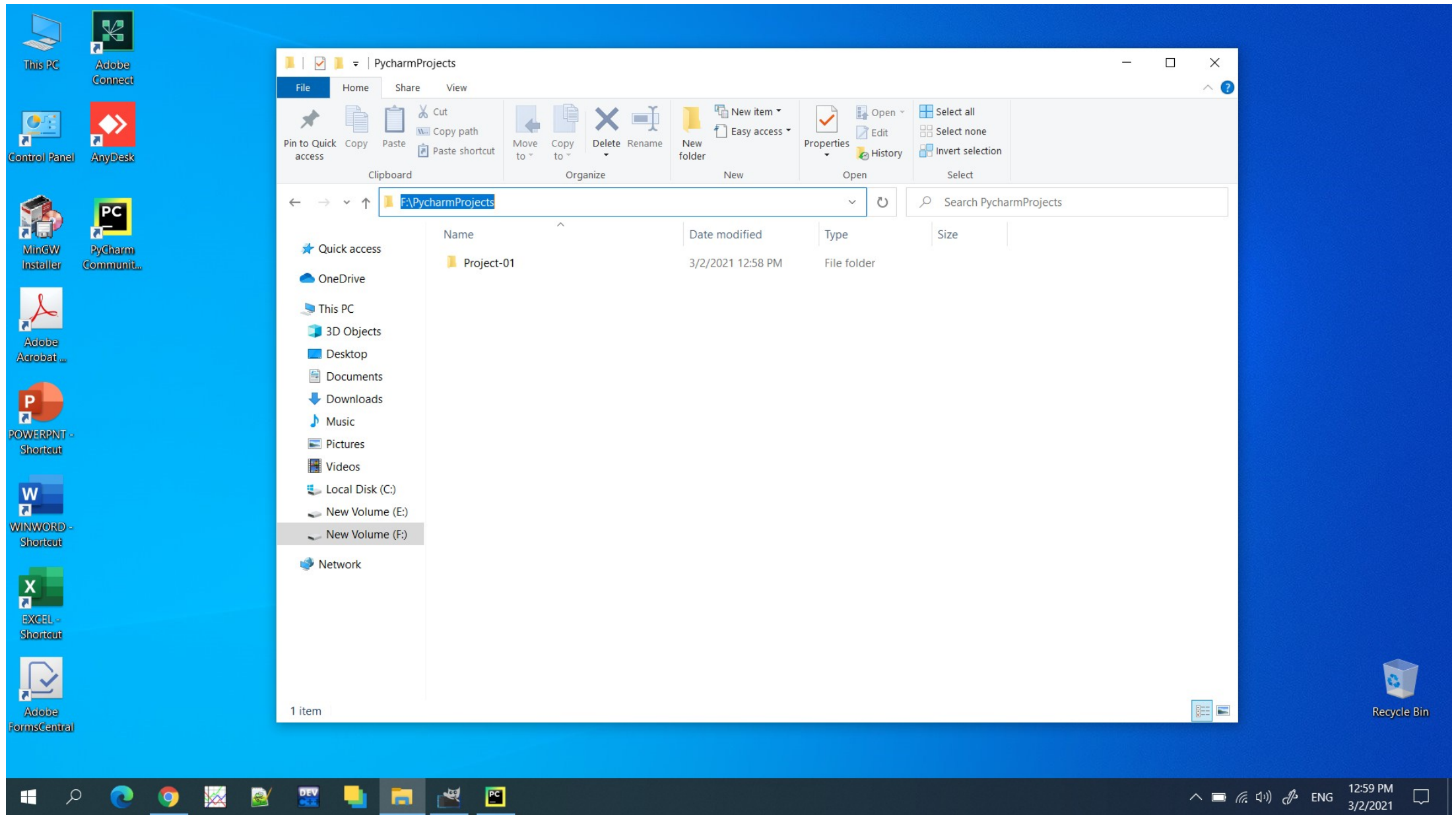
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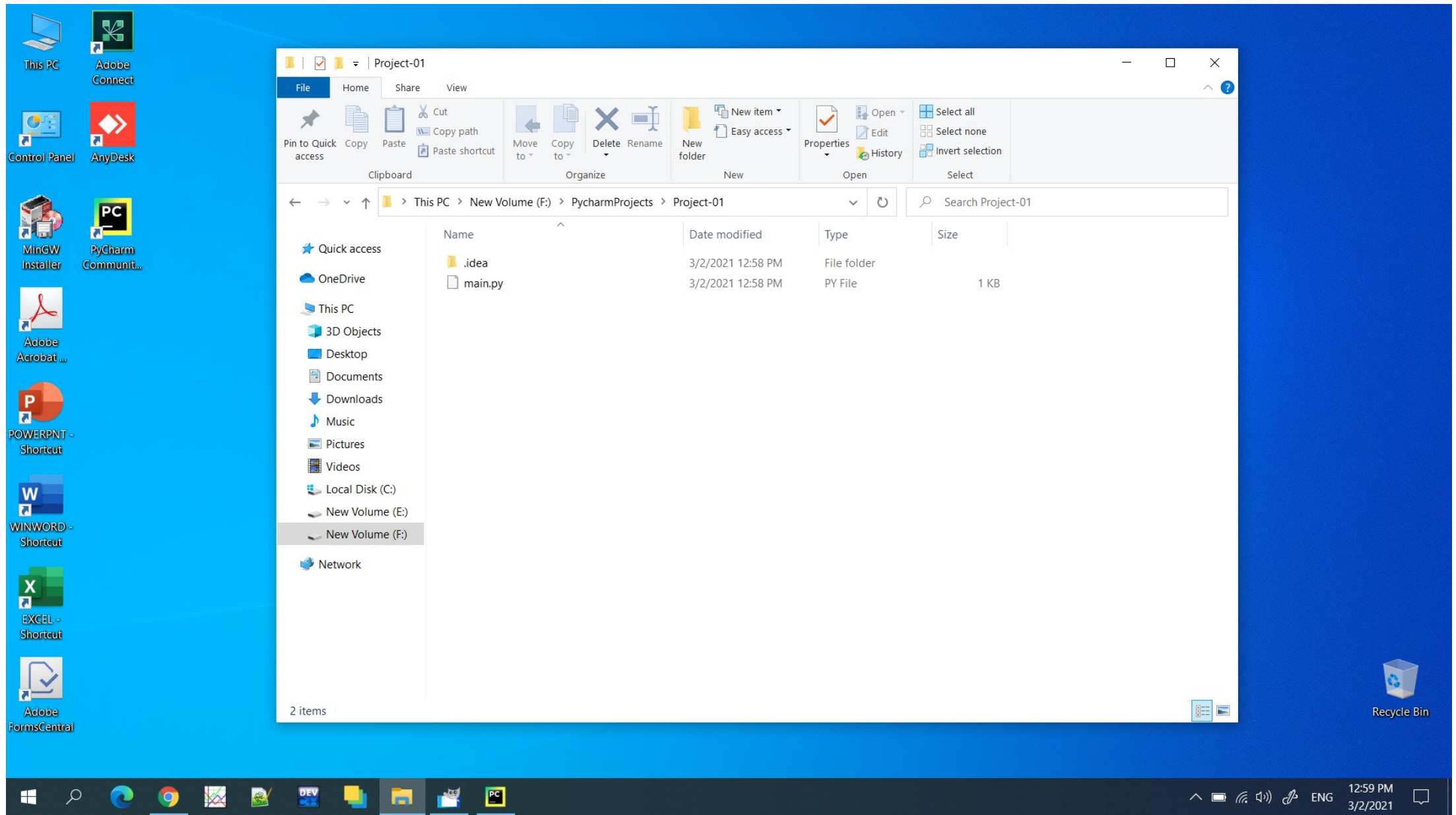
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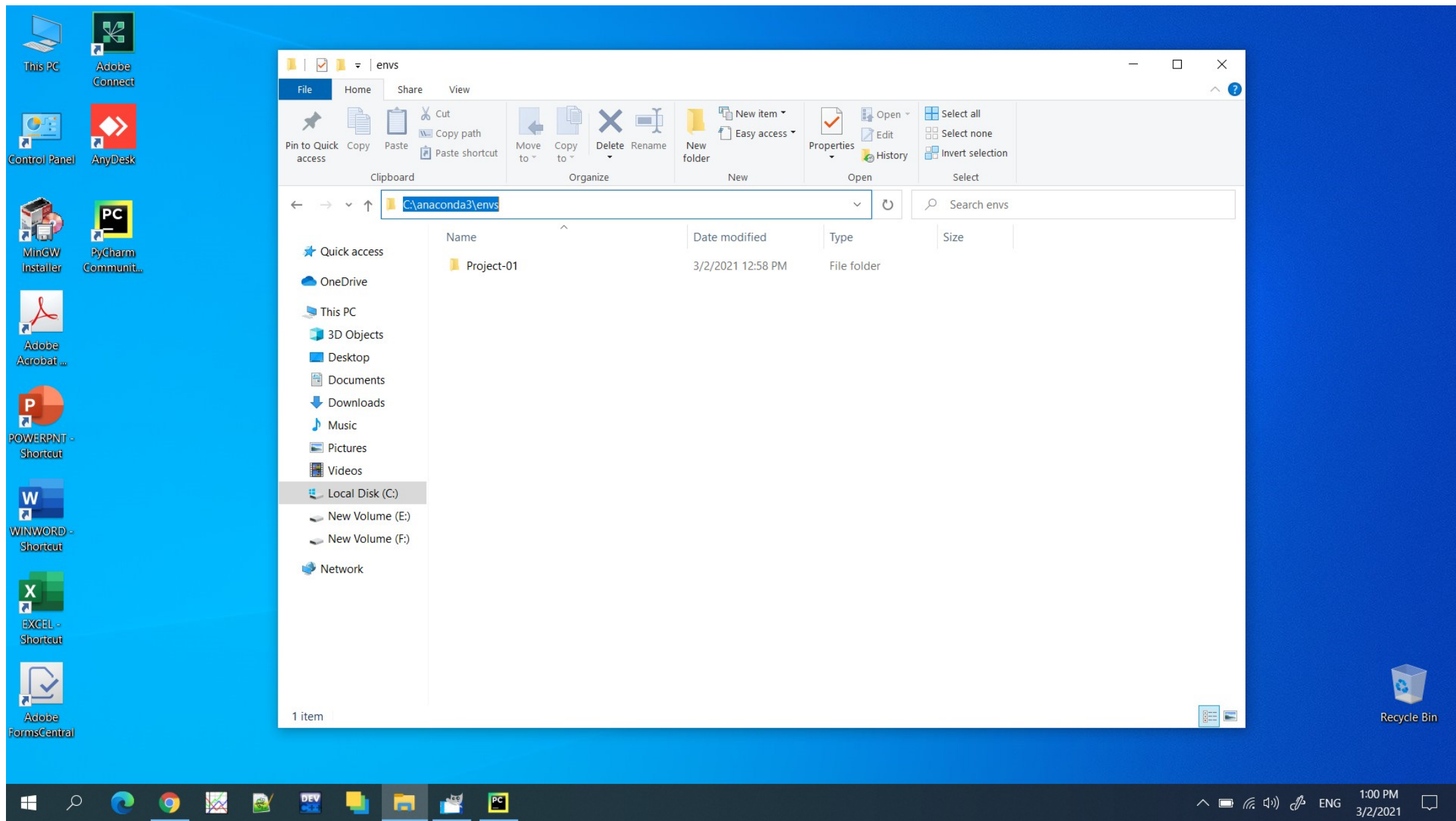




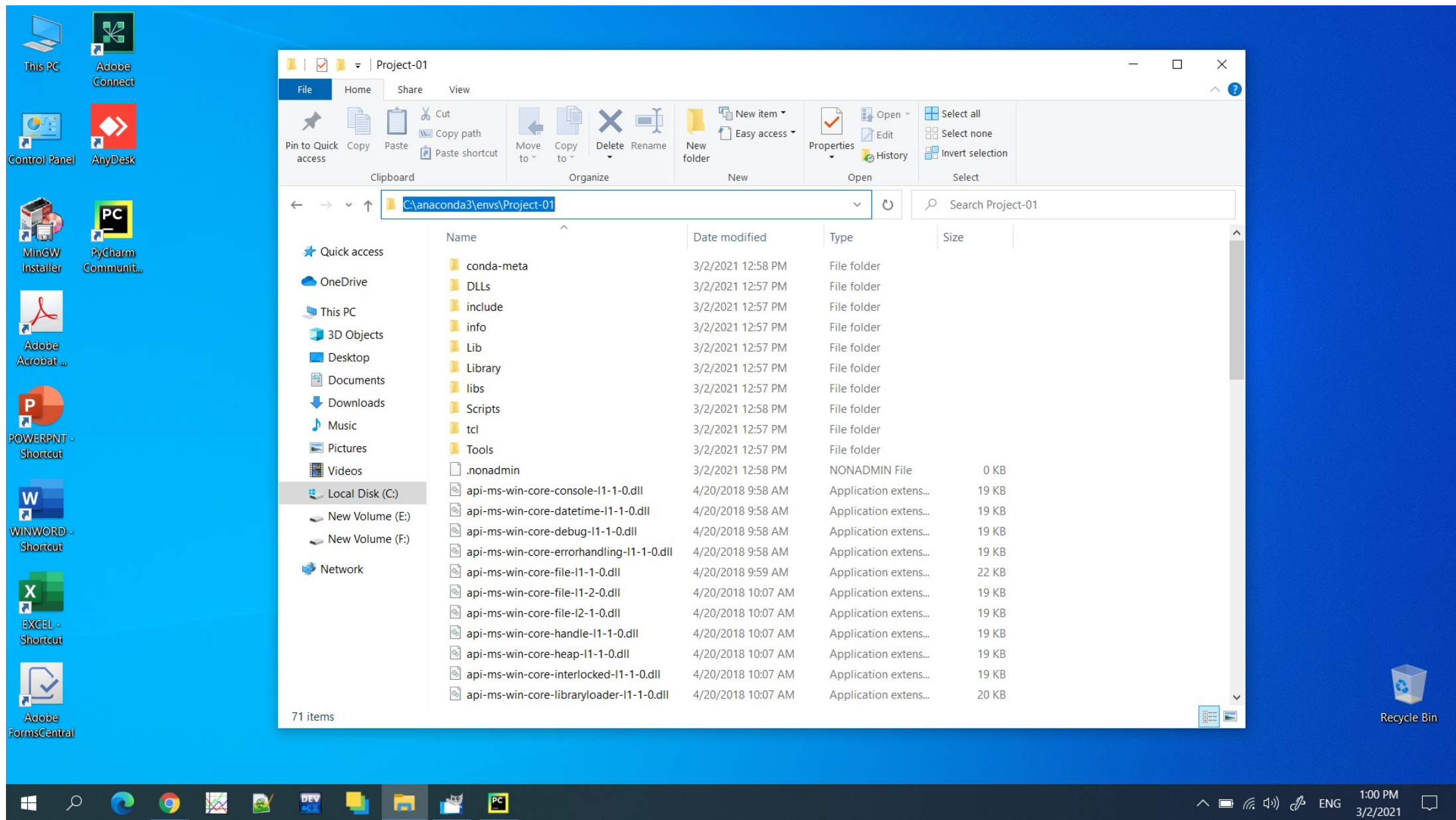
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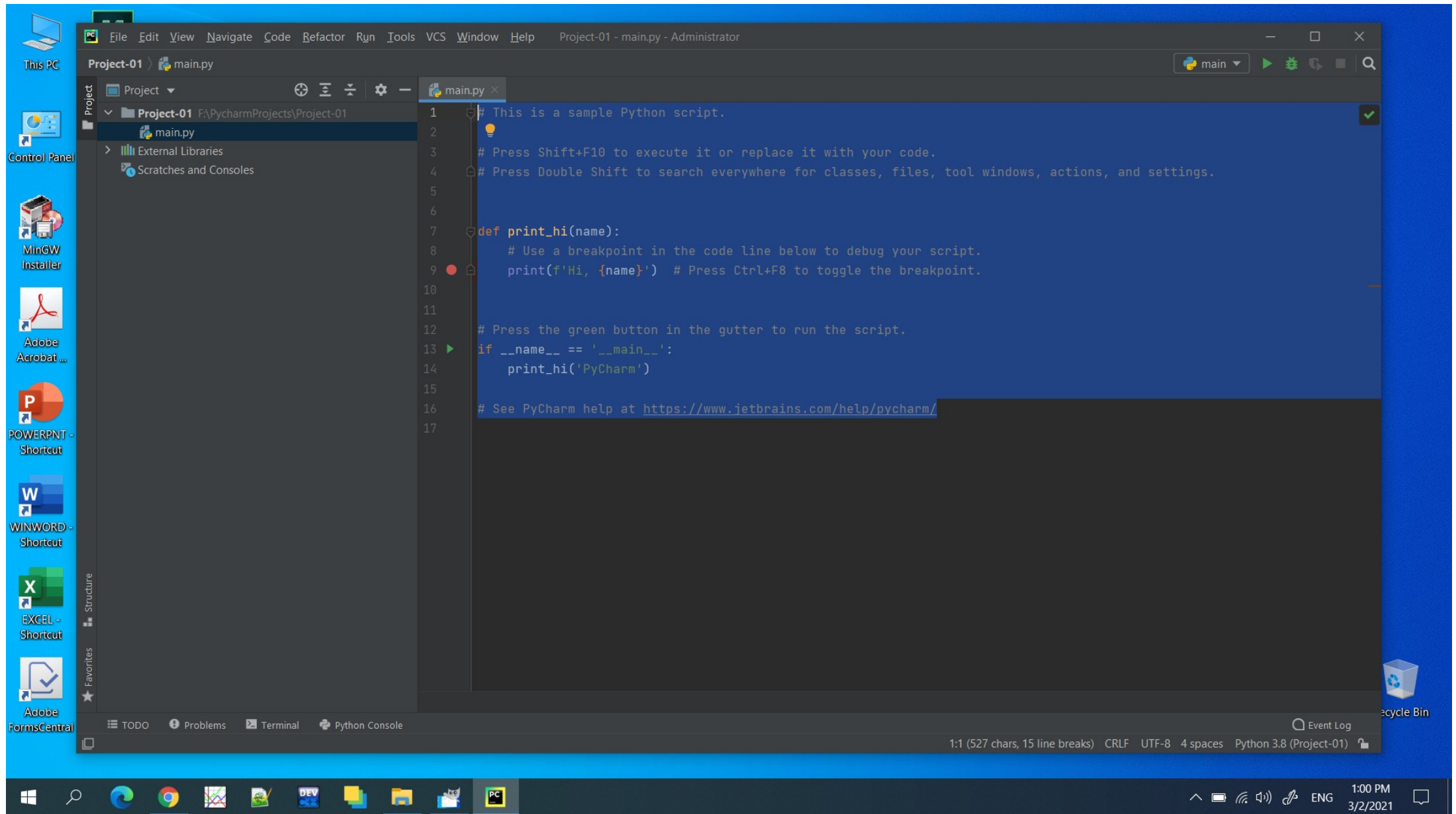


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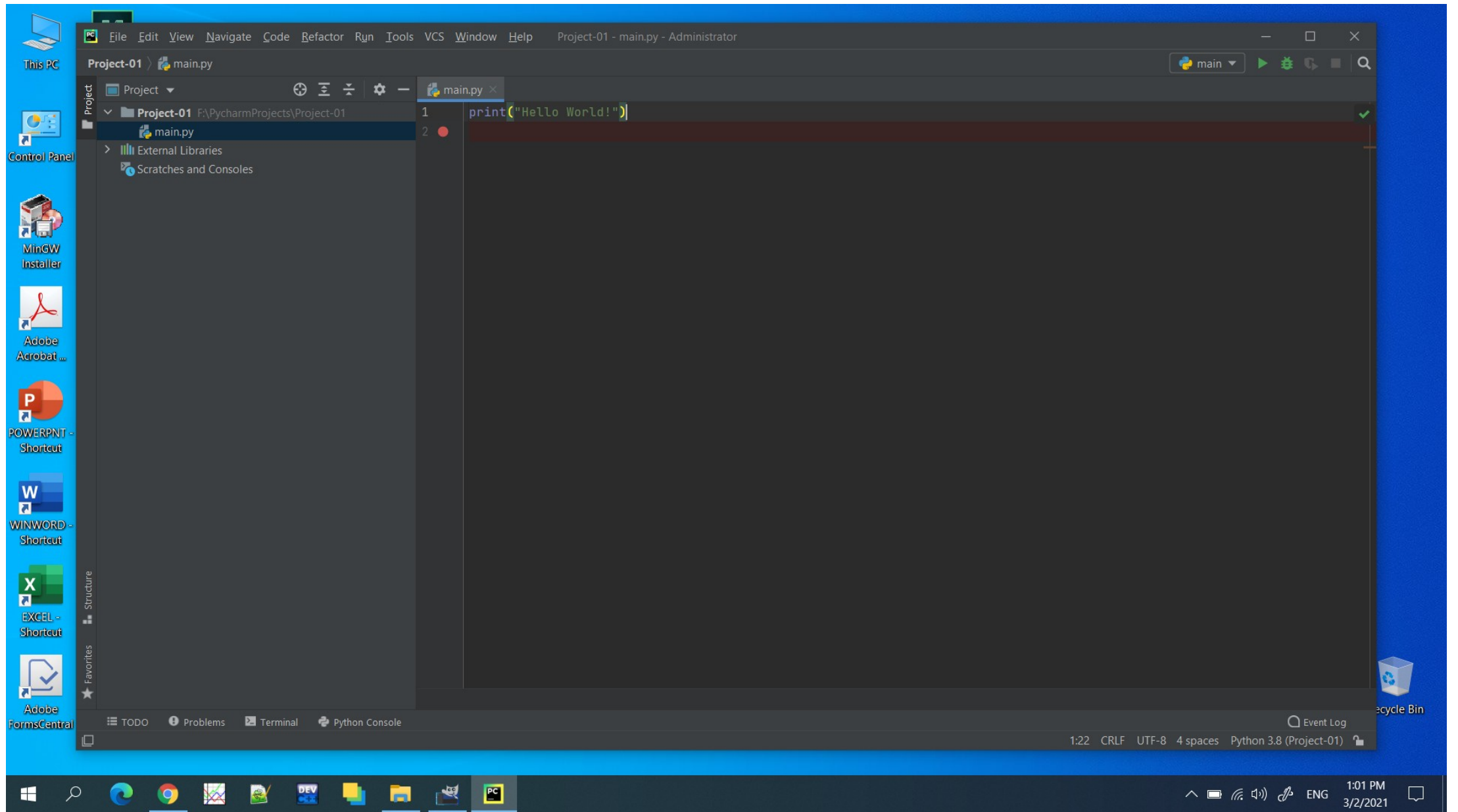


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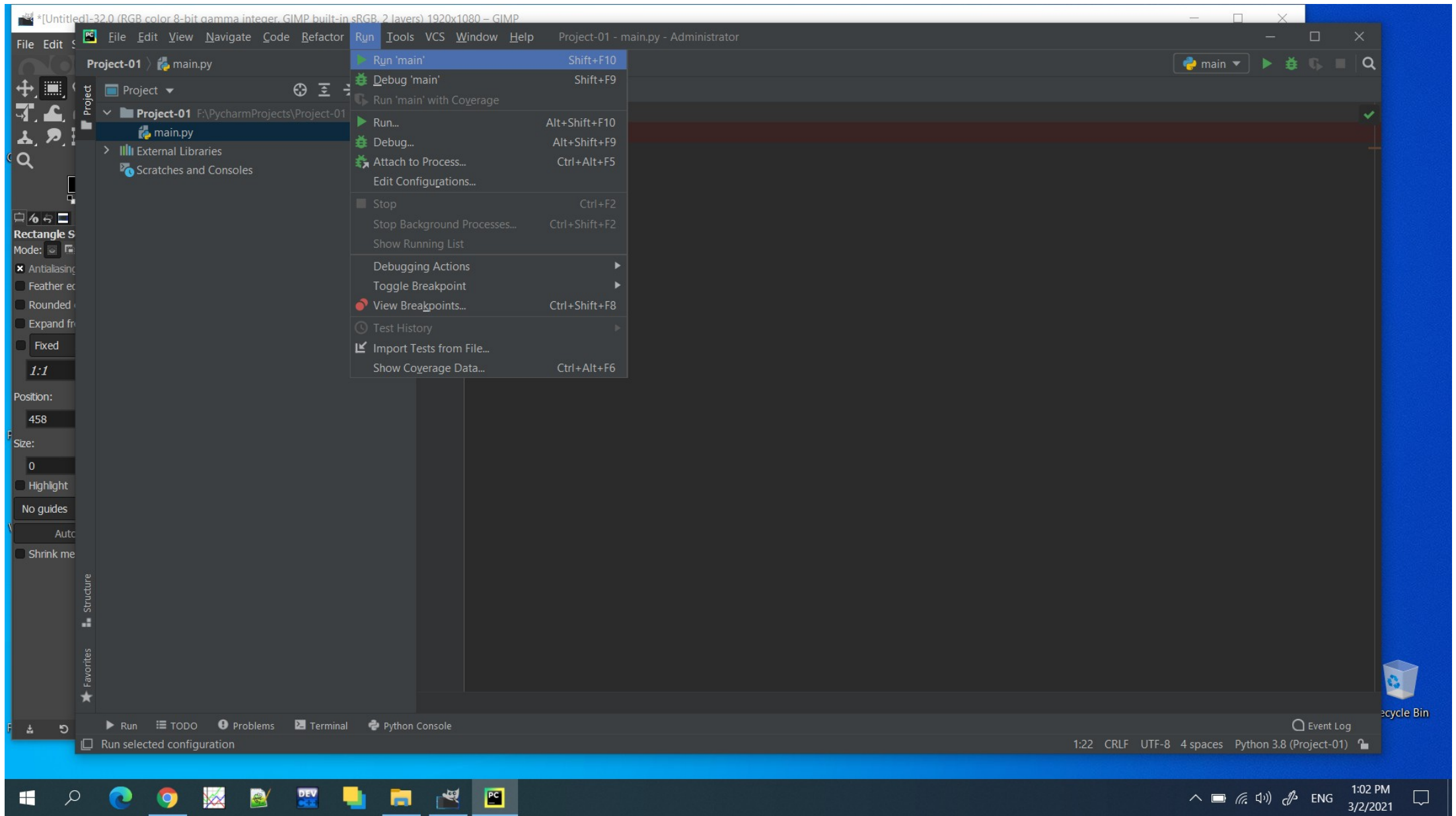




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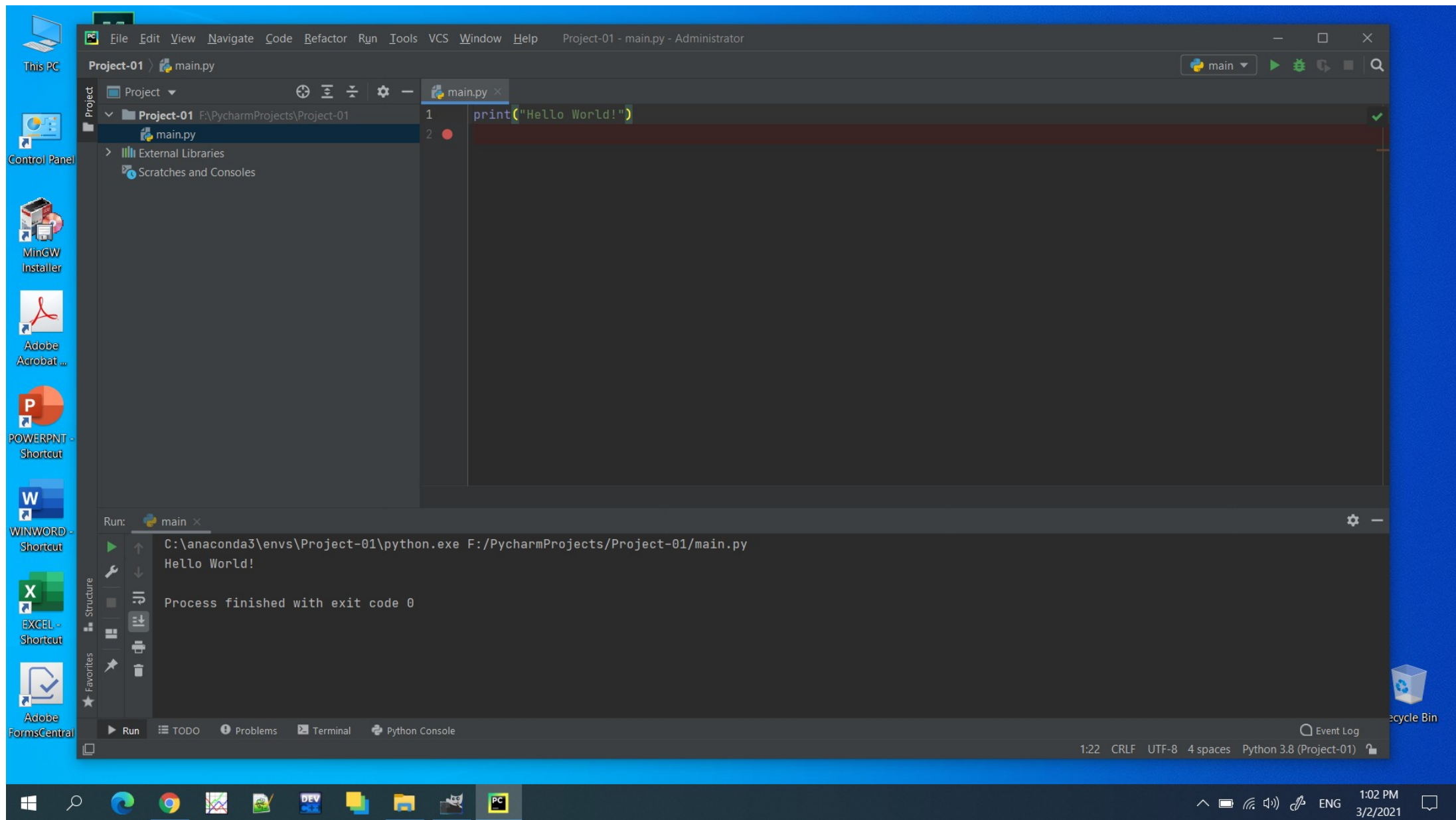


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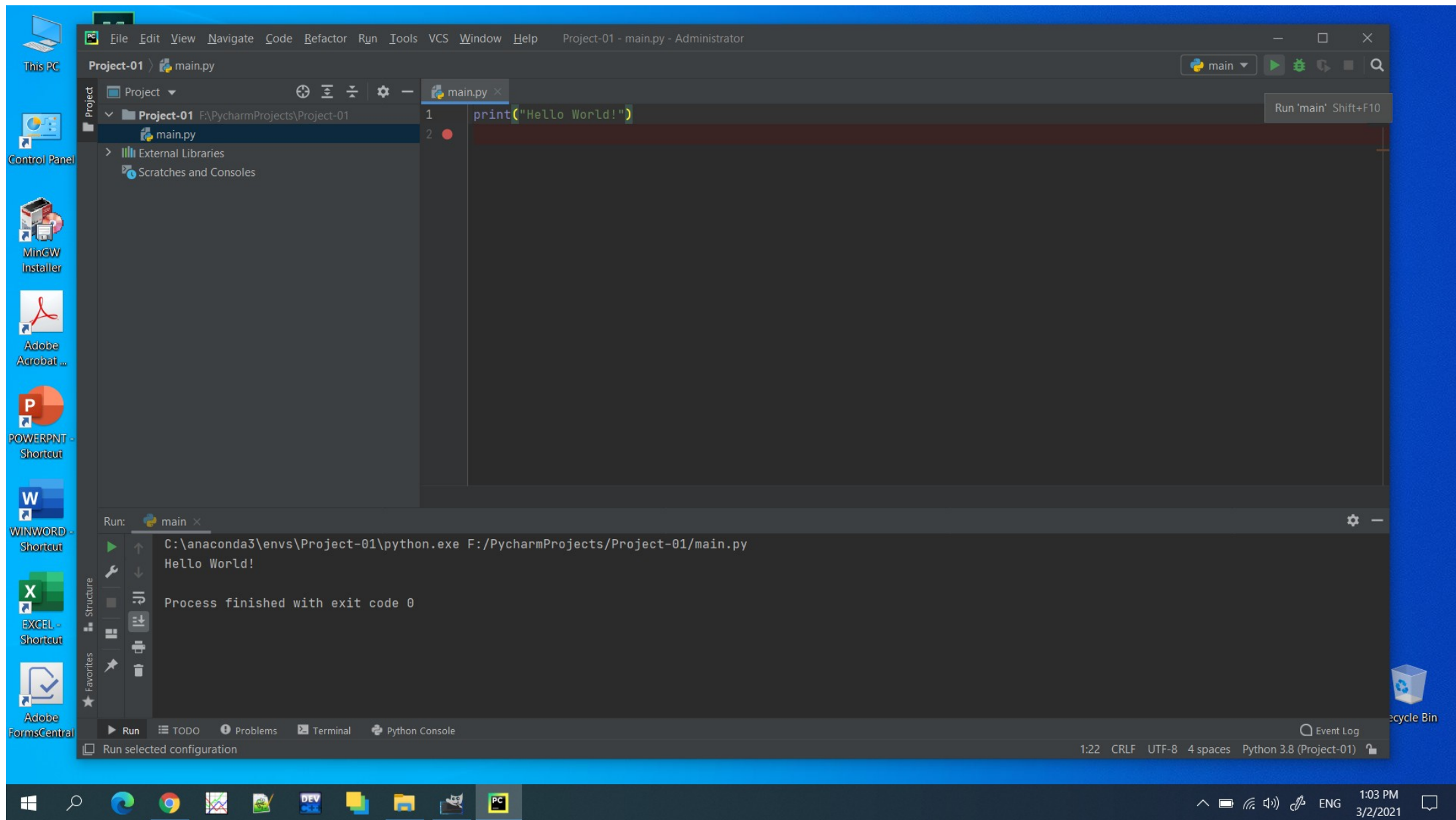


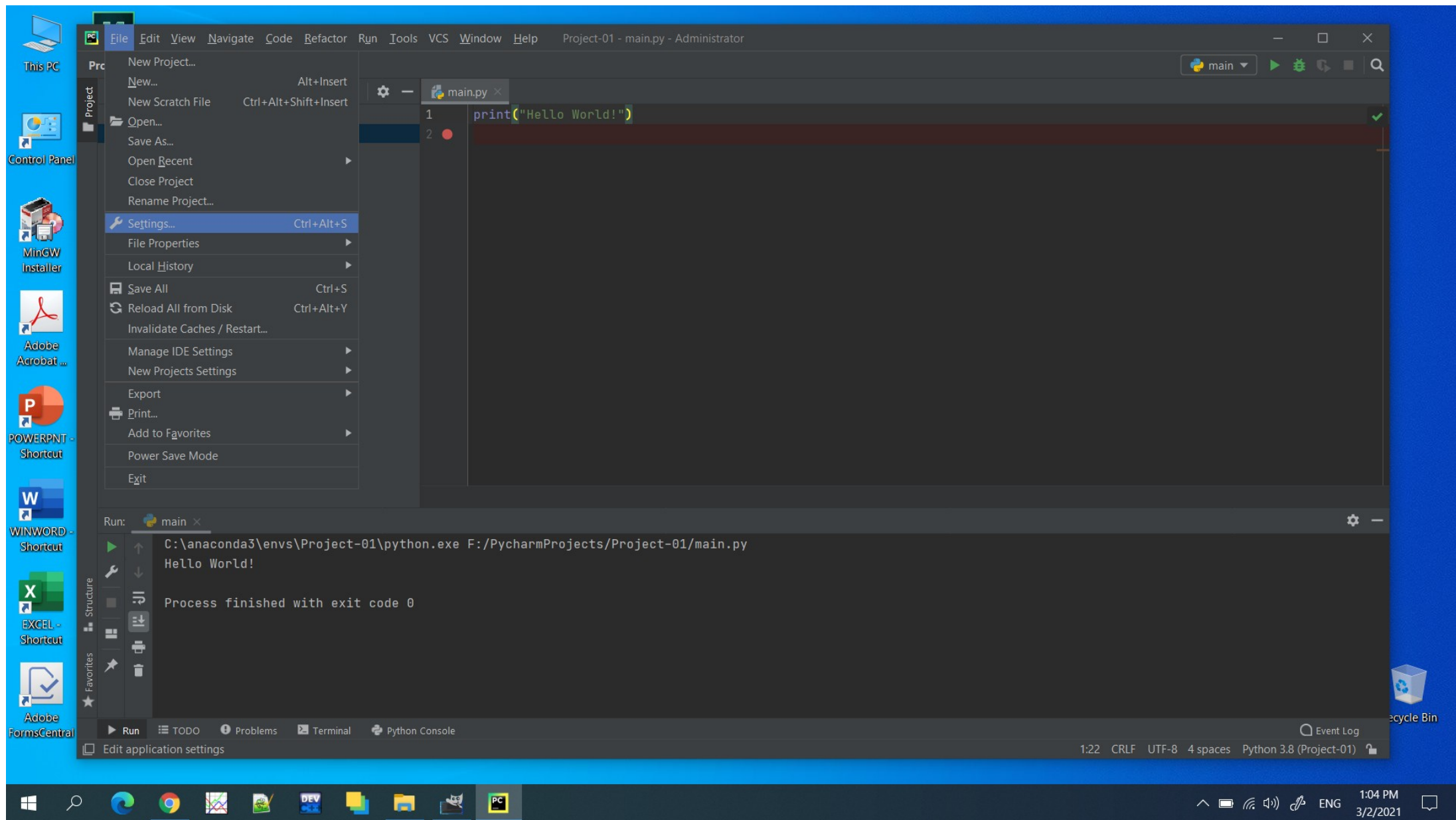
راه اندازی و ایجاد پروژه در PyCharm

راه اندازی و ایجاد پروژه در PyCharm

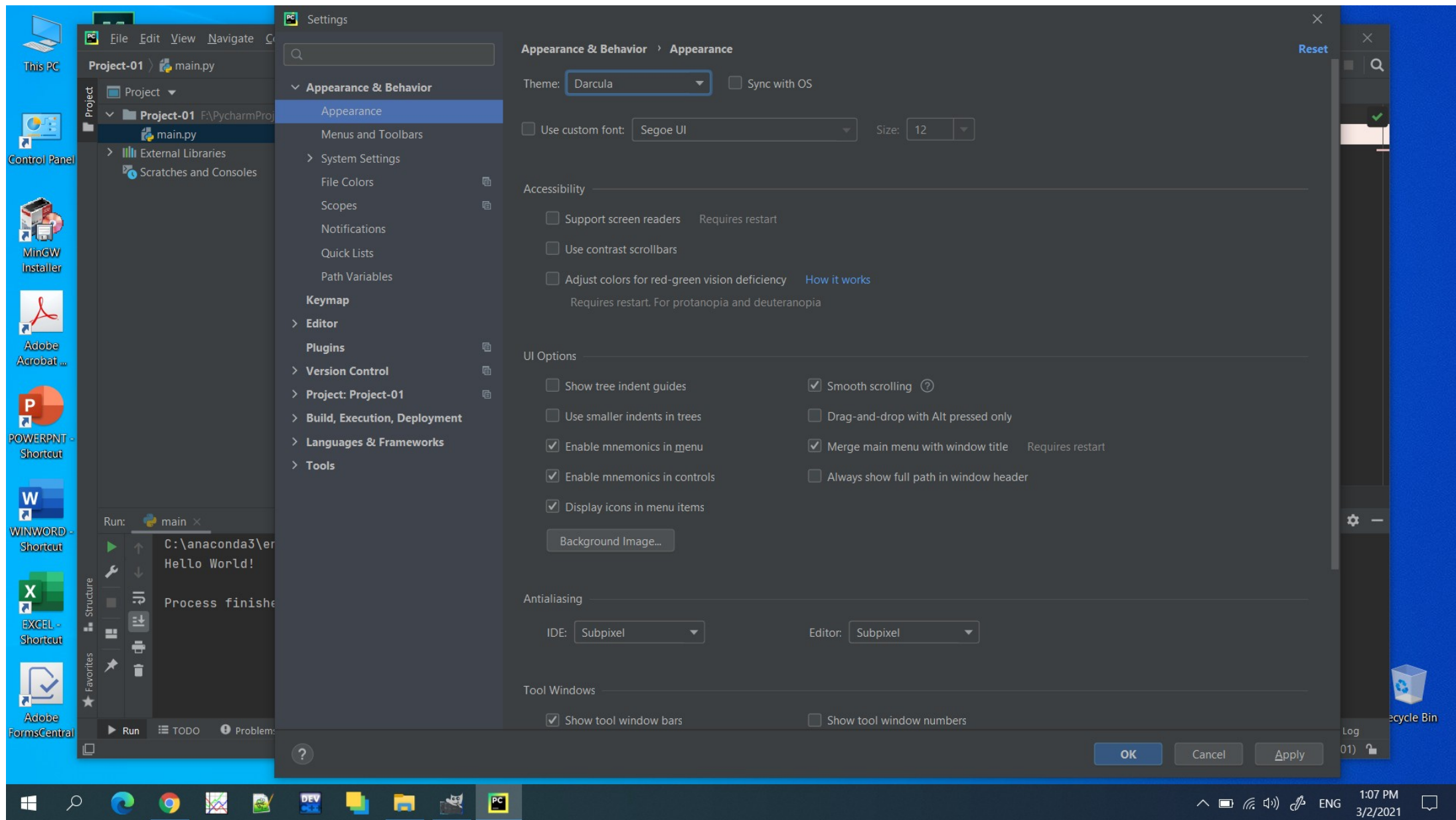


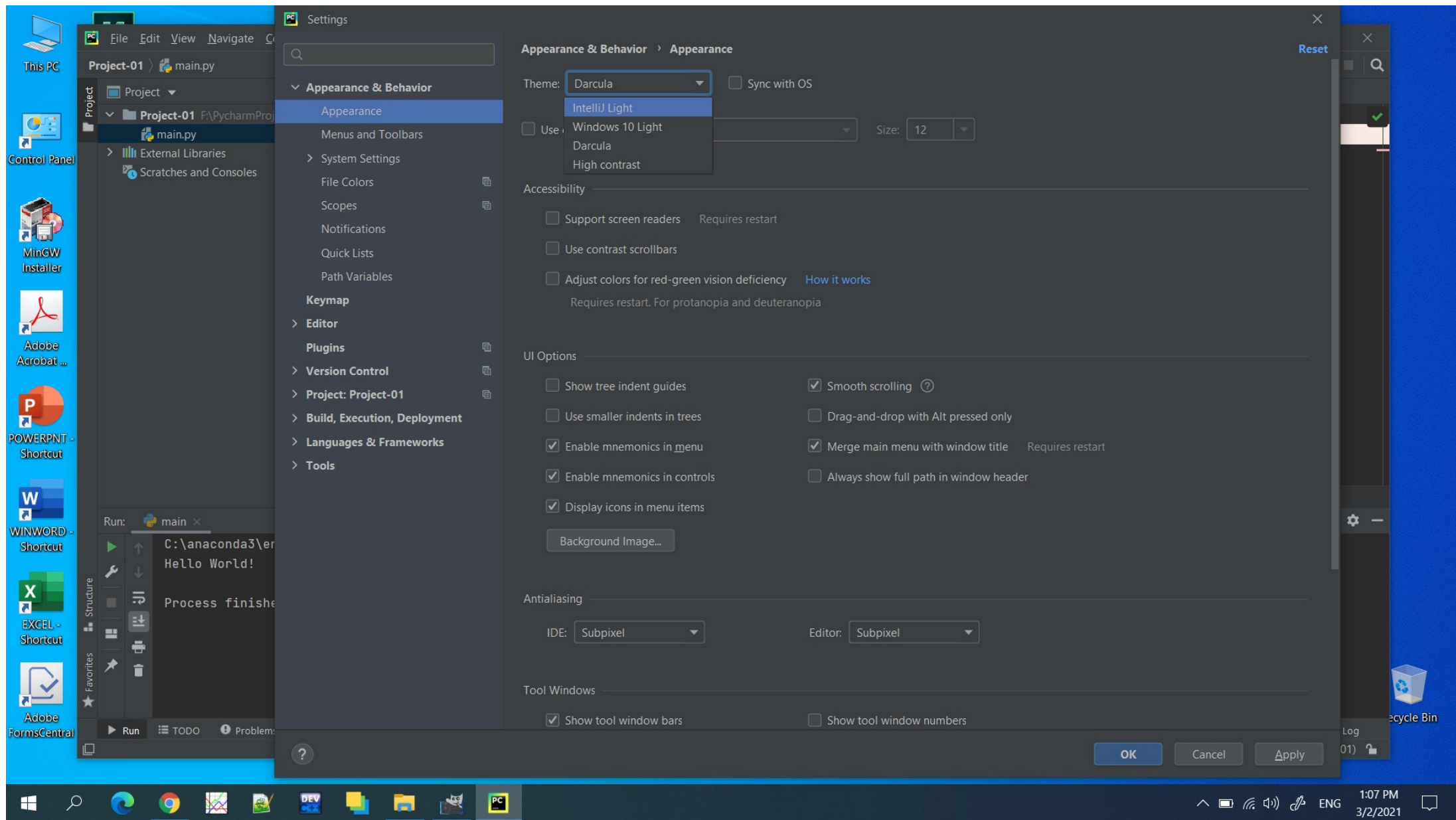
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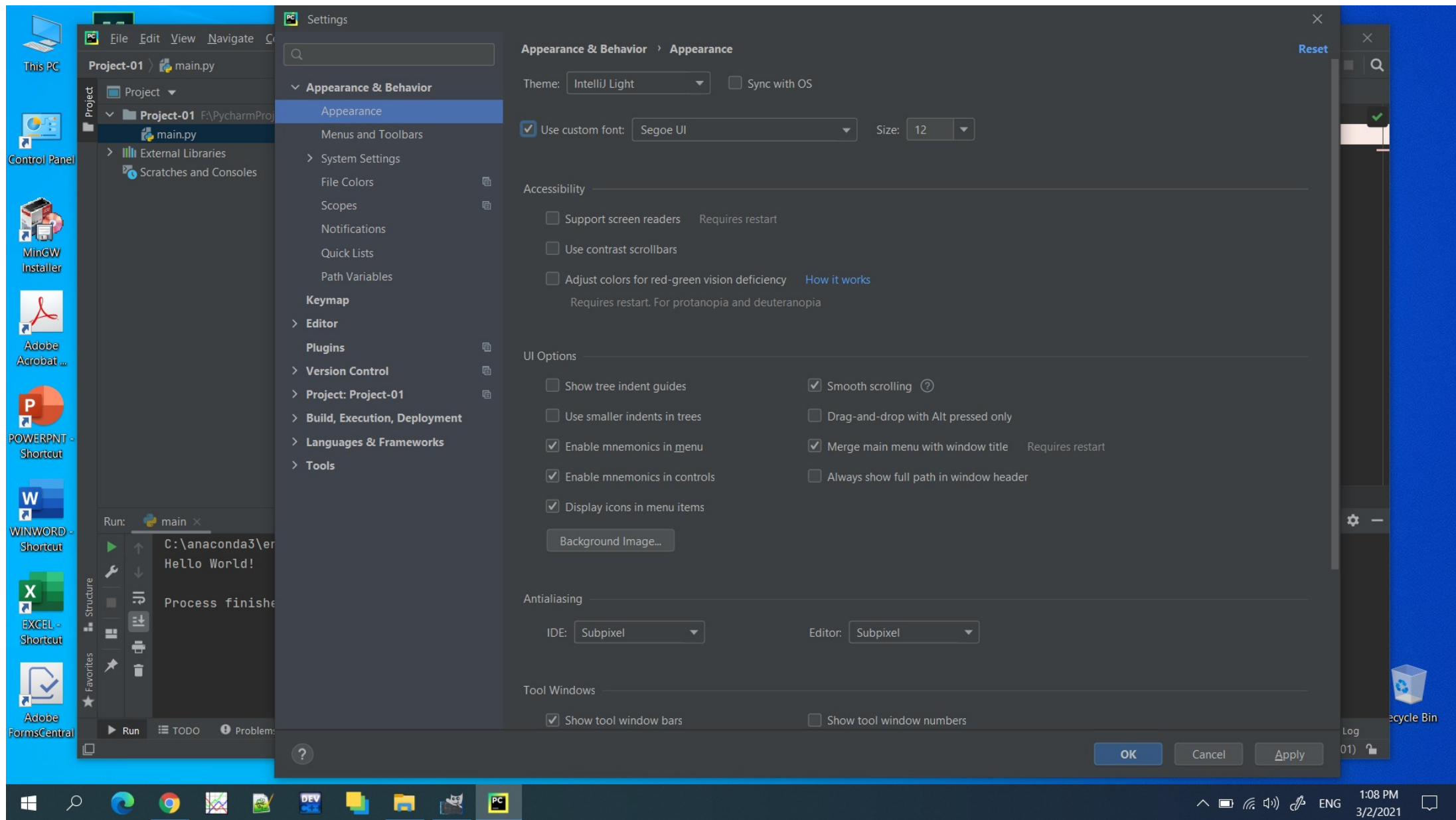


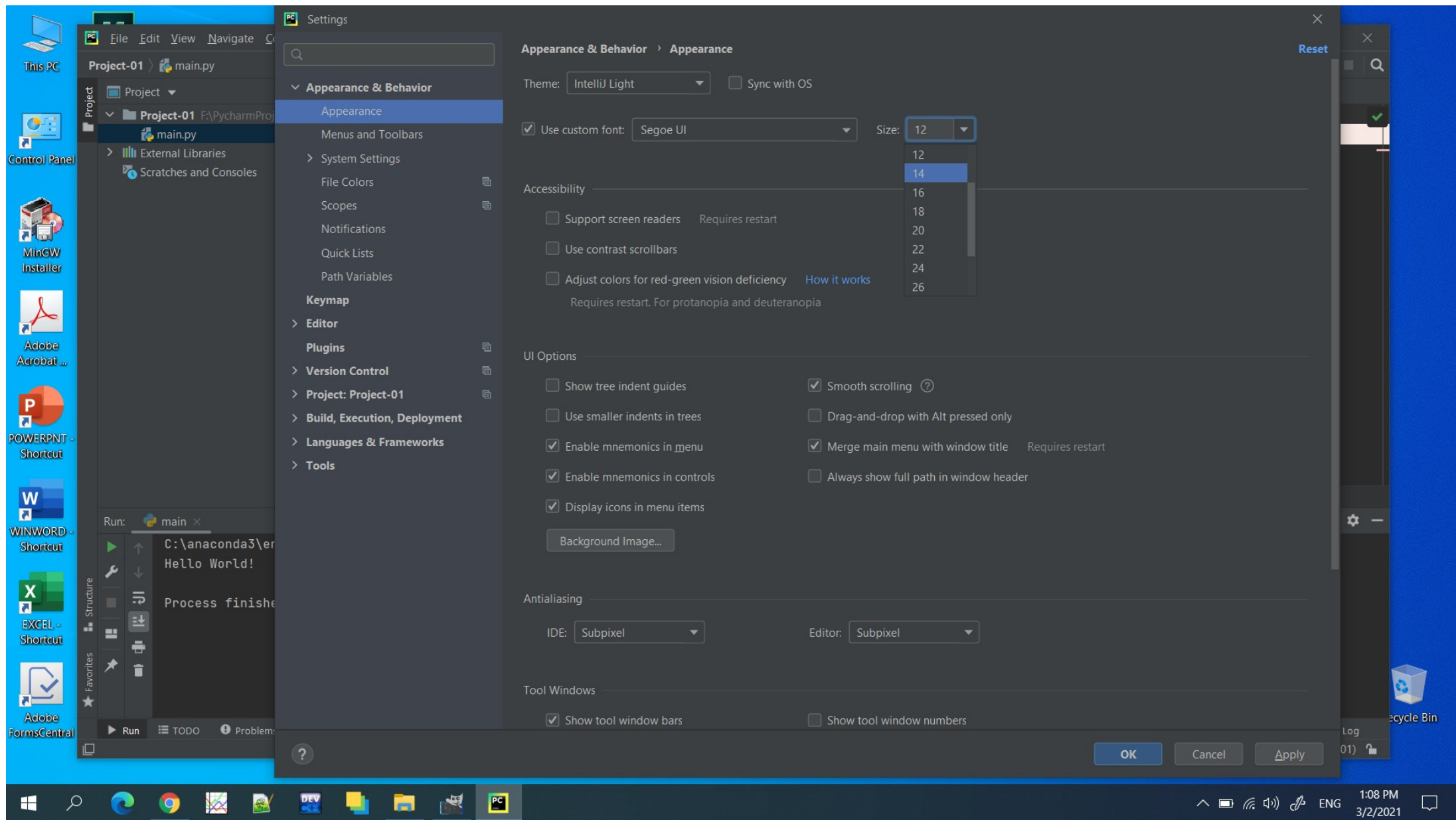


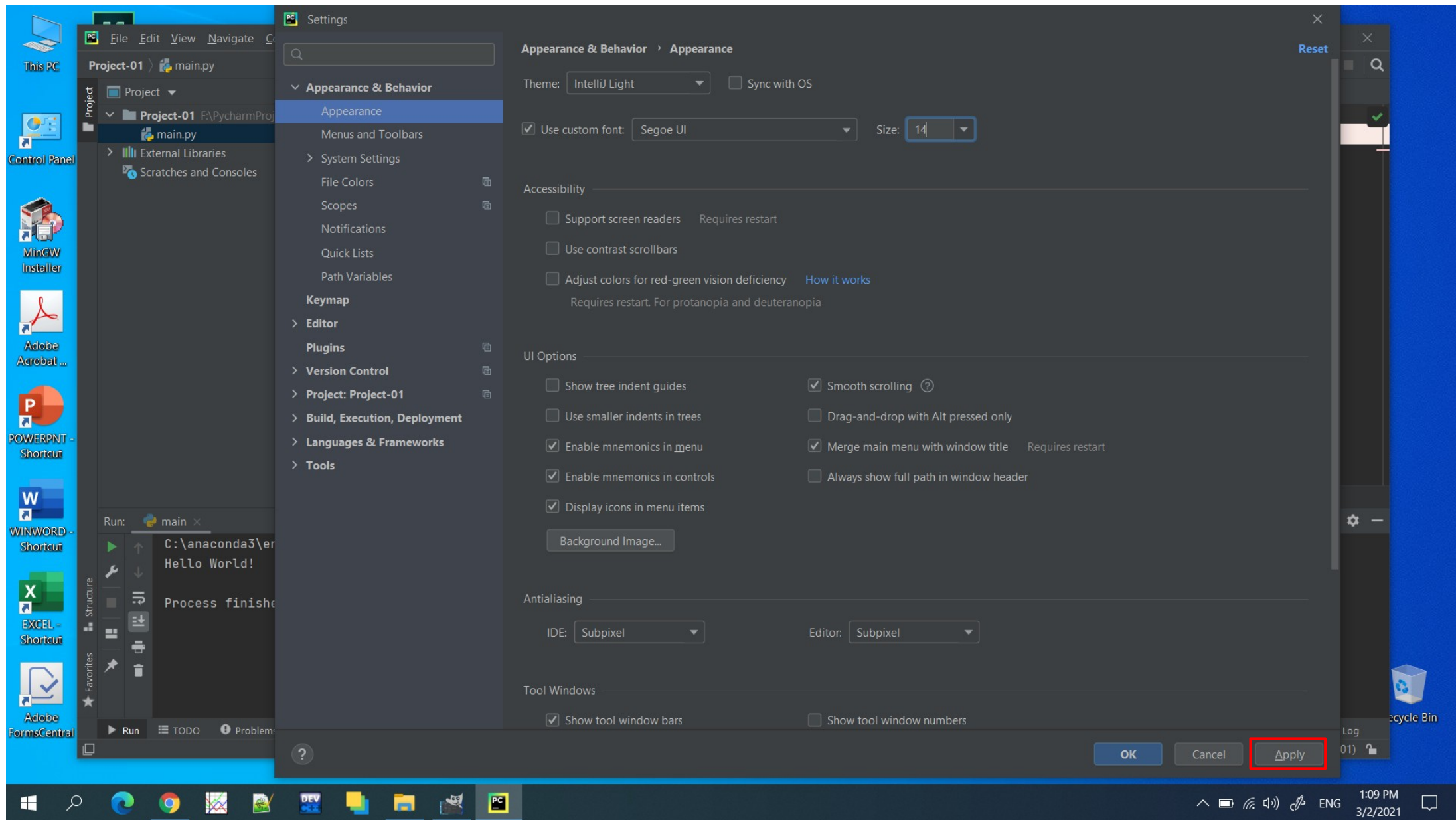
راه اندازی و ایجاد پروژه در PyCharm

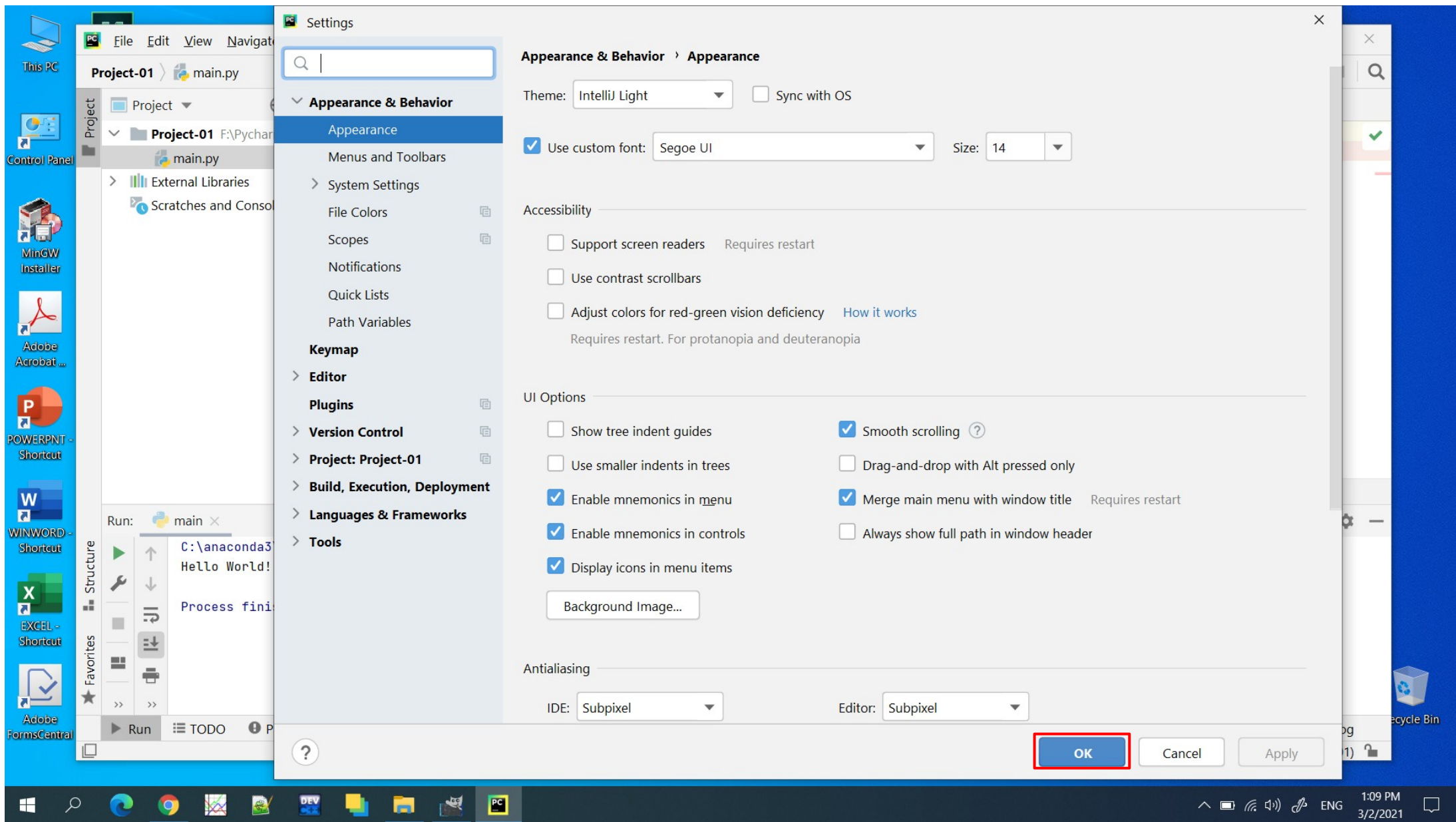


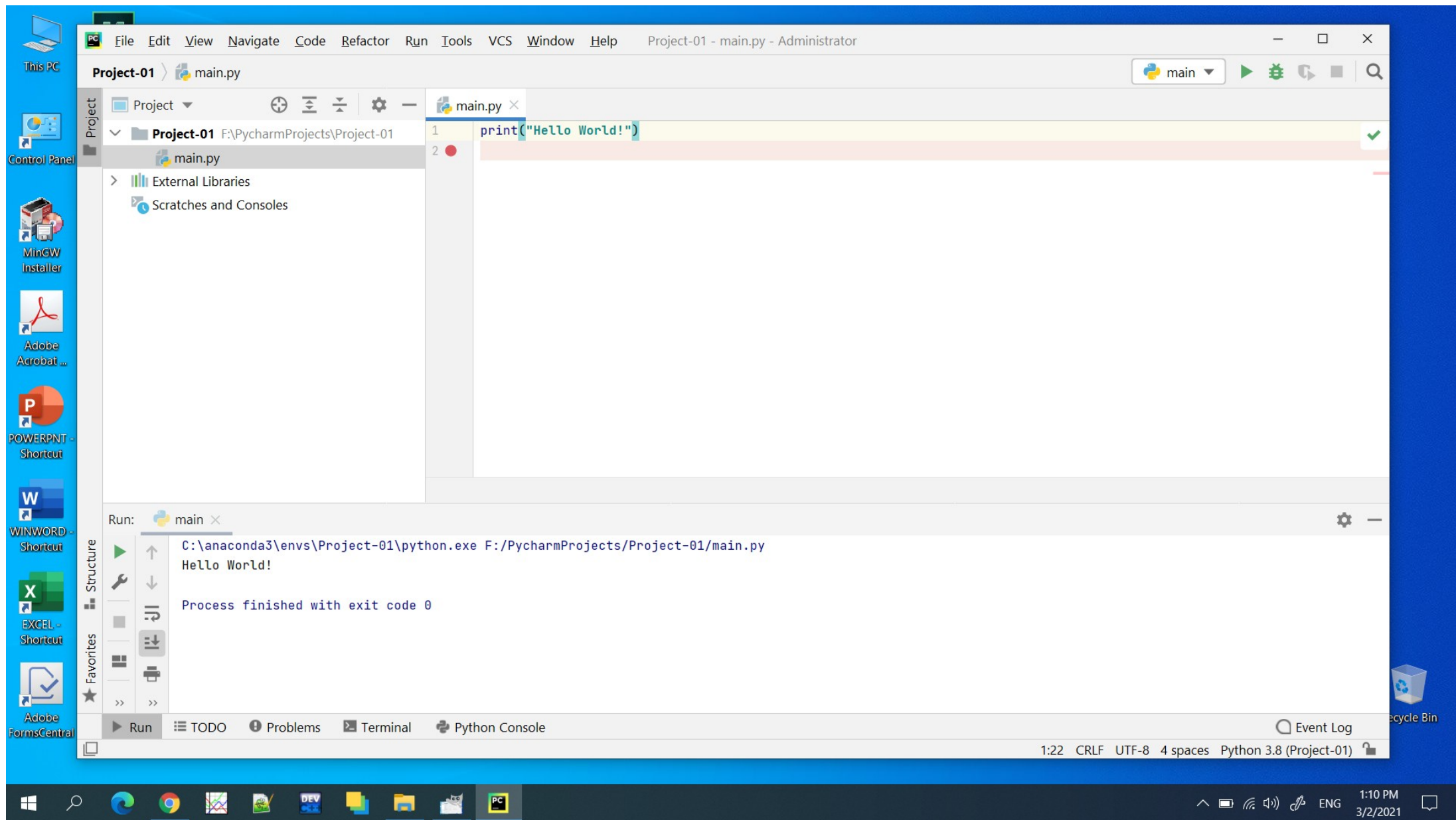


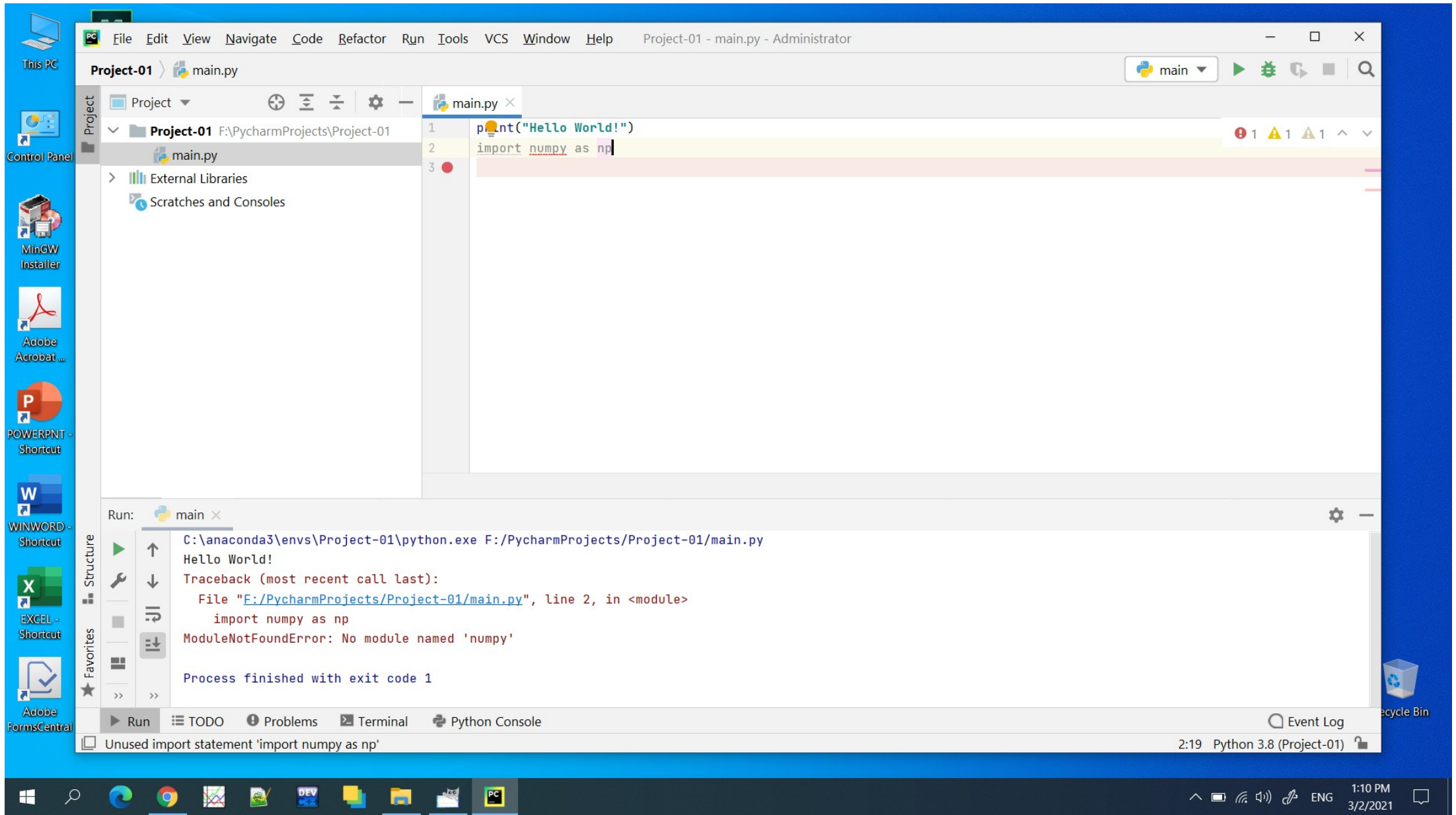


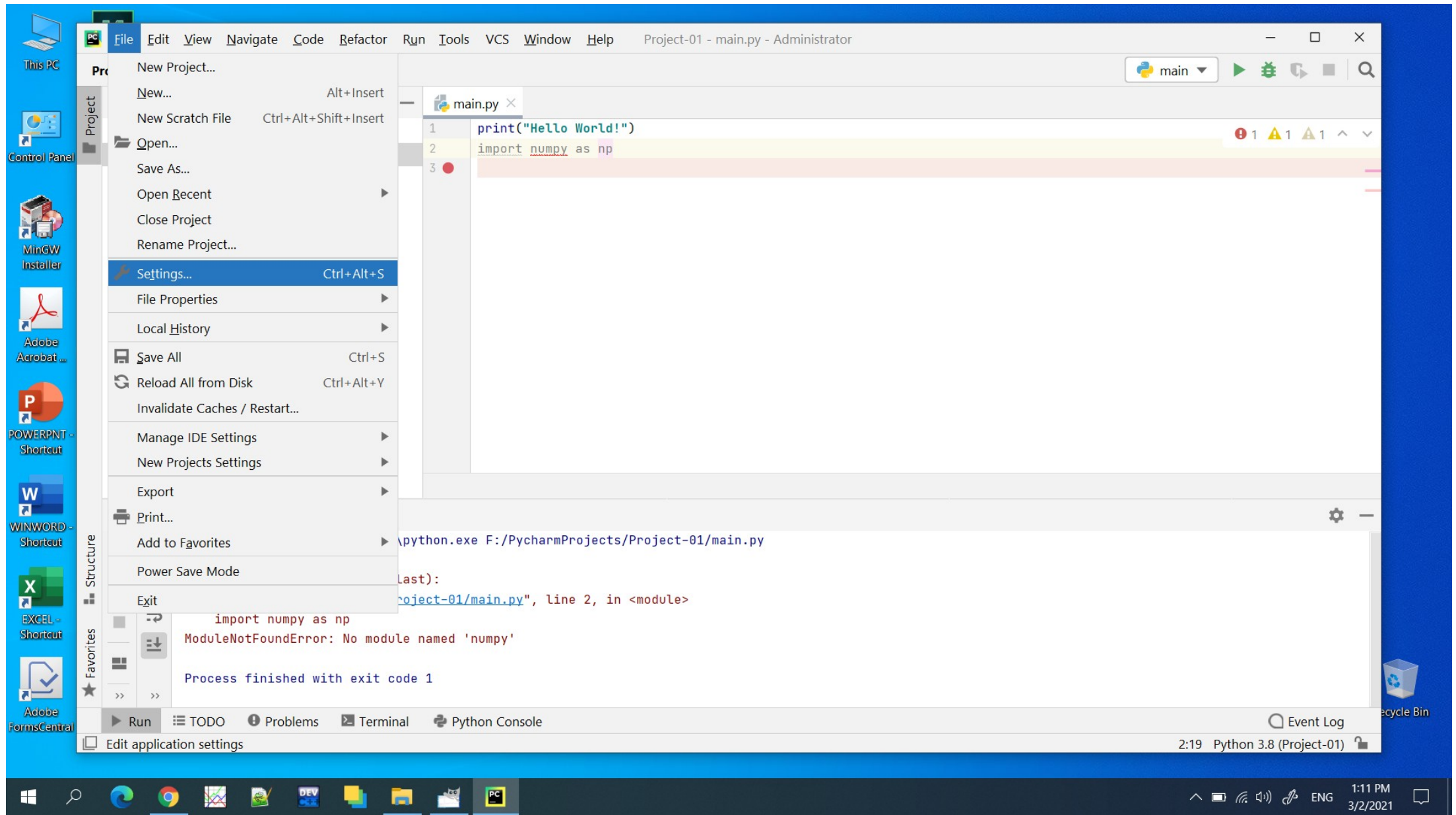


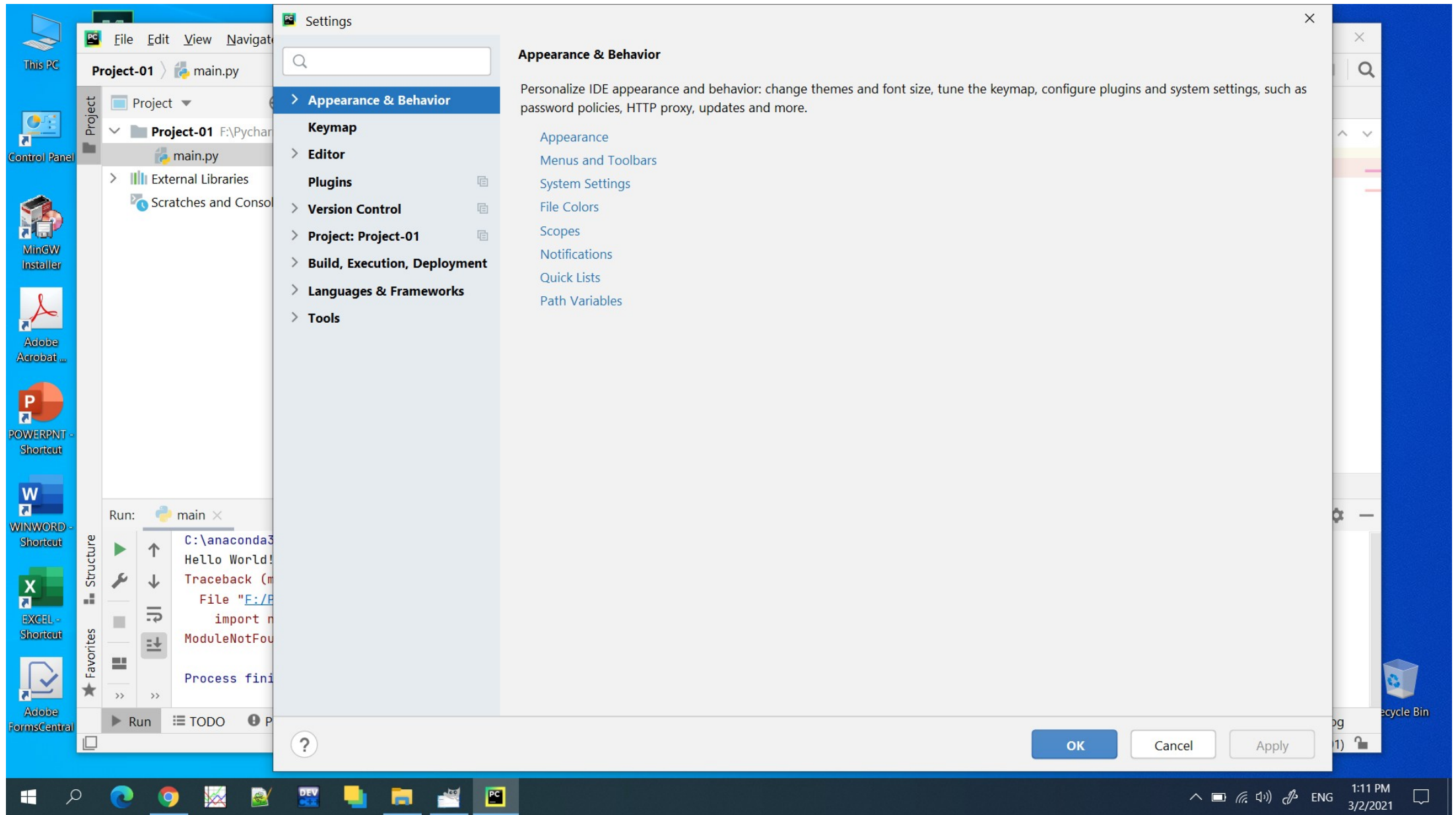




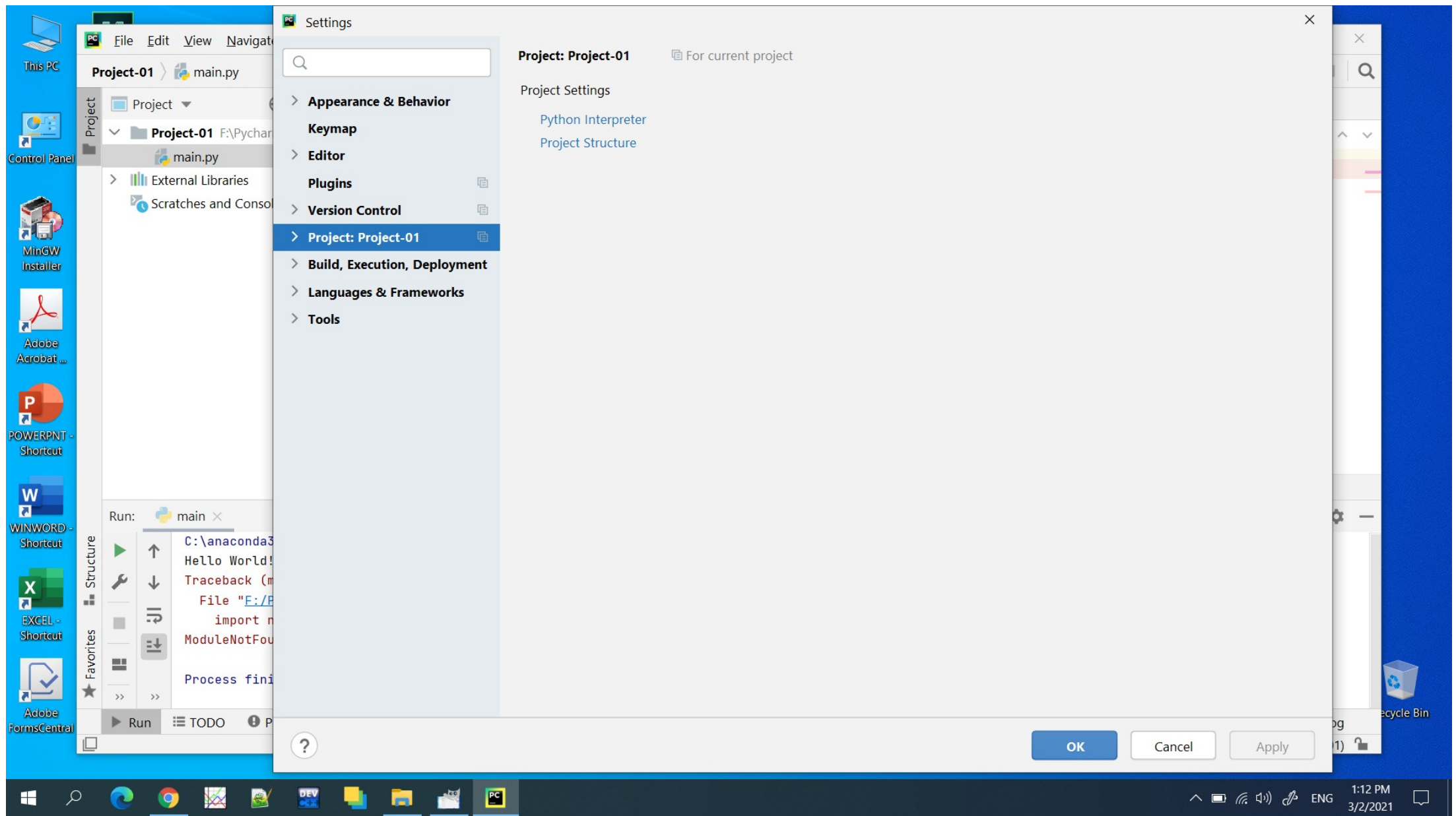




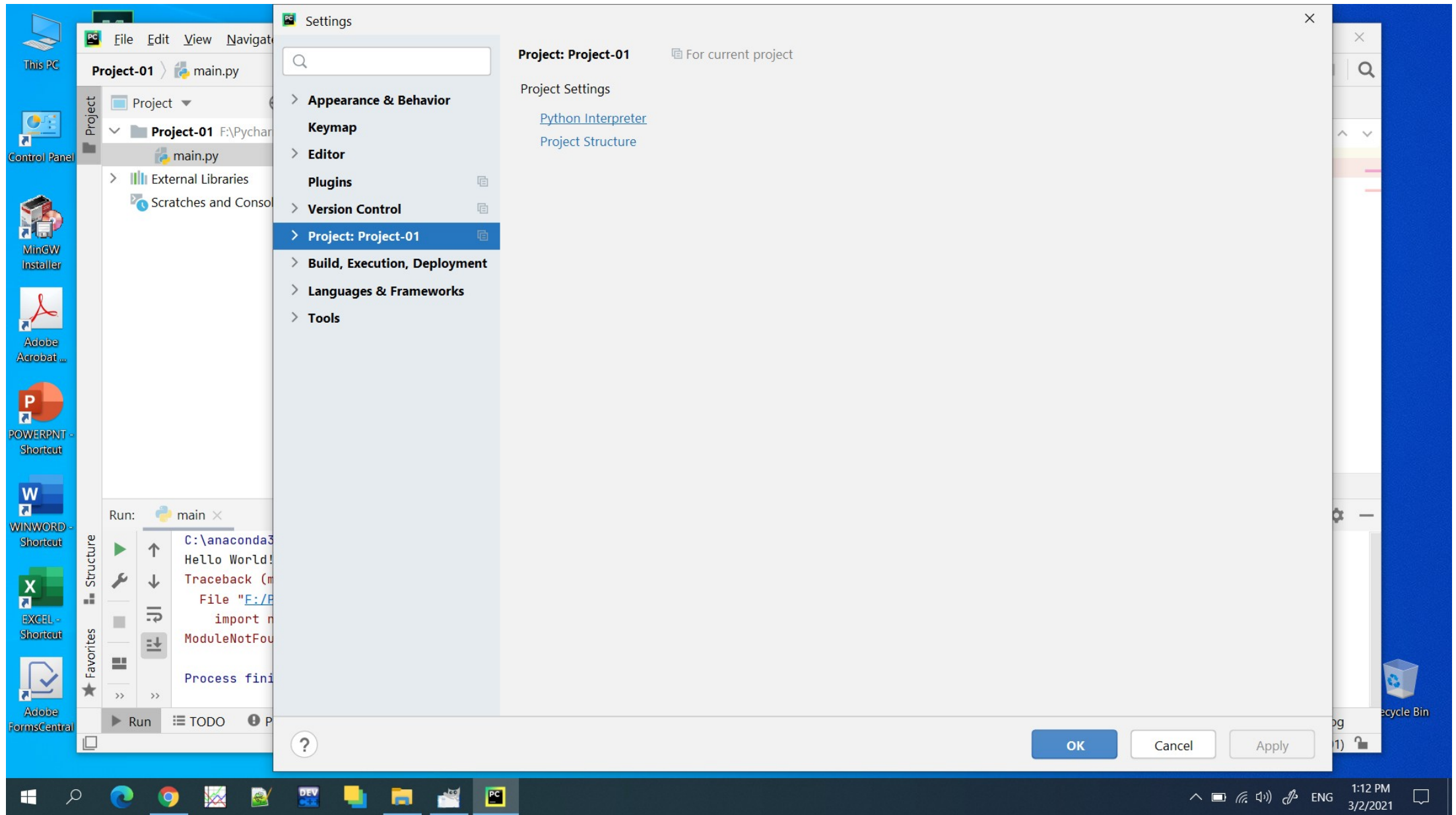




نصب Numpy، Scipy و Matplotlib برای پروژه‌ها مورد نیاز



نصب Numpy، Scipy و Matplotlib برای پروژه‌ها مورد نیاز



نصب Numpy، Scipy و Matplotlib برای پروژه‌ها مورد نیاز

Project: Project-01 > Python Interpreter For current project

Python Interpreter: Python 3.8 (Project-01) C:\anaconda3\envs\Project-01\python.exe

Package	Version	Latest version
ca-certificates	2021.1.19	
certifi	2020.12.5	
openssl	1.1.1j	
pip	21.0.1	
python	3.8.8	
setuptools	52.0.0	
sqlite	3.33.0	
vc	14.2	
vs2015_runtime	14.27.29016	
wheel	0.36.2	
wincertstore	0.2	
zlib	1.2.11	

نصب Numpy، Scipy و Matplotlib برای پروژه‌ها مورد نیاز

Project: Project-01 > Python Interpreter For current project

Python Interpreter: Python 3.8 (Project-01) C:\anaconda3\envs\Project-01\python.exe

Package	Version	Latest version
ca-certificates	2021.1.19	2021.1.19
certifi	2020.12.5	2020.12.5
openssl	1.1.1j	1.1.1j
pip	21.0.1	21.0.1
python	3.8.8	▲ 3.9.1
setuptools	52.0.0	52.0.0
sqlite	3.33.0	3.33.0
vc	14.2	14.2
vs2015_runtime	14.27.29016	14.27.29016
wheel	0.36.2	0.36.2
wincertstore	0.2	0.2
zlib	1.2.11	1.2.11

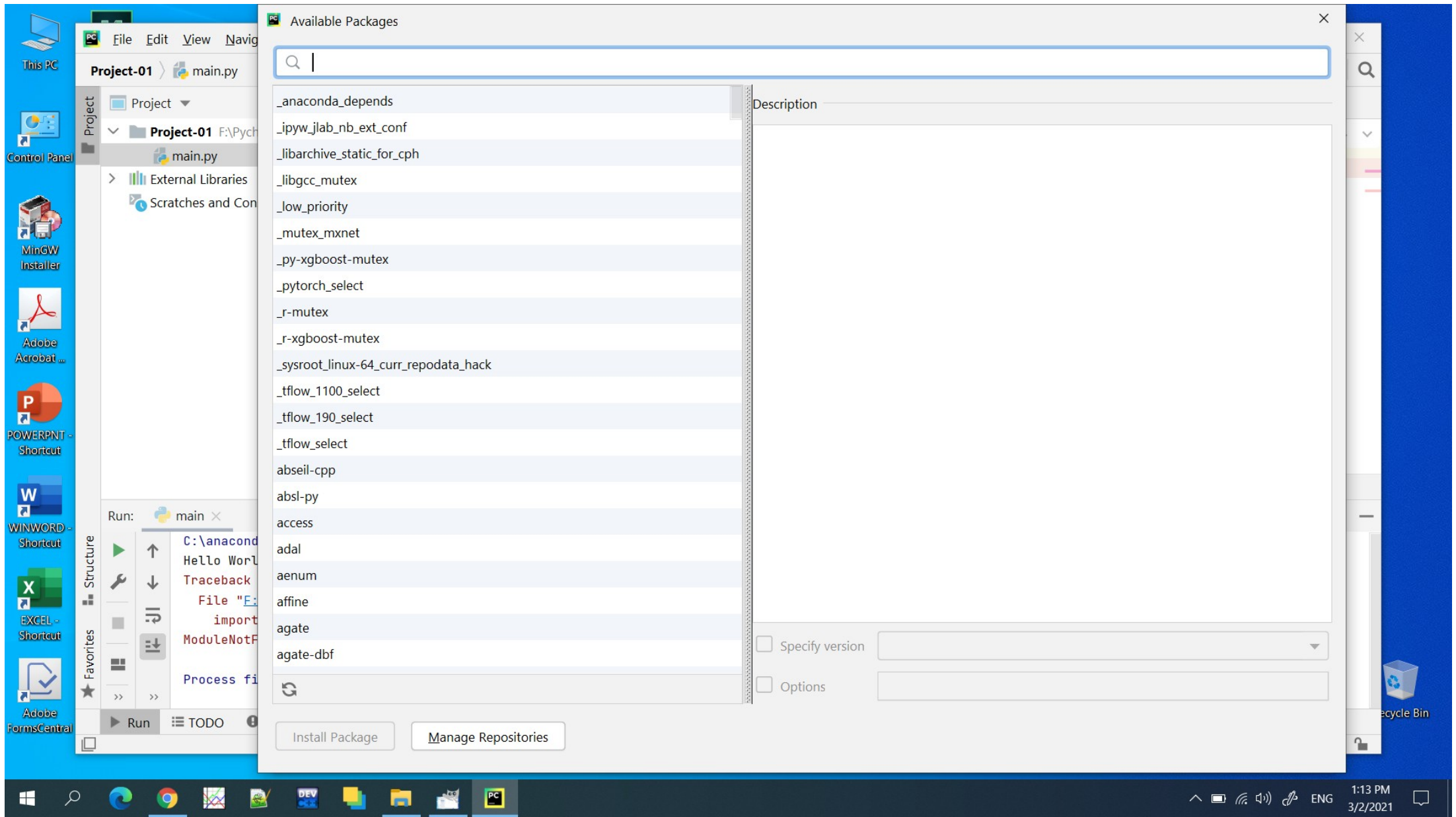
Run: main ×

```
C:\anaconda3
Hello World!
Traceback (m
File "E:/P
import n
ModuleNotFou
Process fini
```

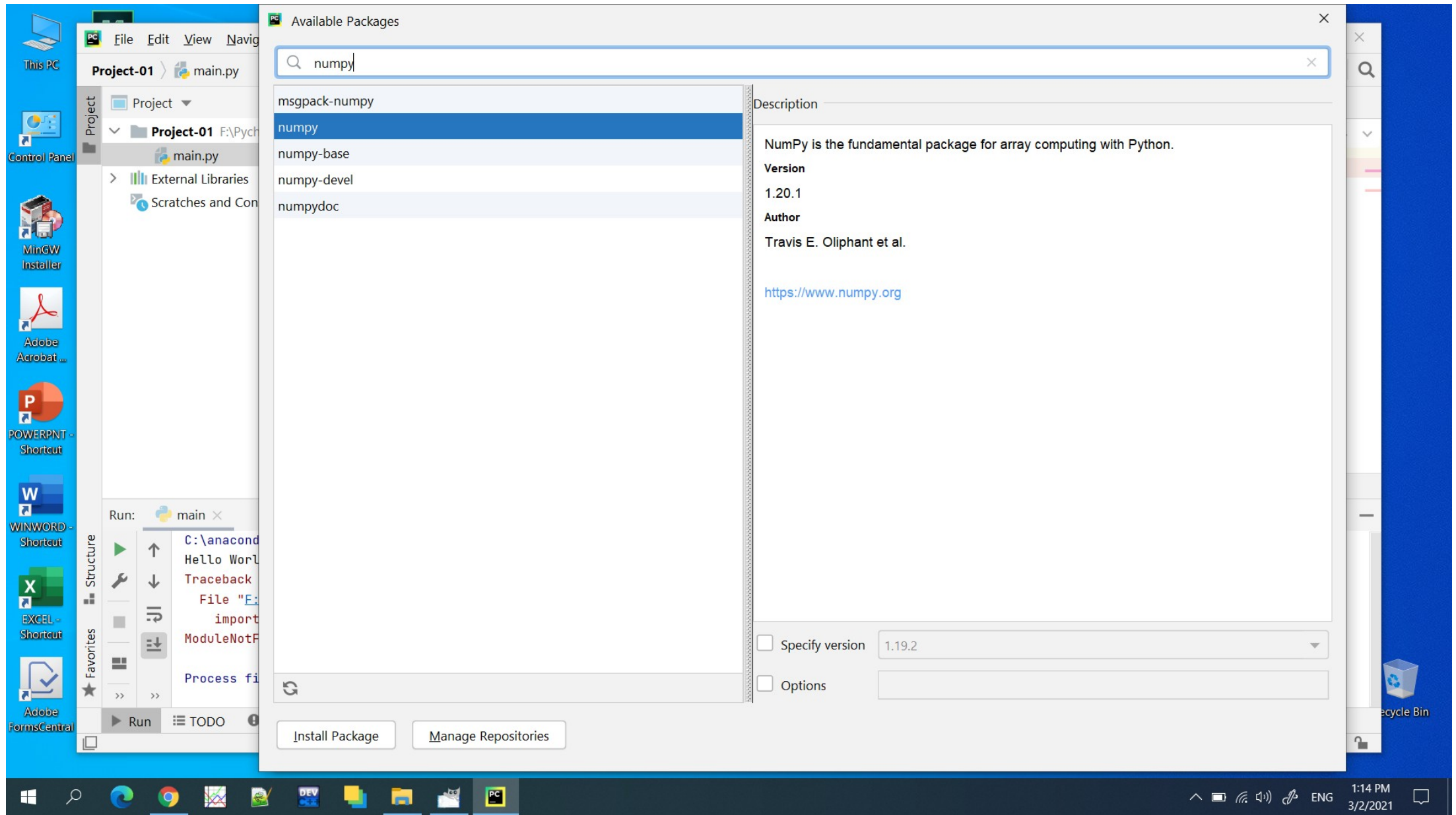
Install Alt+Insert

OK Cancel Apply

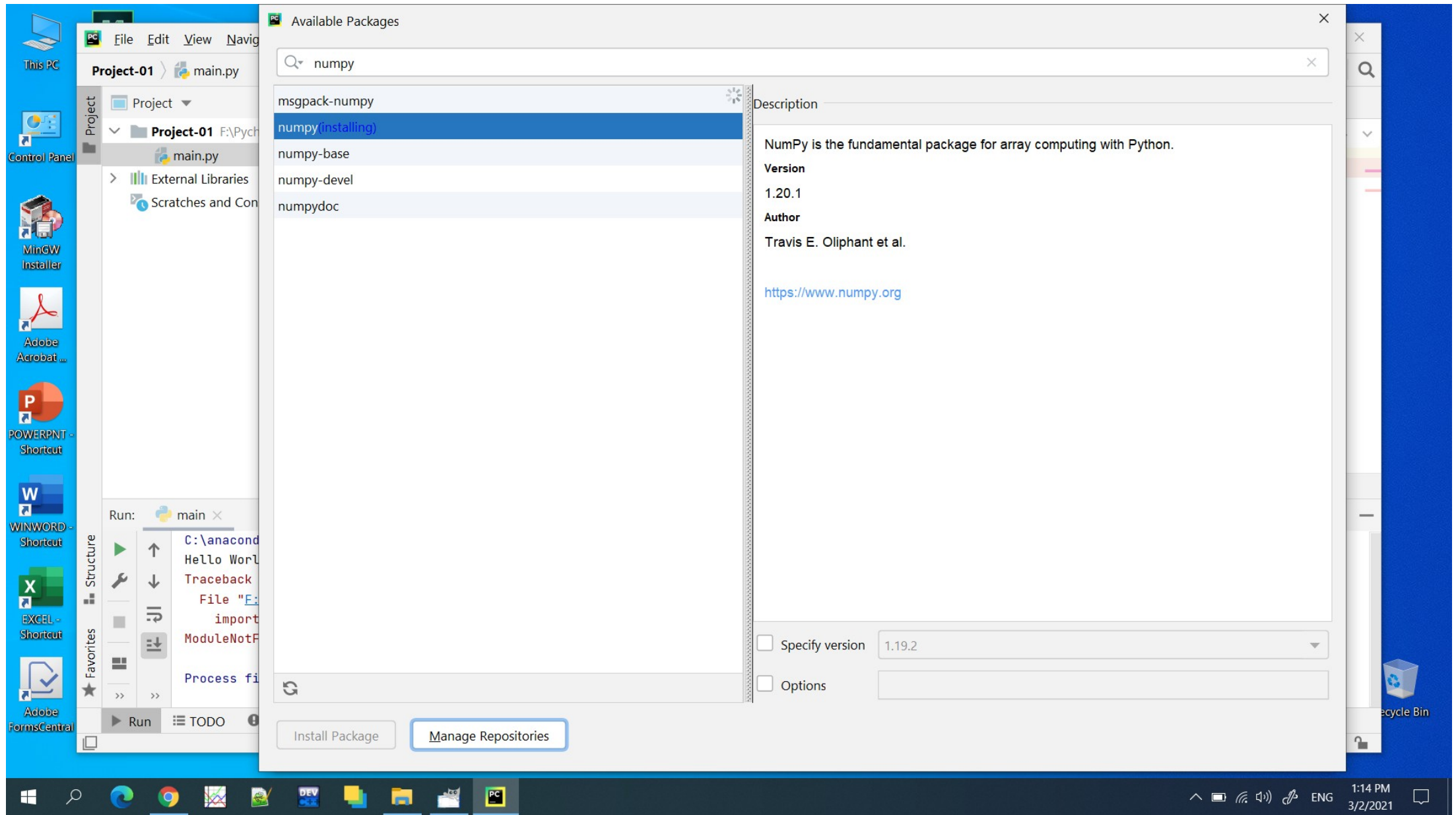
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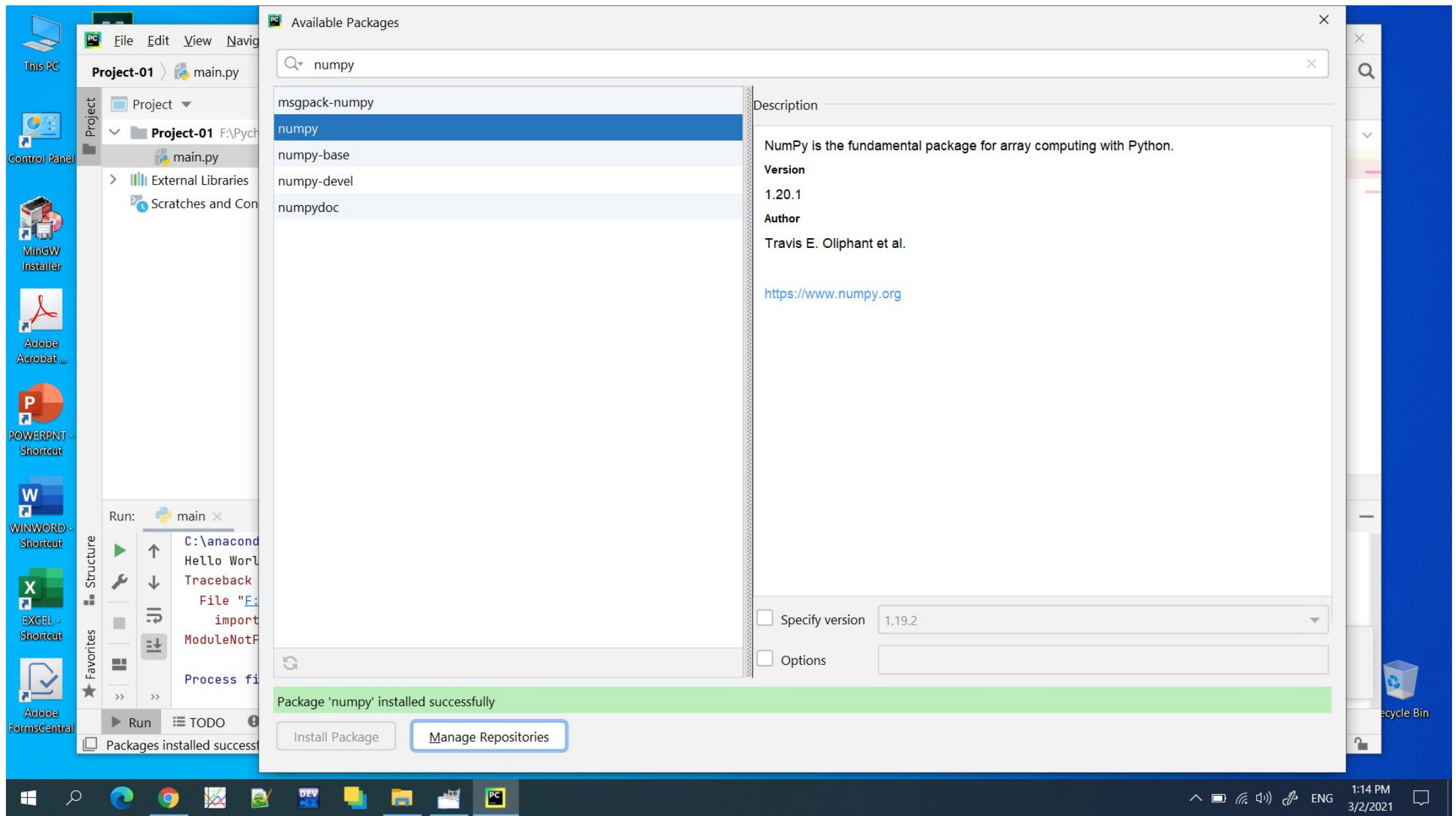
نصب Numpy، Scipy و Matplotlib برای پروژه‌ها مورد نیاز



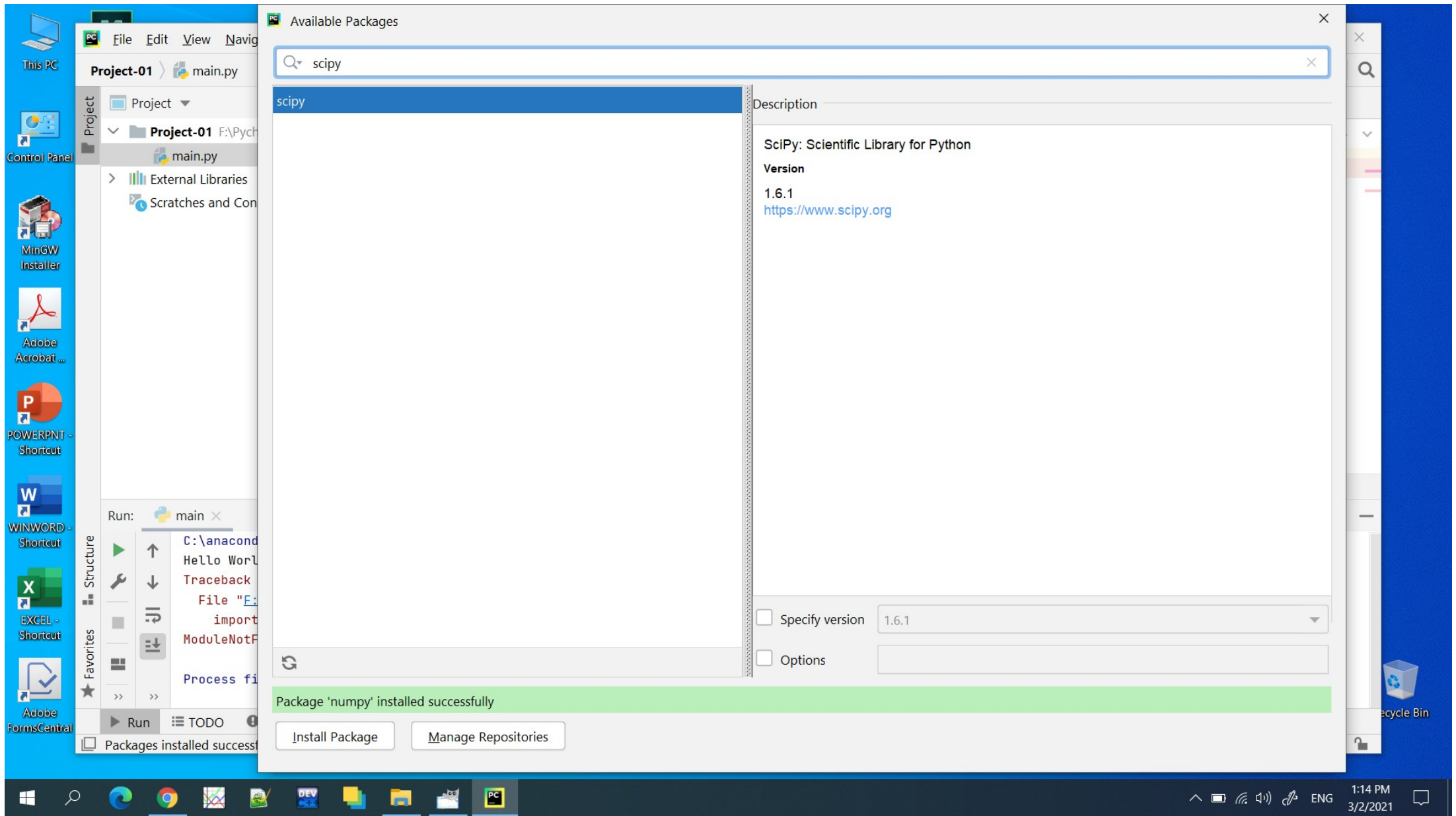
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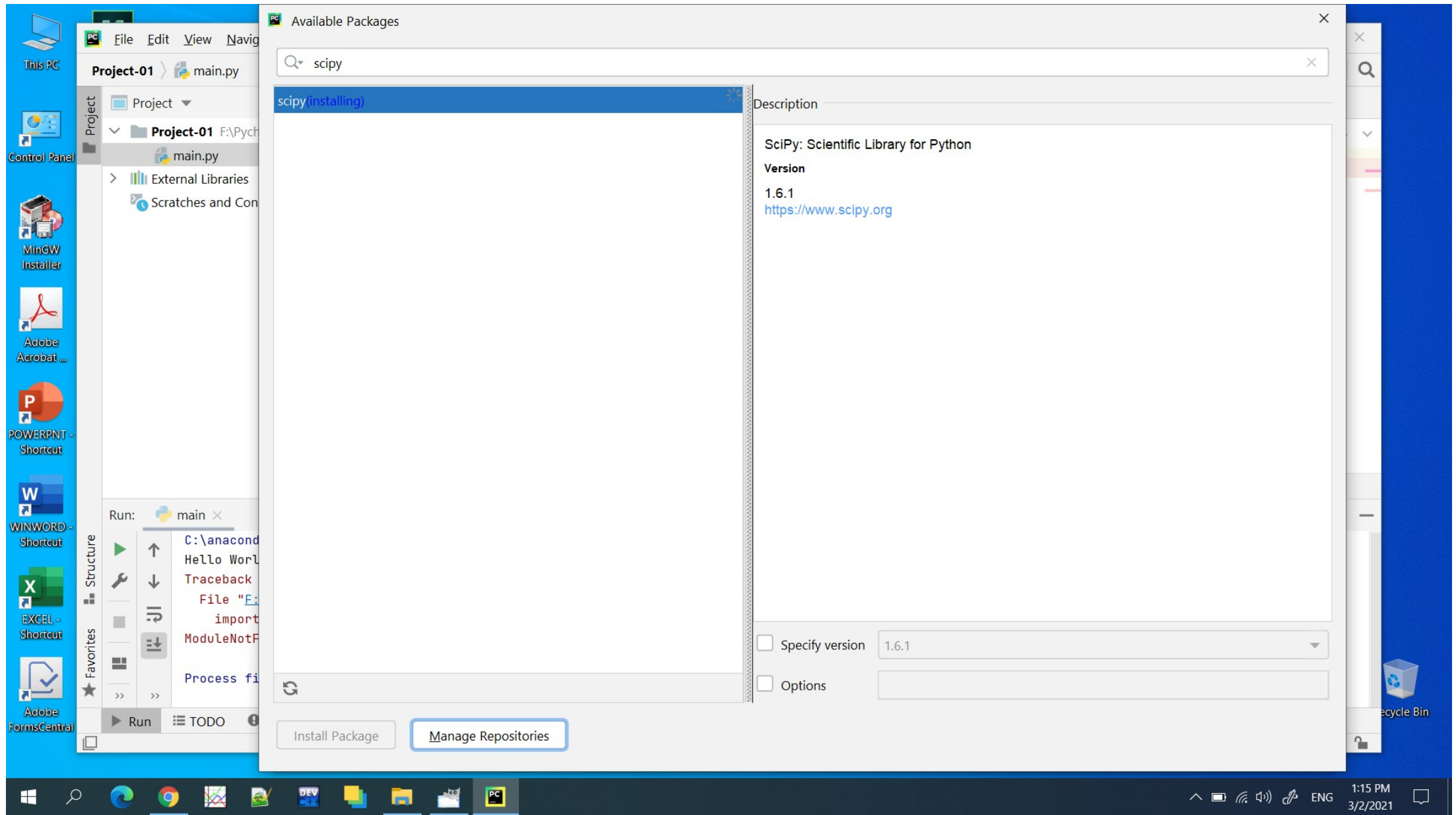


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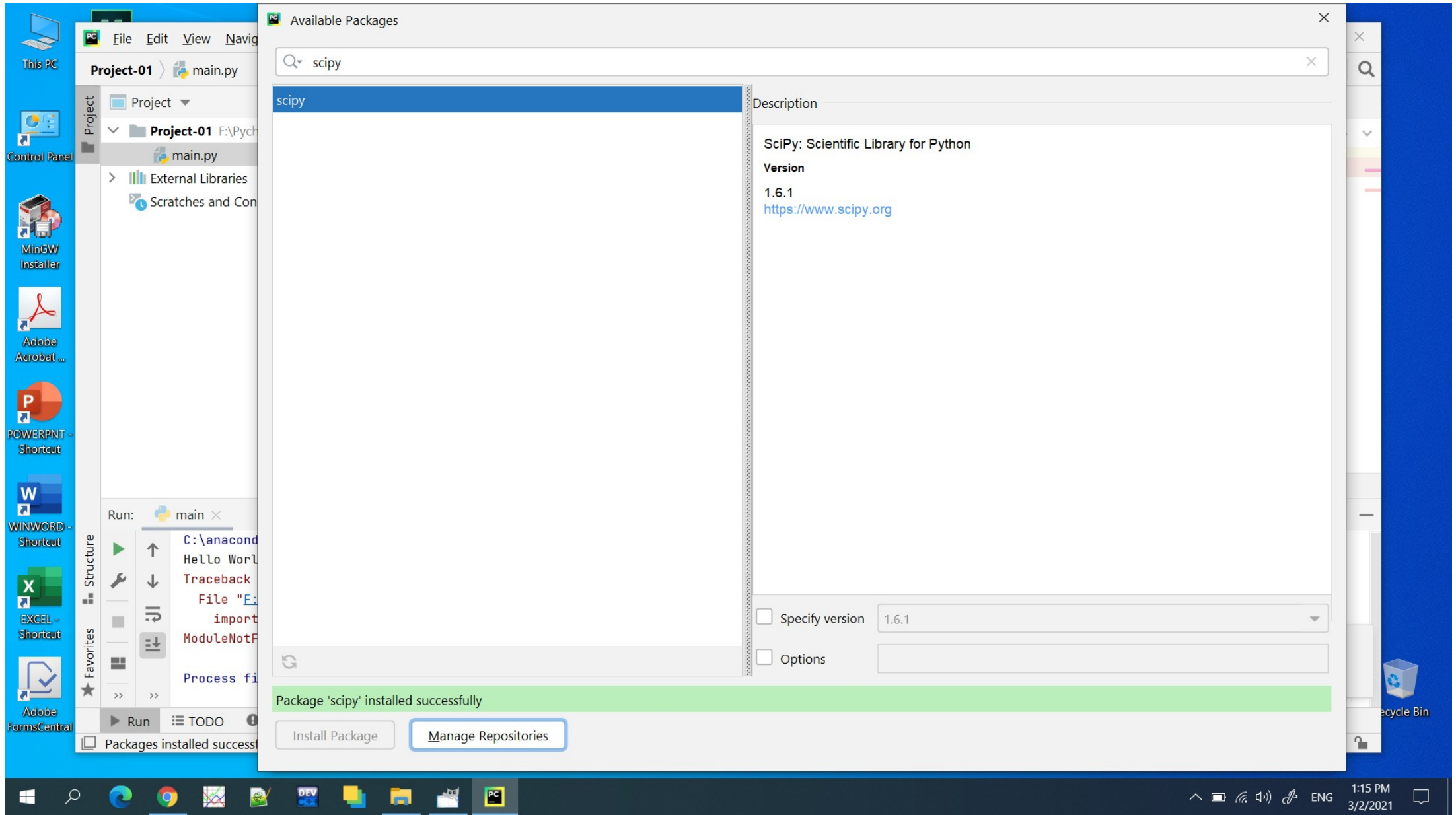


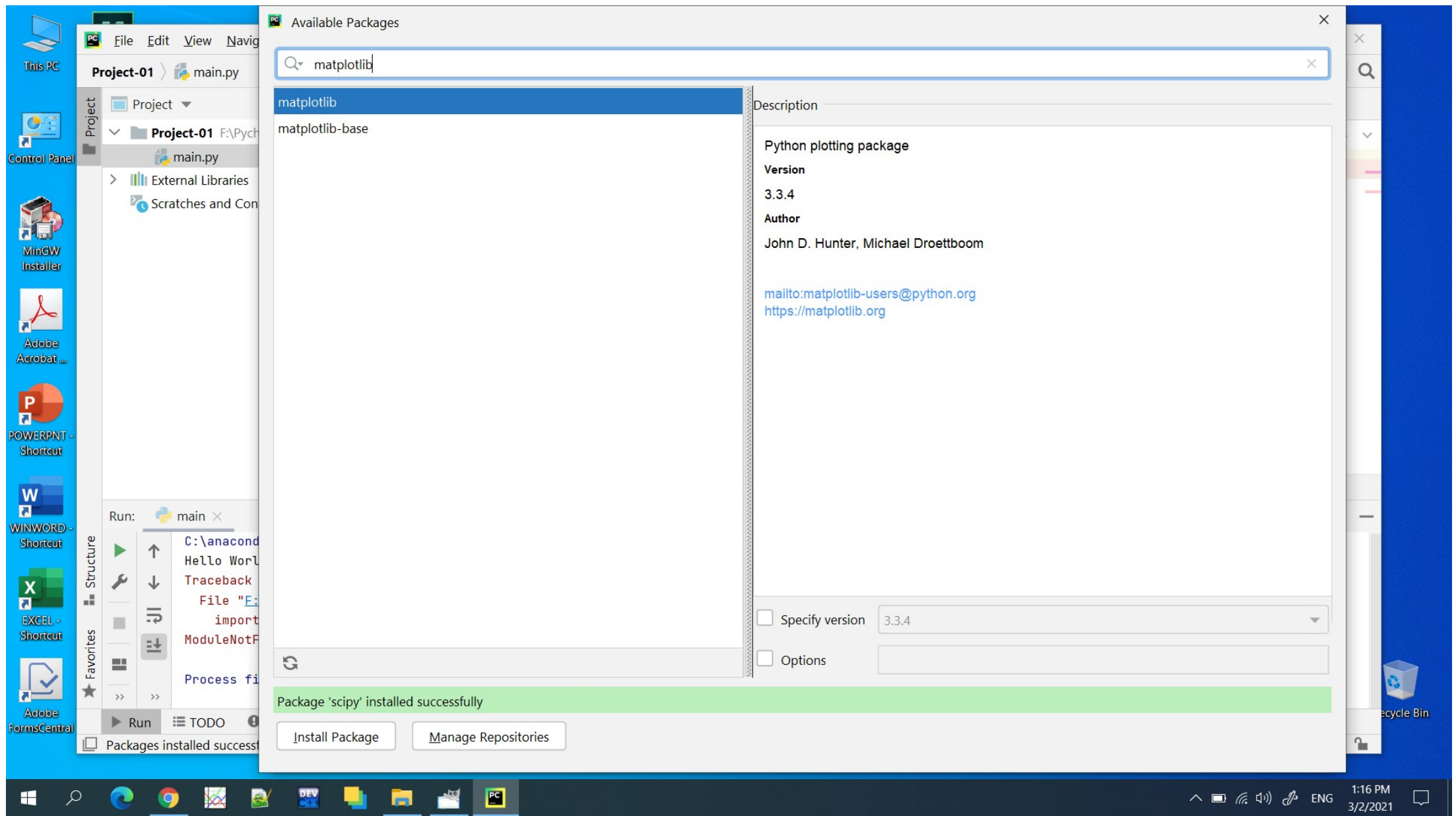
نصب Numpy، Scipy و Matplotlib برای پروژه‌ها مورد نیاز



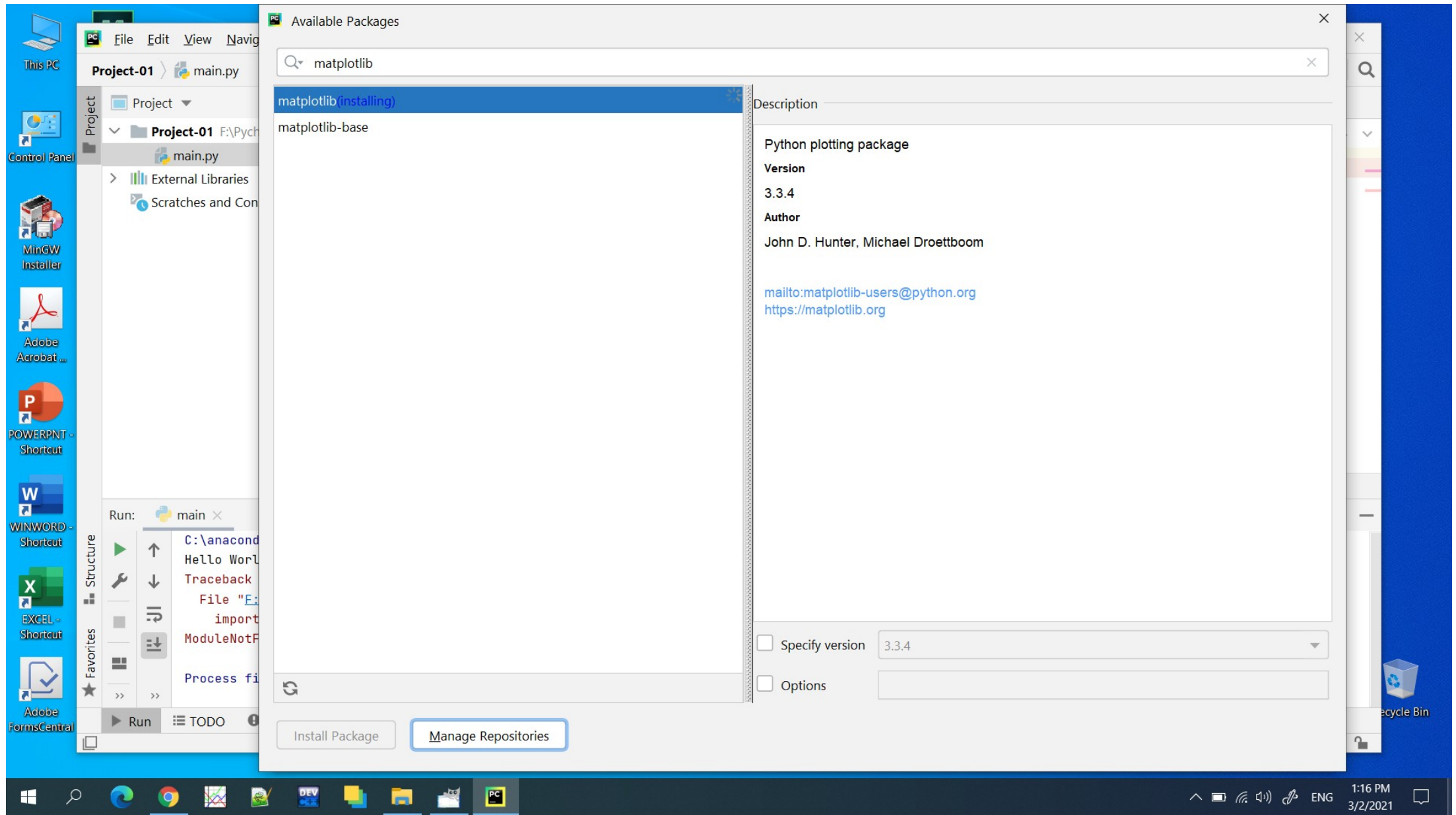


نصب Numpy، Scipy و Matplotlib برای پروژه‌ها مورد نیاز

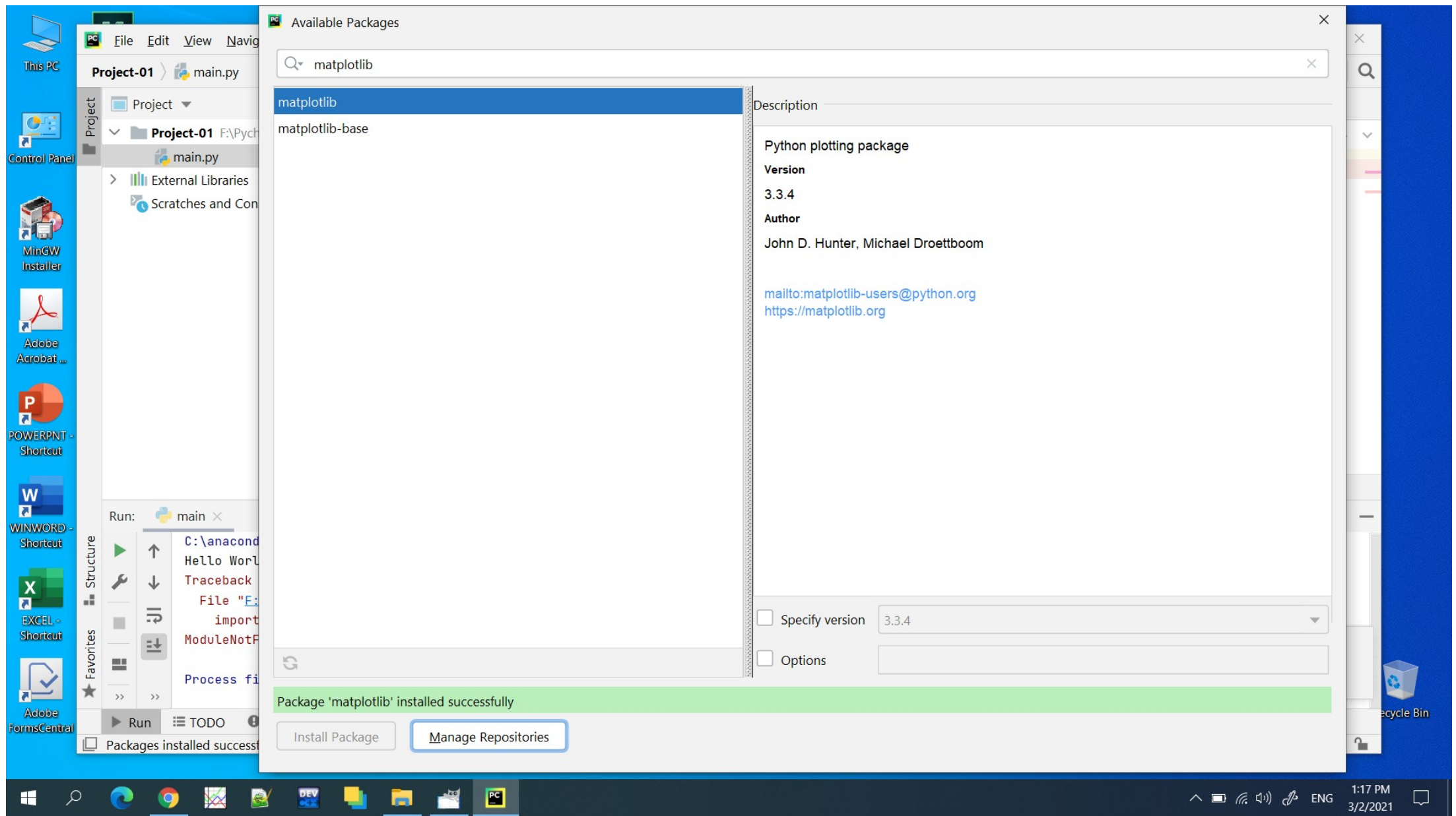




نصب Numpy، Scipy و Matplotlib برای پروژه‌ها مورد نیاز



نصب Numpy، Scipy و Matplotlib برای پروژه‌ها مورد نیاز



نصب Numpy، Scipy و Matplotlib برای پروژه‌ها مورد نیاز

Project: Project-01 > Python Interpreter For current project

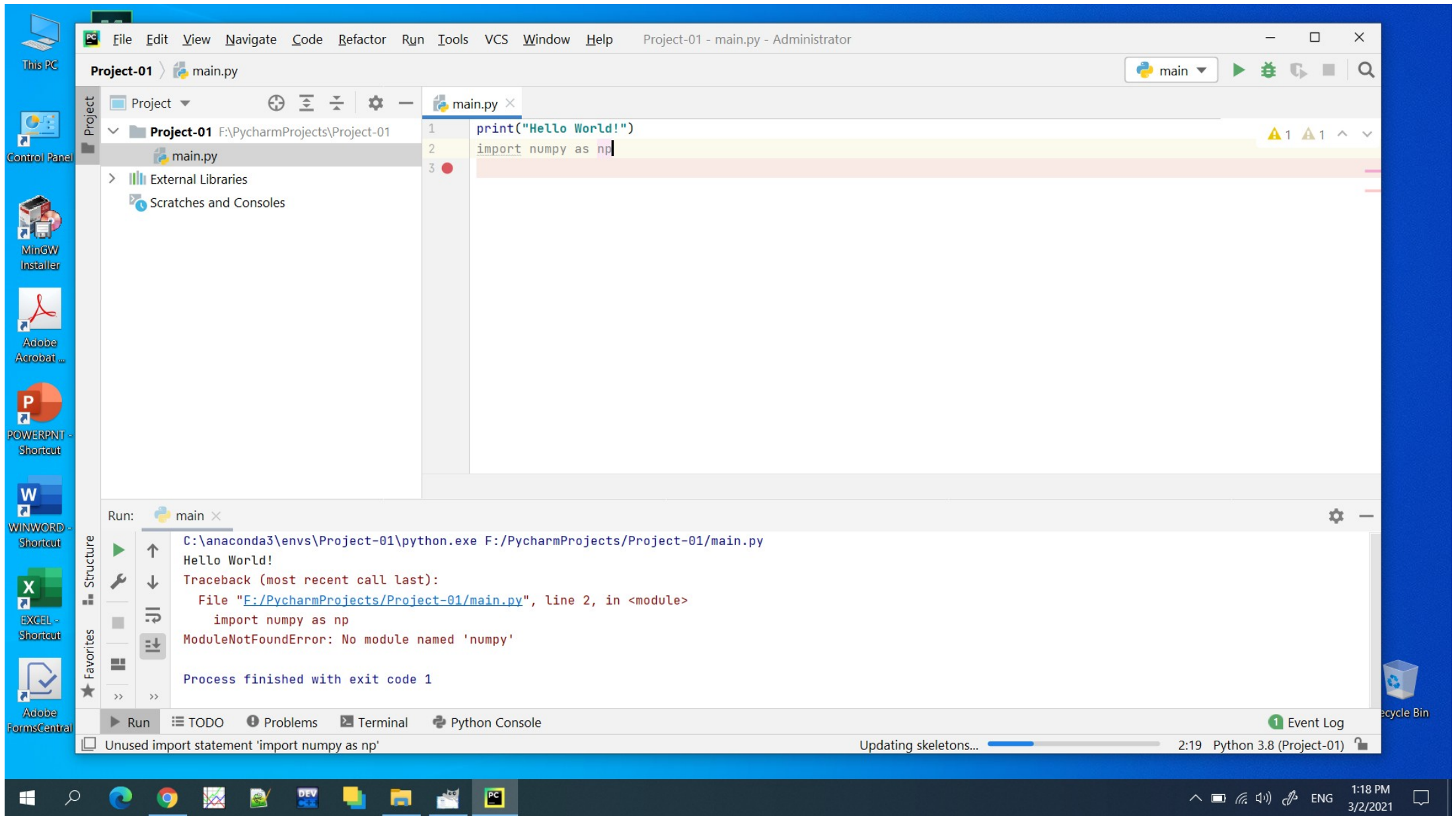
Python Interpreter: Python 3.8 (Project-01) C:\anaconda3\envs\Project-01\python.exe

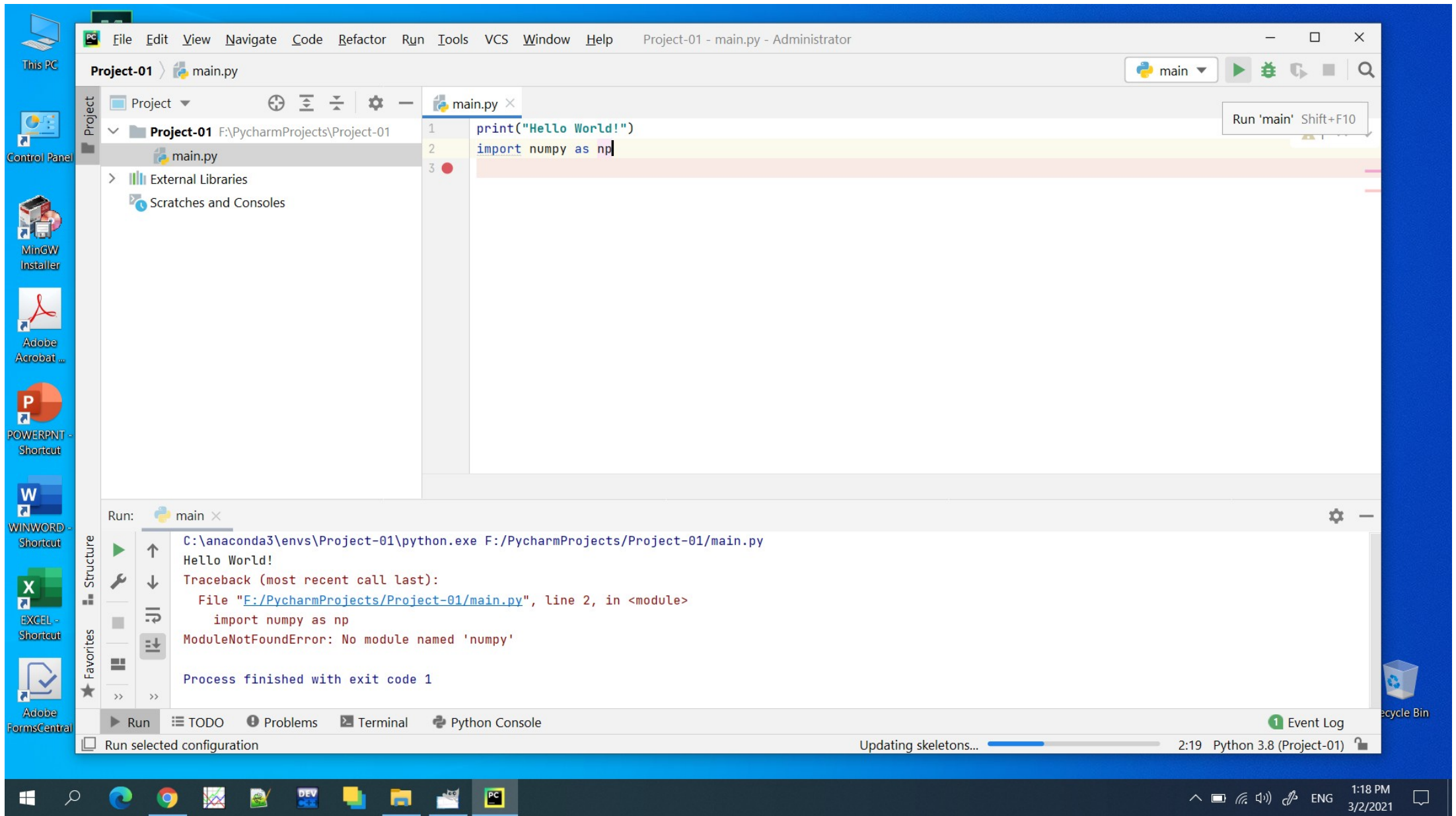
Package	Version	Latest version
blas	1.0	1.0
ca-certificates	2021.1.19	2021.1.19
certifi	2020.12.5	2020.12.5
cycler	0.10.0	0.10.0
freetype	2.10.4	2.10.4
icc_rt	2019.0.0	2019.0.0
icu	58.2	▲ 68.1
intel-openmp	2020.2	2020.2
jpeg	9b	9b
kiwisolver	1.3.1	1.3.1
libpng	1.6.37	1.6.37
libtiff	4.1.0	4.1.0
lz4-c	1.9.3	1.9.3
matplotlib	3.3.4	3.3.4
matplotlib-base	3.3.4	3.3.4
mkl	2020.2	2020.2
mkl-service	2.3.0	2.3.0
mkl_fft	1.3.0	1.3.0
mkl_random	1.1.1	1.1.1
numpy	1.19.2	1.19.2

Package 'matplotlib' installed successfully

OK Cancel Apply

نصب Numpy، Scipy و Matplotlib برای پروژه‌ها مورد نیاز





The screenshot shows the PyCharm IDE interface. The main editor displays a Python script named `main.py` with the following code:

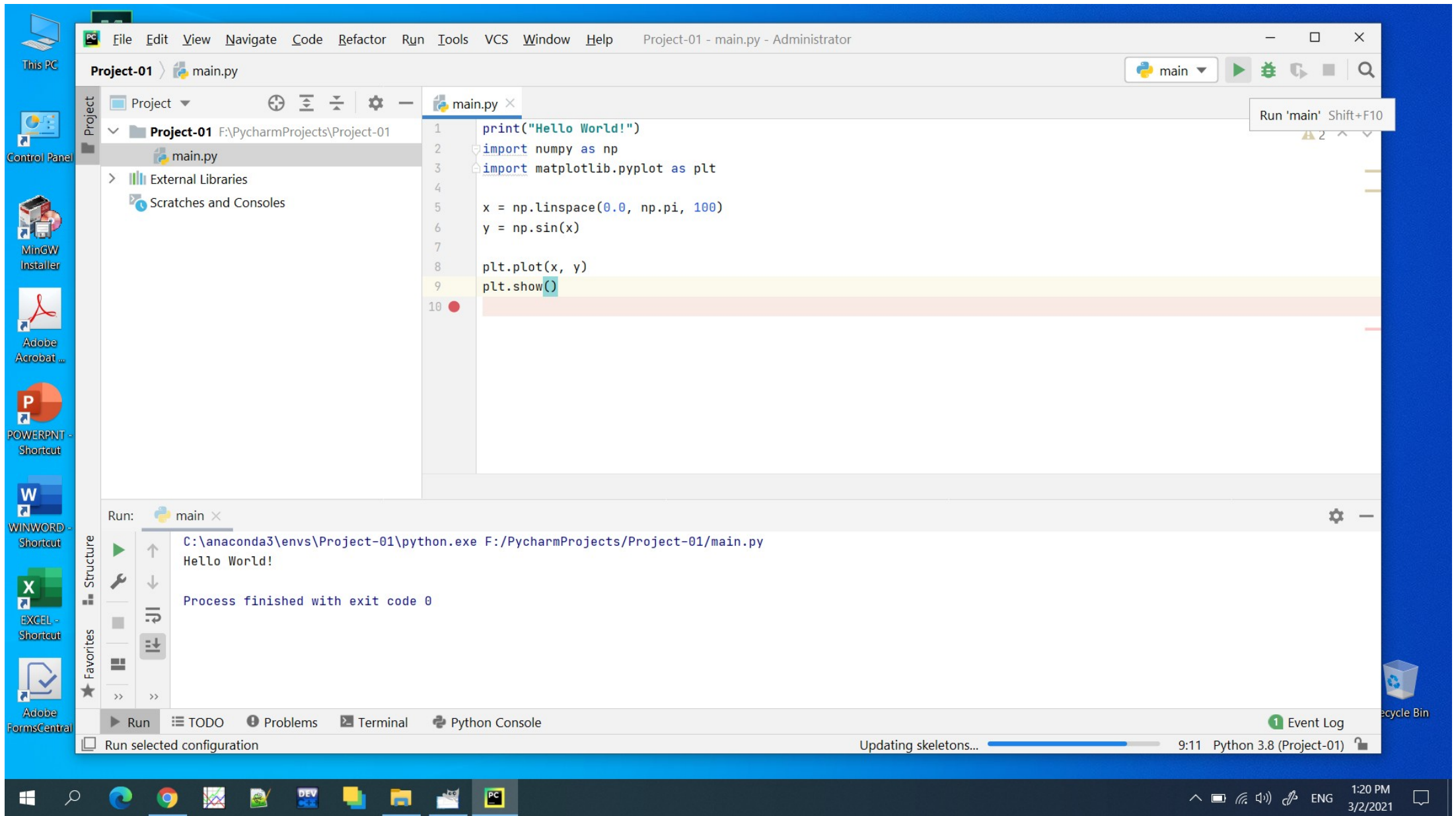
```
1 print("Hello World!")
2 import numpy as np
3 import matplotlib.pyplot as plt
4
5 x = np.linspace(0.0, np.pi, 100)
6 y = np.sin(x)
7
8 plt.plot(x, y)
9 plt.show()
10
```

The Run console at the bottom shows the execution output:

```
Run: main x
C:\anaconda3\envs\Project-01\python.exe F:/PycharmProjects/Project-01/main.py
Hello World!

Process finished with exit code 0
```

The status bar at the bottom indicates that packages were installed successfully: `Installed packages: 'matplotlib' (3 minutes ago)`. The system tray shows the time as 1:20 PM on 3/2/2021.



The screenshot displays the PyCharm IDE interface. The main editor window shows a Python file named `main.py` with the following code:

```
1 print("Hello World!")
2 import numpy as np
3 import matplotlib.pyplot as plt
4
5 x = np.linspace(0.0, np.pi, 100)
6 y = np.sin(x)
7
8 plt.plot(x, y)
9 plt.show()
10
```

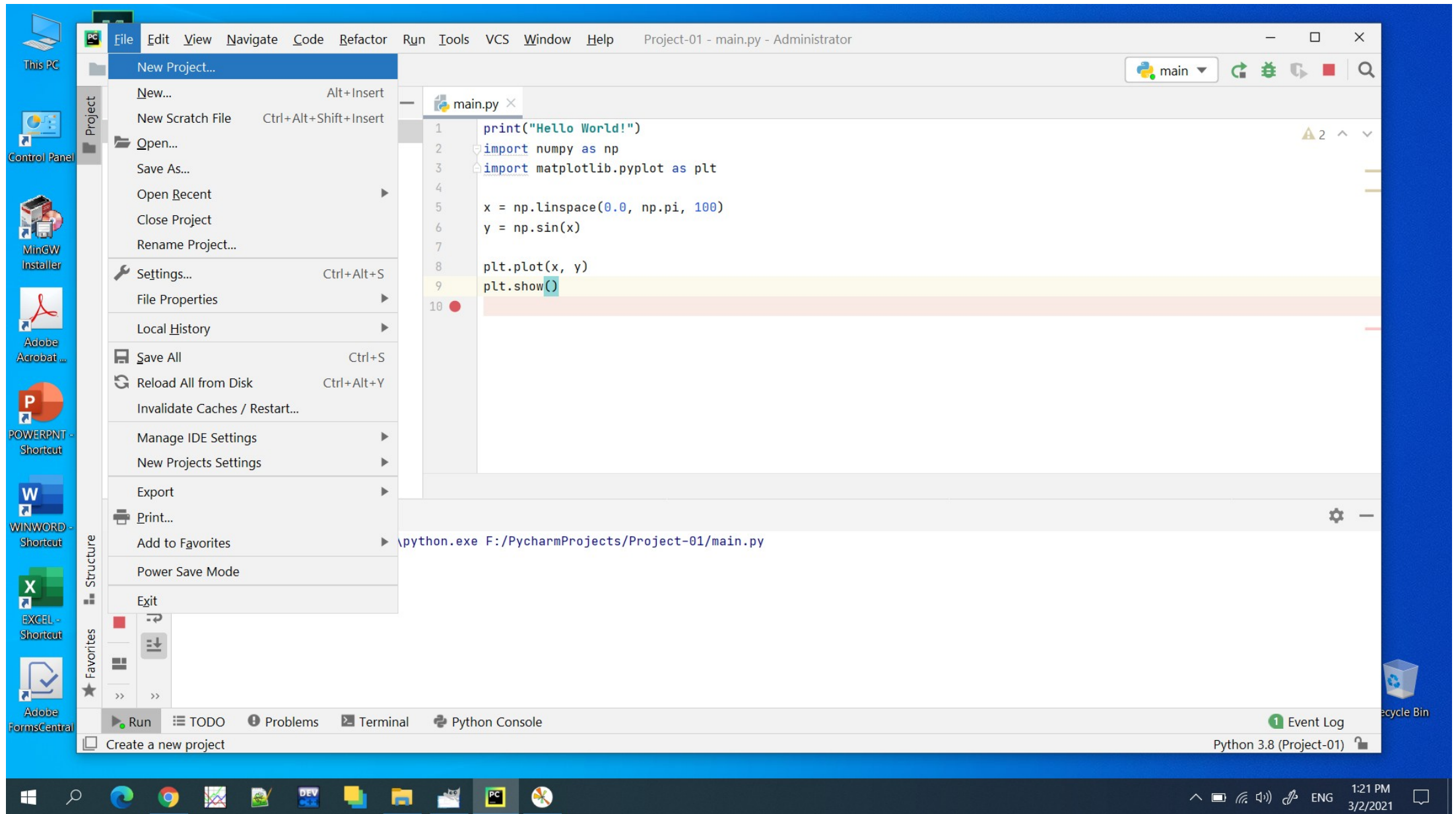
The Run console at the bottom shows the execution output:

```
Run: main x
C:\anaconda3\envs\Project-01\python.exe F:/PycharmProjects/Project-01/main.py
Hello World!
```

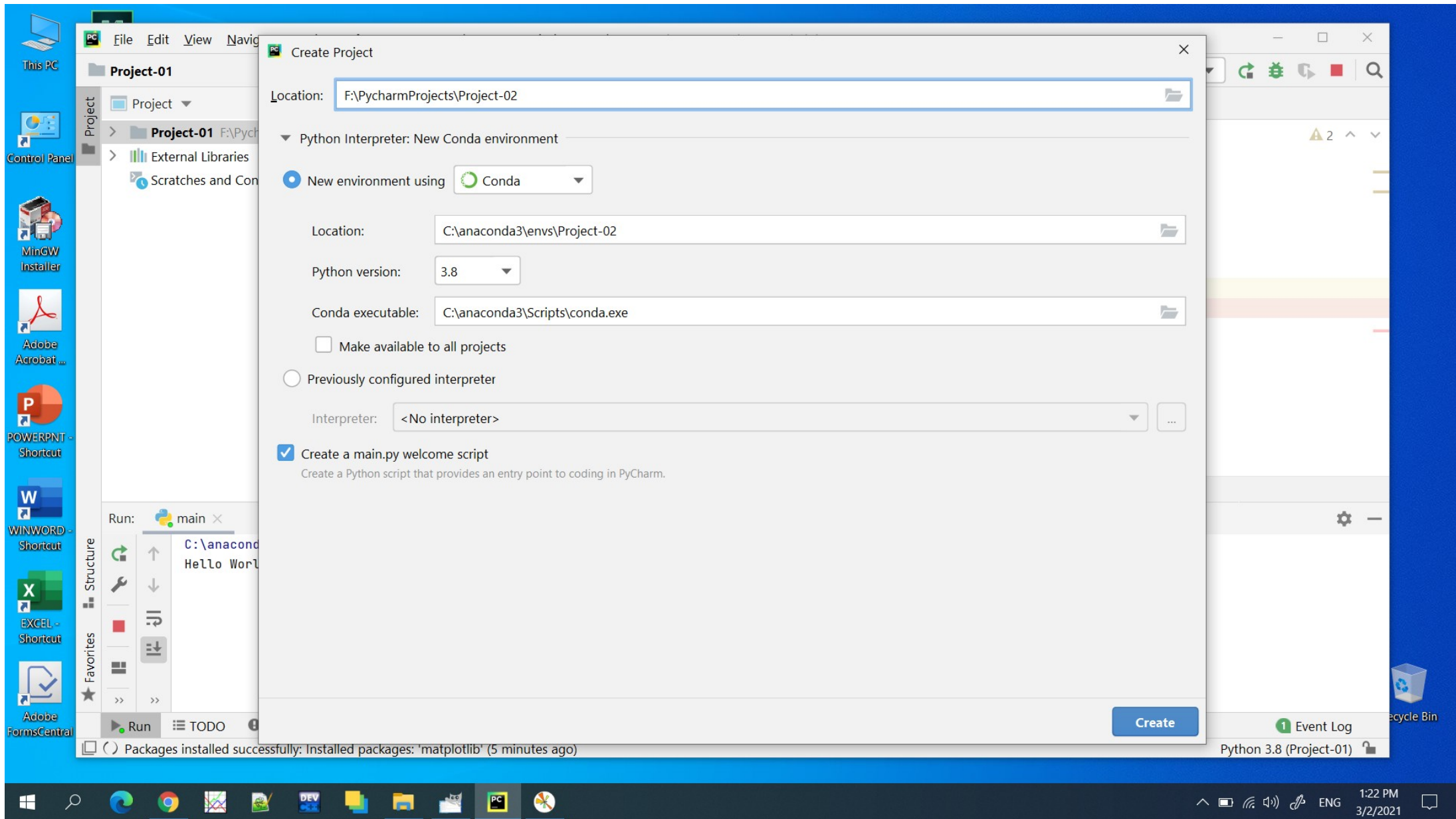
An external window titled "Figure 1" displays a plot of a sine wave. The x-axis ranges from 0.0 to 3.0, and the y-axis ranges from 0.0 to 1.0. The plot shows a smooth curve starting at (0,0), peaking at approximately (1.57, 1.0), and ending at approximately (3.14, 0.0).

The status bar at the bottom indicates that packages were installed successfully, including 'matplotlib' (3 minutes ago), and that the Python environment is Python 3.8 (Project-01).

نصب Numpy، Scipy و Matplotlib برای پروژه‌ها مورد نیاز



ایجاد چندین پروژه



The screenshot shows the PyCharm IDE interface. The main editor window displays a Python script named `main.py` with the following code:

```
1 print("Hello World!")
2 import numpy as np
3 import matplotlib.pyplot as plt
4
5 x = np.linspace(0.0, np.pi, 100)
6 y = np.sin(x)
7
8 plt.plot(x, y)
9 plt.show()
10
```

An "Open Project" dialog box is overlaid on the editor, asking: "Projects can either be opened in a new window or replace the project in the existing window or be attached to the already opened projects. How would you like to open the project?" The dialog has four buttons: "This Window", "New Window", "Attach", and "Cancel".

The Run console at the bottom shows the command: `C:\anaconda3\envs\Project-01\python.exe F:/PycharmProjects/Project-01/main.py` and the output: `Hello World!`

The status bar at the bottom indicates: "Packages installed successfully: Installed packages: 'matplotlib' (5 minutes ago)" and "Python 3.8 (Project-01)".

ایجاد چندین پروژه

The screenshot shows the PyCharm IDE interface. The main editor window displays a Python script named `main.py` with the following code:

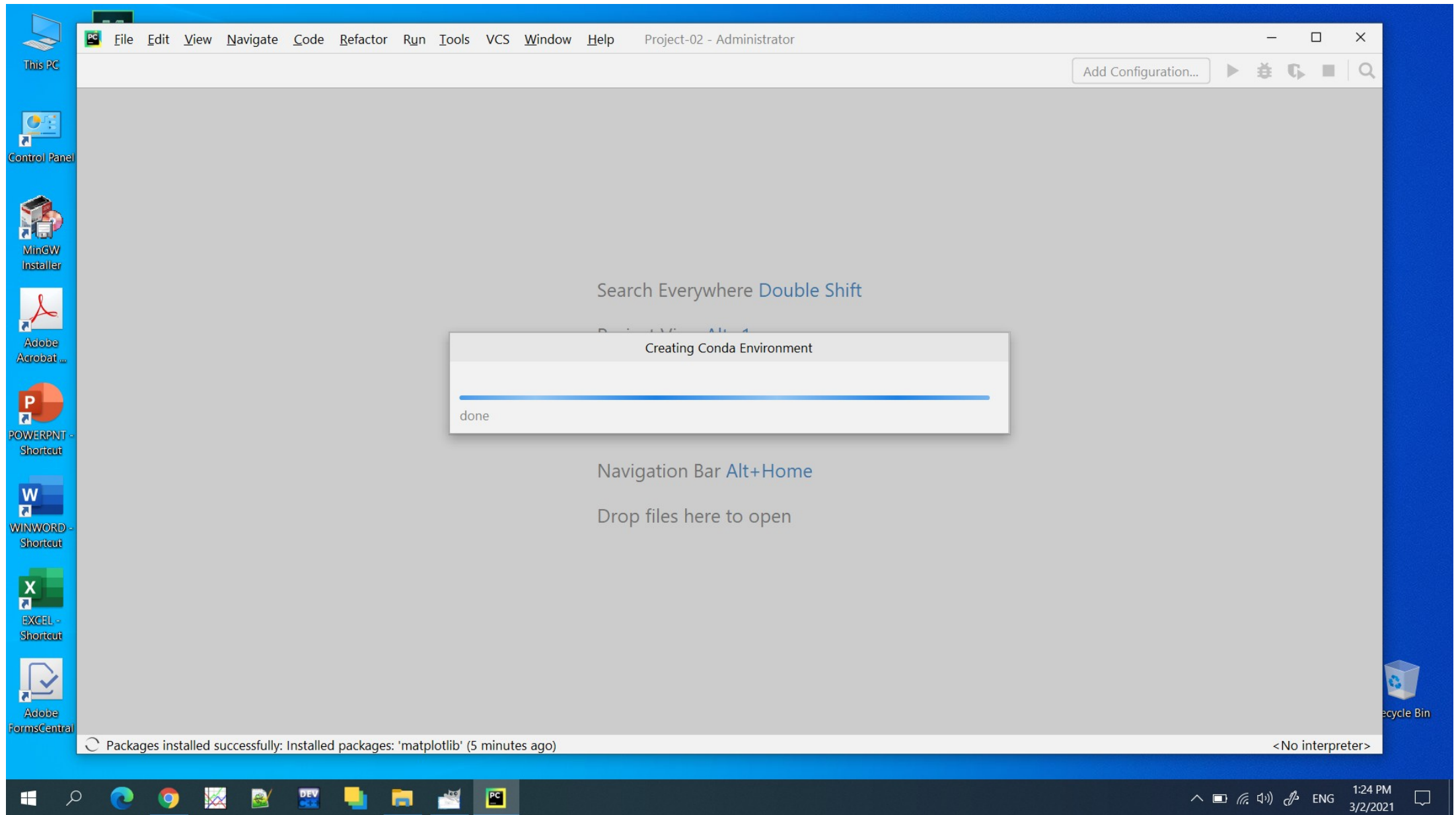
```
1 print("Hello World!")
2 import numpy as np
3 import matplotlib.pyplot as plt
4
5 x = np.linspace(0.0, np.pi, 100)
6 y = np.sin(x)
7
8 plt.plot(x, y)
9 plt.show()
10
```

A dialog box titled "Process 'main' Is Running" is displayed in the foreground, asking "Do you want to terminate the process 'main'?" with three buttons: "Terminate", "Disconnect", and "Cancel". There is also a "Don't ask again" checkbox.

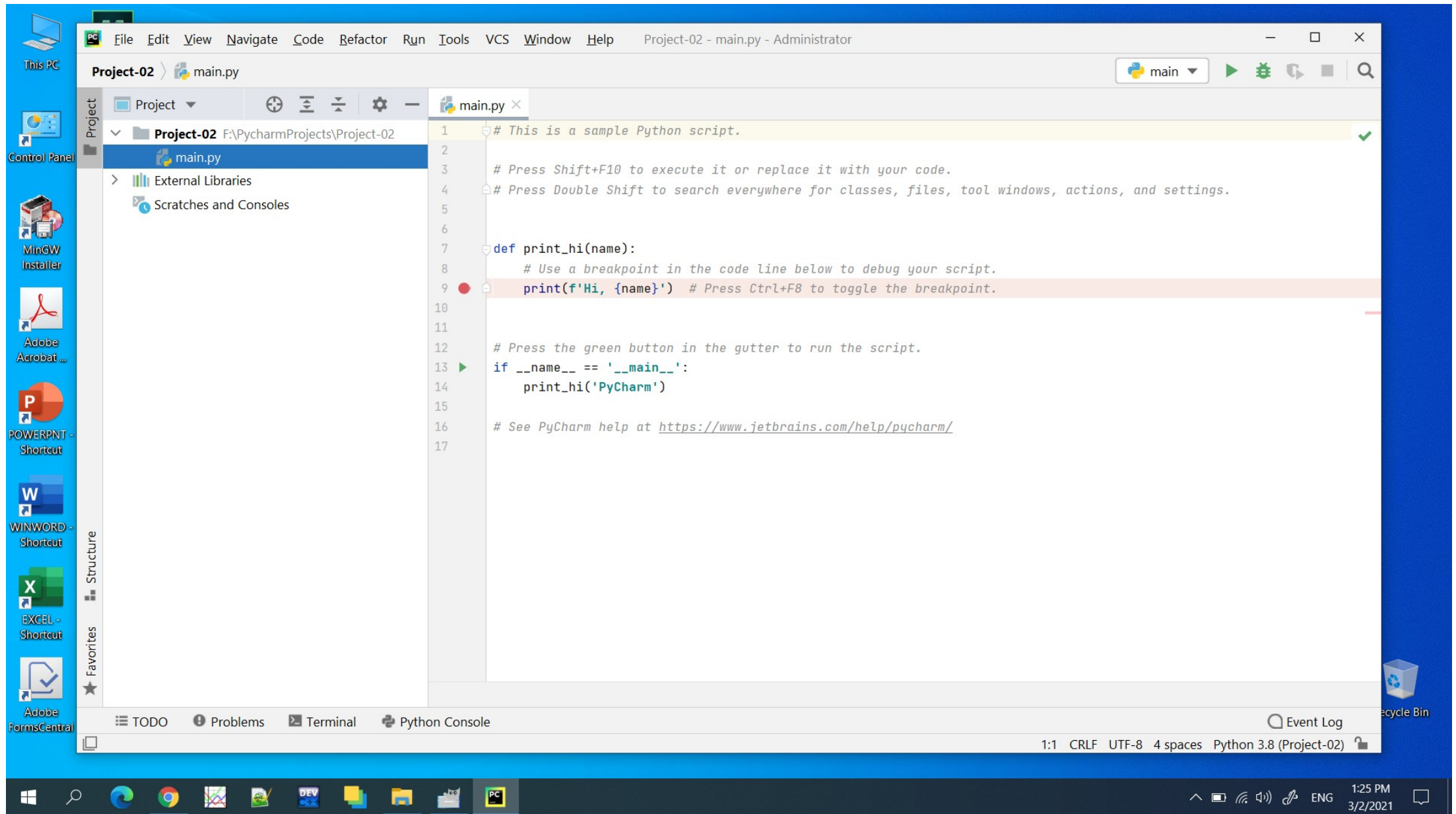
The Run console at the bottom shows the command: `C:\anaconda3\envs\Project-01\python.exe F:/PycharmProjects/Project-01/main.py` and the output: `Hello World!`

The status bar at the bottom indicates "Python 3.8 (Project-01)" and "Packages installed successfully: Installed packages: 'matplotlib' (5 minutes ago)".

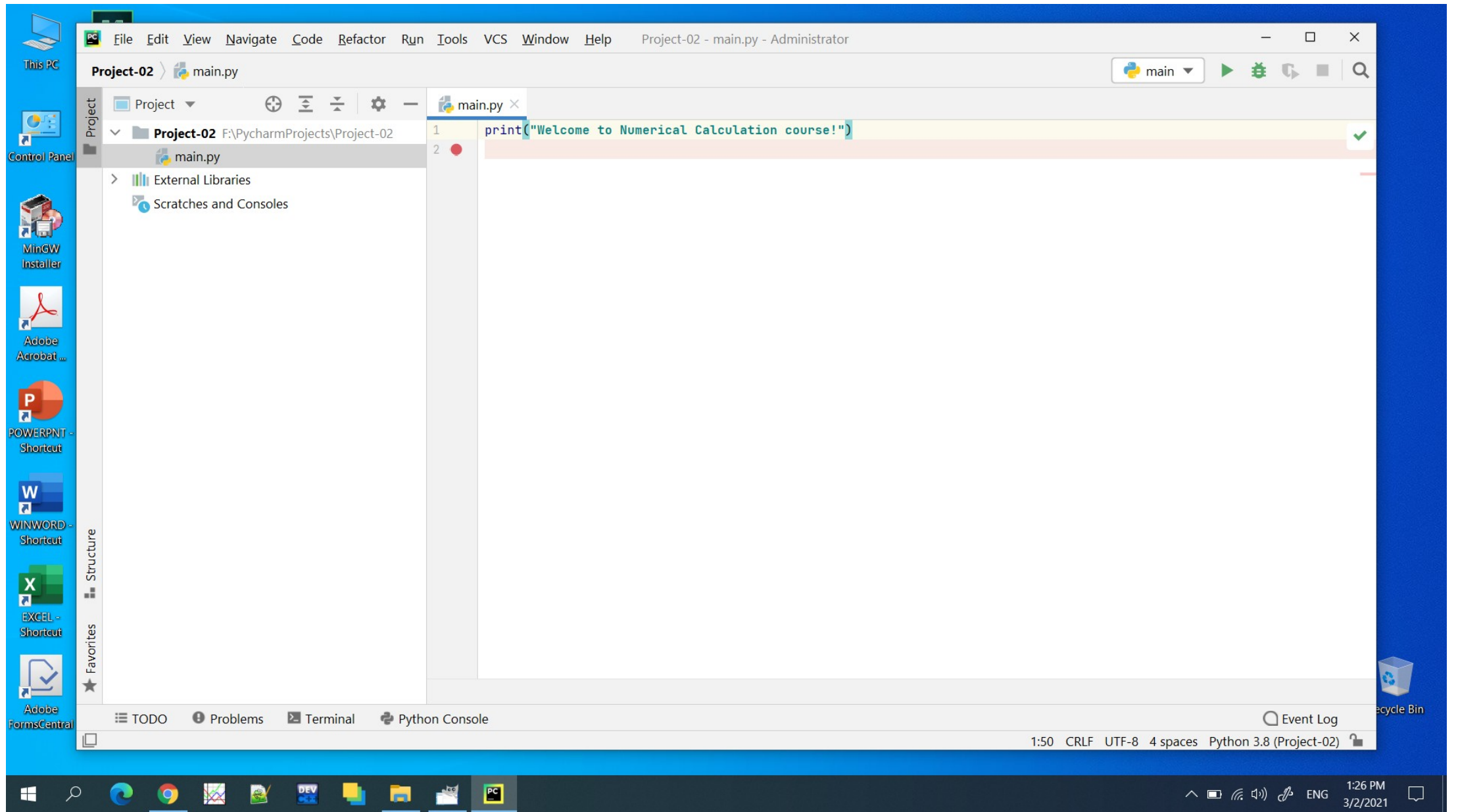
ایجاد چندین پروژه



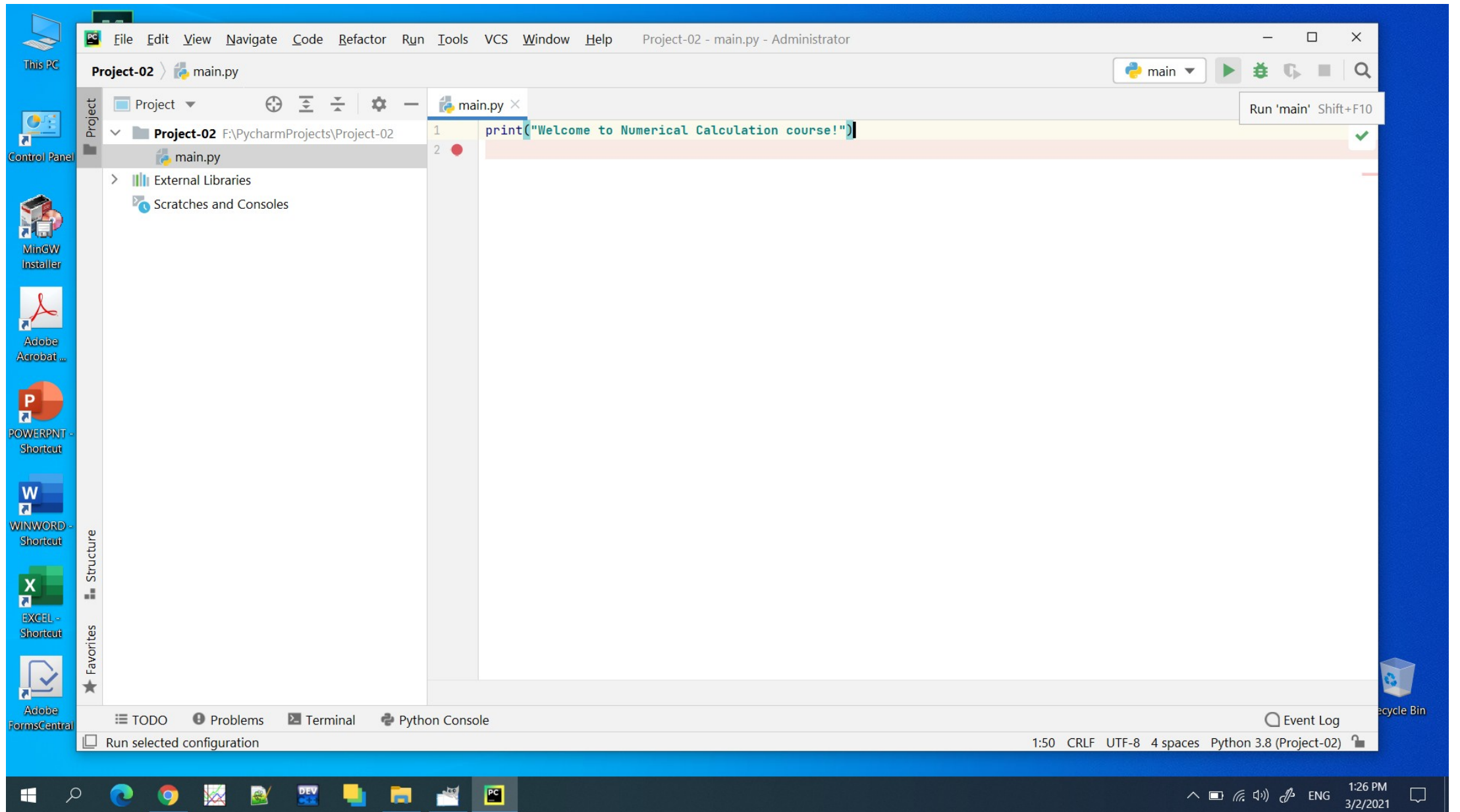
ایجاد چندین پروژه



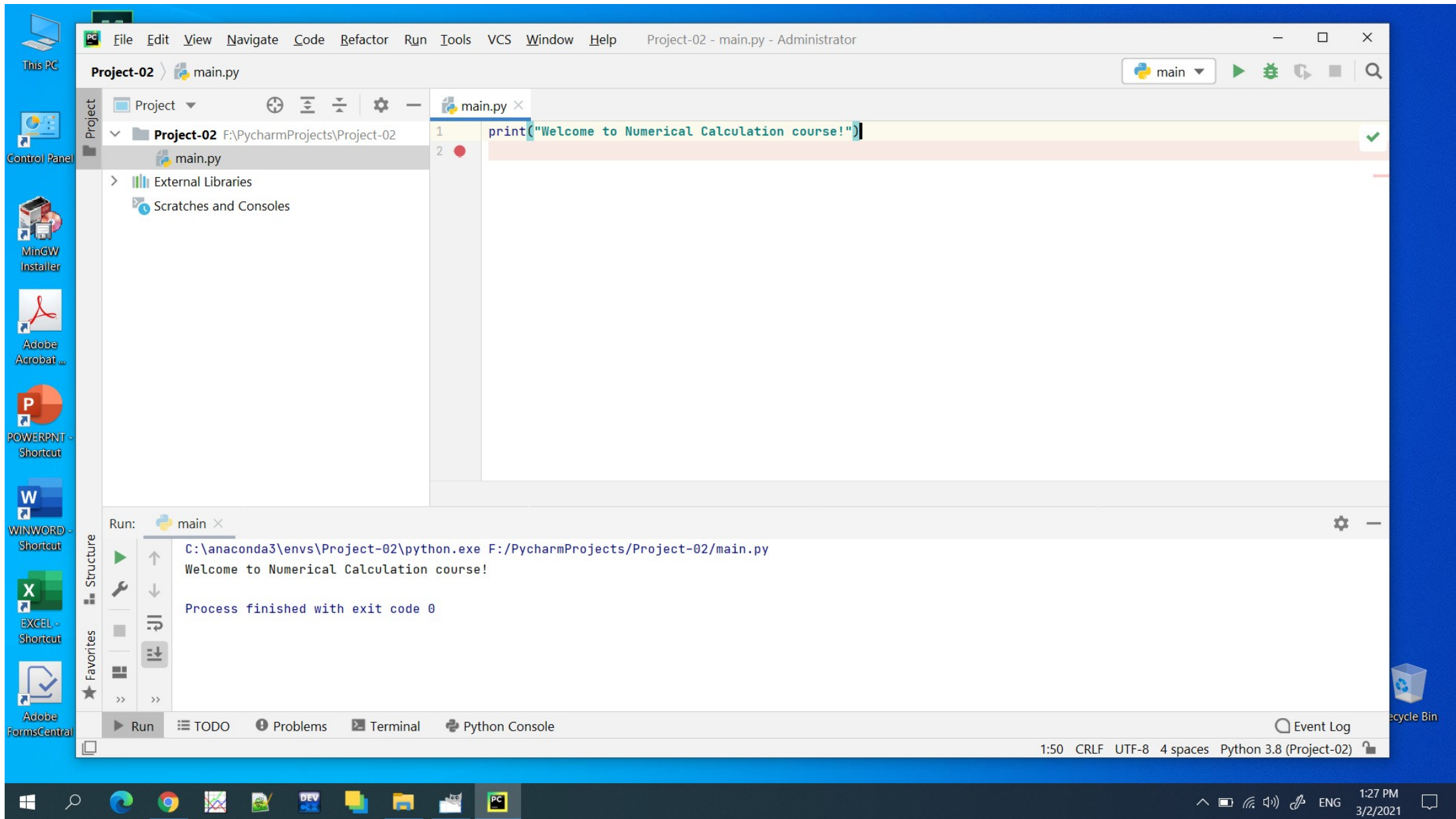
ایجاد چندین پروژه

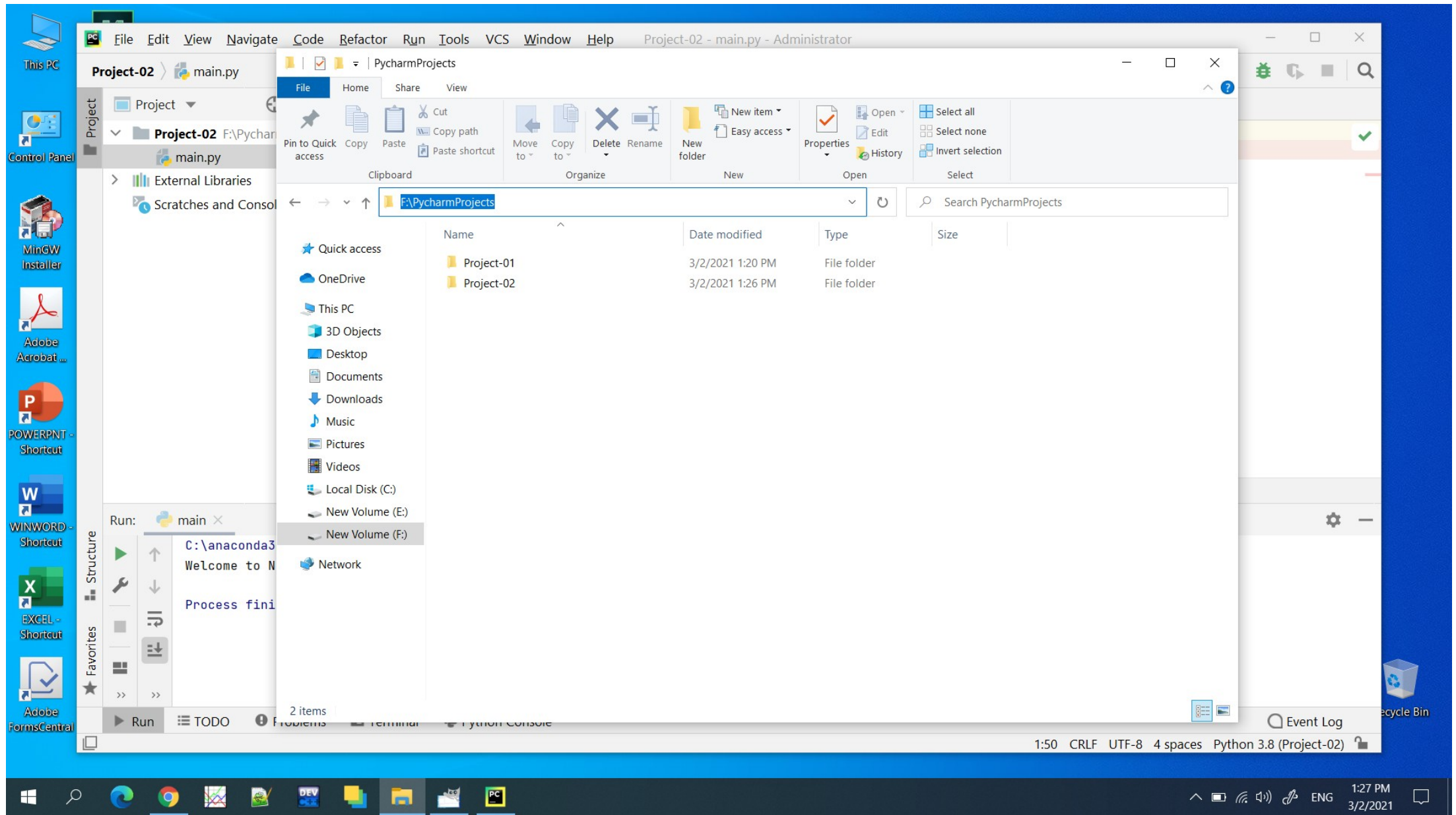


ایجاد چندین پروژه

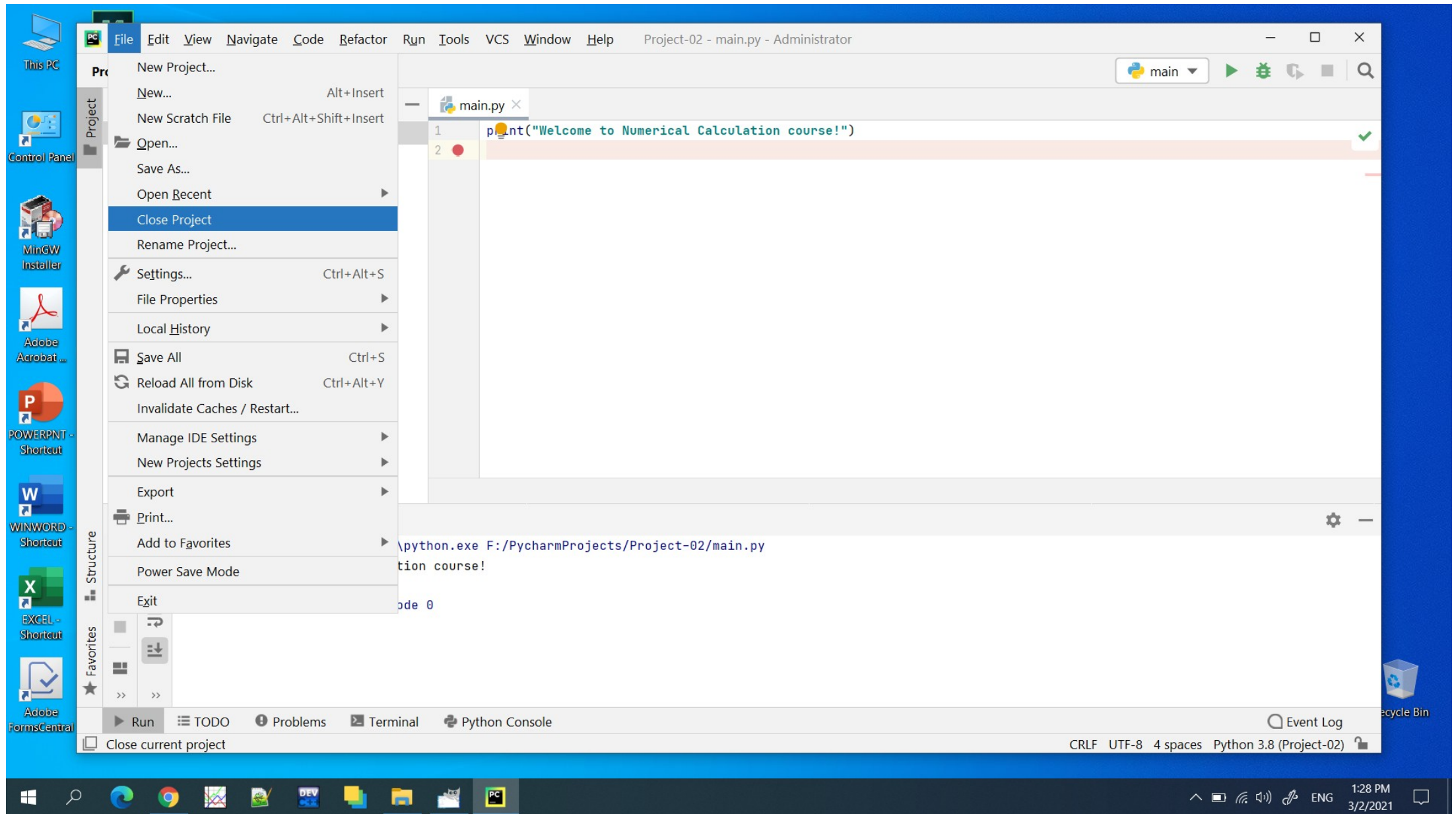


ایجاد چندین پروژه

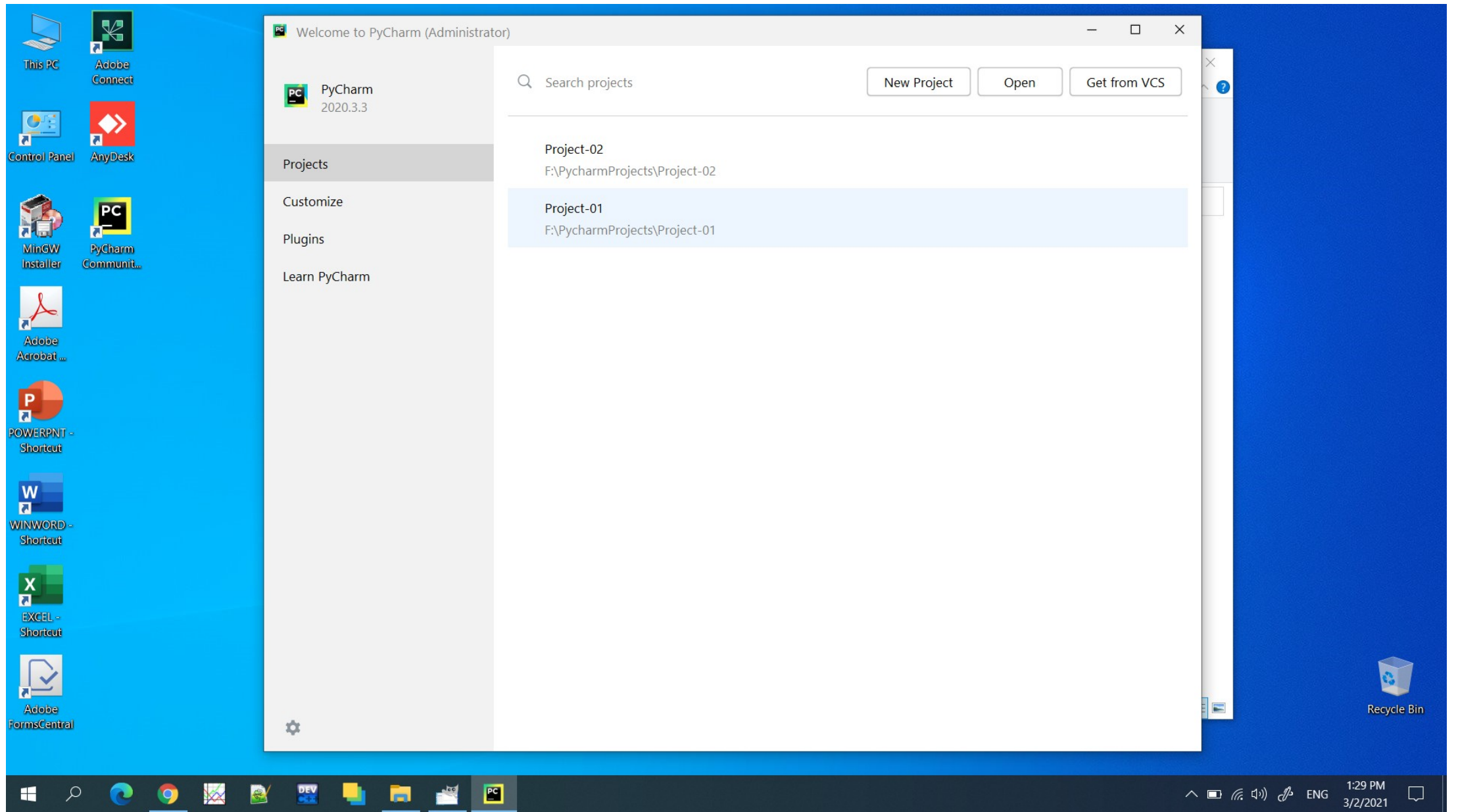




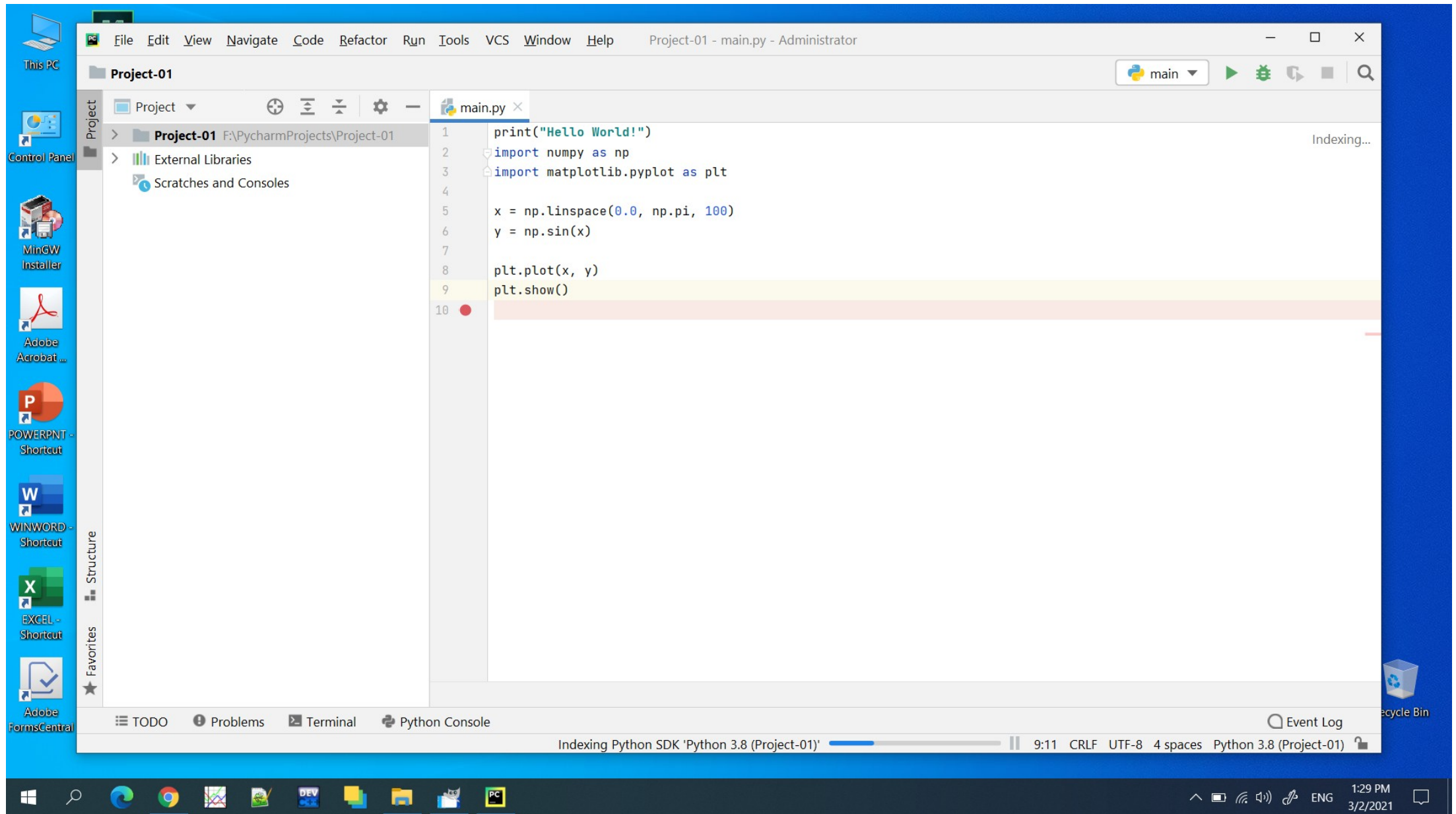
ایجاد چندین پروژه



ایجاد چندین پروژه



ایجاد چندین پروژه



ایجاد چندین پروژه

The image shows a screenshot of the PyCharm IDE interface. The main window displays a Python file named 'main.py' with the following code:

```
1 print("Hello World!")
2 import numpy as np
3 import matplotlib.pyplot as plt
4
5 x = np.linspace(0.0, np.pi, 100)
6 y = np.sin(x)
7
8 plt.plot(x, y)
9 plt.show()
10
```

The 'File' menu is open, showing options like 'New Project...', 'Open Recent', and 'Exit'. A Windows Defender warning is visible in the bottom right corner, stating: 'Windows Defender might impact performance. Exclude IDE and project directories from antivirus scans: C:\Users\asus\AppData\Local\JetBrains\PyCharmCE2020.3 F:\PycharmProjects\Project-01. Alternatively, add the IDE process as an exclusion. Exclude directories... Don't show again'.

ایجاد چندین پروژه

The screenshot shows the PyCharm IDE interface. The main window displays a Python file named 'main.py' with the following code:

```
1 print("Hello World!")
2 import numpy as np
3 import matplotlib.pyplot as plt
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5 x = np.linspace(0.0, np.pi, 100)
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8 plt.plot(x, y)
9 plt.show()
10
```

An 'Open Project' dialog box is open in the foreground, asking: "Projects can either be opened in a new window or replace the project in the existing window or be attached to the already opened projects. How would you like to open the project?" The dialog has four buttons: "This Window", "New Window", "Attach", and "Cancel".

In the bottom right corner, there is a Windows Defender notification: "Windows Defender might impact performance. Exclude IDE and project directories from antivirus scans: C:\Users\asus\AppData\Local\JetBrains\PyCharmCE2020.3 F:\PycharmProjects\Project-01 Alternatively, add the IDE process as an exclusion. Exclude directories... Don't show again".

The status bar at the bottom shows: "Windows Defender might impact performance: Exclude IDE and project directories from antivirus scans: // C:\Users\asus\AppData\Local\Je... (a minute ago) 9:11 CRLF UTF-8 4 spaces Python 3.8 (Project-01)".

The screenshot shows the PyCharm IDE interface. The main editor window displays a Python file named 'main.py' with the following code:

```
1 print("Hello World!")
2 import numpy as np
3 import matplotlib.pyplot as plt
4
5 x = np.linspace(0.0, np.pi, 100)
6 y = np.sin(x)
7
8 plt.plot(x, y)
9 plt.show()
10
```

A Windows Defender notification is present in the bottom right corner of the IDE window, stating: "Windows Defender might impact performance. Exclude IDE and project directories from antivirus scans: C:\Users\asus\AppData\Local\JetBrains\PyCharmCE2020.3 F:\PycharmProjects\Project-01. Alternatively, add the IDE process as an exclusion. Exclude directories... Don't show again".

ایجاد چندین پروژه