

# پرفنامه نویسی پاپتون مقدماتی

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گروه فیزیک، دانشکده علوم پایه

دانشگاه قم

جلسه دوم



## فهرست مطالب

- دانلود Python
- نصب Python
- محیط برنامه نویسی IDLE
- راه اندازی Python روی خط فرمان ویندوز
- نصب کتابخانه‌های NumPy، Matplotlib، و Scipy بوسیله Pip

# دانلود Python

The screenshot shows a Windows 10 desktop with a blue background. On the left side, there is a taskbar with icons for 'This PC', 'Control Panel', 'MinGW Installer', 'Adobe Acrobat', 'POWERPNT - Shortcut', 'WINWORD - Shortcut', 'EXCEL - Shortcut', and 'Adobe FormsCentral'. The main window is a Google Chrome browser displaying a search for 'install python'. The search results show 'About 370,000,000 results (0.59 seconds)'. The top result is from 'www.python.org > downloads' with the title 'Download Python | Python.org'. Below this, there are several links for different Python versions: 'Python Releases for Windows', 'Python 3.8.7', 'Python 3.7.9', 'Python 3.9.0', 'Python 3.9.1', and 'Python 2.7.18'. The taskbar at the bottom shows the Start button, search icon, and several application icons. The system tray on the right shows the time '7:30 PM' and date '2/28/2021'.

The screenshot shows a Windows 10 desktop with a blue background. On the left side, there are several icons: This PC, Adobe Connect, Control Panel, AnyDesk, MinGW Installer, Adobe Acrobat, POWERPNT - Shortcut, WINWORD - Shortcut, EXCEL - Shortcut, and Adobe FormsCentral. In the center, a Chrome browser window is open, displaying a Google search for "install python". The search results show "About 370,000,000 results (0.59 seconds)". The top result is from "www.python.org > downloads" with the title "Download Python | Python.org". Below this, there are several links for different Python versions: "Python Releases for Windows", "Python 3.8.7", "Python 3.7.9", "Python 3.9.0", "Python 3.9.1", and "Python 2.7.18". The taskbar at the bottom shows the Start button, search icon, and several application icons. The system tray on the right shows the time as 7:31 PM on 2/28/2021 and the language set to ENG.

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The official Python Developers Survey 2020 results are here! [Python Developers Survey 2020](#)

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7:57 PM 2/28/2021

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# دانلود Python

The screenshot shows the Python.org website in a web browser. The page title is "Download Python | Python.org" and the URL is "python.org/downloads/". The navigation menu includes "Python", "PSF", "Docs", "PyPI", "Jobs", and "Community". The main content area features the Python logo, a "Donate" button, a search bar, and a "Socialize" button. Below this is a secondary navigation menu with "About", "Downloads", "Documentation", "Community", "Success Stories", "News", and "Events". The "Downloads" menu is open, showing options like "All releases", "Source code", "Windows", "Mac OS X", "Other Platforms", "License", and "Alternative Implementations". The "Windows" option is selected, leading to the "Download for Windows" section. This section displays "Python 3.9.2" and a note: "Note that Python 3.9+ cannot be used on Windows 7 or earlier." Below the note, there is a link "View the full list of downloads." which is highlighted with a red box. At the bottom of the page, there is a yellow banner for the "Python Developers Survey 2020" results.

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## Python Releases for Windows

- [Latest Python 3 Release - Python 3.9.2](#)
- [Latest Python 2 Release - Python 2.7.18](#)

### Stable Releases

- [Python 3.9.2 - Feb. 19, 2021](#)

**Note that Python 3.9.2 cannot be used on Windows 7 or earlier.**

- [Download Windows embeddable package \(32-bit\)](#)
- [Download Windows embeddable package \(64-bit\)](#)

### Pre-releases

- [Python 3.9.2rc1 - Feb. 16, 2021](#)
- [Download Windows embeddable package \(32-bit\)](#)
- [Download Windows embeddable package \(64-bit\)](#)
- [Download Windows help file](#)

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7:59 PM 2/28/2021 ENG



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python.org/downloads/windows/

### Stable Releases

- Python 3.9.2 - Feb. 19, 2021
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  - Download [Windows help file](#)
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  - Download [Windows help file](#)
  - Download [Windows installer \(32-bit\)](#)
  - Download [Windows installer \(64-bit\)](#)
- Python 3.6.13 - Feb. 15, 2021
  - Note that Python 3.6.13 cannot be used on Windows XP or earlier.**
  - No files for this release.
- Python 3.7.10 - Feb. 15, 2021
  - Note that Python 3.7.10 cannot be used on Windows XP or earlier.**

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- Python 3.10.0a5 - Feb. 2, 2021
  - Download [Windows embeddable package \(32-bit\)](#)
  - Download [Windows embeddable package \(64-bit\)](#)
  - Download [Windows help file](#)
  - Download [Windows installer \(32-bit\)](#)
  - Download [Windows installer \(64-bit\)](#)
- Python 3.10.0a4 - Jan. 4, 2021
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**Stable Releases**

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python.org/downloads/windows/

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### Pre-releases

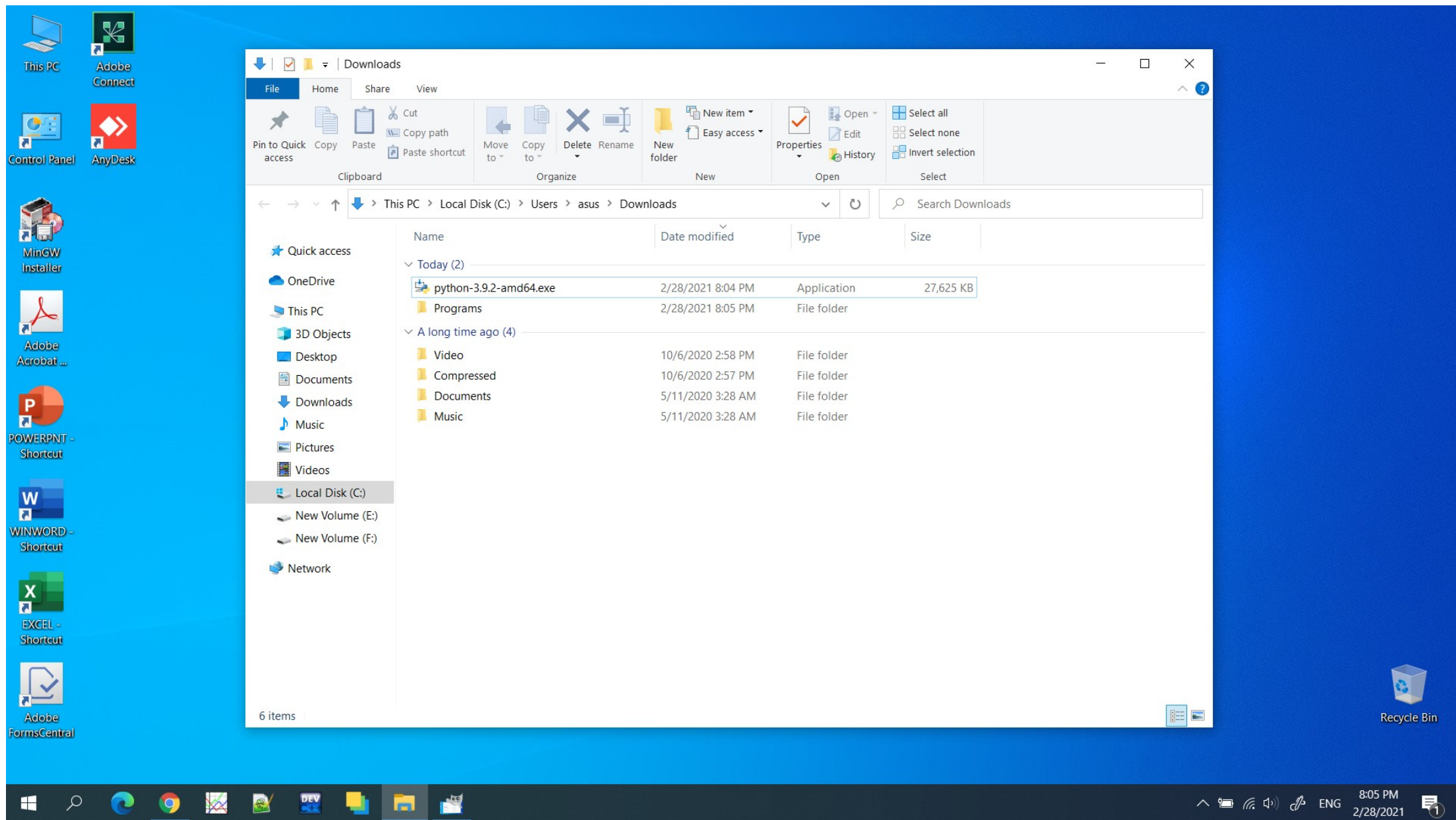
- Python 3.9.2rc1 - Feb. 16, 2021
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  - Download [Windows embeddable package \(64-bit\)](#)

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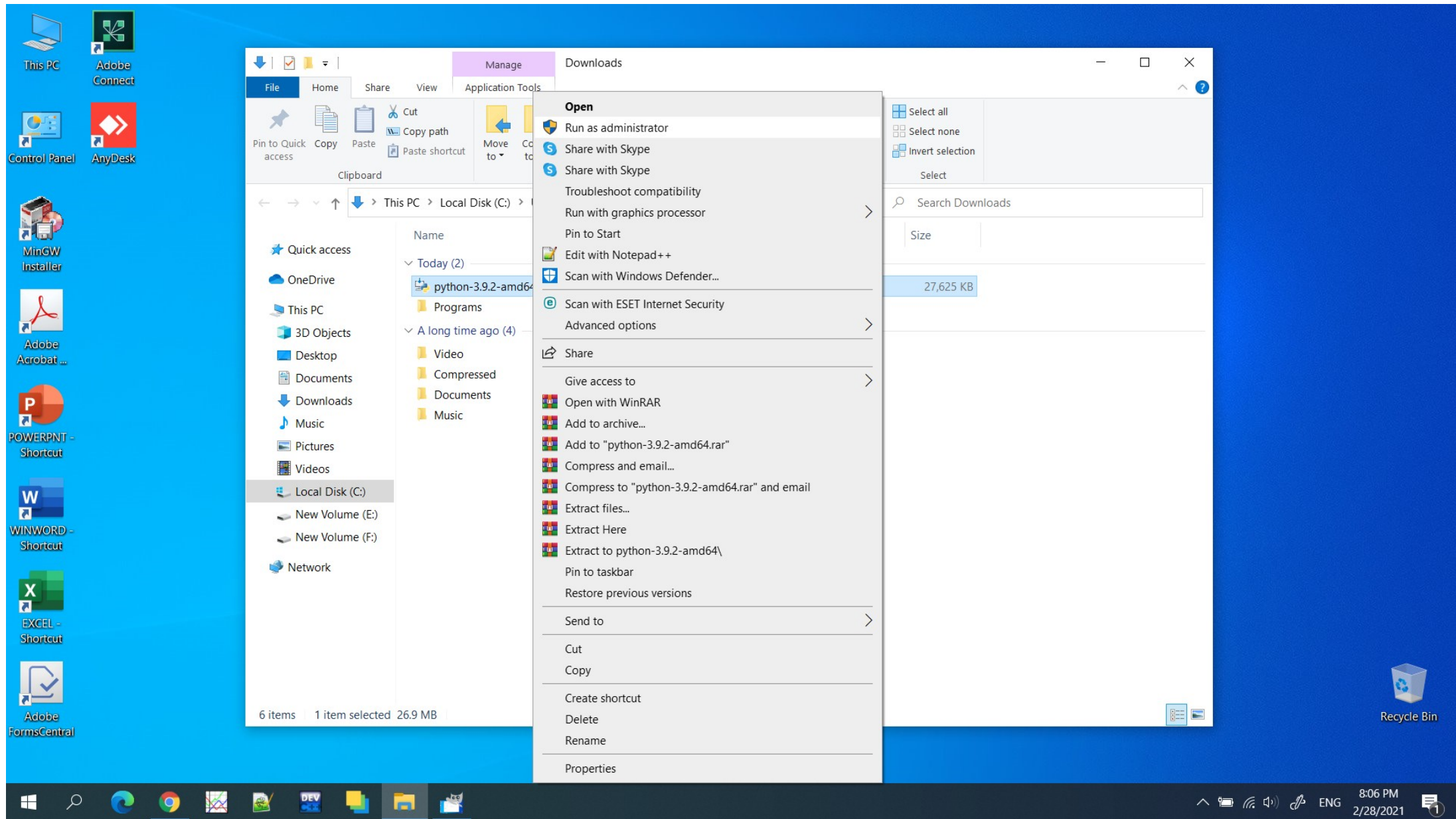
8:03 PM  
2/28/2021

The screenshot shows a Windows 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'. A red arrow points to the 'python-3.9.2-amd64.exe' file in the browser's download bar. The browser window displays the 'python.org/downloads/windows/' page, which is divided into 'Stable Releases' and 'Pre-releases' sections. The 'Stable Releases' section lists Python 3.9.2 (Feb. 19, 2021), Python 3.8.8 (Feb. 19, 2021), and Python 3.6.13 (Feb. 15, 2021). The 'Pre-releases' section lists Python 3.9.2rc1 (Feb. 16, 2021), Python 3.8.8rc1 (Feb. 16, 2021), Python 3.10.0a5 (Feb. 2, 2021), and Python 3.10.0a4 (Jan. 4, 2021). Each release includes links for downloading Windows embeddable packages (32-bit and 64-bit), help files, and installers (32-bit and 64-bit). Notes indicate that Python 3.9.2 cannot be used on Windows 7 or earlier, and Python 3.8.8 cannot be used on Windows XP or earlier. The taskbar at the bottom shows the Windows logo, search icon, and several application icons, along with system tray icons for network, volume, and power, and the date/time '8:05 PM 2/28/2021'.

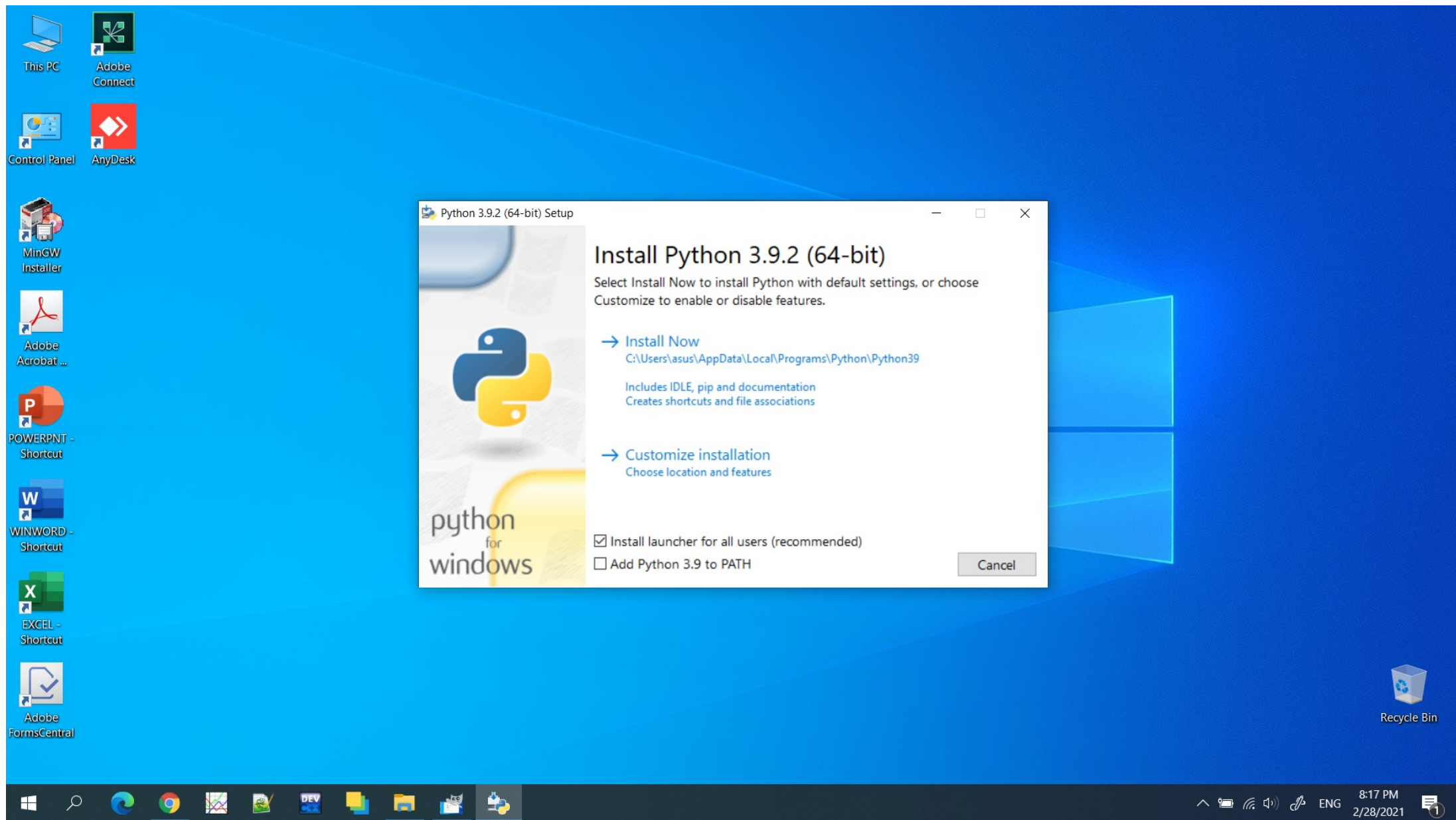
# دانلود Python



# نصب Python

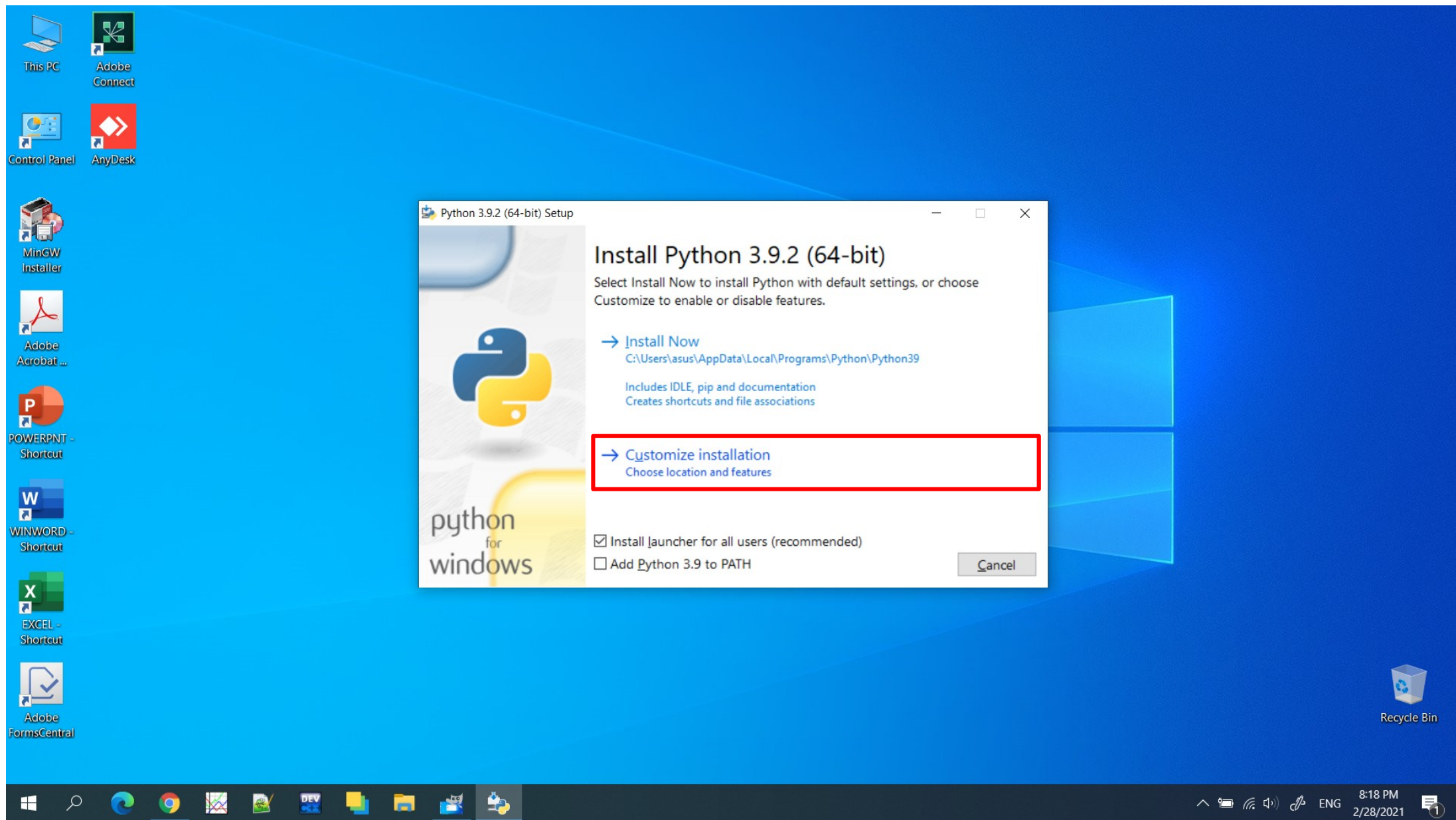


# نصب Python

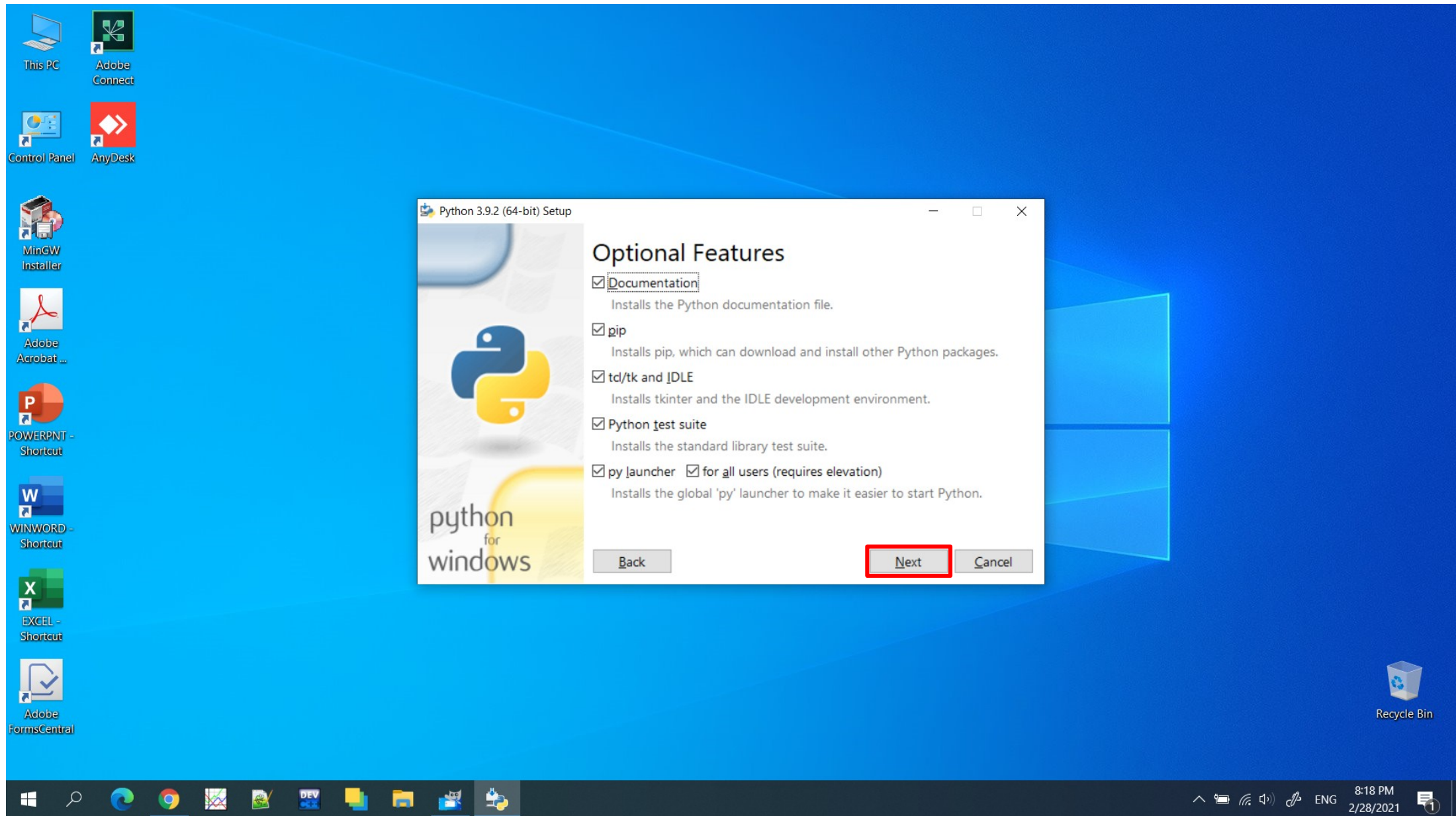




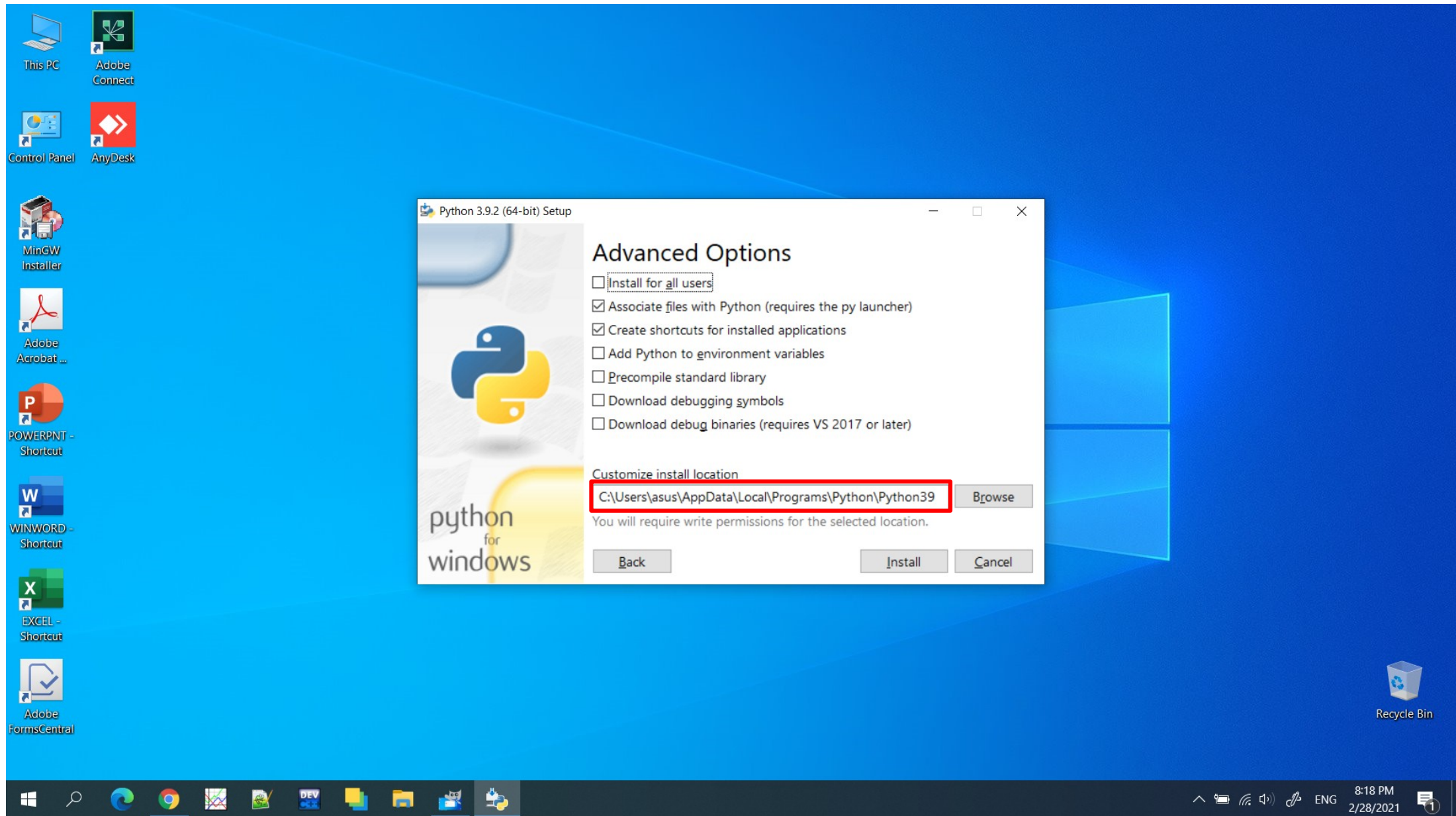
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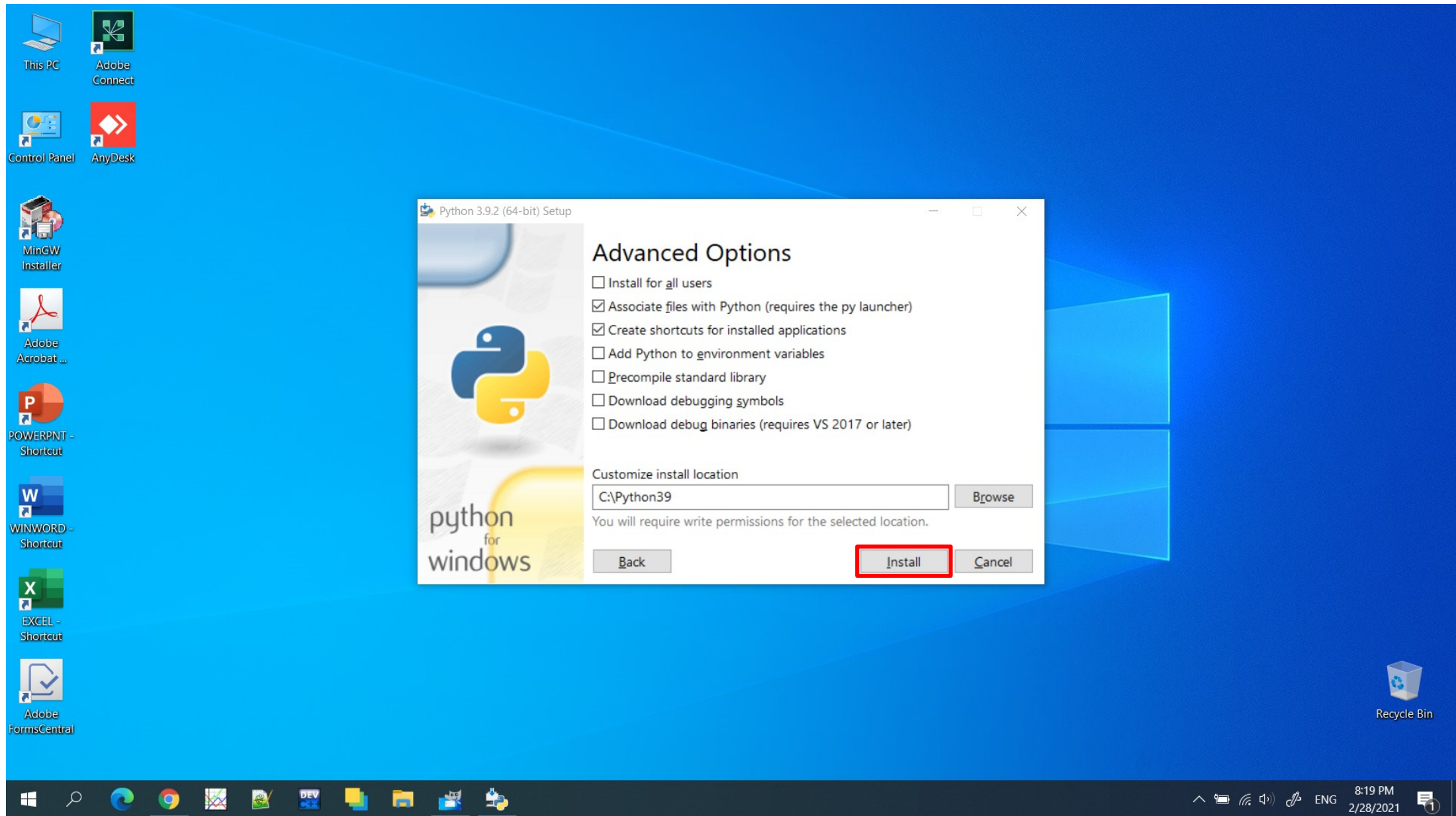
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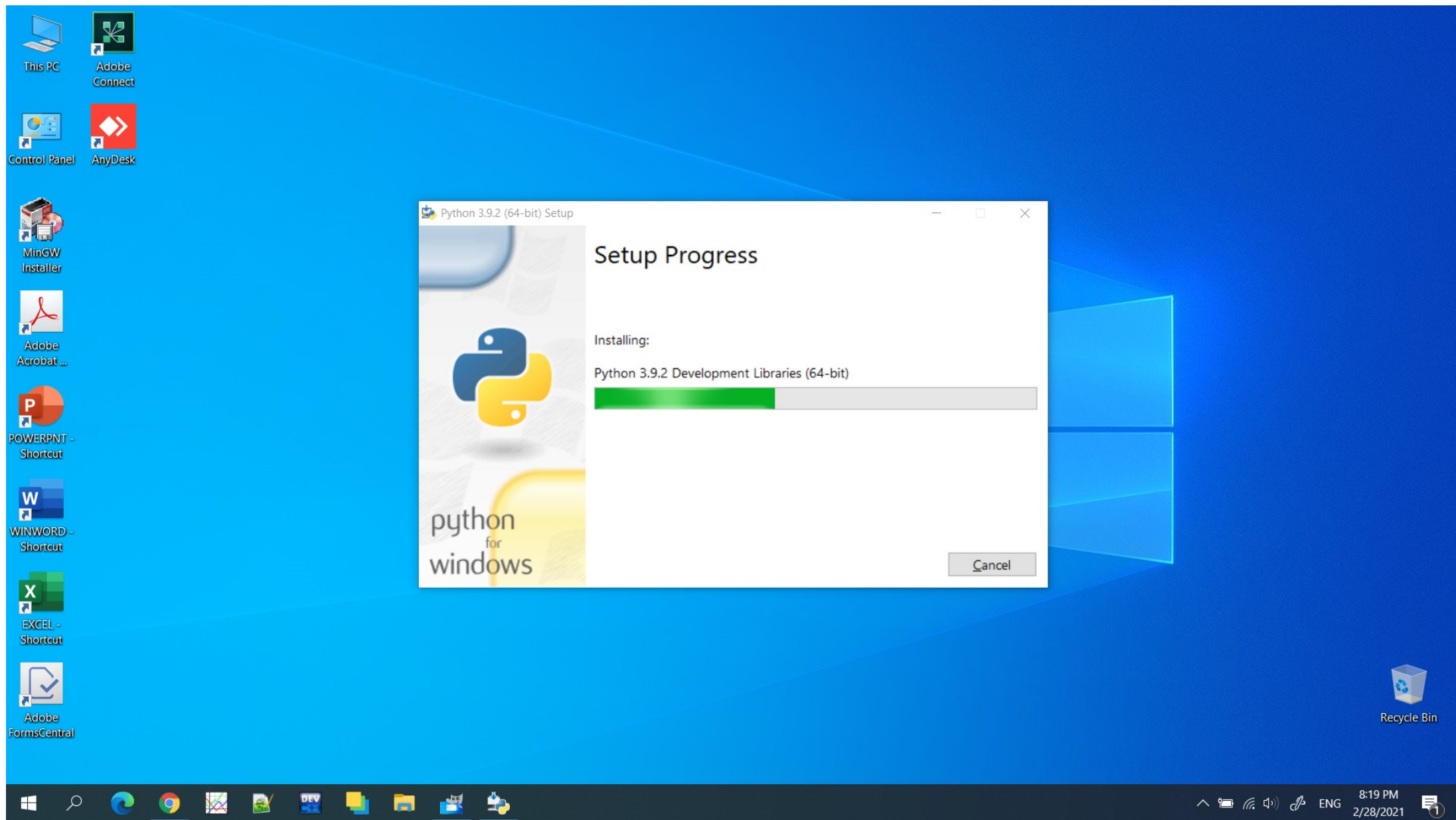
# نصب Python



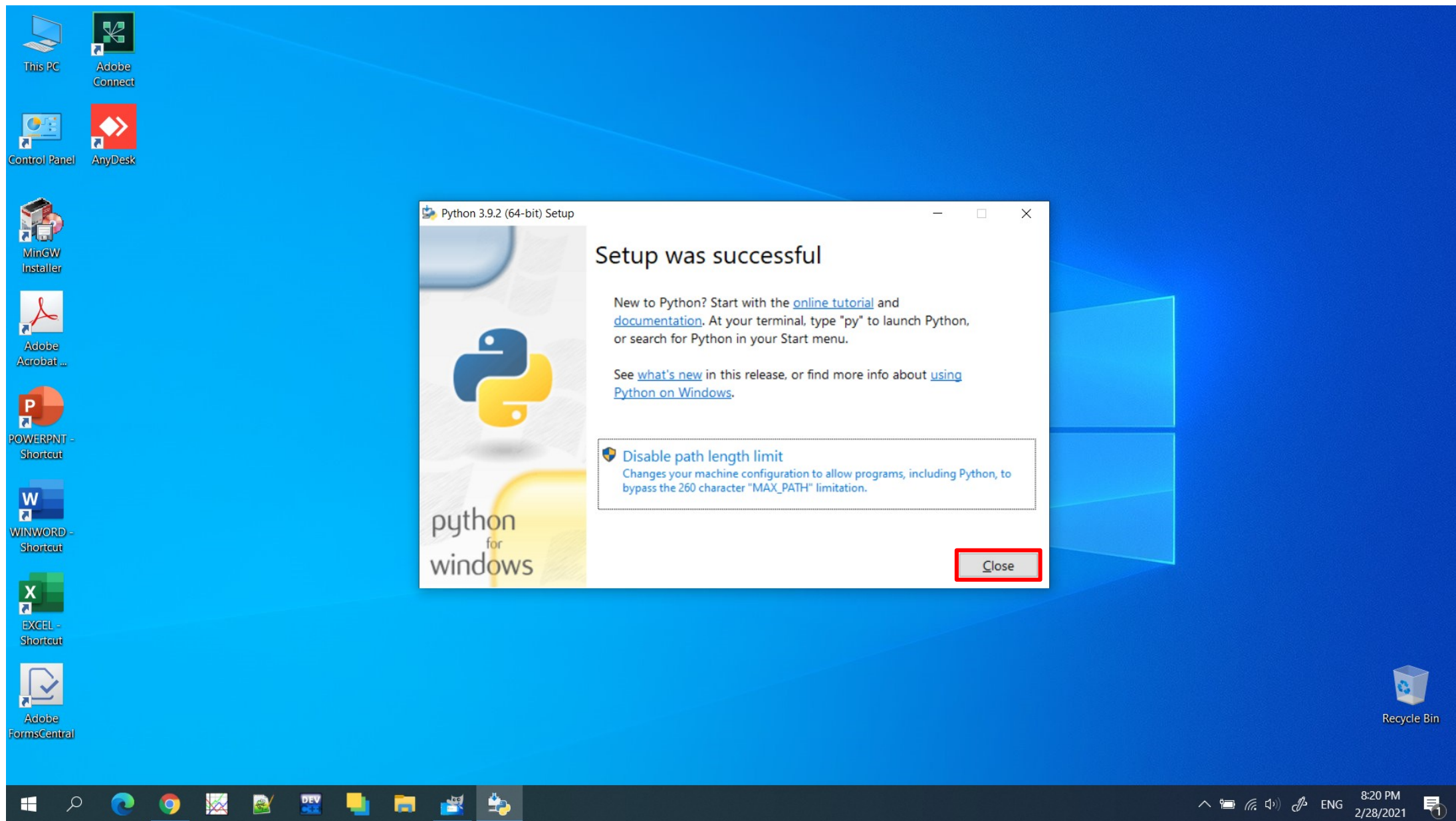
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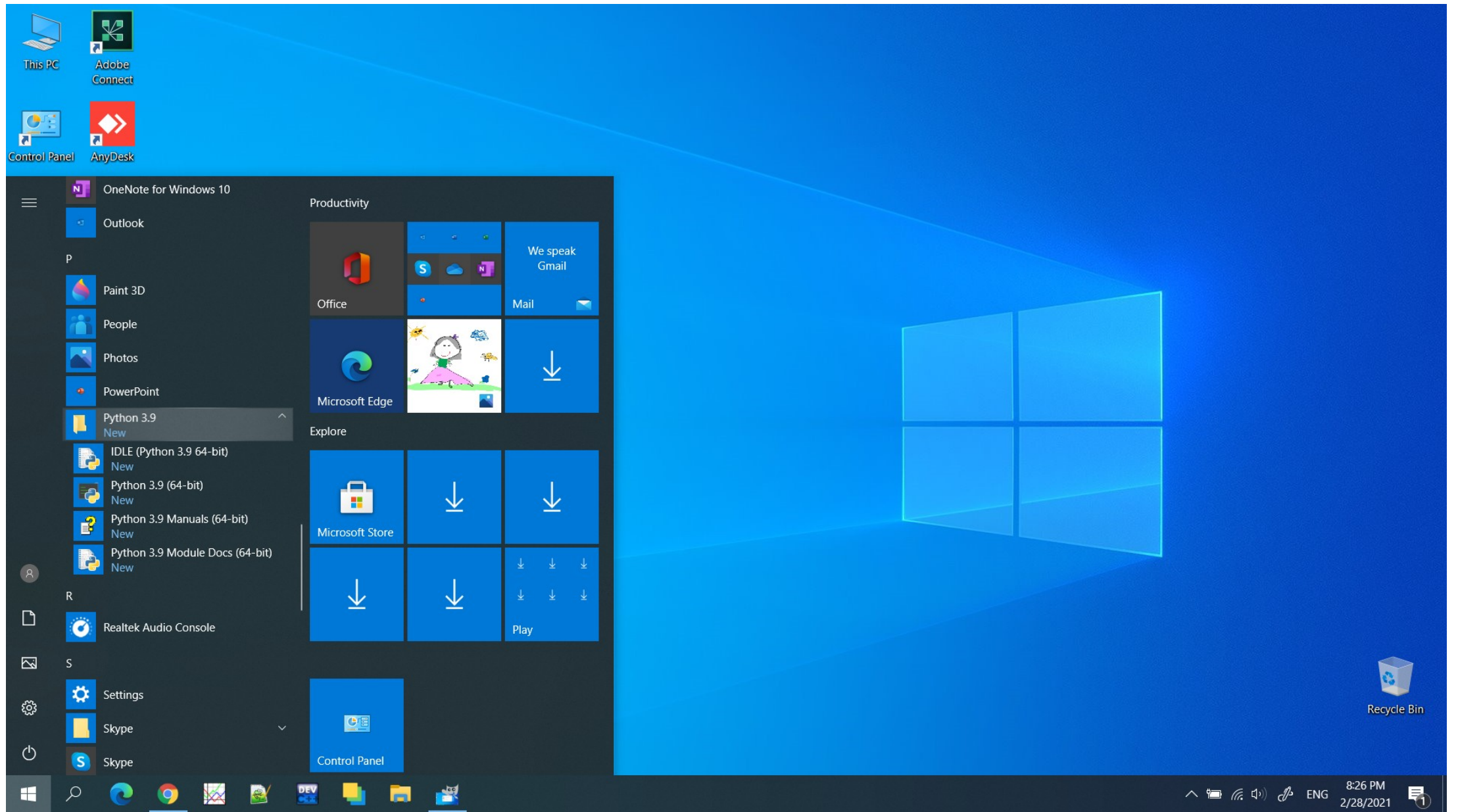


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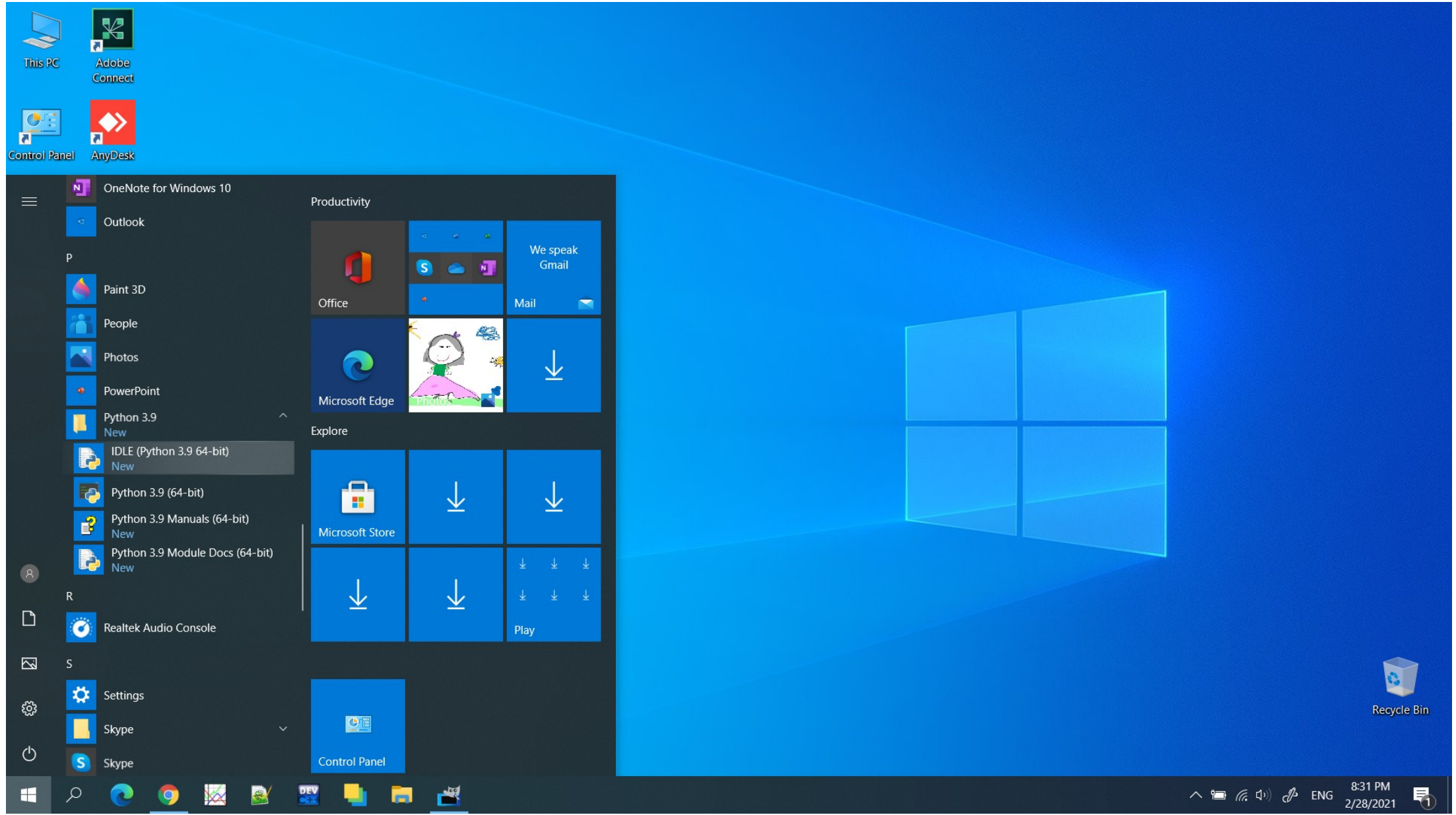


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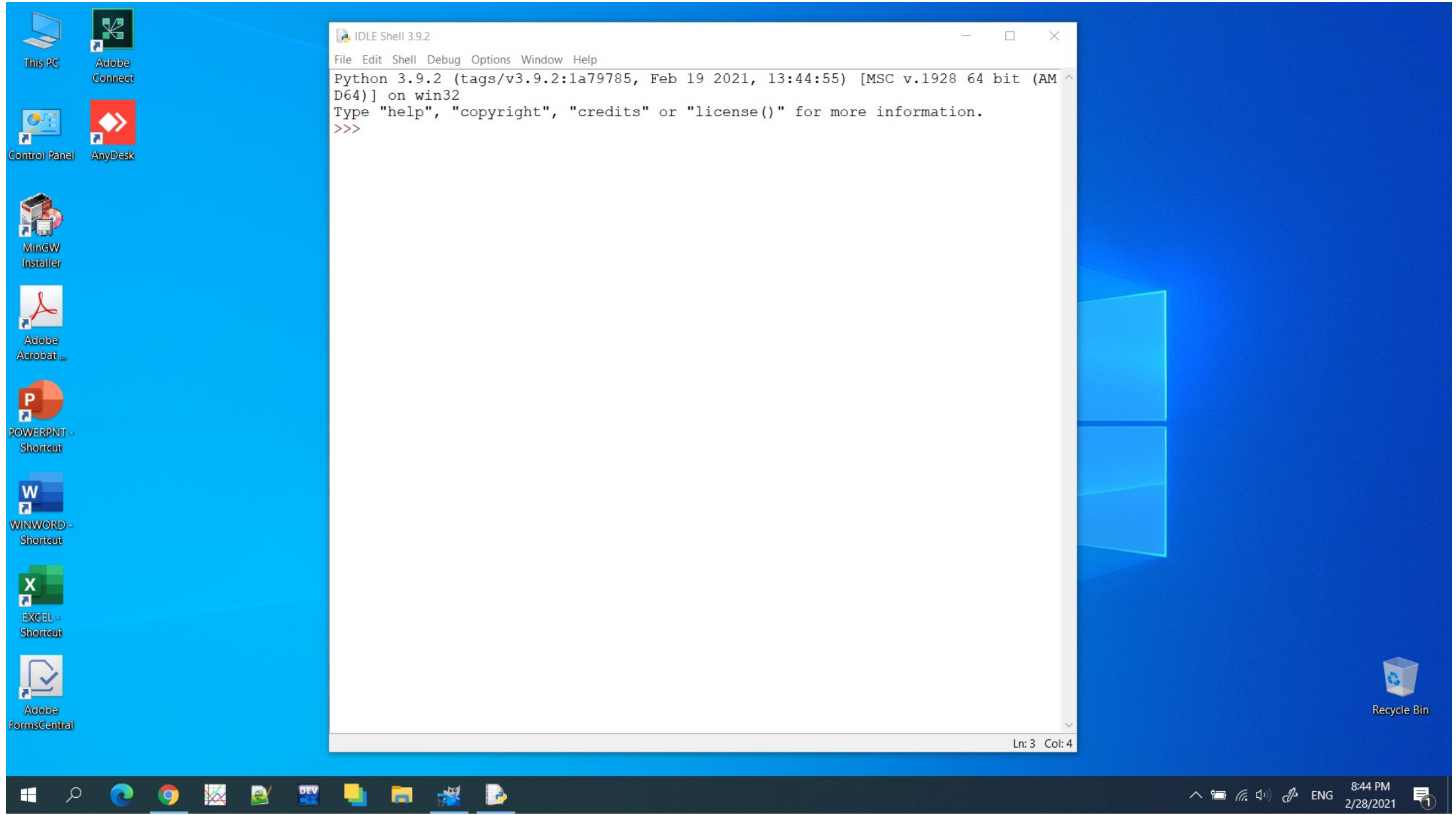


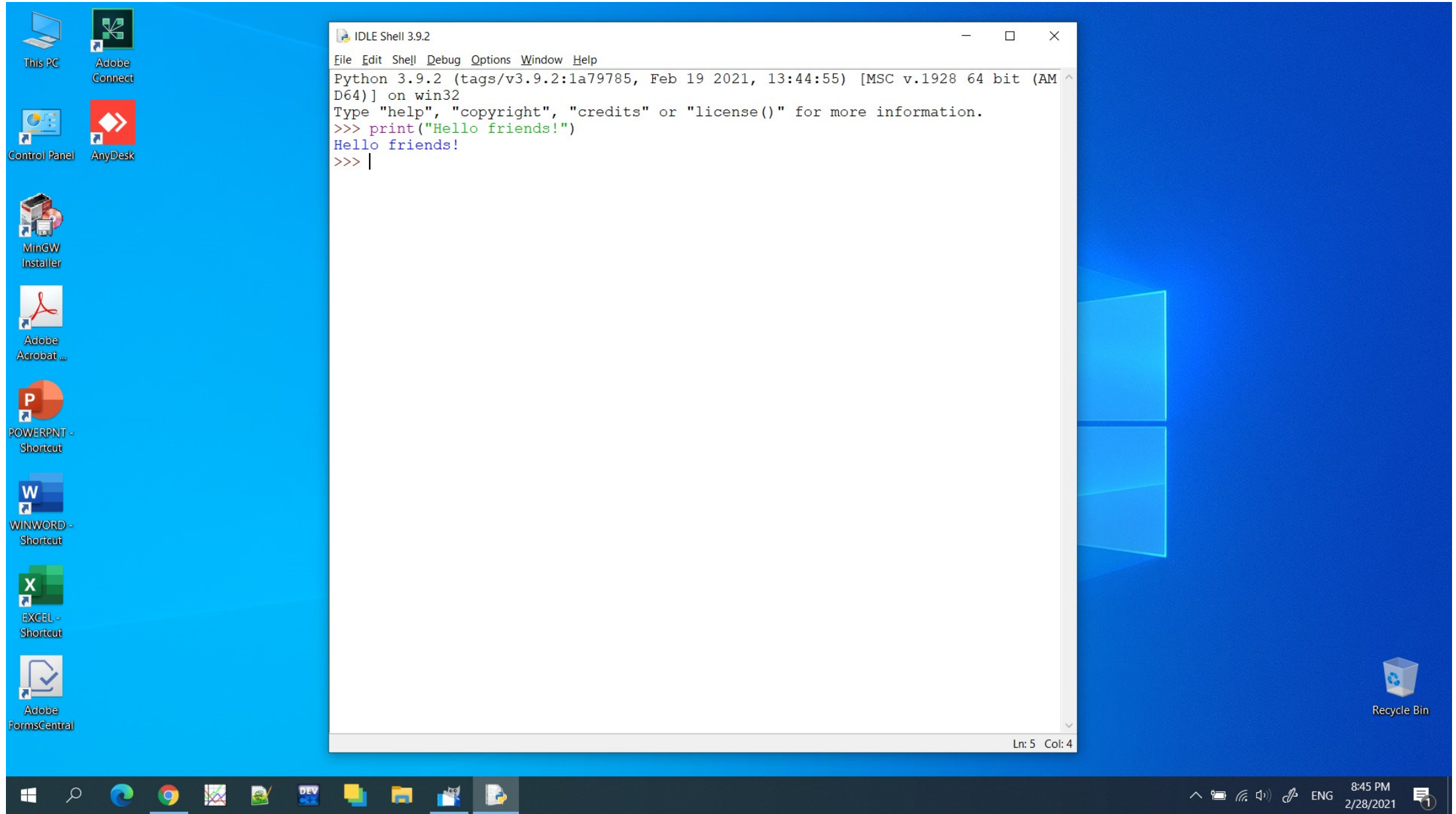


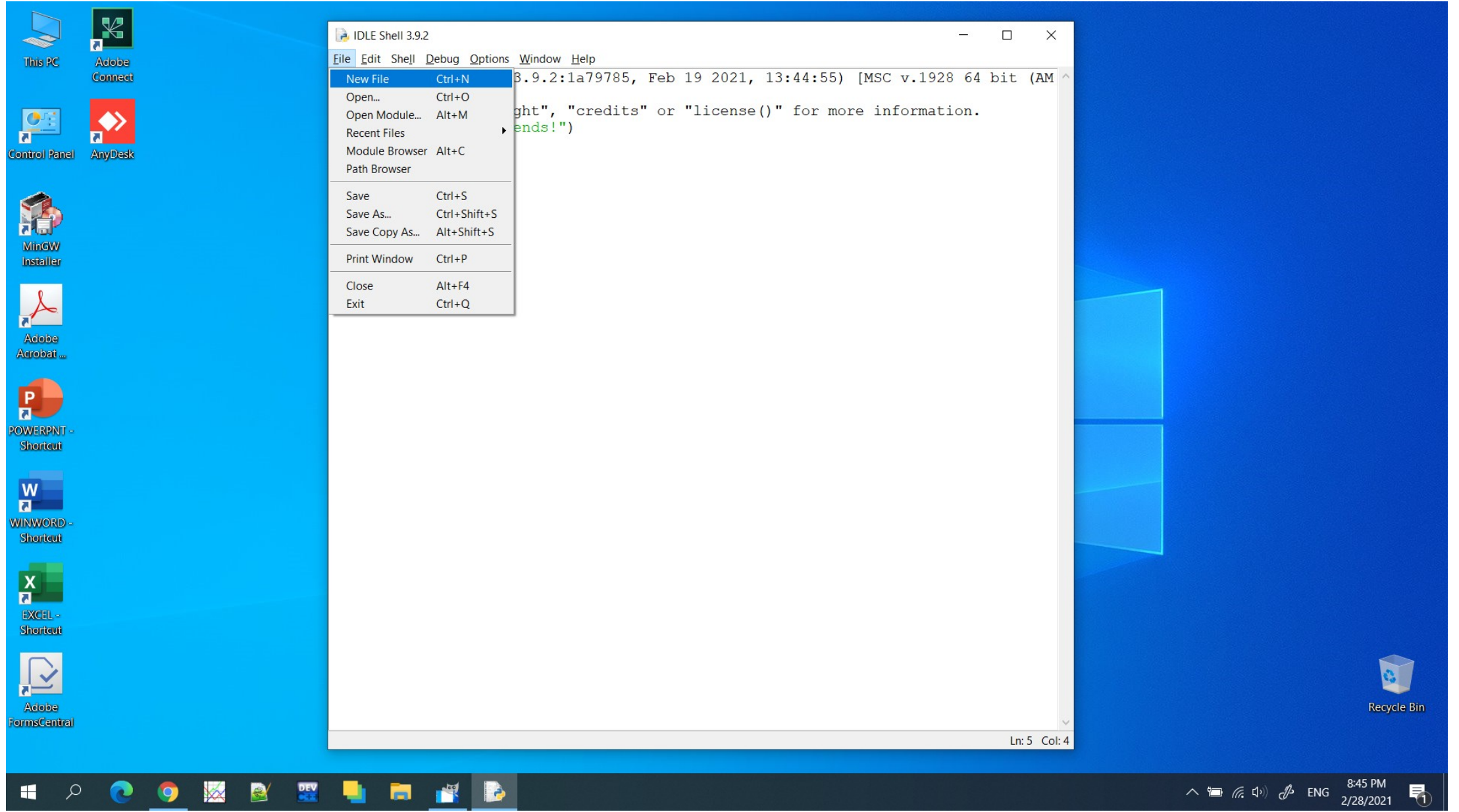
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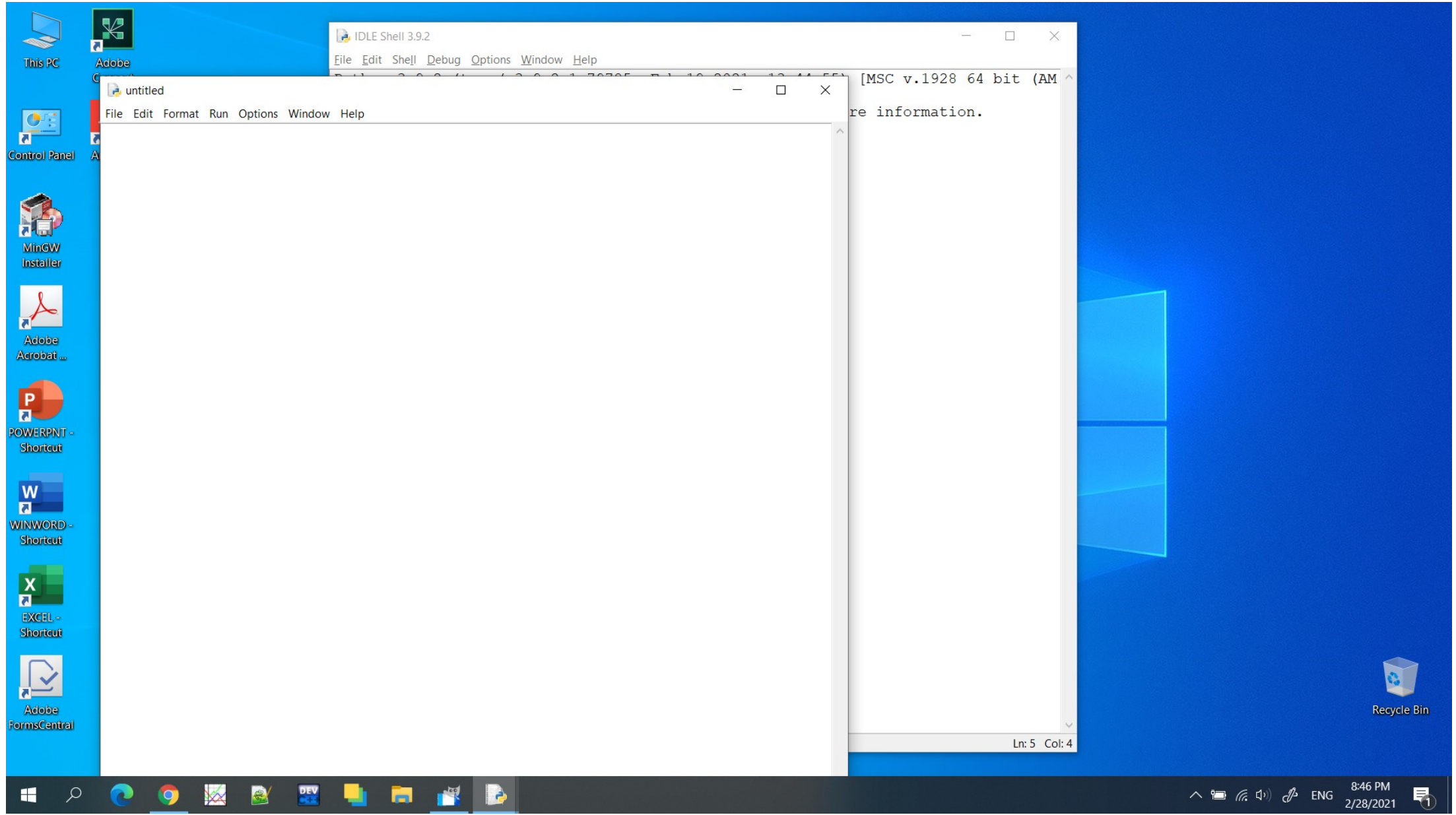


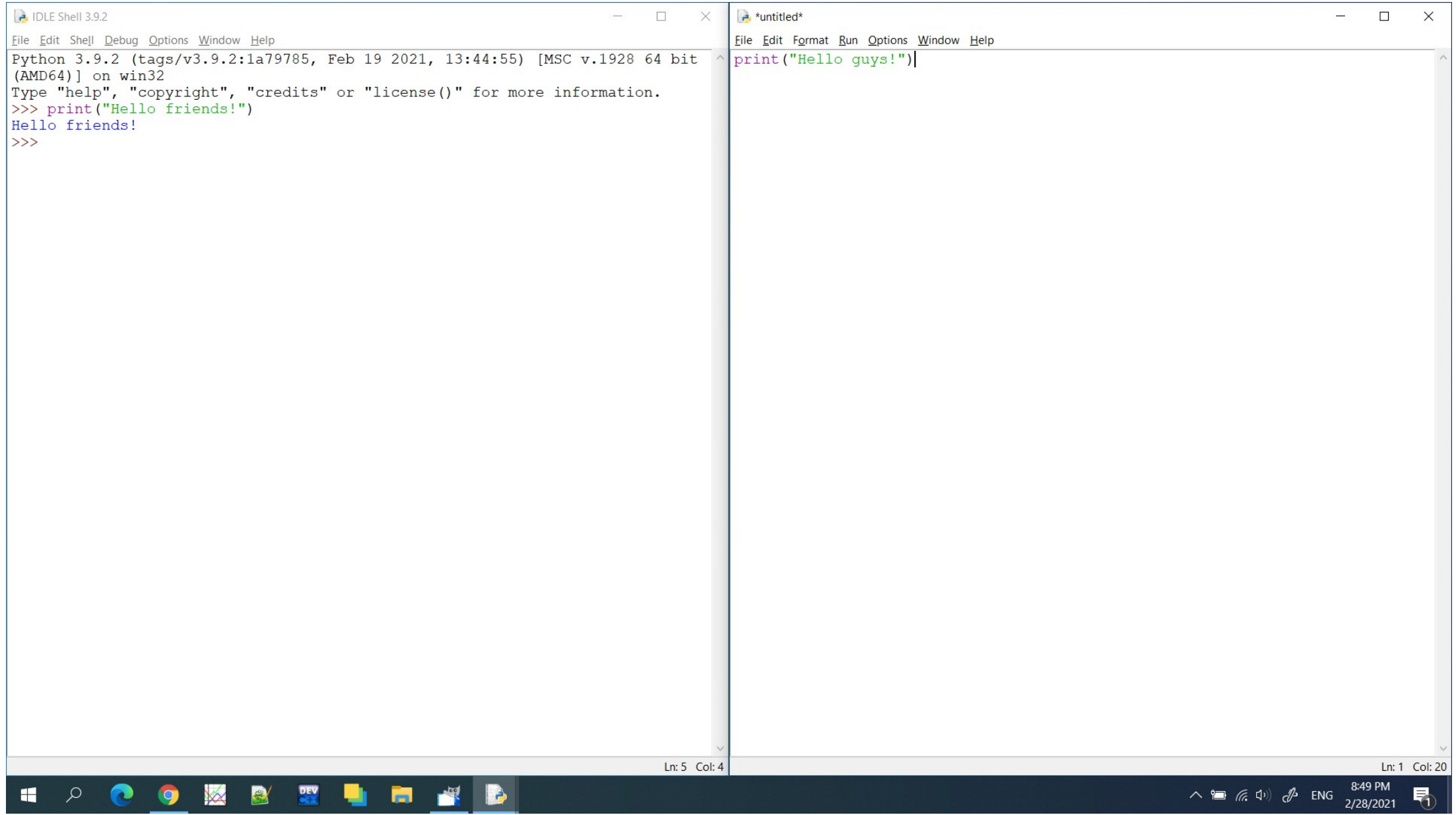


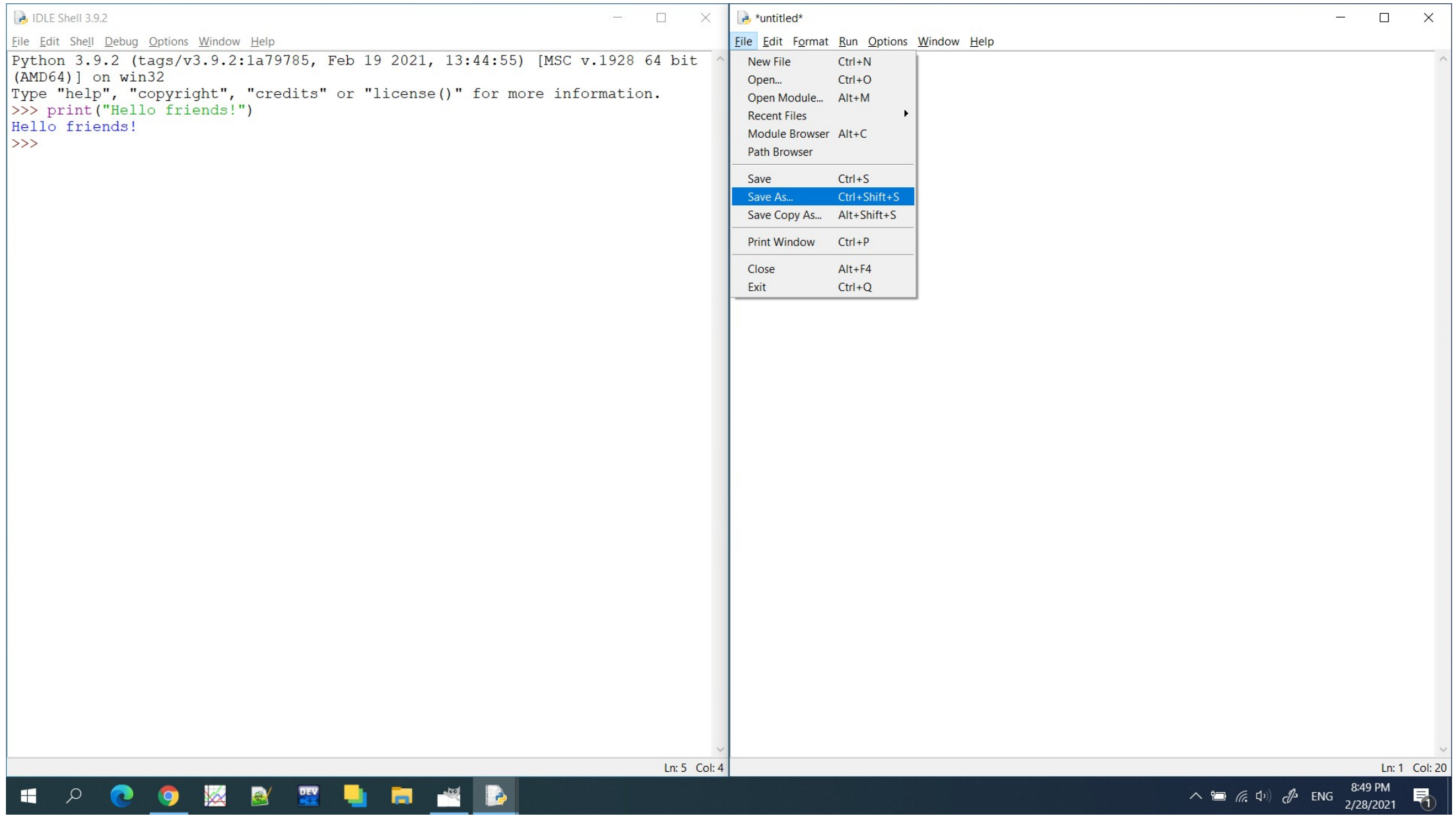


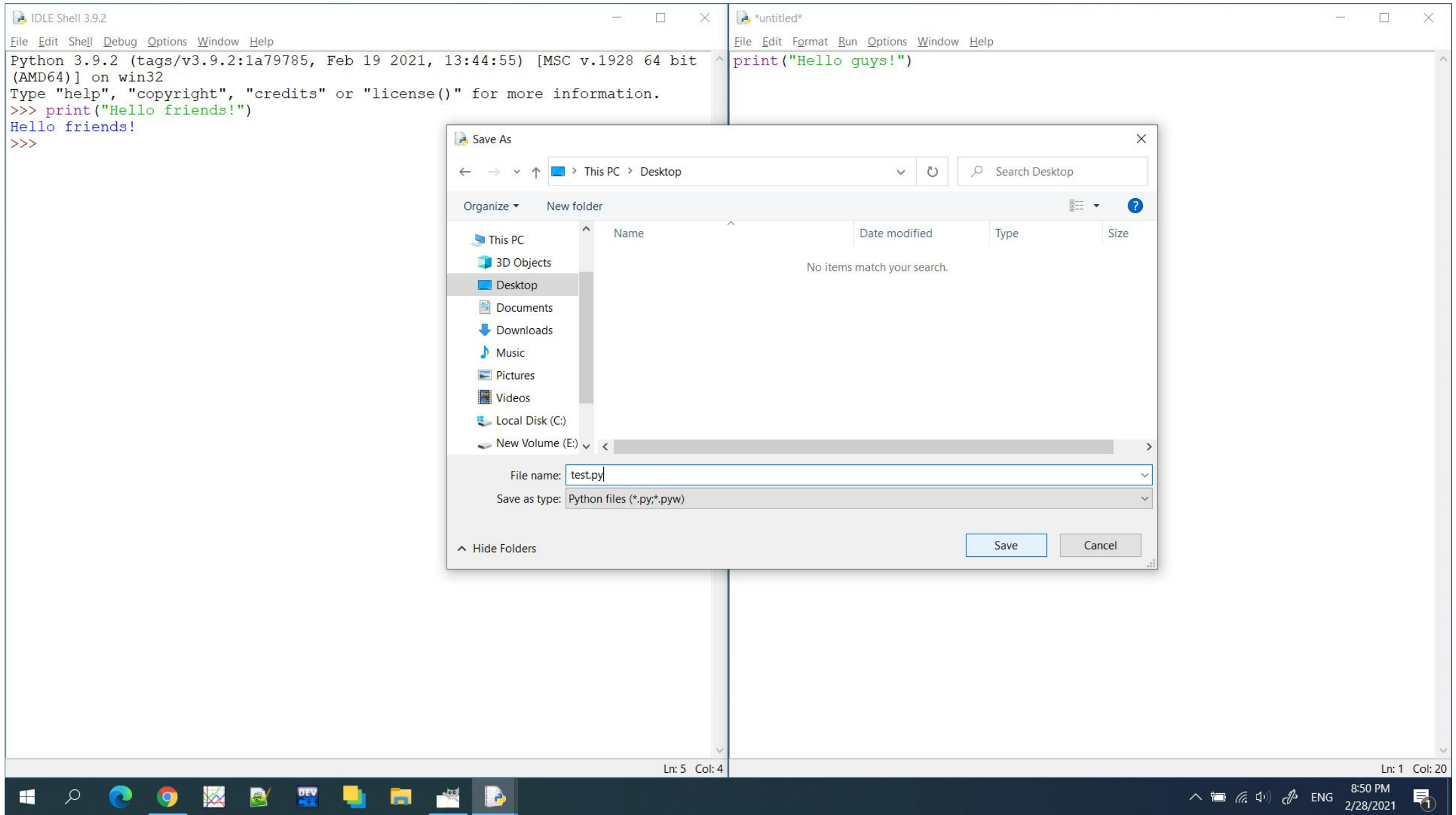


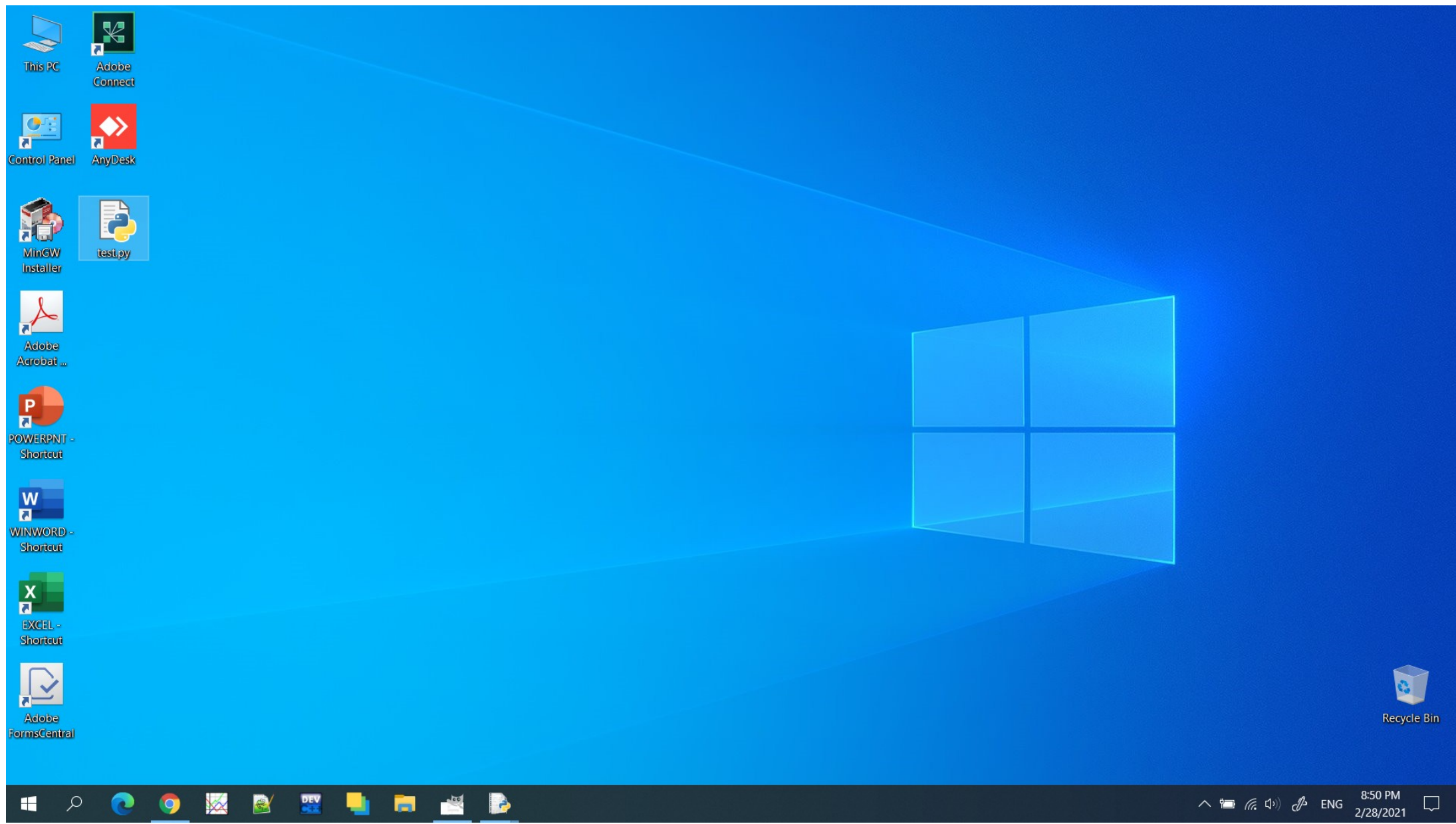




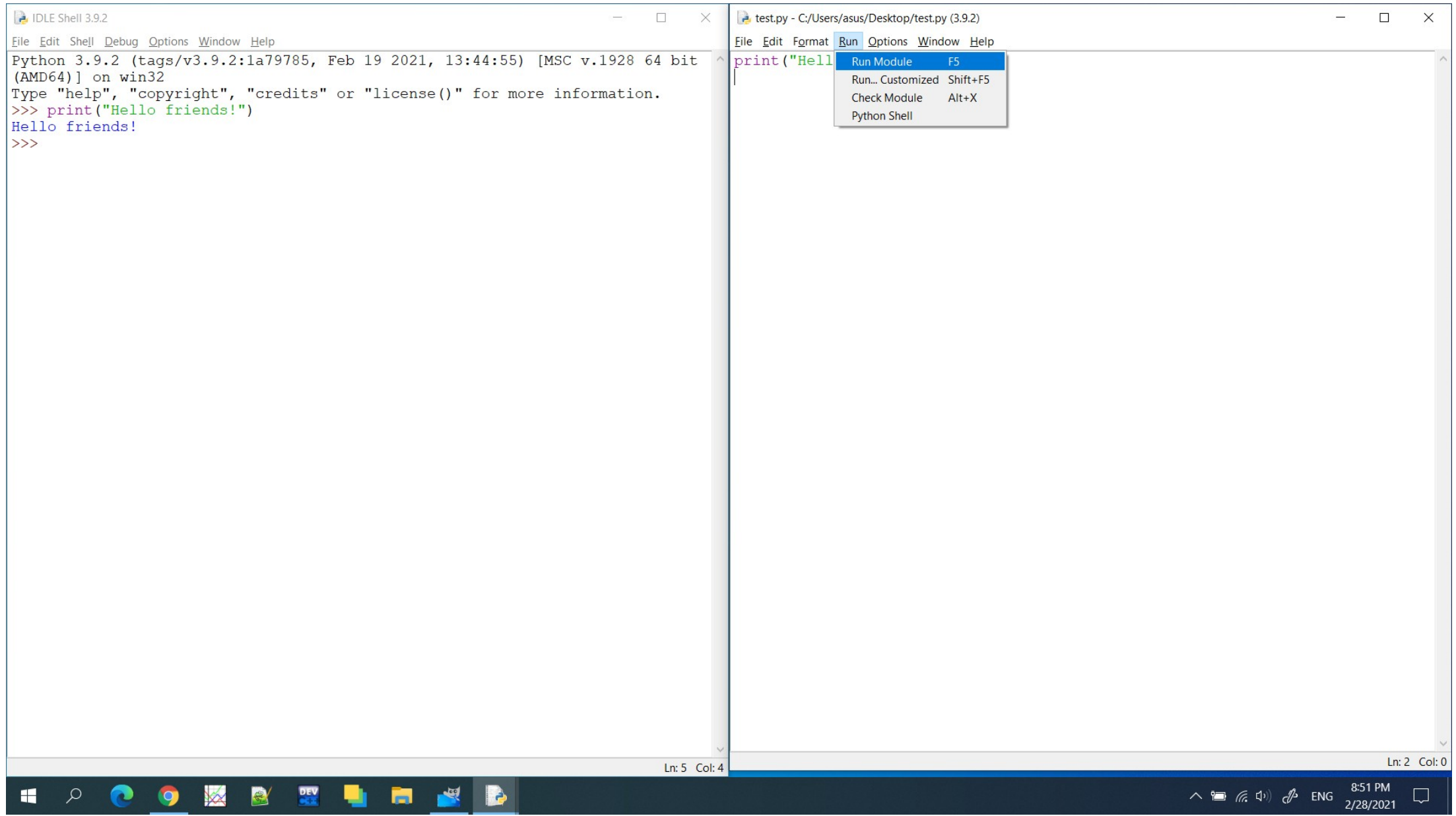


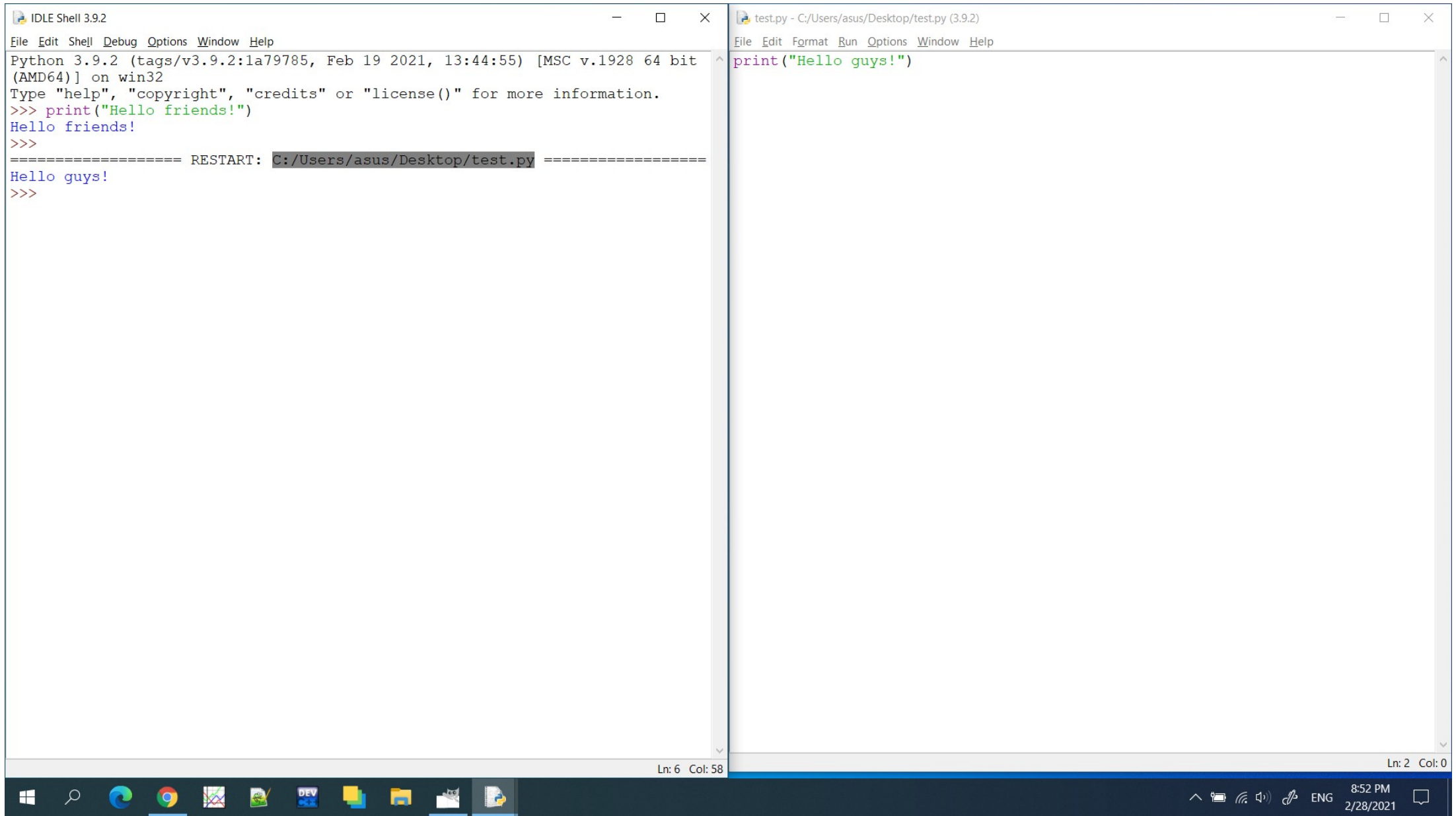








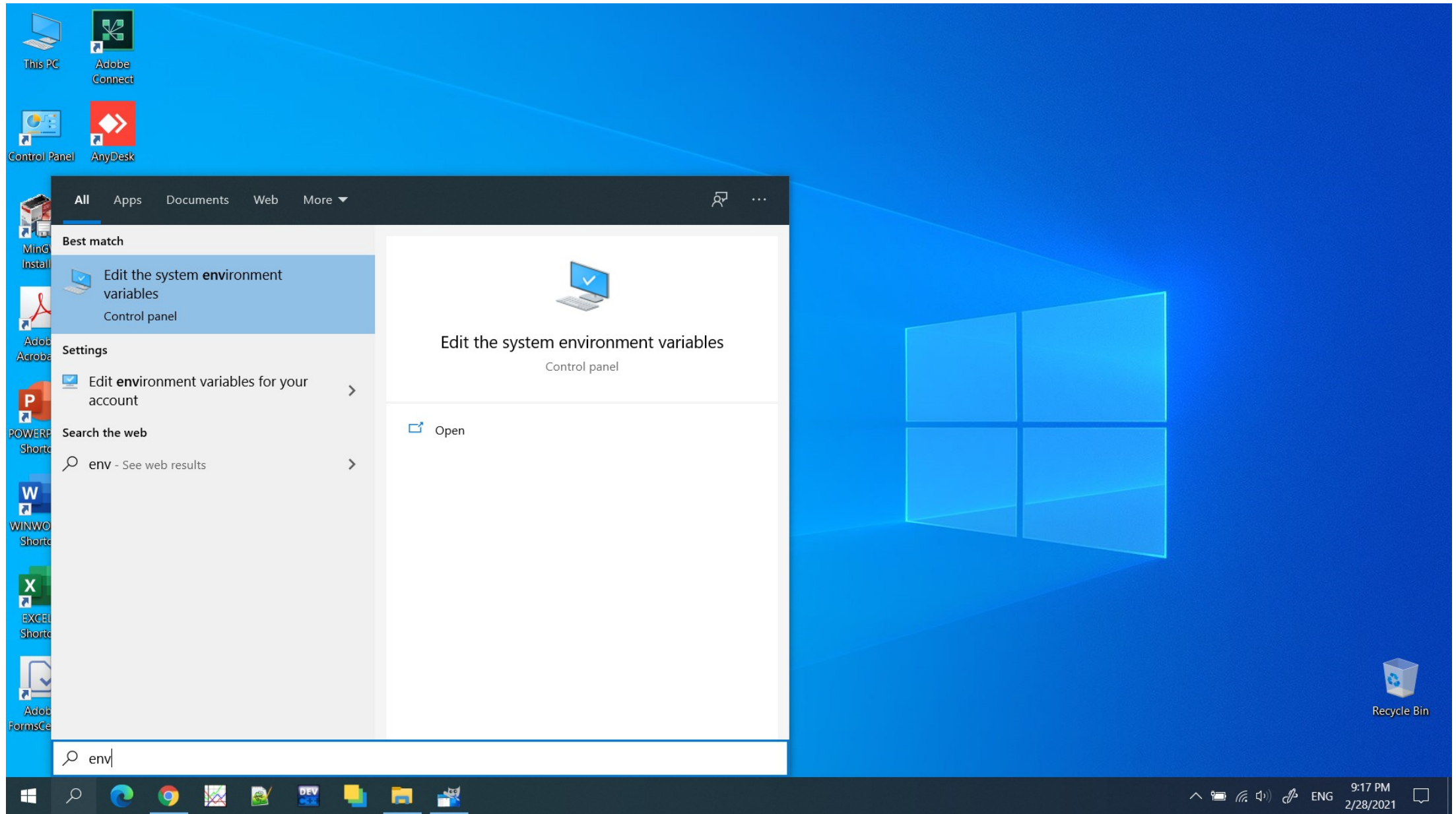


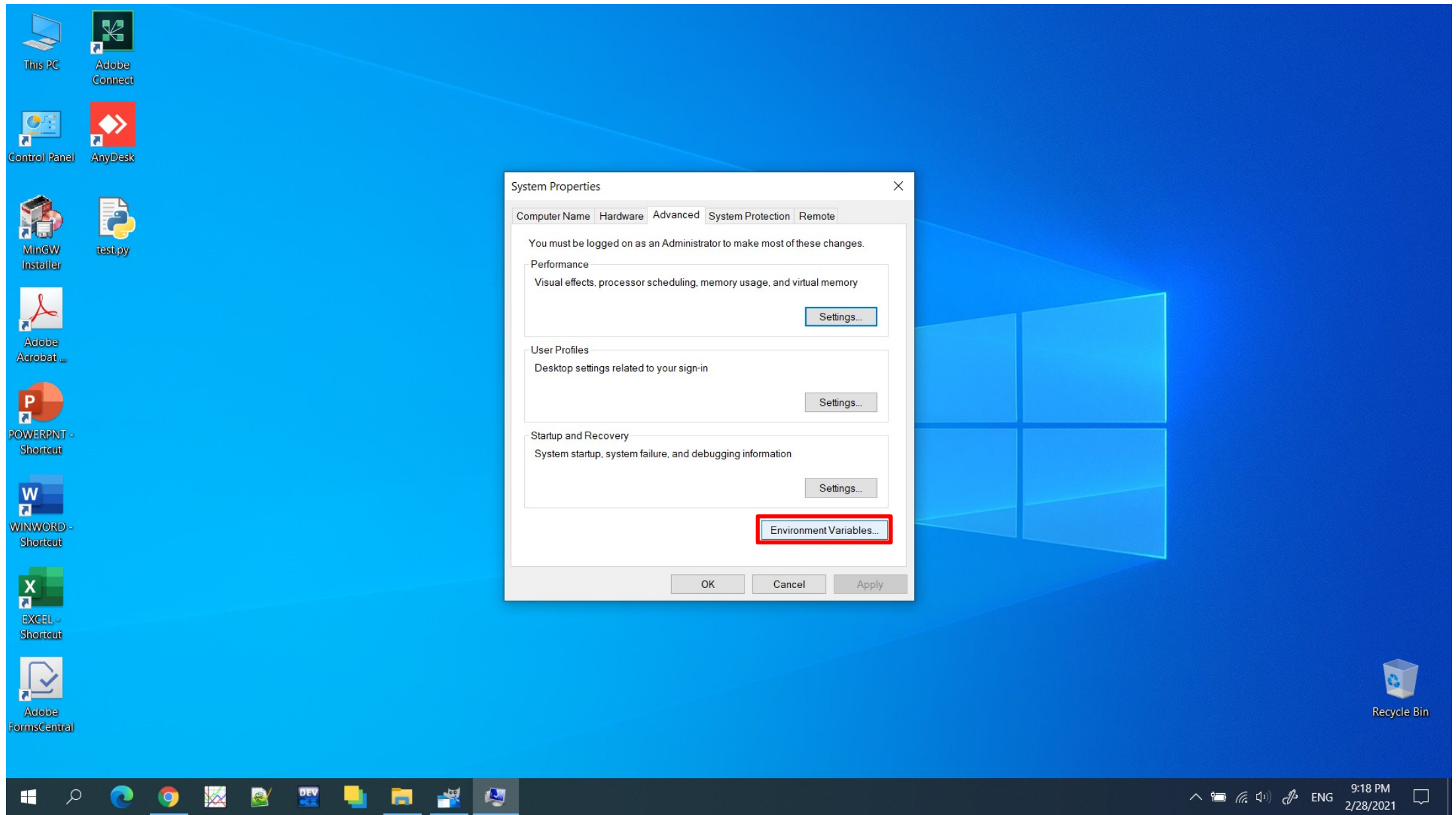


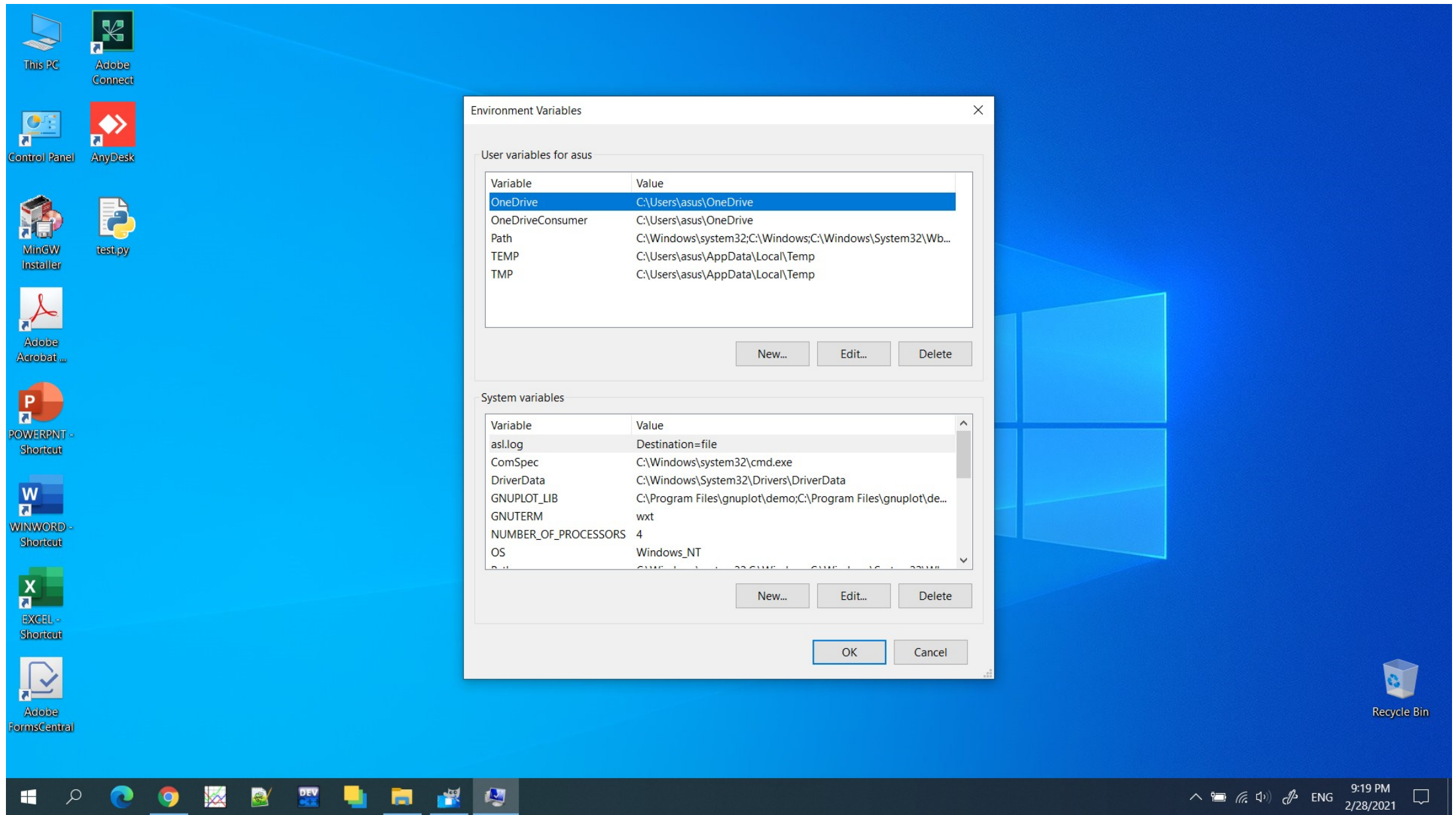
The image shows two windows from the IDLE Python IDE. The left window, titled 'IDLE Shell 3.9.2', displays the Python interpreter's startup message and the execution of a script. The right window, titled 'test.py - C:/Users/asus/Desktop/test.py (3.9.2)', shows the source code of the script.

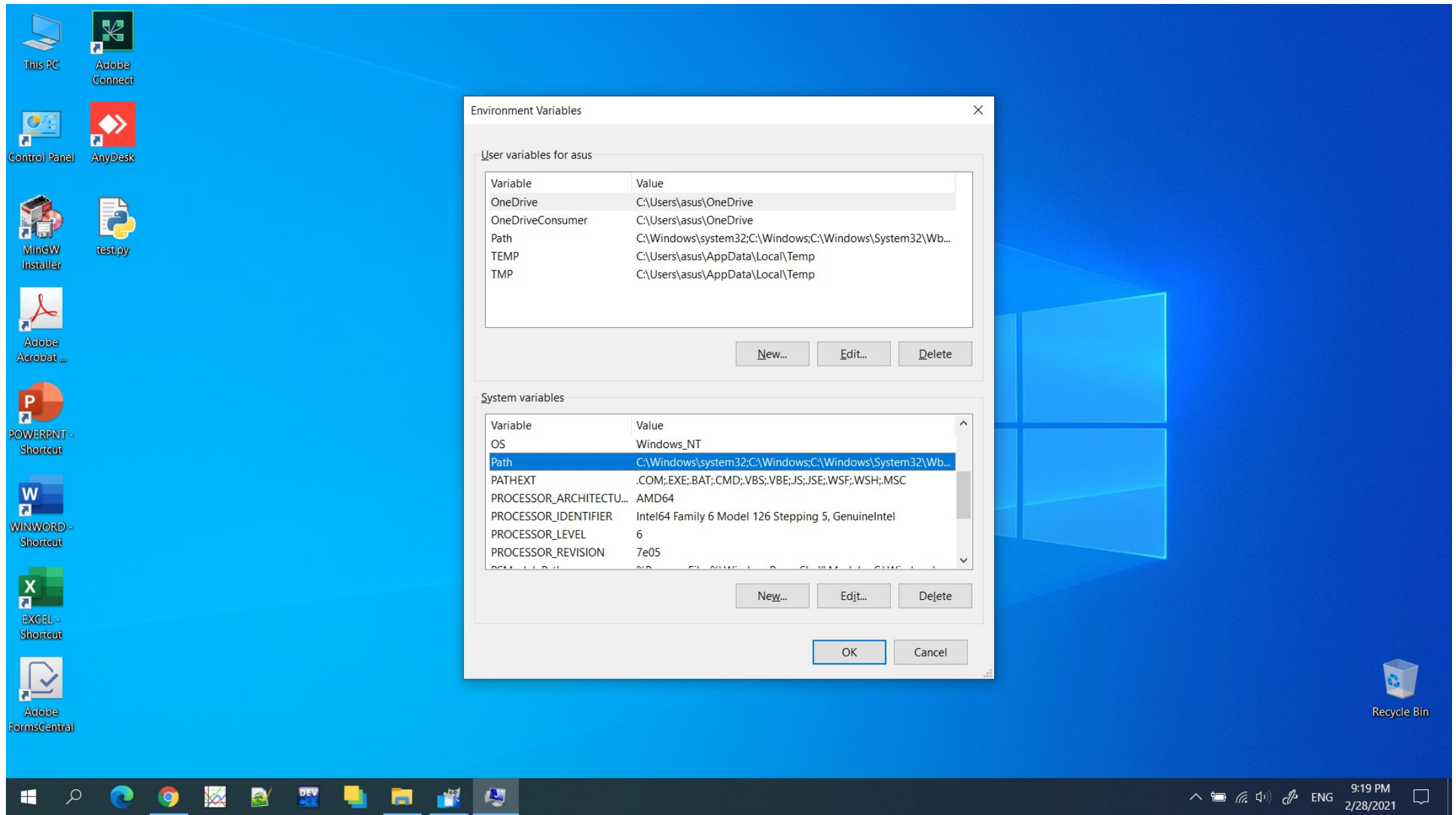
```
Python 3.9.2 (tags/v3.9.2:1a79785, Feb 19 2021, 13:44:55) [MSC v.1928 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>> print("Hello friends!")
Hello friends!
>>>
===== RESTART: C:/Users/asus/Desktop/test.py =====
Hello guys!
>>>
```

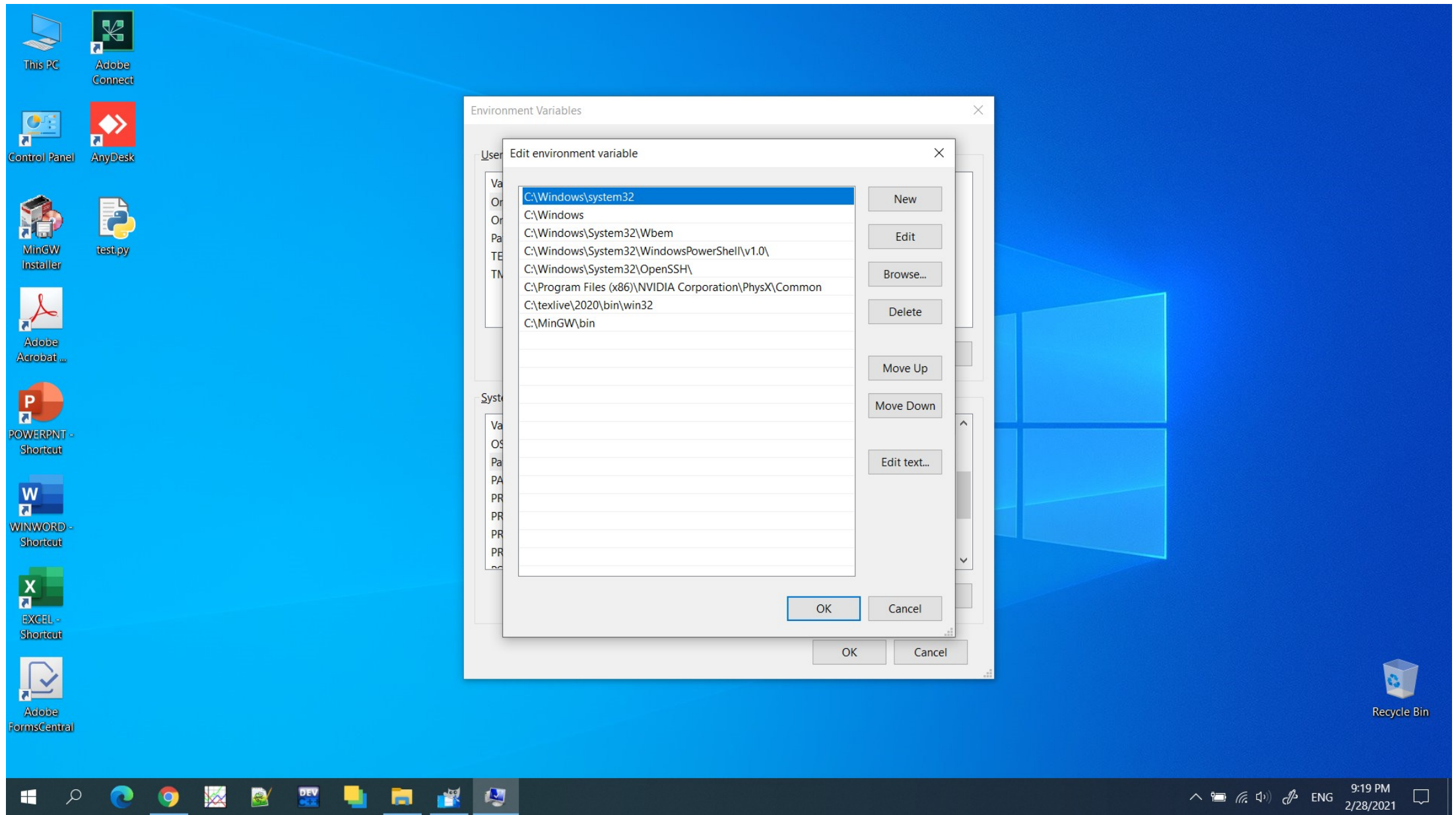
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print("Hello guys!")
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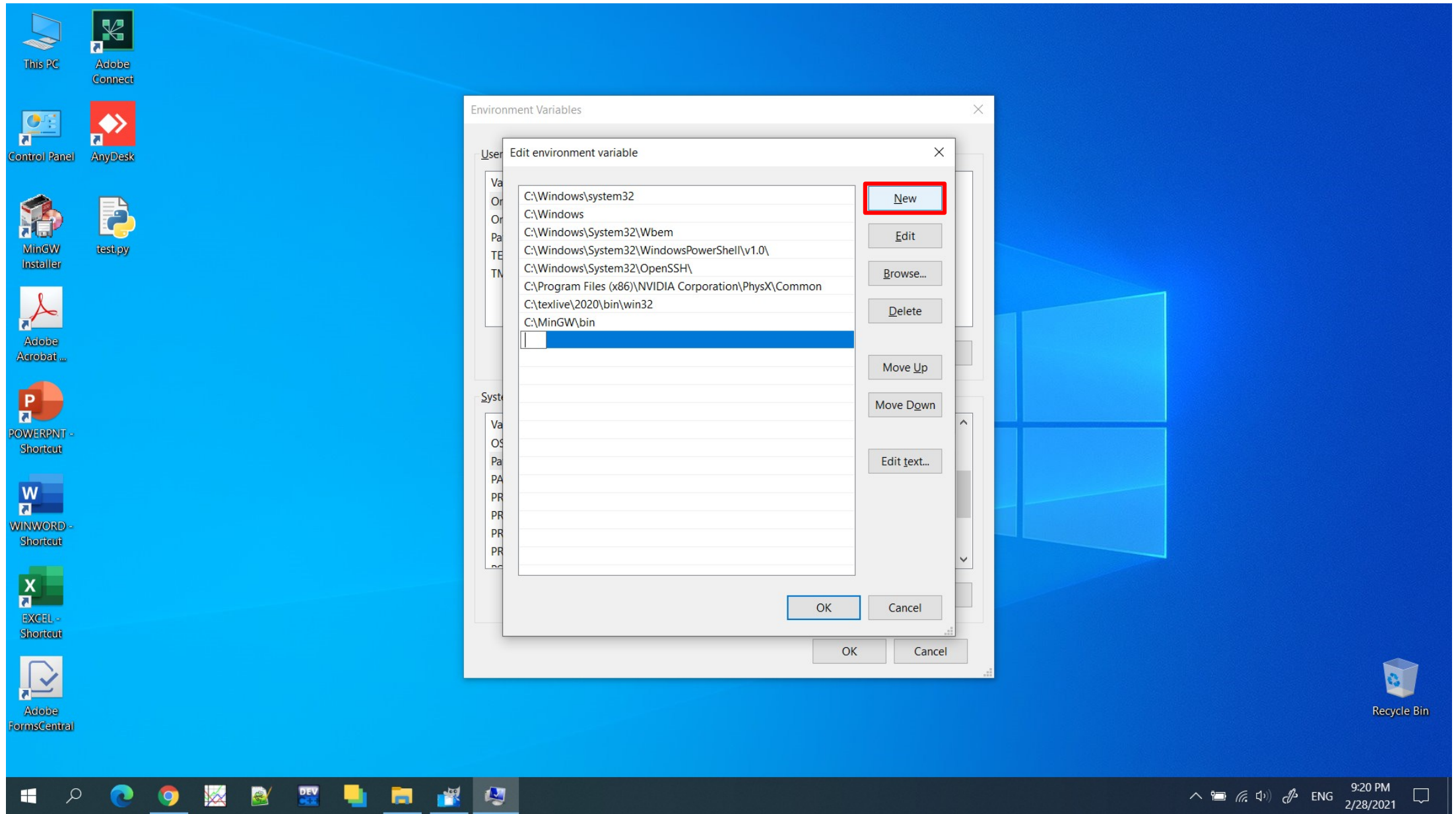




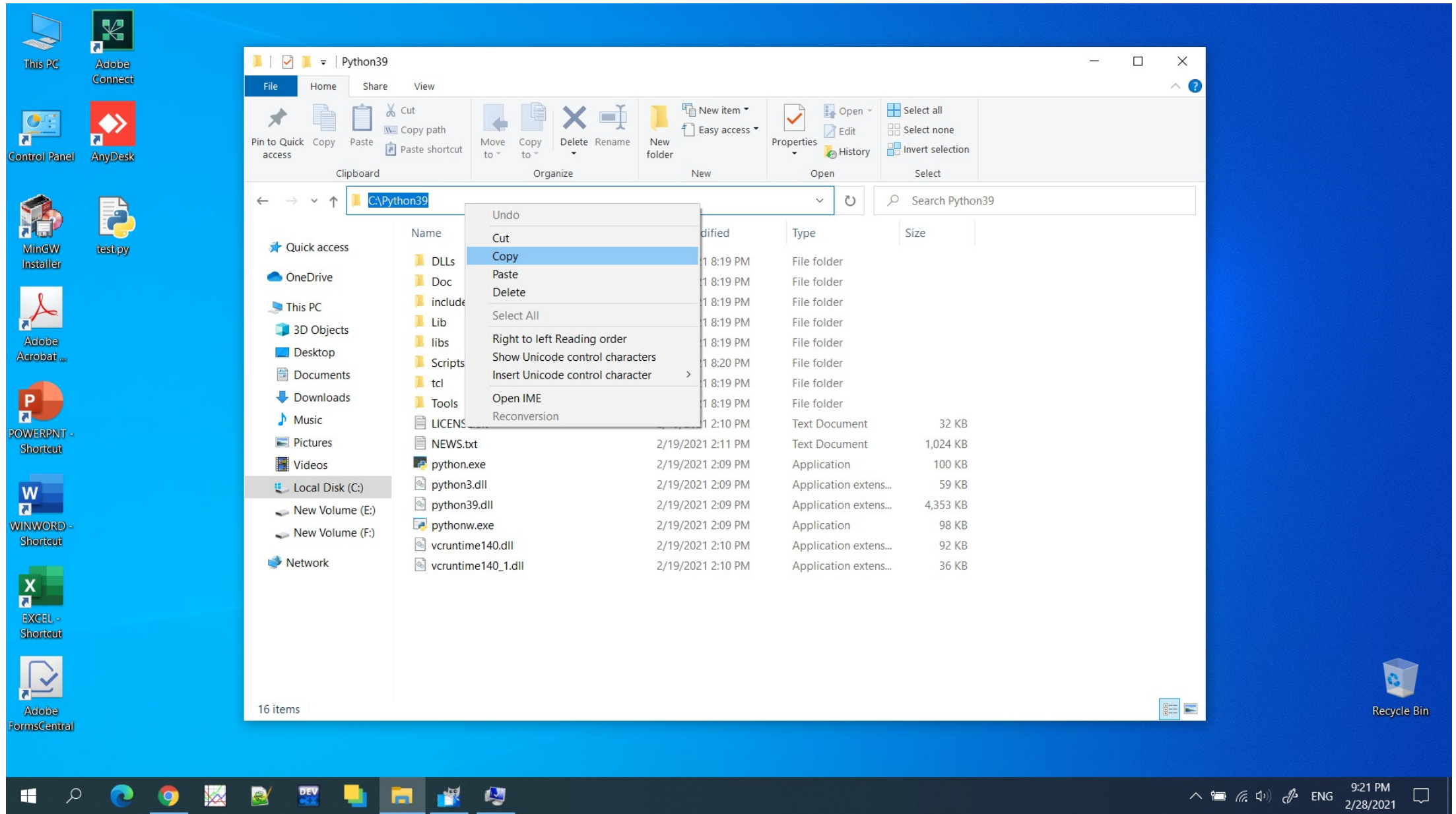


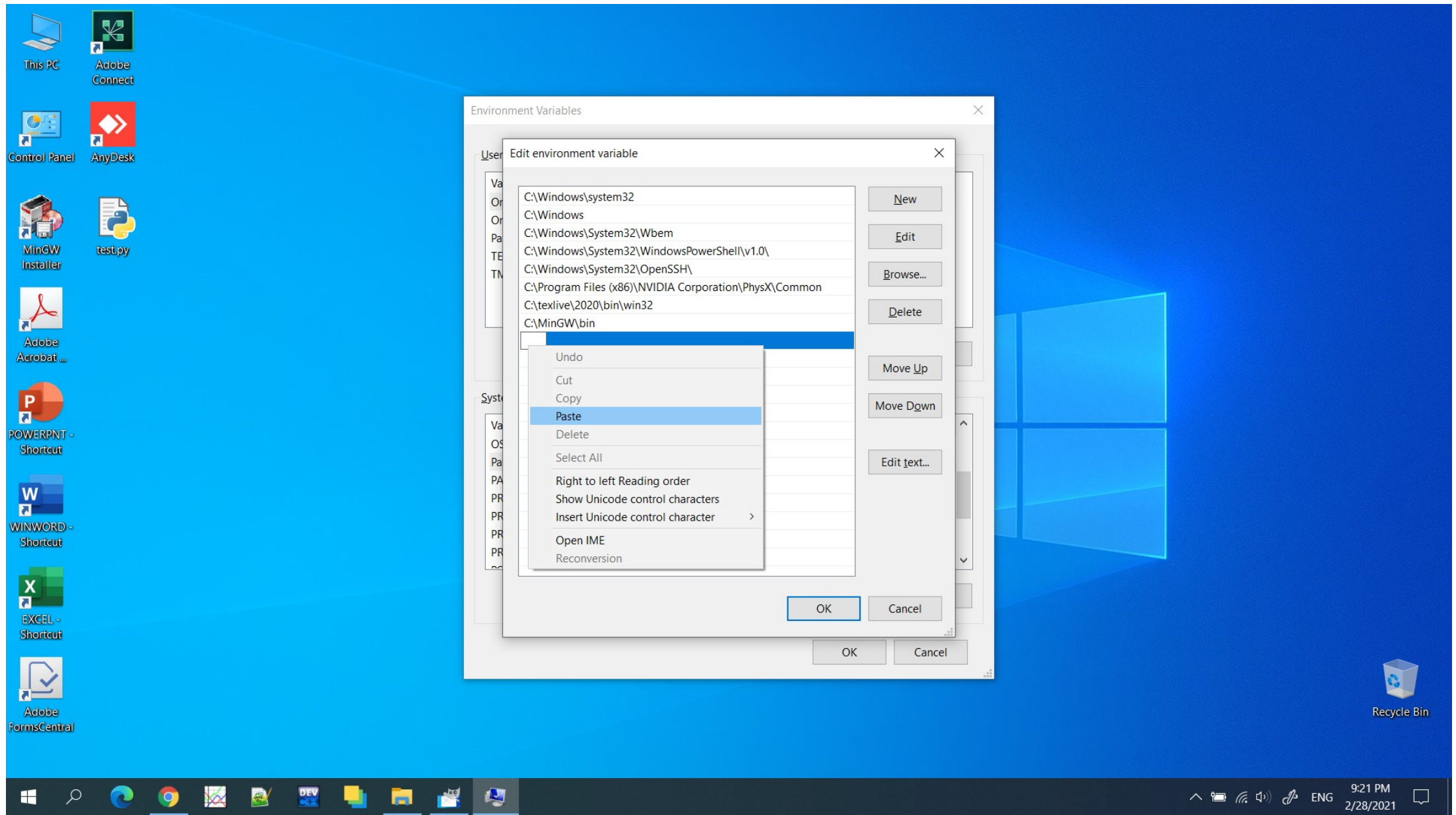


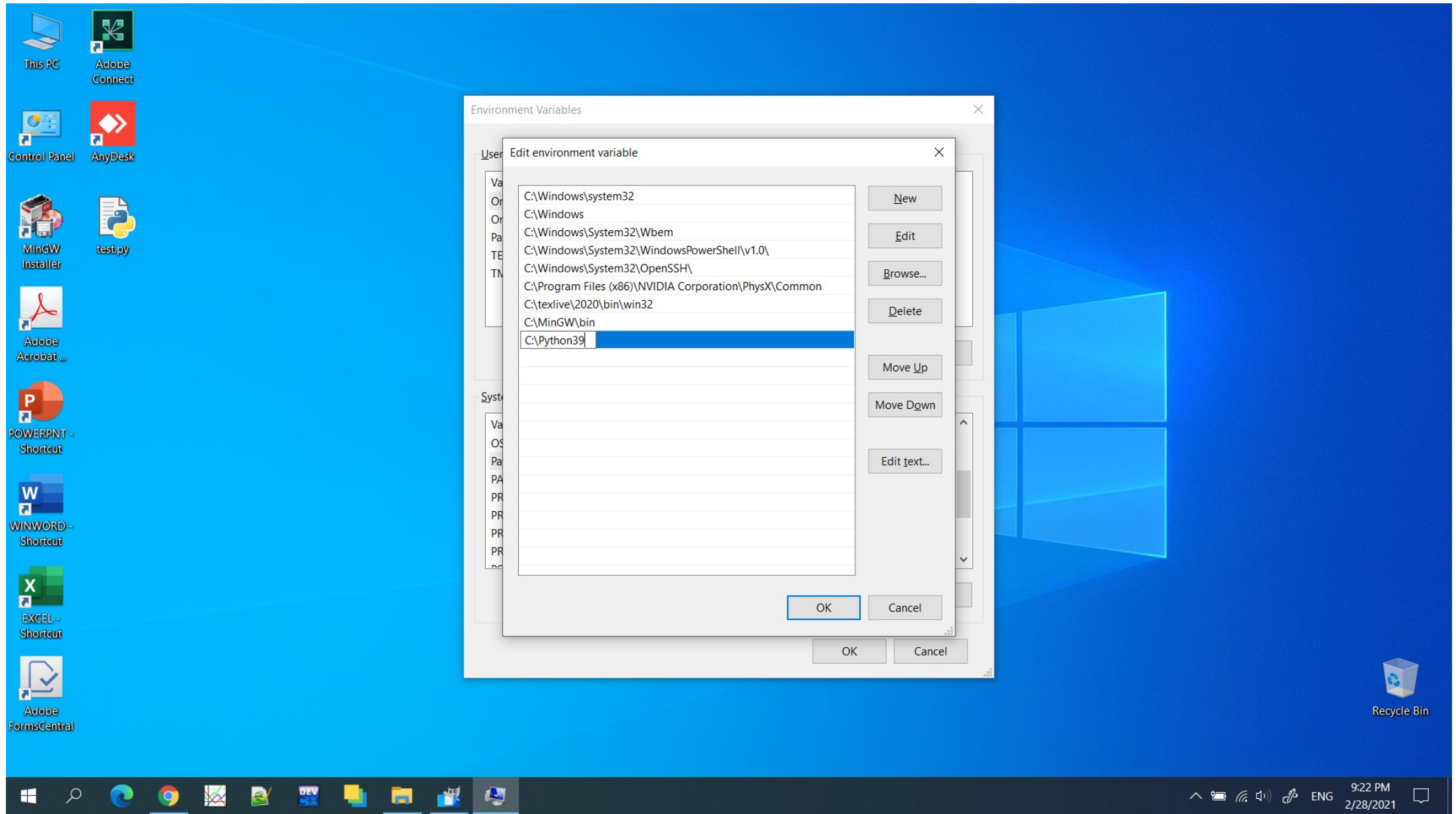


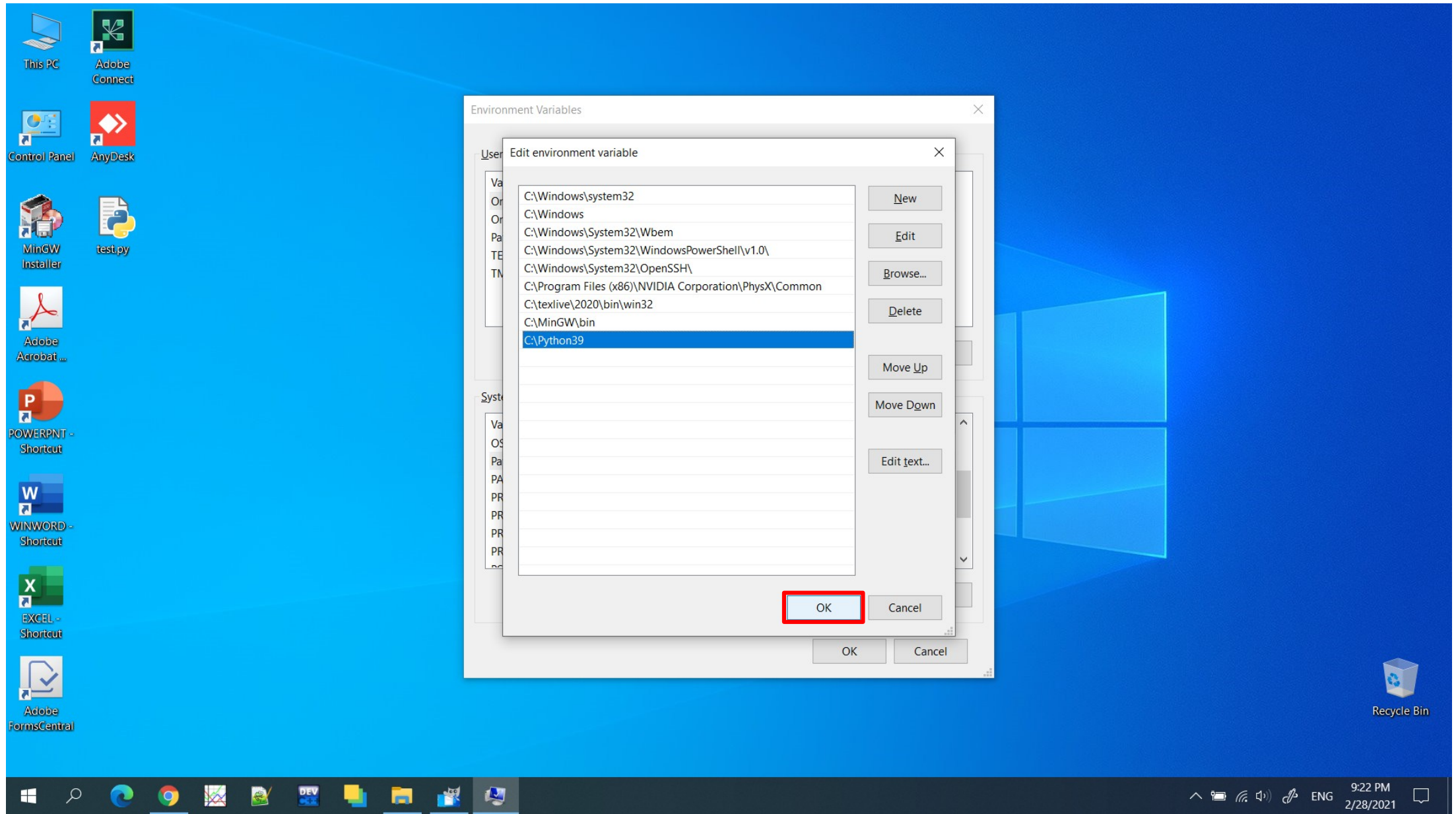


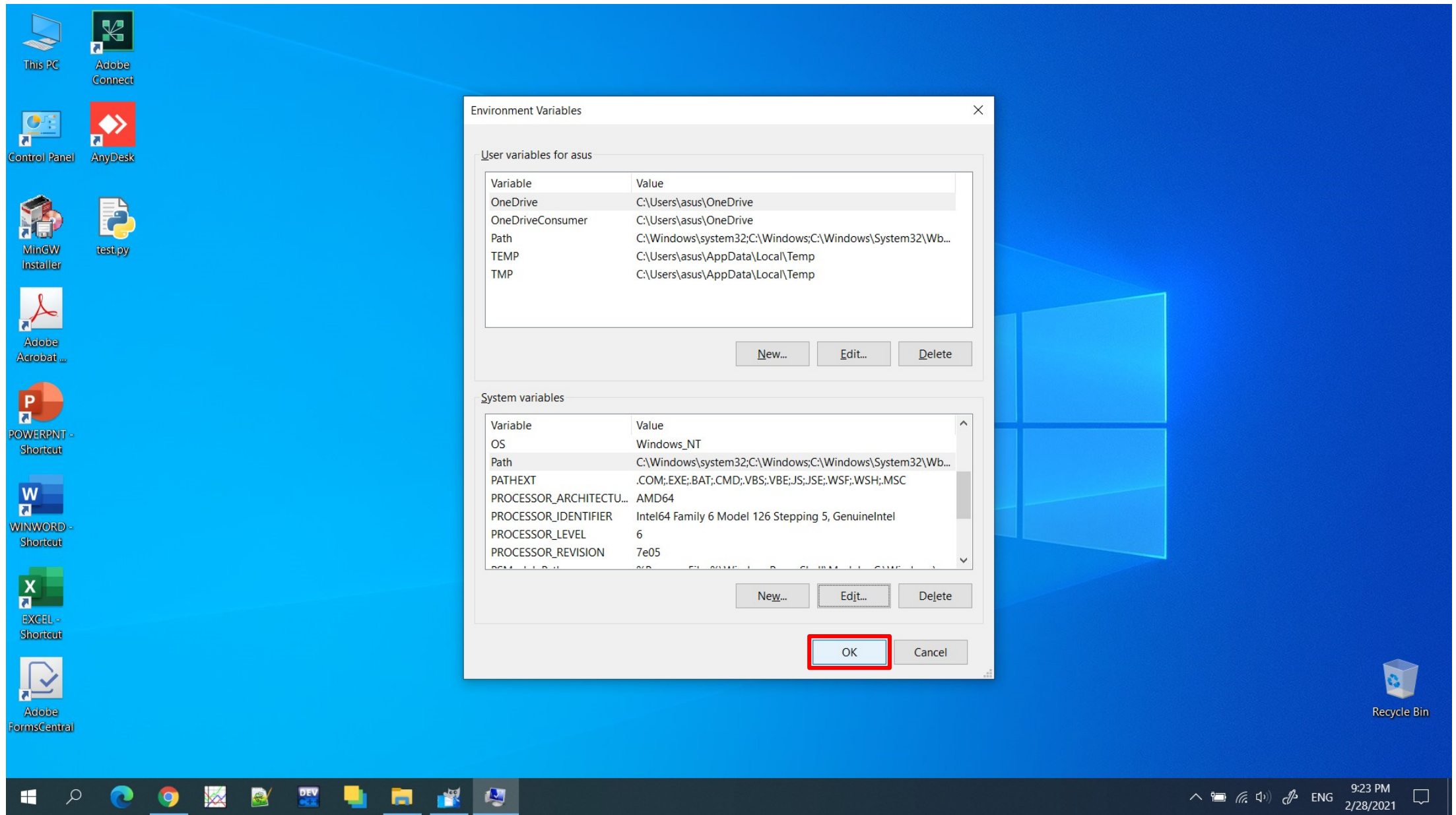


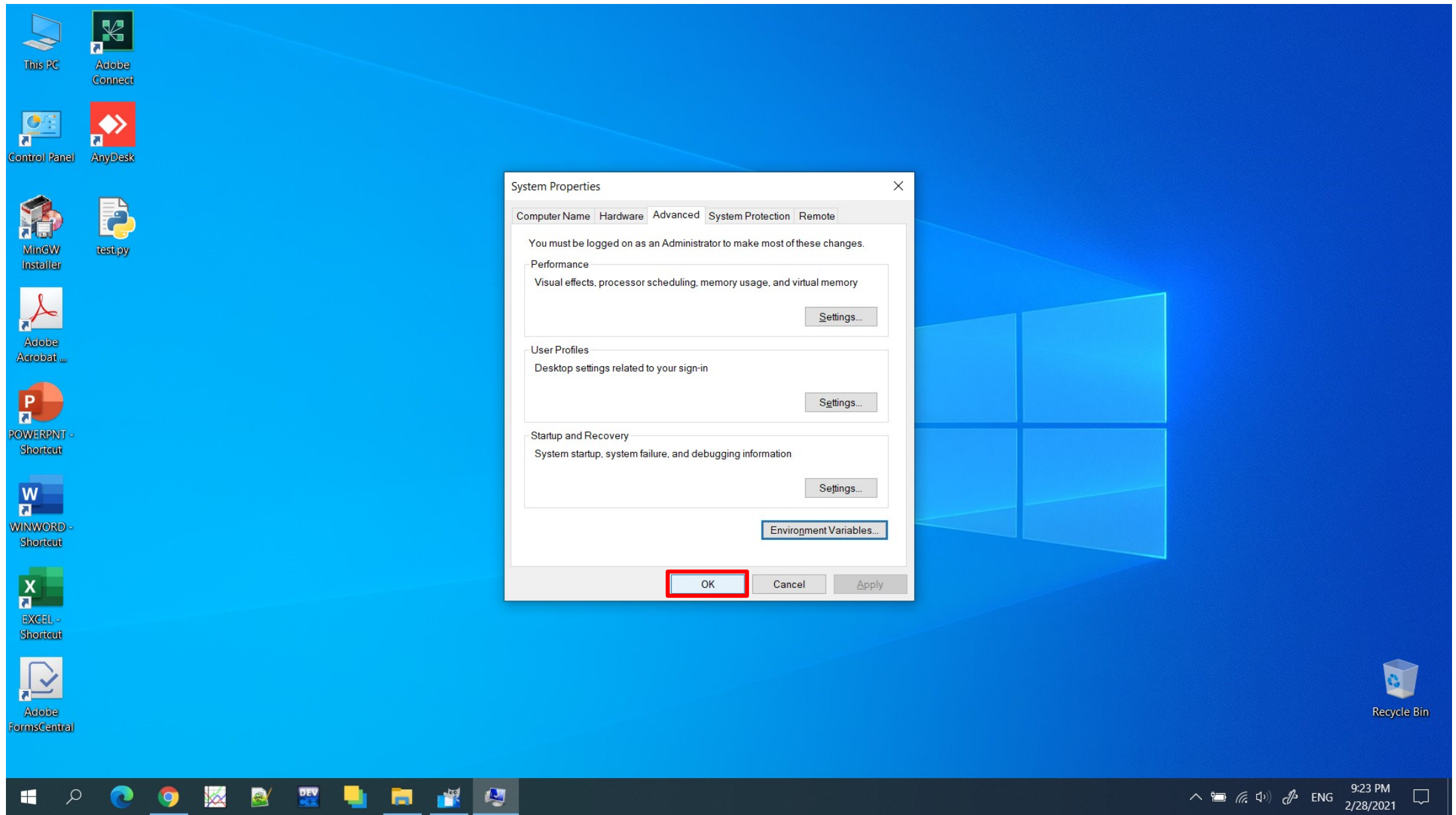


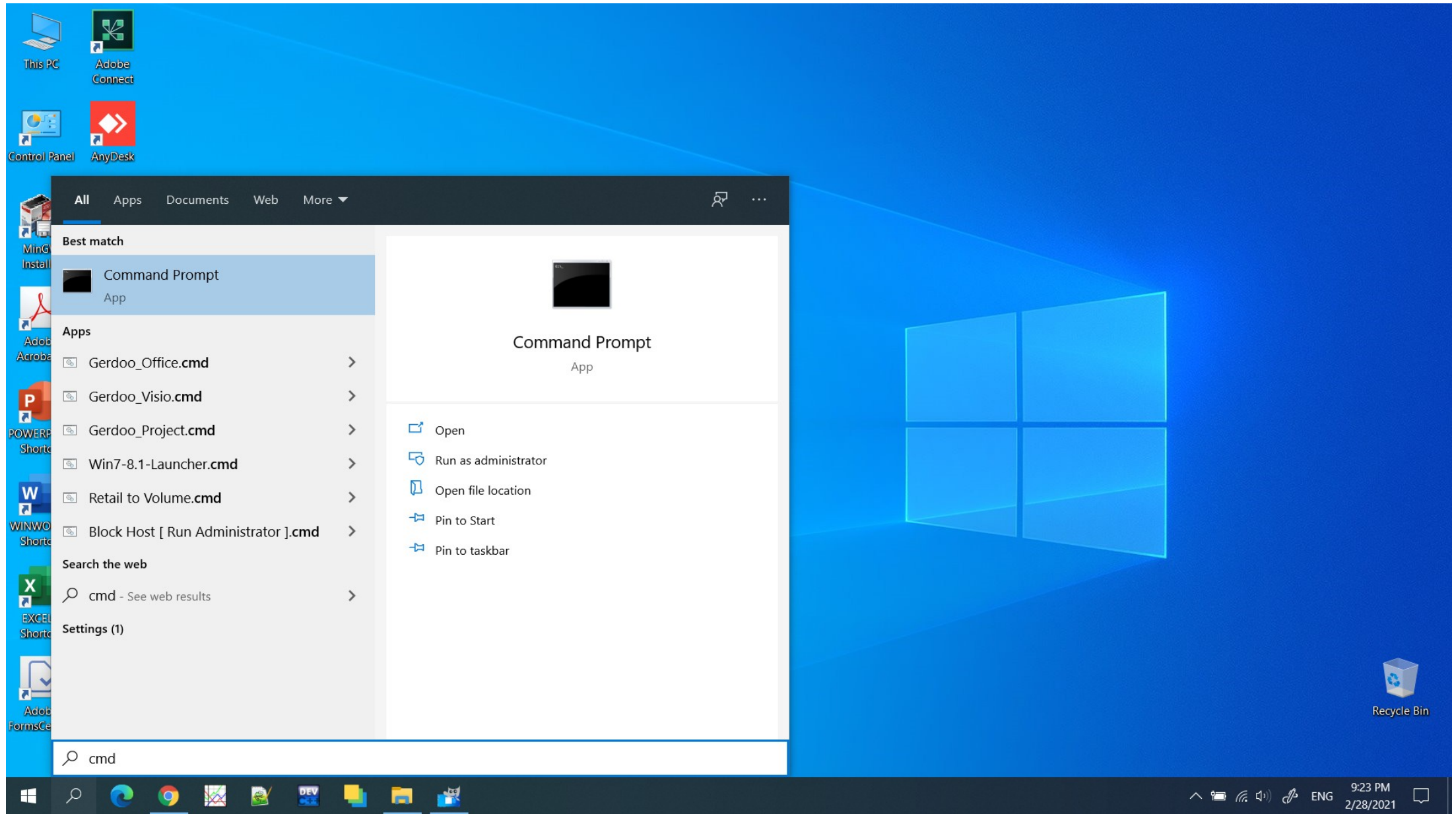


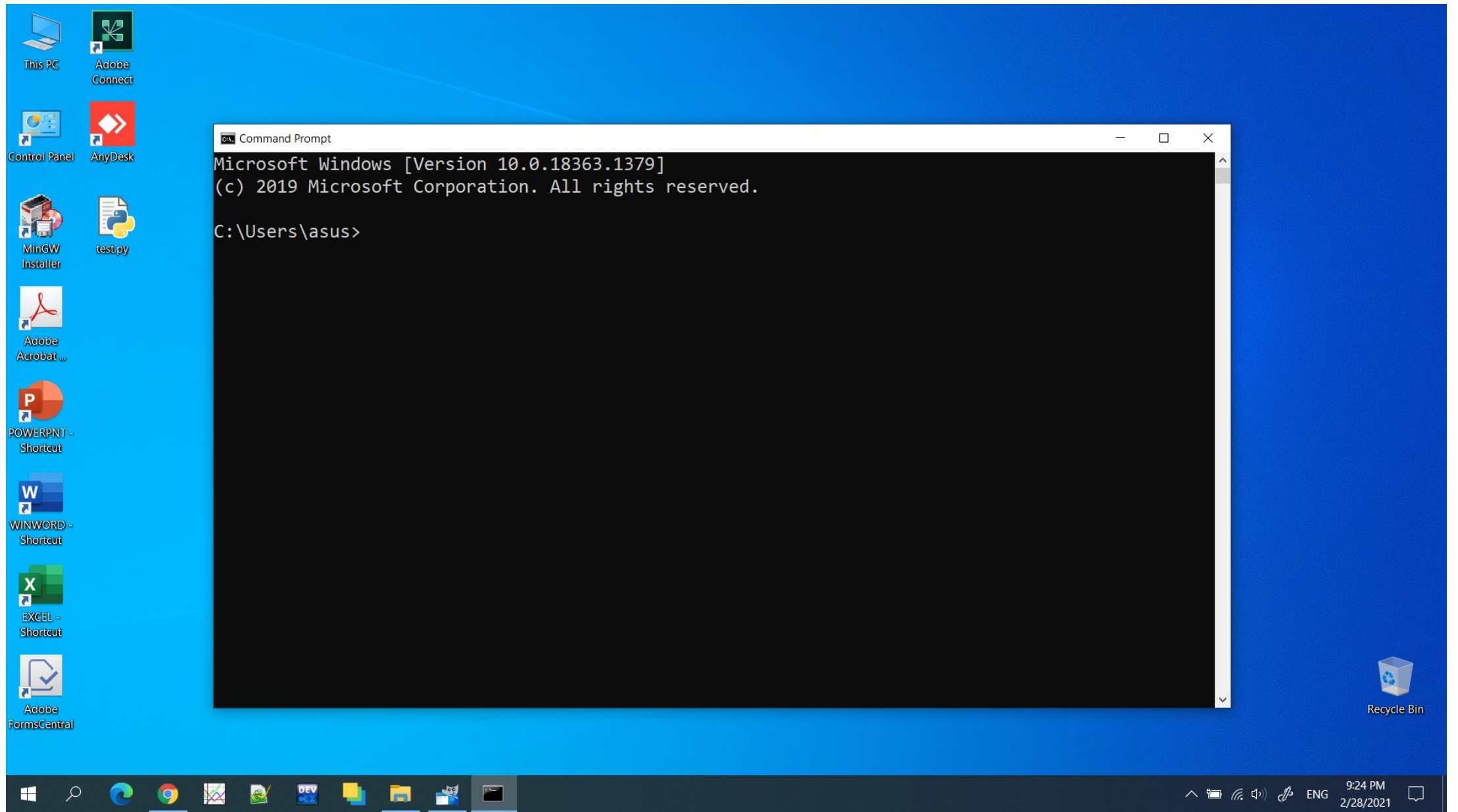






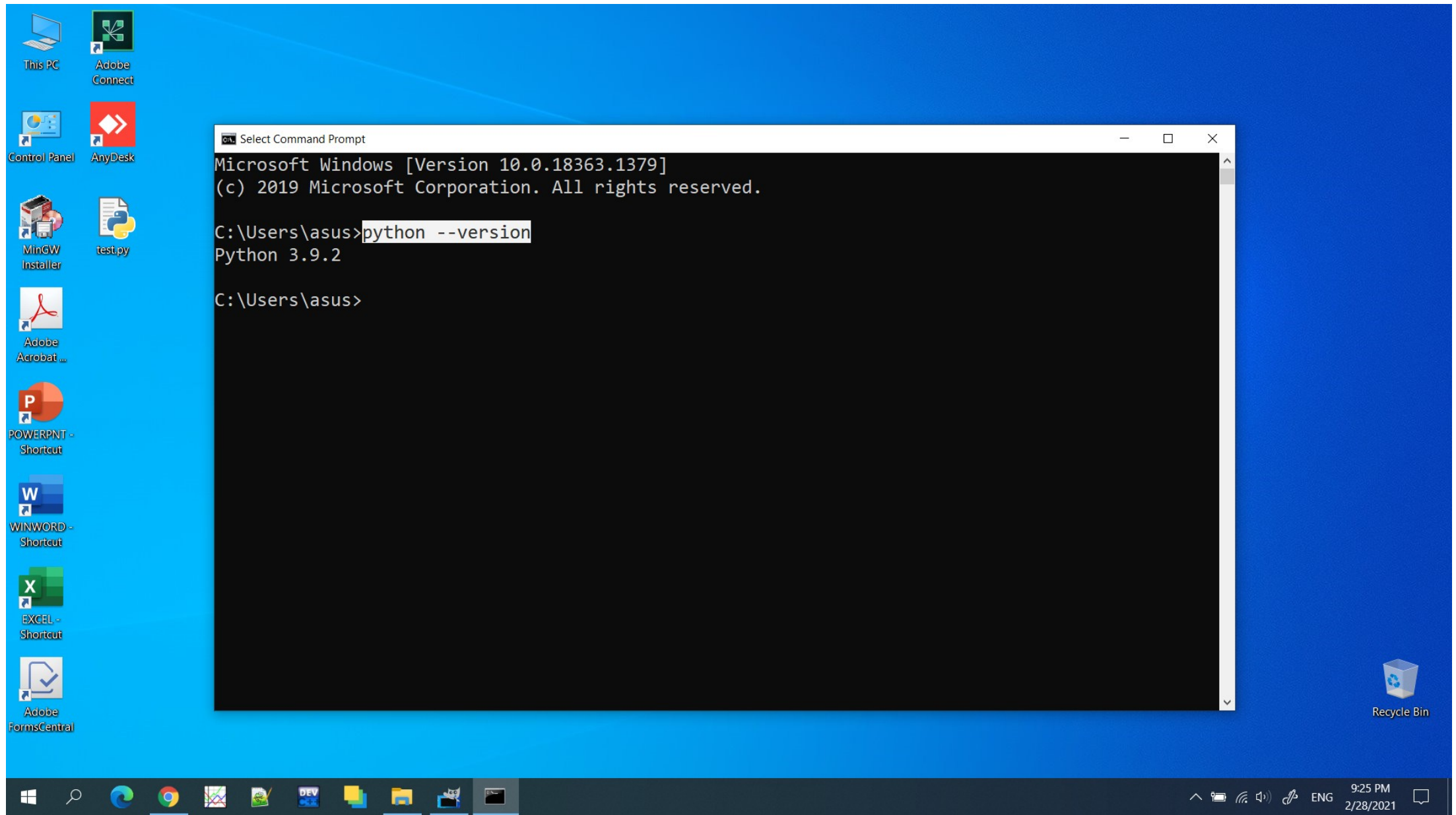


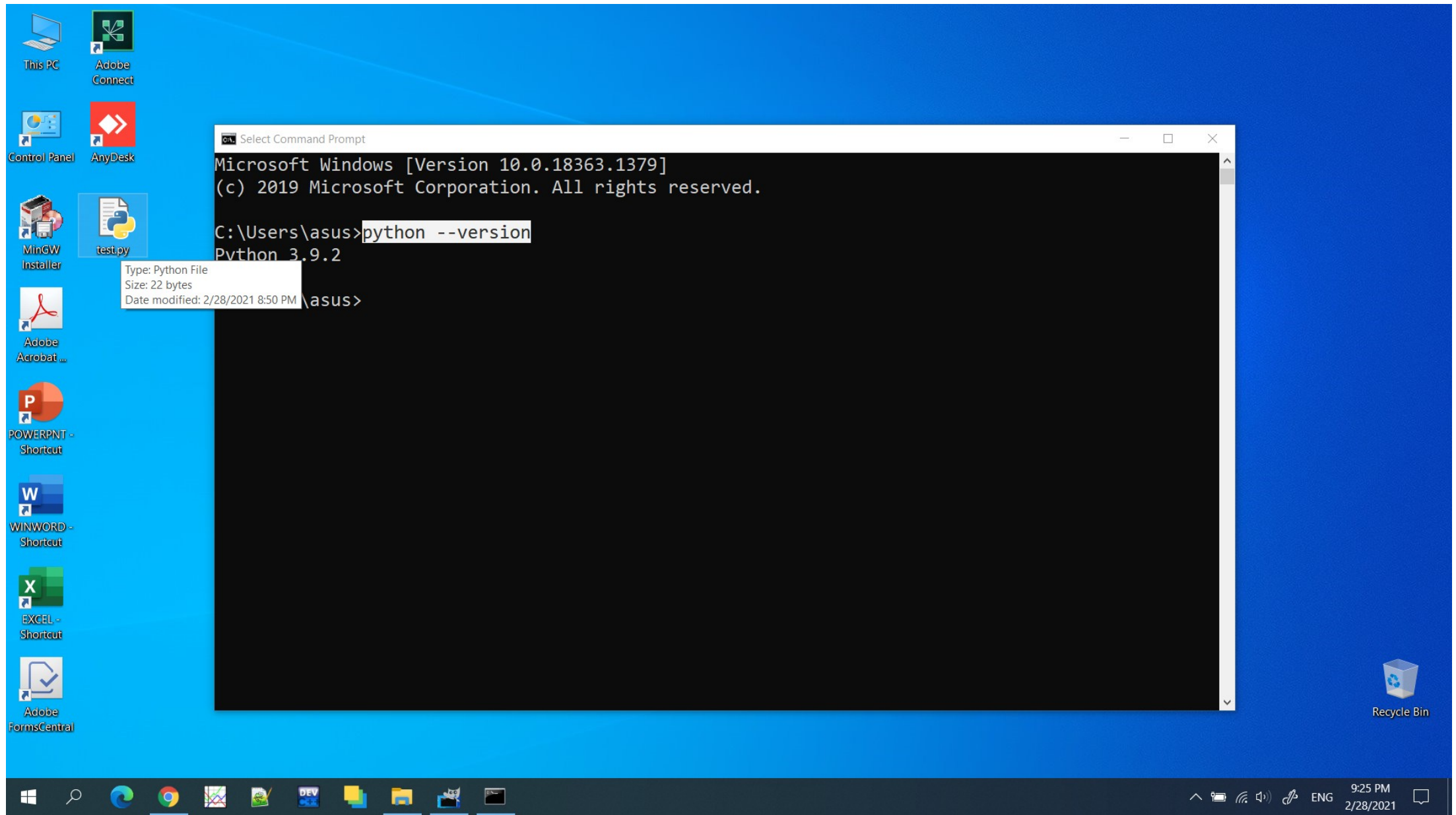


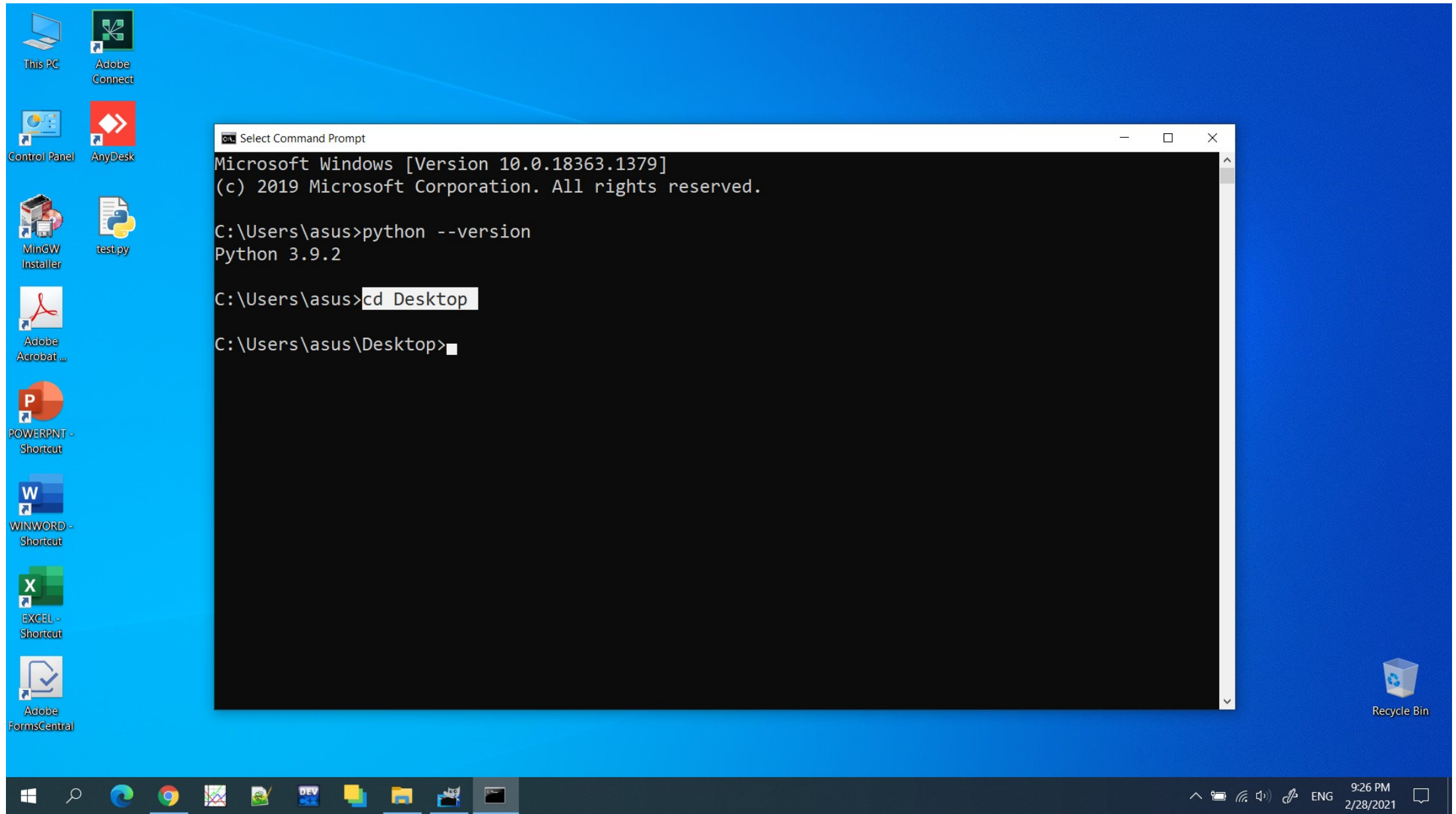


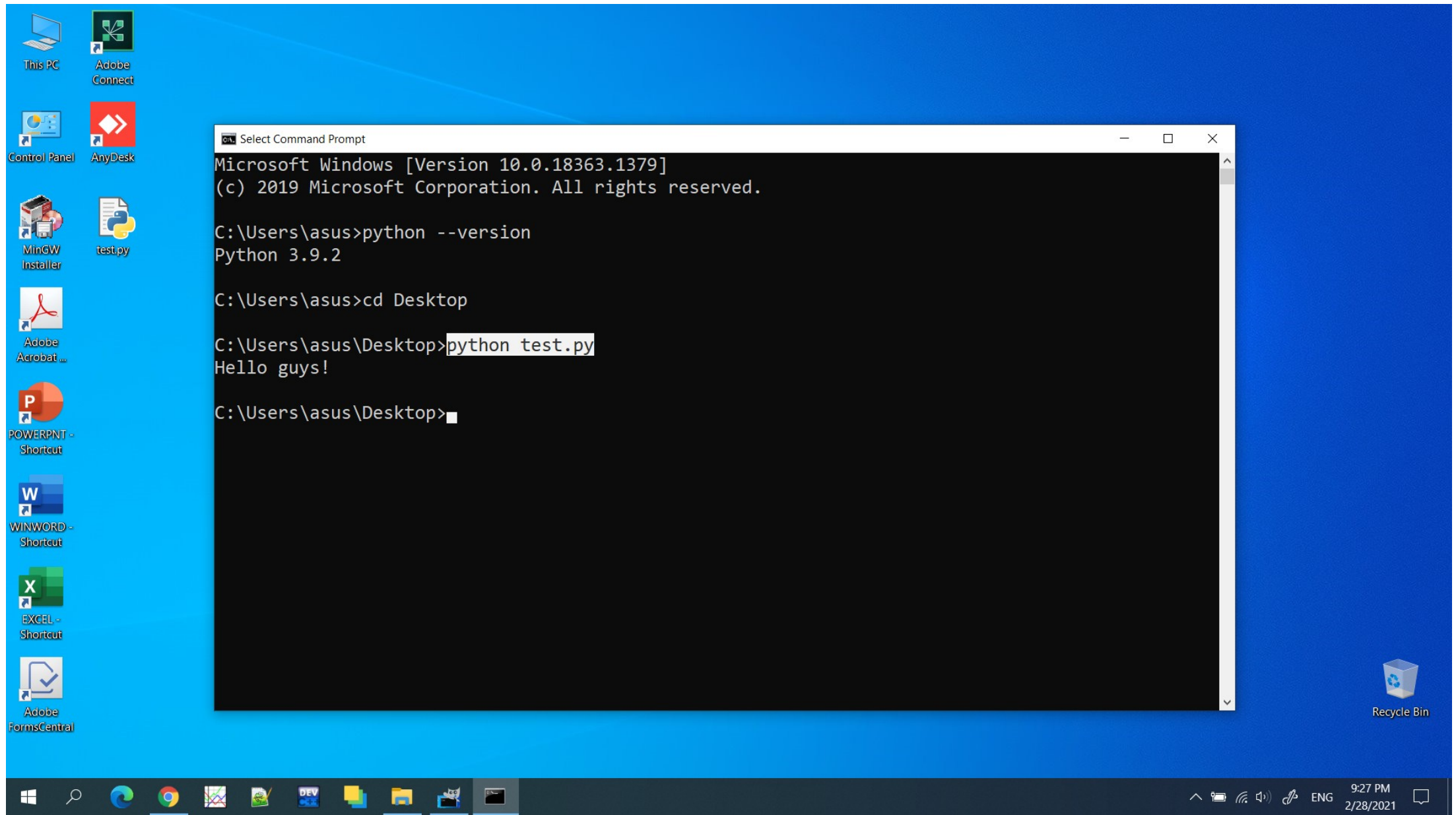
راه اندازی Python روی خط فرمان ویندوز



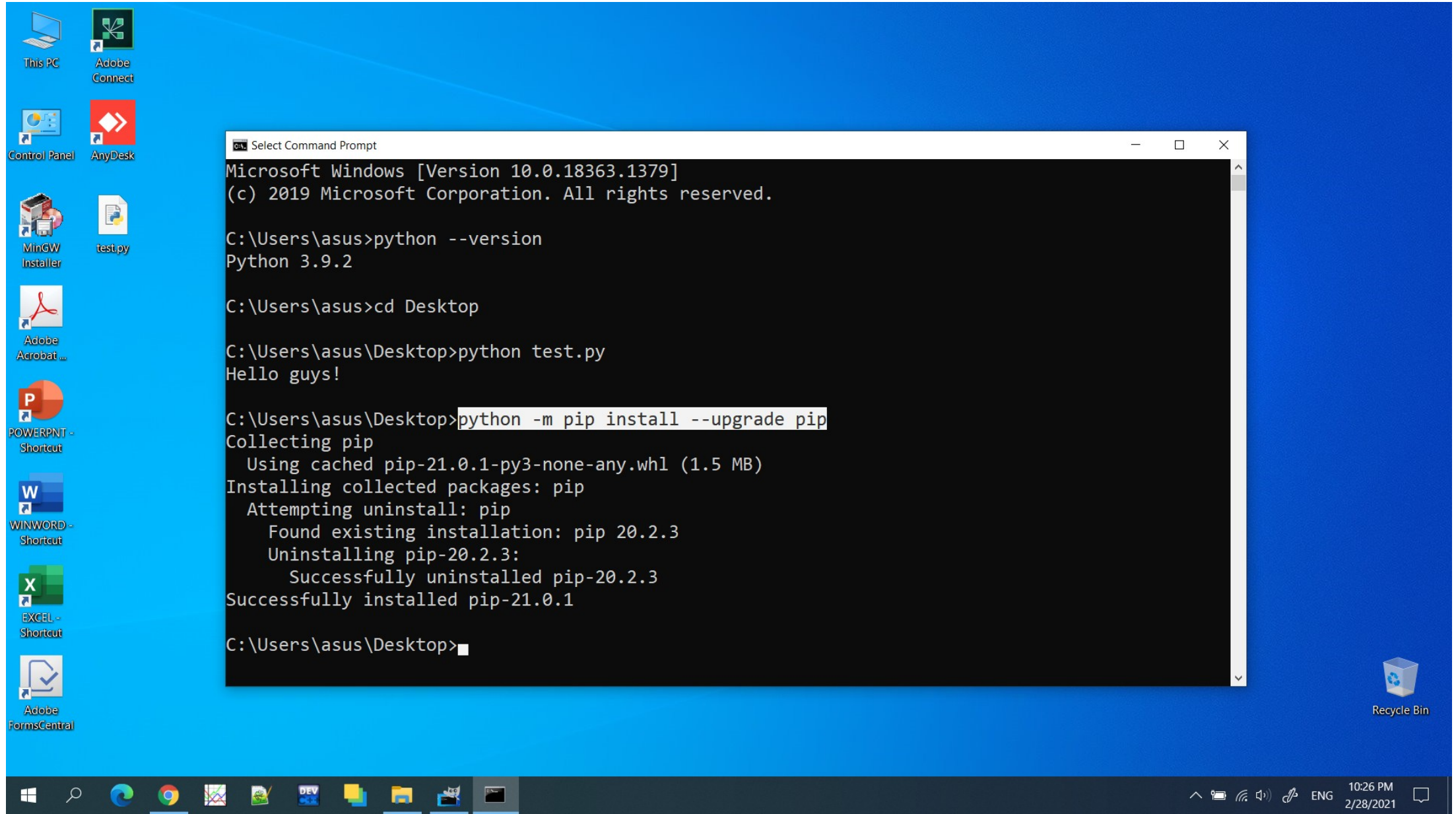








# بروز کردن Pip



```
Select Command Prompt
Microsoft Windows [Version 10.0.18363.1379]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\asus>python --version
Python 3.9.2

C:\Users\asus>cd Desktop

C:\Users\asus\Desktop>python test.py
Hello guys!

C:\Users\asus\Desktop>python -m pip install --upgrade pip
Collecting pip
  Using cached pip-21.0.1-py3-none-any.whl (1.5 MB)
Installing collected packages: pip
  Attempting uninstall: pip
    Found existing installation: pip 20.2.3
    Uninstalling pip-20.2.3:
      Successfully uninstalled pip-20.2.3
  Successfully installed pip-21.0.1

C:\Users\asus\Desktop>
```

نصب کتابخانه‌های Scipy، Numpy، Matplotlib و بوسیله Pip

# نصب Numpy

```
Select Command Prompt

C:\Users\asus>cd Desktop

C:\Users\asus\Desktop>python test.py
Hello guys!

C:\Users\asus\Desktop>python -m pip install --upgrade pip
Collecting pip
  Using cached pip-21.0.1-py3-none-any.whl (1.5 MB)
Installing collected packages: pip
  Attempting uninstall: pip
    Found existing installation: pip 20.2.3
    Uninstalling pip-20.2.3:
      Successfully uninstalled pip-20.2.3
  Successfully installed pip-21.0.1

C:\Users\asus\Desktop>python -m pip install numpy
Collecting numpy
  Using cached numpy-1.20.1-cp39-cp39-win_amd64.whl (13.7 MB)
Installing collected packages: numpy
Successfully installed numpy-1.20.1

C:\Users\asus\Desktop>
```

نصب کتابخانه‌های Numpy، Matplotlib، و Scipy بوسیله Pip

# نصب Scipy

```
Select Command Prompt

Using cached pip-21.0.1-py3-none-any.whl (1.5 MB)
Installing collected packages: pip
  Attempting uninstall: pip
    Found existing installation: pip 20.2.3
    Uninstalling pip-20.2.3:
      Successfully uninstalled pip-20.2.3
Successfully installed pip-21.0.1

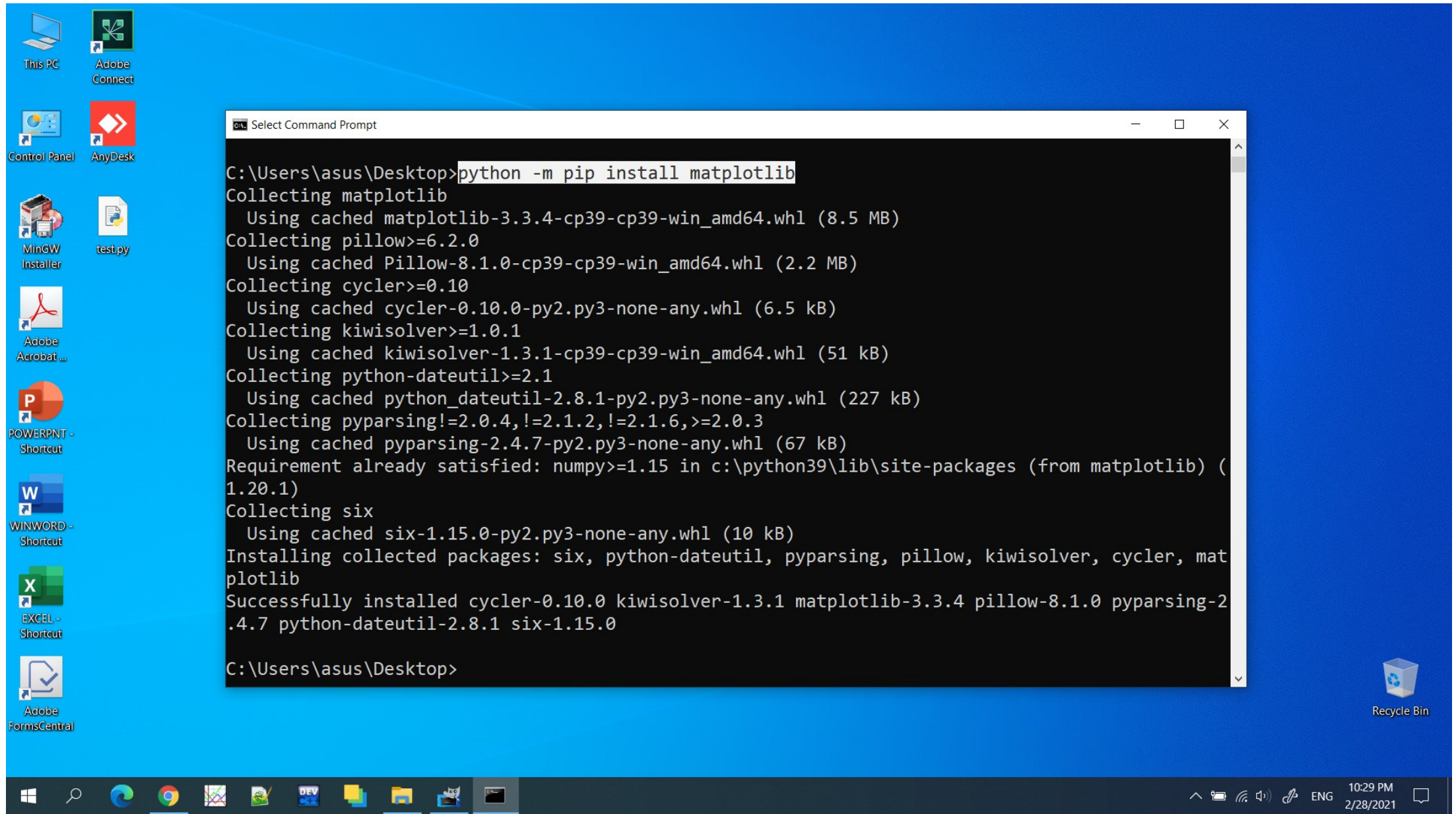
C:\Users\asus\Desktop>python -m pip install numpy
Collecting numpy
  Using cached numpy-1.20.1-cp39-cp39-win_amd64.whl (13.7 MB)
Installing collected packages: numpy
Successfully installed numpy-1.20.1

C:\Users\asus\Desktop>python -m pip install scipy
Collecting scipy
  Using cached scipy-1.6.1-cp39-cp39-win_amd64.whl (32.7 MB)
Requirement already satisfied: numpy>=1.16.5 in c:\python39\lib\site-packages (from scipy) (1.20.1)
Installing collected packages: scipy
Successfully installed scipy-1.6.1

C:\Users\asus\Desktop>
```

نصب کتابخانه‌های Scipy و Matplotlib، Numpy بوسیله Pip

# نصب Matplotlib



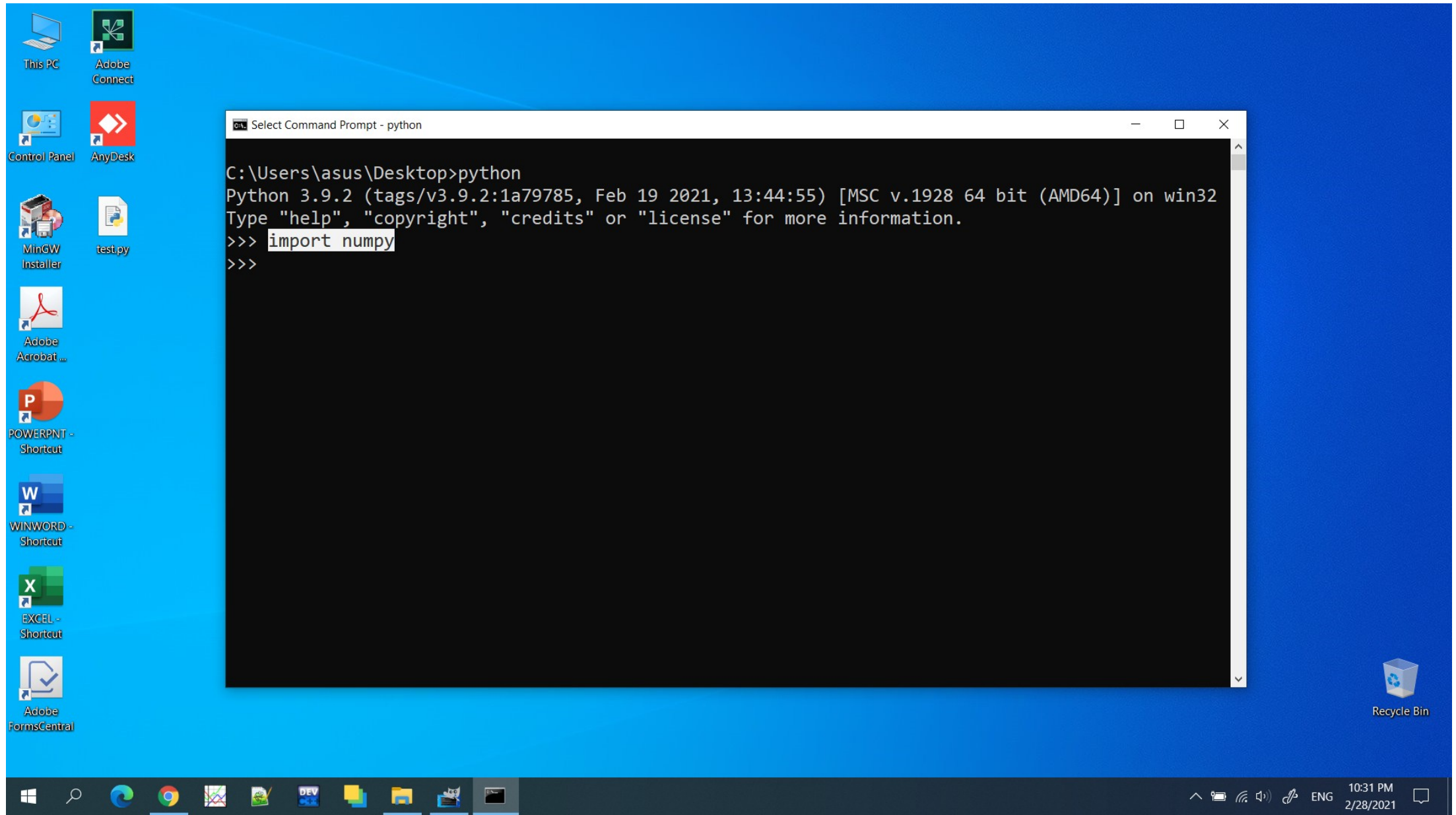
```
C:\Users\asus\Desktop>python -m pip install matplotlib
Collecting matplotlib
  Using cached matplotlib-3.3.4-cp39-cp39-win_amd64.whl (8.5 MB)
Collecting pillow>=6.2.0
  Using cached Pillow-8.1.0-cp39-cp39-win_amd64.whl (2.2 MB)
Collecting cycler>=0.10
  Using cached cycler-0.10.0-py2.py3-none-any.whl (6.5 kB)
Collecting kiwisolver>=1.0.1
  Using cached kiwisolver-1.3.1-cp39-cp39-win_amd64.whl (51 kB)
Collecting python-dateutil>=2.1
  Using cached python_dateutil-2.8.1-py2.py3-none-any.whl (227 kB)
Collecting pyparsing!=2.0.4,!=2.1.2,!=2.1.6,>=2.0.3
  Using cached pyparsing-2.4.7-py2.py3-none-any.whl (67 kB)
Requirement already satisfied: numpy>=1.15 in c:\python39\lib\site-packages (from matplotlib) (1.20.1)
Collecting six
  Using cached six-1.15.0-py2.py3-none-any.whl (10 kB)
Installing collected packages: six, python-dateutil, pyparsing, pillow, kiwisolver, cycler, matplotlib
Successfully installed cycler-0.10.0 kiwisolver-1.3.1 matplotlib-3.3.4 pillow-8.1.0 pyparsing-2.4.7 python-dateutil-2.8.1 six-1.15.0

C:\Users\asus\Desktop>
```

نصب کتابخانه‌های Scipy و Matplotlib، Numpy بوسیله Pip

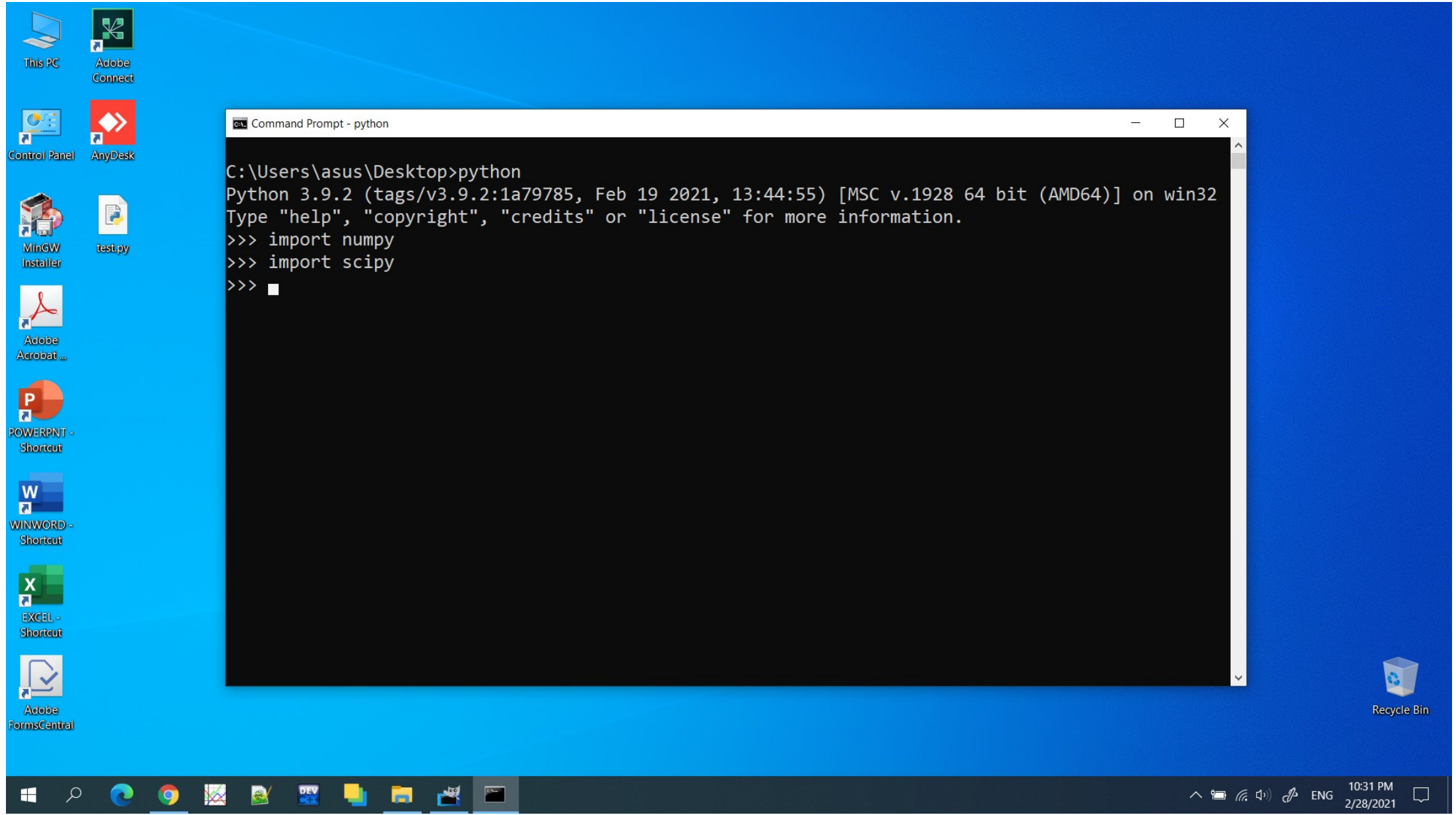


# نمونه نصب



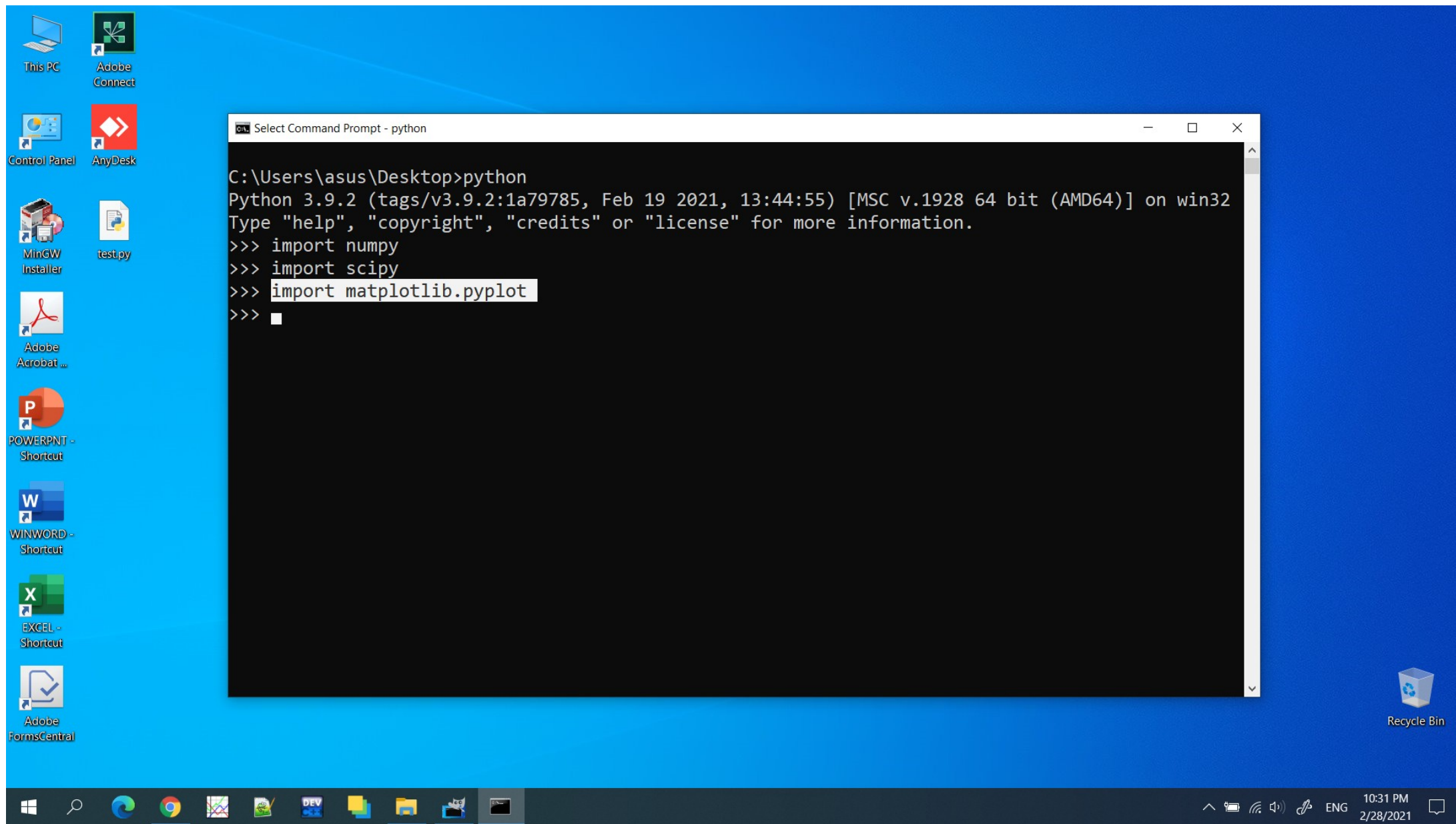
نصب کتابخانه‌های Numpy، Matplotlib، Scipy بوسیله Pip

# چکی Scipy



نصب کتابخانه‌های Matplotlib، Numpy و Scipy بوسیله Pip

# چک Matplotlib



```
Select Command Prompt - python
C:\Users\asus\Desktop>python
Python 3.9.2 (tags/v3.9.2:1a79785, Feb 19 2021, 13:44:55) [MSC v.1928 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>> import numpy
>>> import scipy
>>> import matplotlib.pyplot
>>> █
```

نصب کتابخانه‌های Scipy و Matplotlib، Numpy بوسیله Pip