

开发环境安装

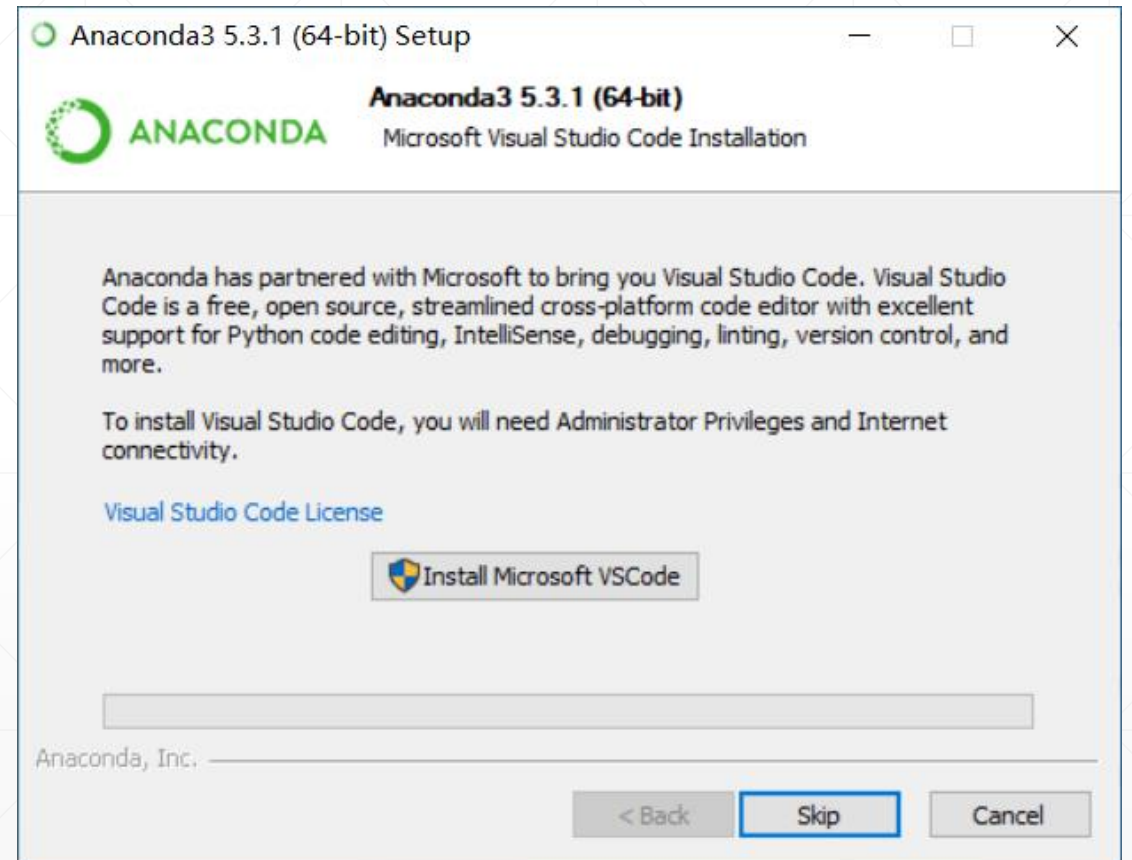
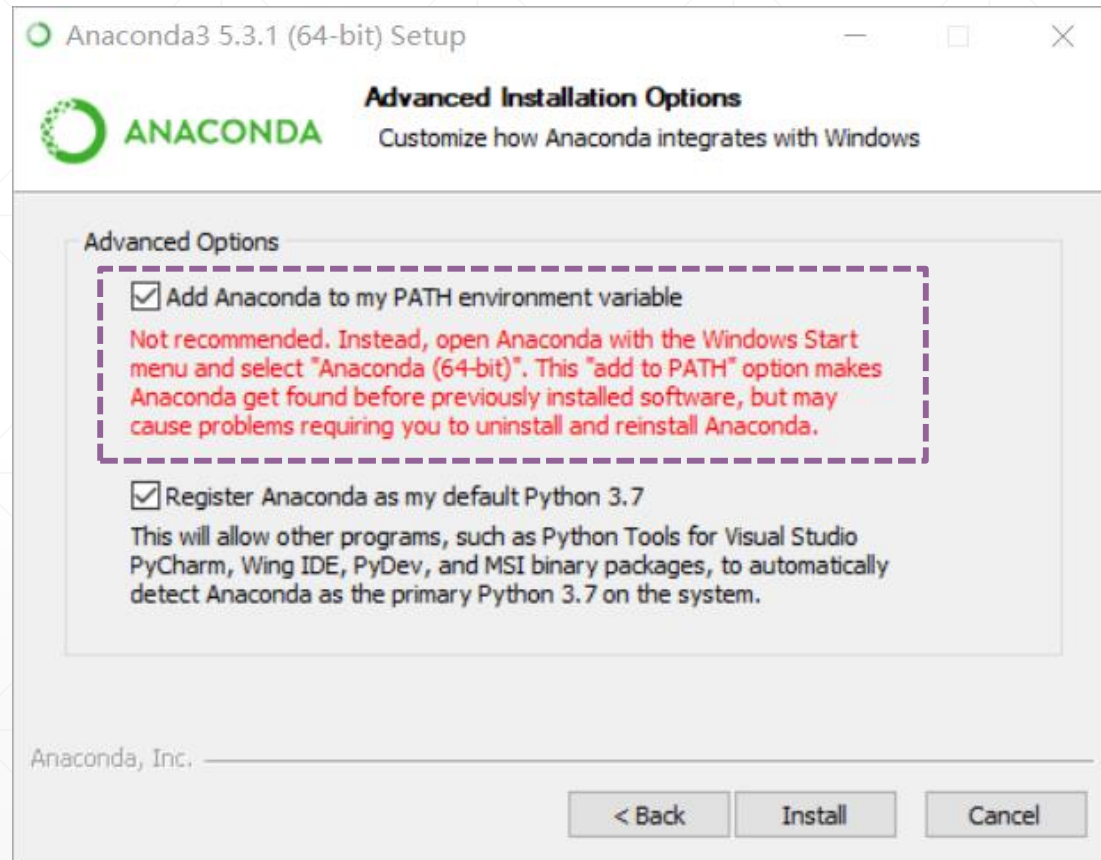
主讲人：龙良曲

Platform

- Windows 10
 - Or Ubuntu 16.04/18.04
 - Anaconda, Python 3.7
 - CUDA 10.0
 - cuDNN
 - TensorFlow 2.0
 - PyCharm
-



Step1.ANACONDA Python:3.7



Step1.Anaconda安装确认

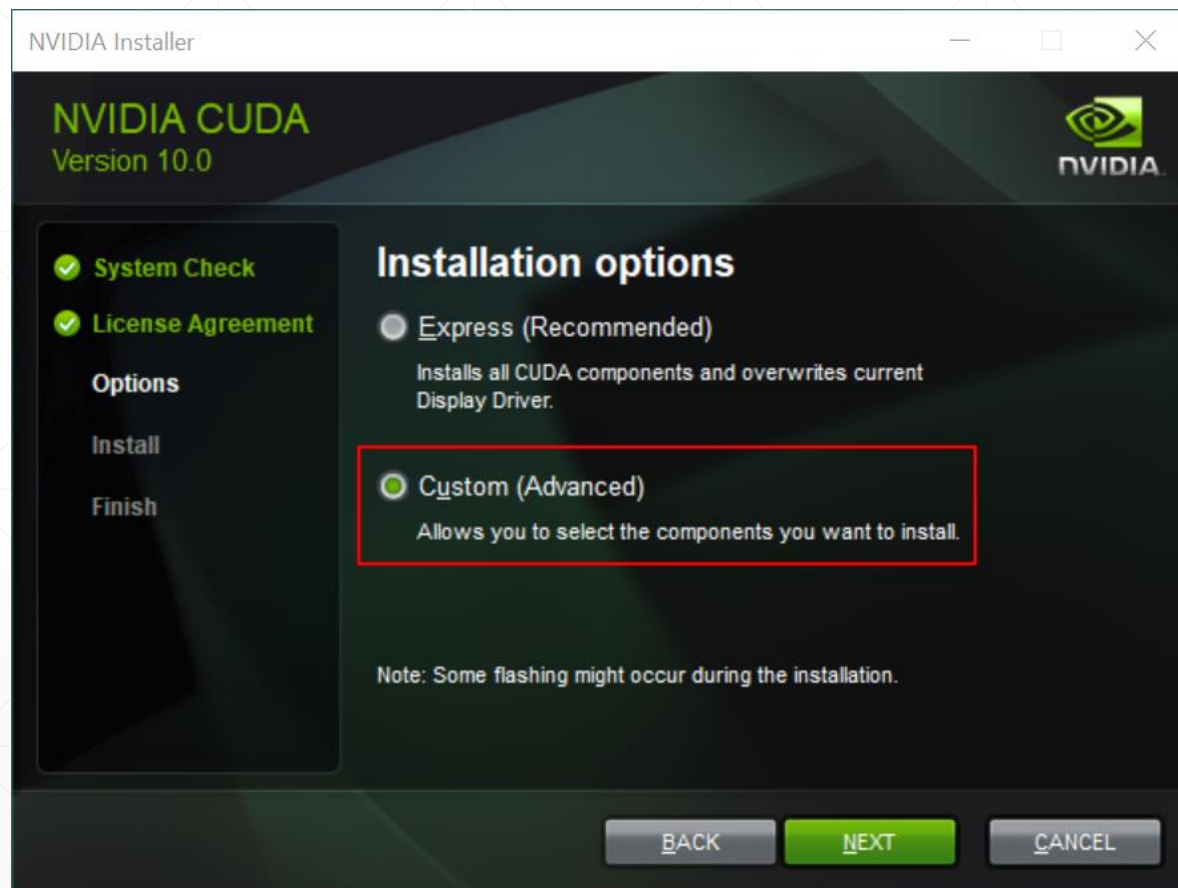
```
C:\Windows\system32\cmd.exe
Microsoft Windows [Version 10.0.17134.648]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Users\z68>conda list
# packages in environment at C:\conda:
#
# Name                        Version      Build                Channel
_ipyw_jlab_nb_ext_conf      0.1.0        py37_0
absl-py                      0.7.0        pypi_0              pypi
alabaster                    0.7.12       py37_0
anaconda                     2018.12      py37_0
anaconda-client              1.7.2        py37_0
anaconda-navigator           1.9.6        py37_0
anaconda-project             0.8.2        py37_0
asn1crypto                   0.24.0       py37_0
astor                        0.7.1        pypi_0              pypi
astroid                       2.1.0        py37_0
astropy                      3.1          py37he774522_0
atomicwrites                 1.2.1        py37_0
attrs                        18.2.0       py37h28b3542_0
babel                        2.6.0        py37_0
backcall                     0.1.0        py37_0
backports                    1.0          py37_1
backports.os                 0.1.1        py37_0
backports.shutil_get_terminal_size 1.0.0        py37_2
beautifulsoup4               4.6.3        py37_0
bitarray                     0.8.3        py37hfa6e2cd_0
bkcharts                     0.2          py37_0
blas                         1.0          mkl
blaze                        0.11.3       py37_0
```

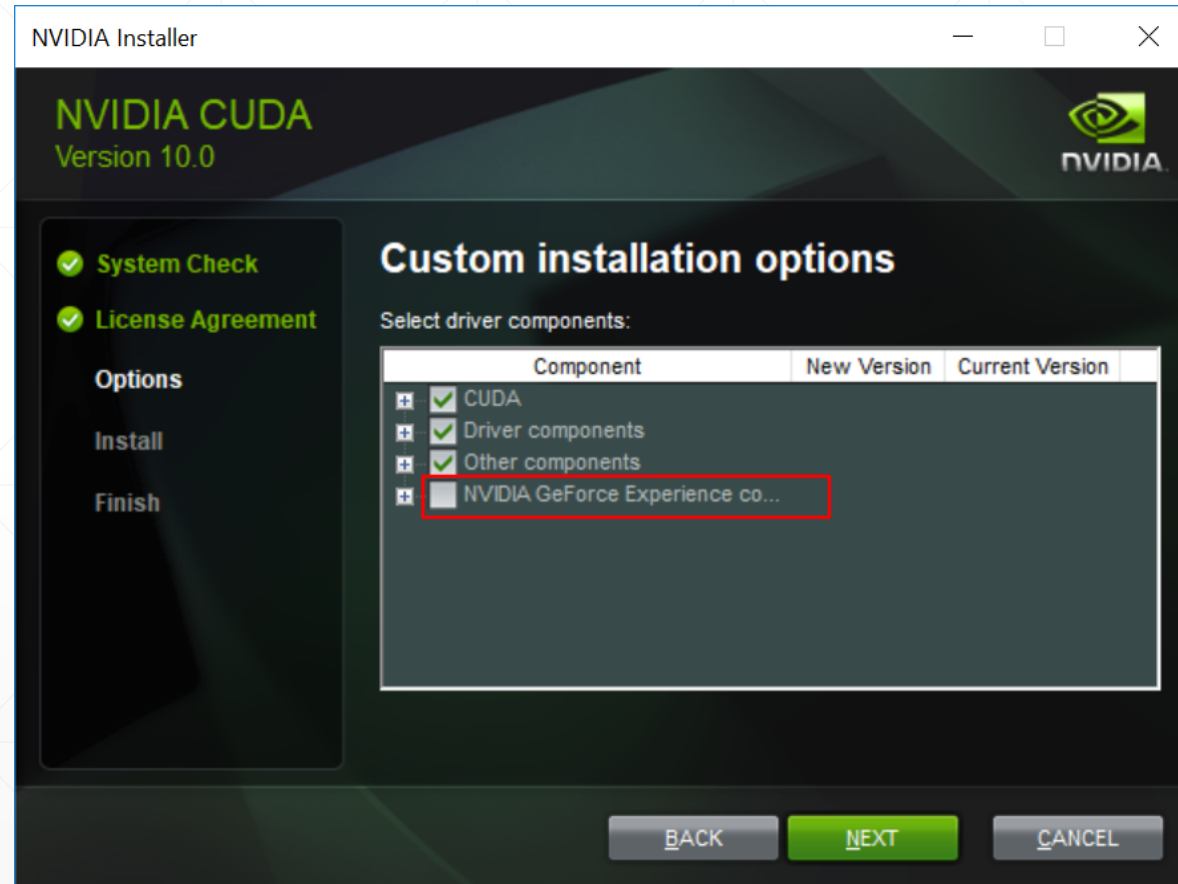
Step2.CUDA 10.0

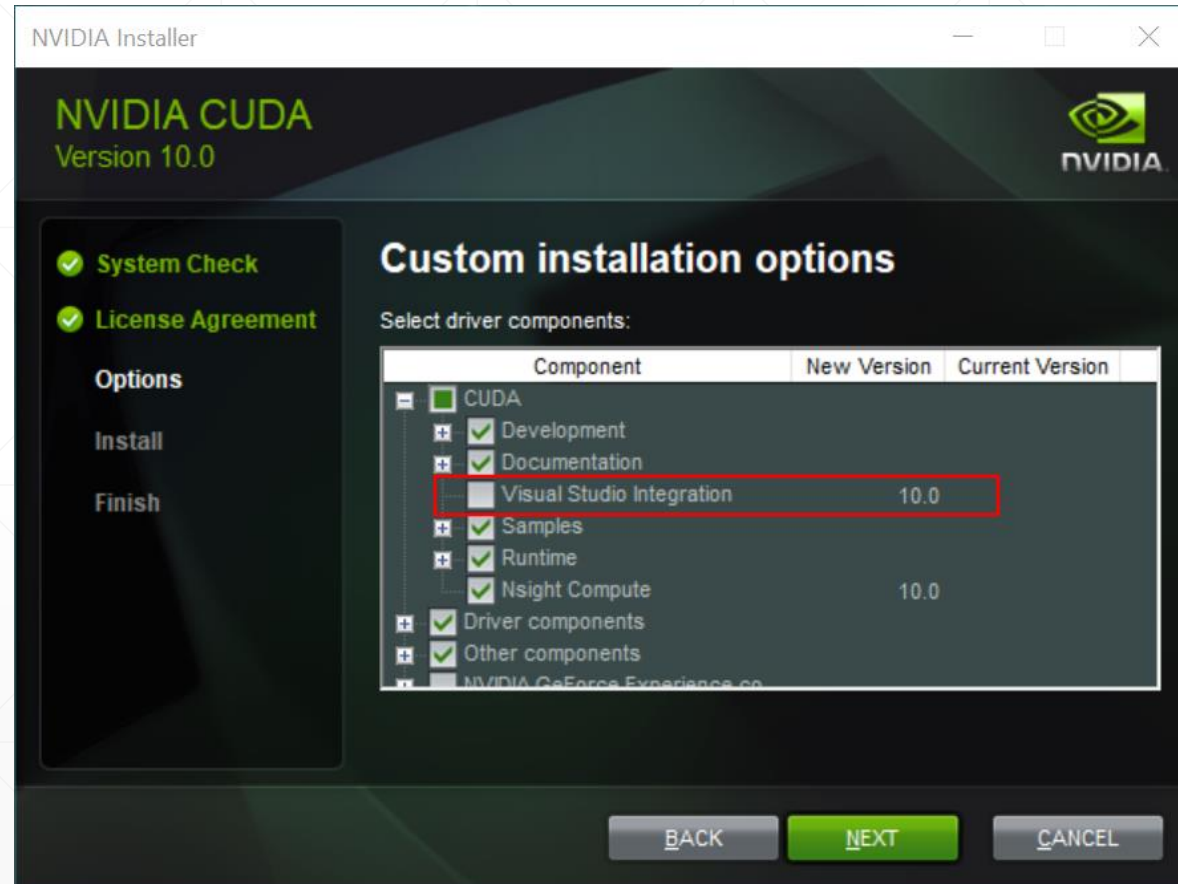
- NVIDIA显卡
 - GTX 1060 6GB
 - GTX 1080Ti 11GB
 - CUDA安装
 - 驱动
 - CUPTI
 - cuDNN安装
 - PATH配置
-

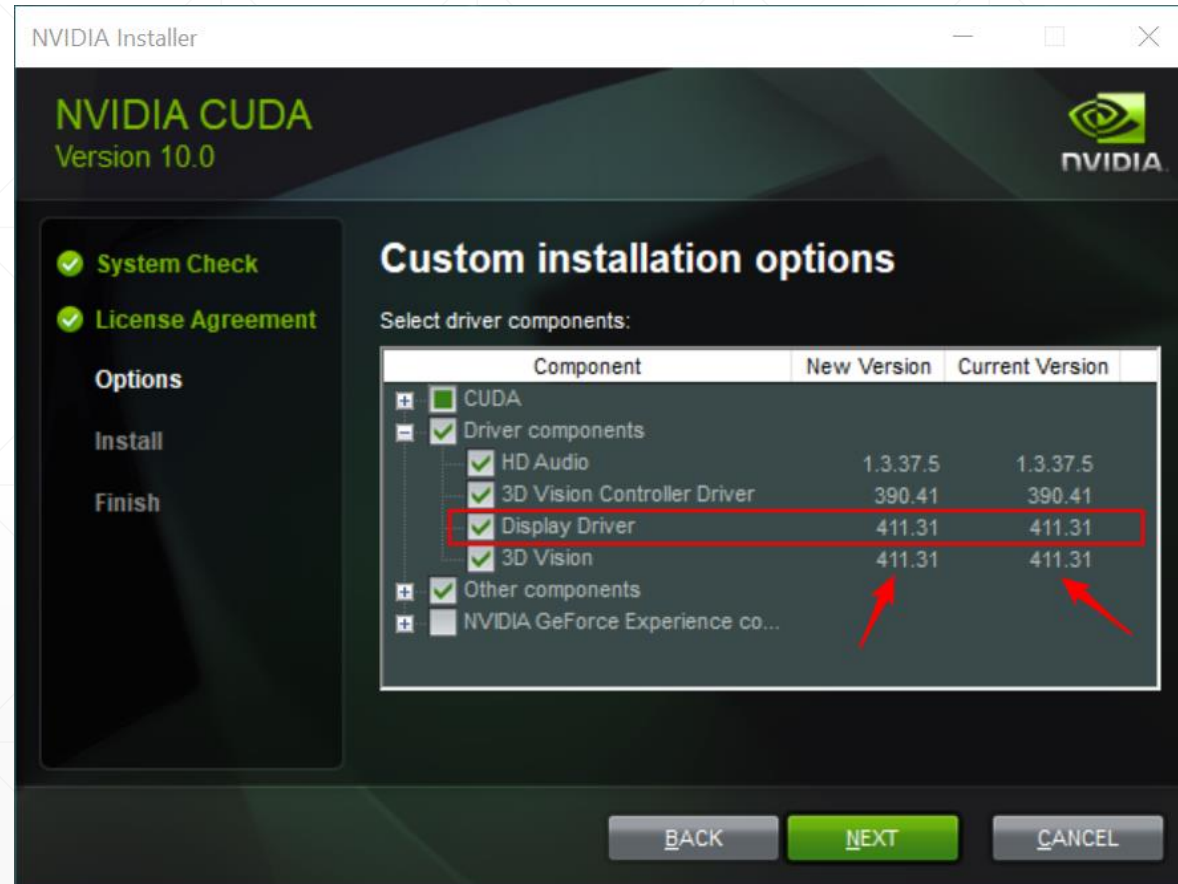
Step2.1.CUDA安装



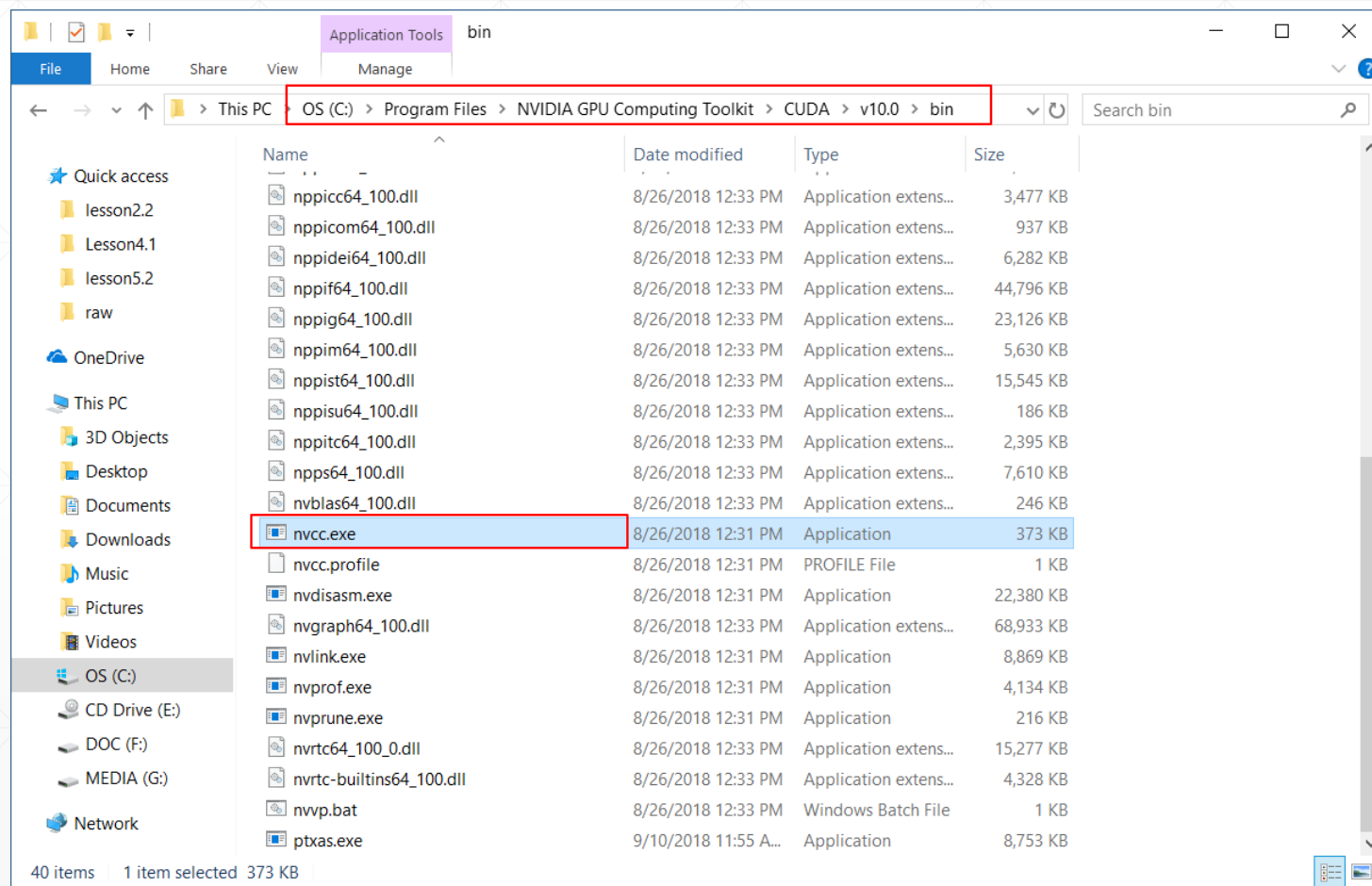
https://developer.nvidia.com/cuda-10.0-download-archive?target_os=Windows&target_arch=x86_64&target_version=10&target_type=exelocal



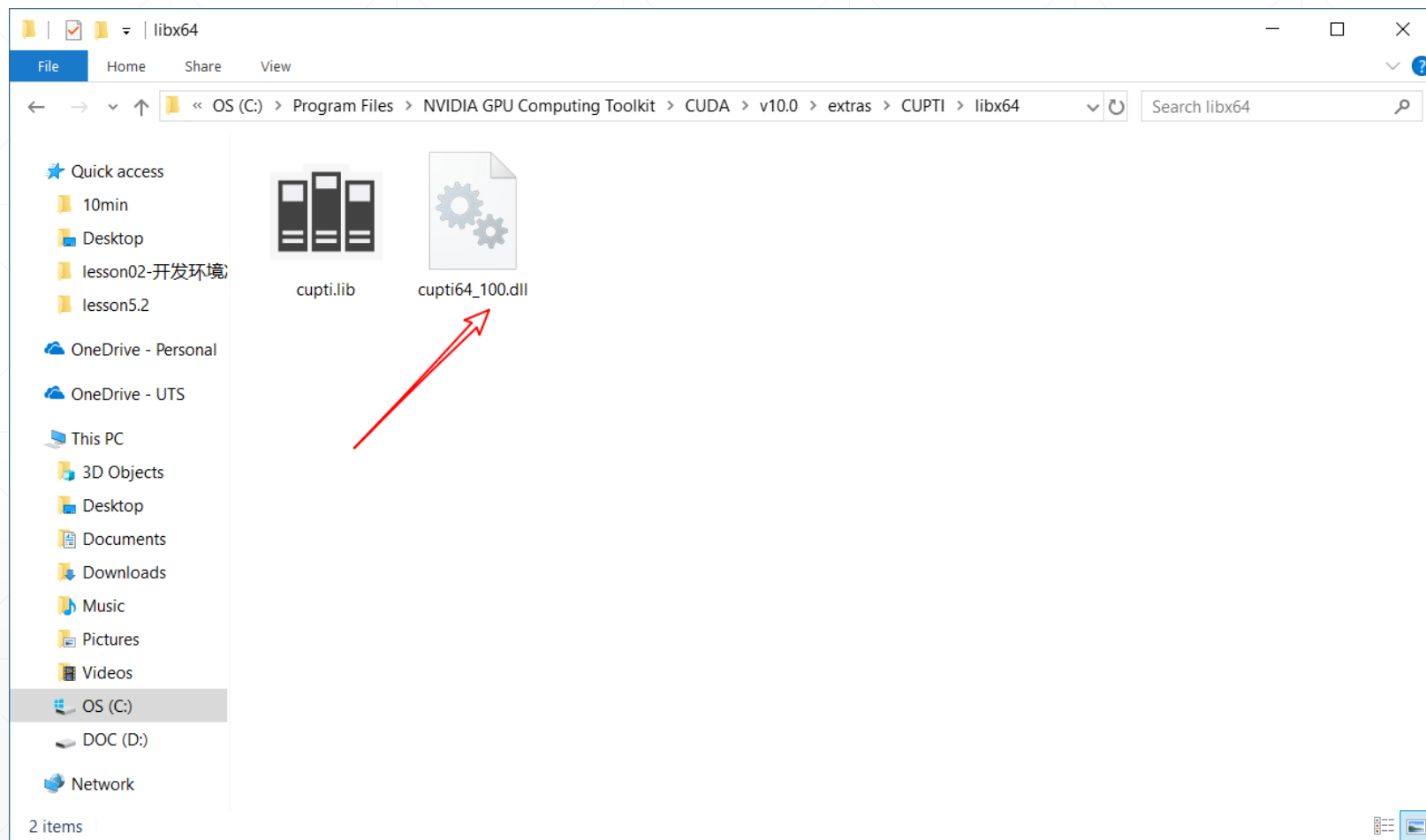




Step2.1.CUDA 安装确认



Step2.1.CUPTI确认



Step2.2.cuDNN下载

- 需要NVIDIA注册

Download cuDNN v7.5.0 (Feb 25, 2019), for CUDA 10.1

Download cuDNN v7.5.0 (Feb 21, 2019), for **CUDA 10.0**

Download cuDNN v7.5.0 (Feb 21, 2019), for CUDA 9.2

Download cuDNN v7.5.0 (Feb 21, 2019), for CUDA 9.0



Download cuDNN v7.5.0 (Feb 21, 2019), for CUDA 10.0

Library for Windows, Mac, Linux,

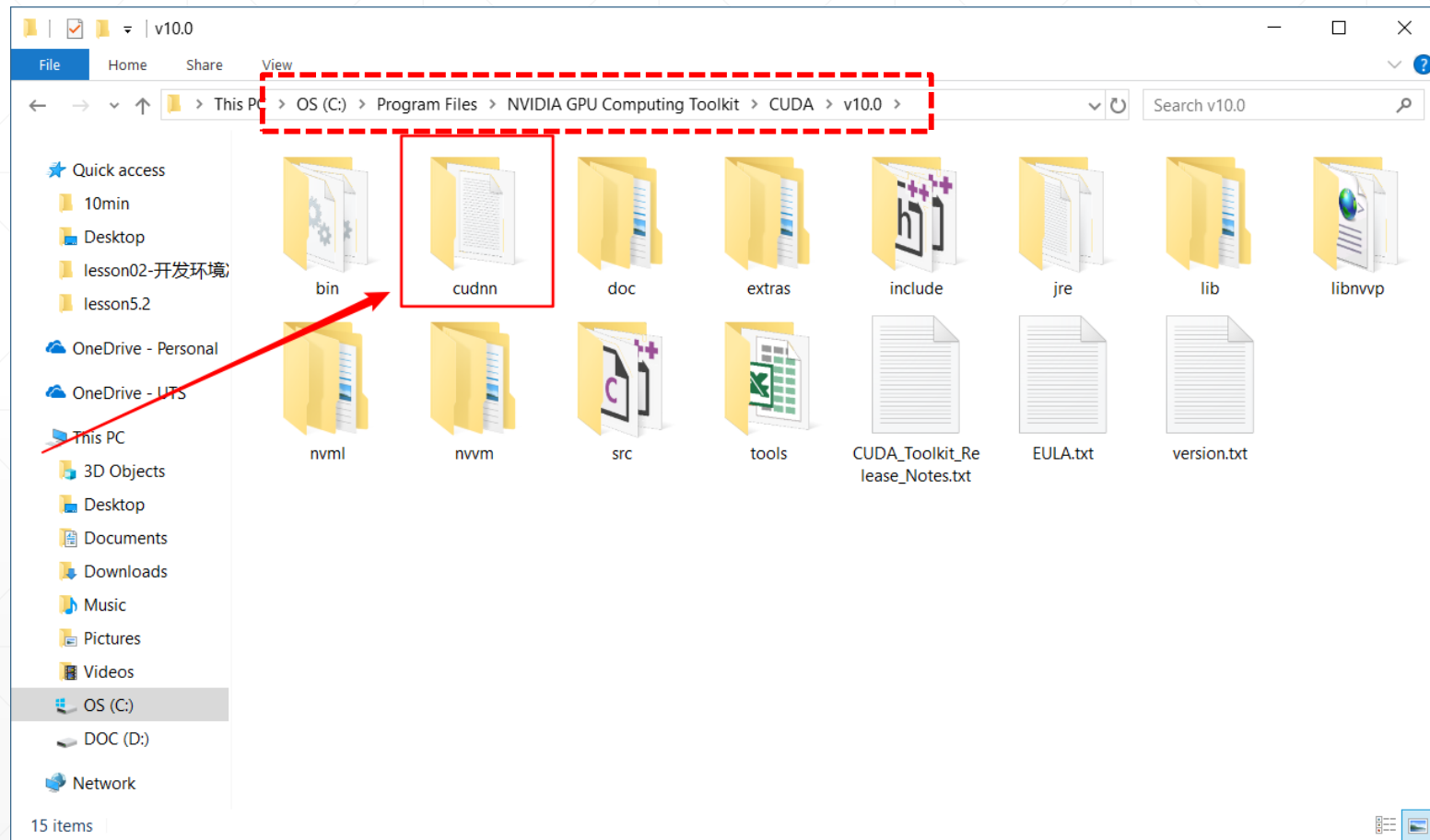
cuDNN Library for Windows 7

cuDNN Library for **Windows 10**

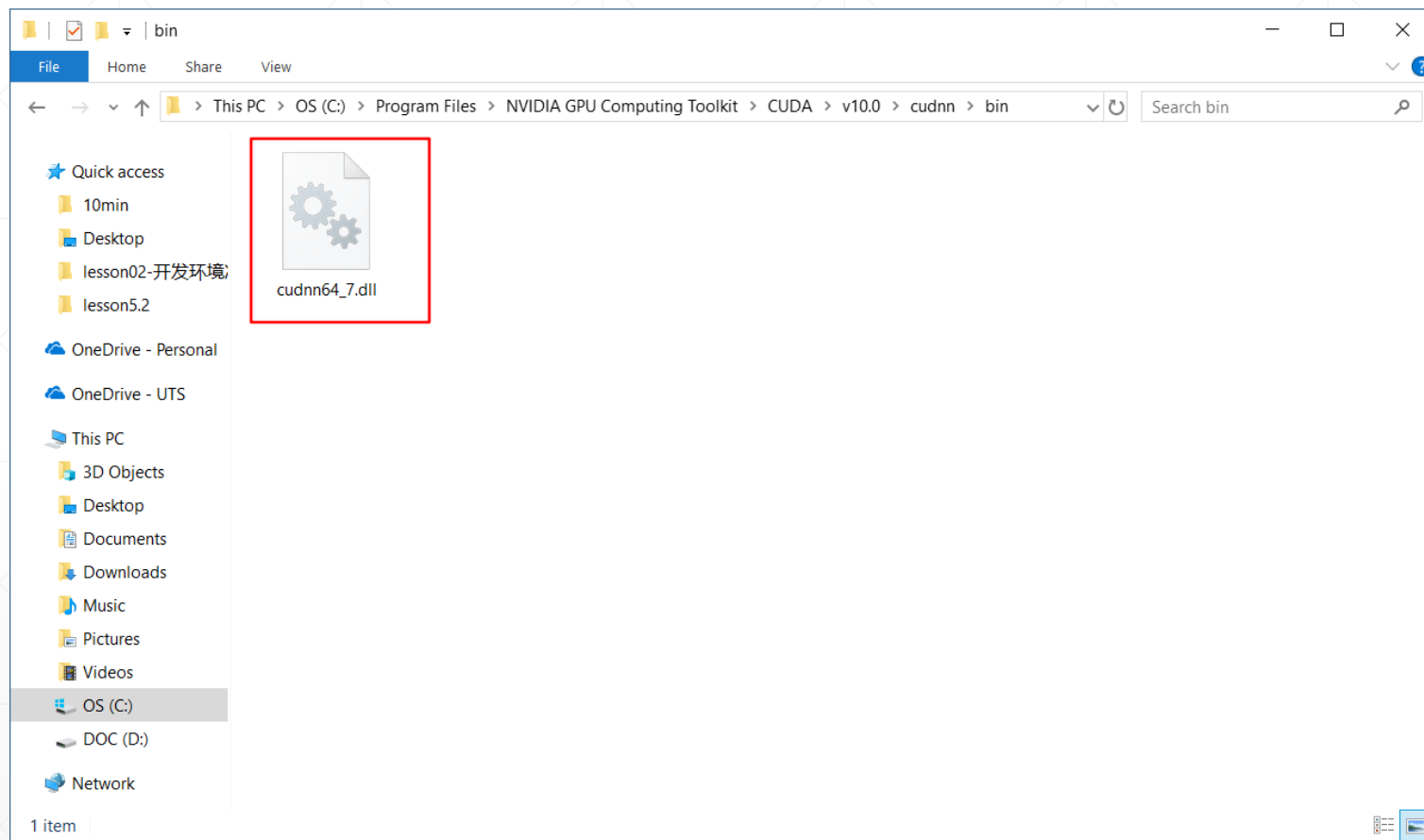
cuDNN Library for Linux

Step2.2.cuDNN复制

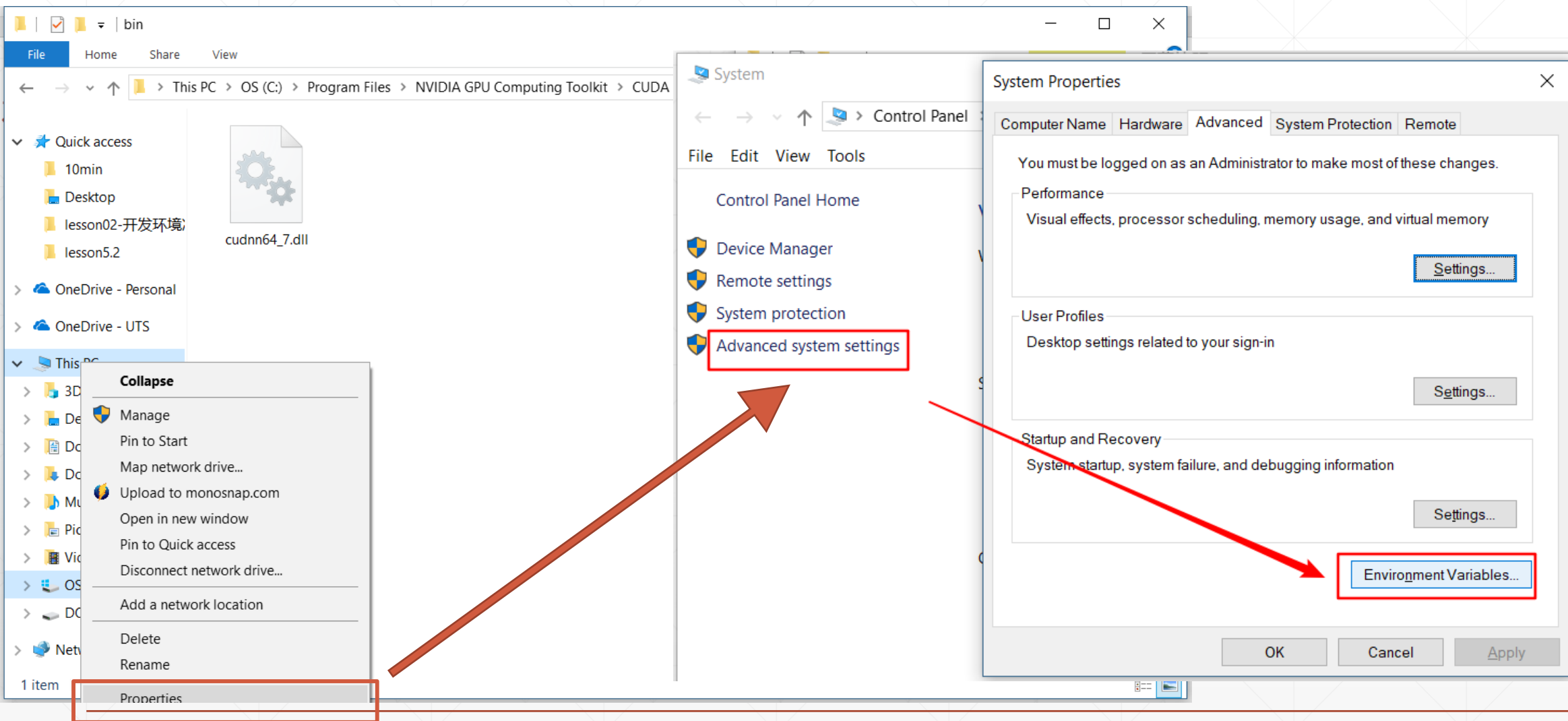
- 解压
- cuda文件夹改名为
 - cudnn
- 复制到:



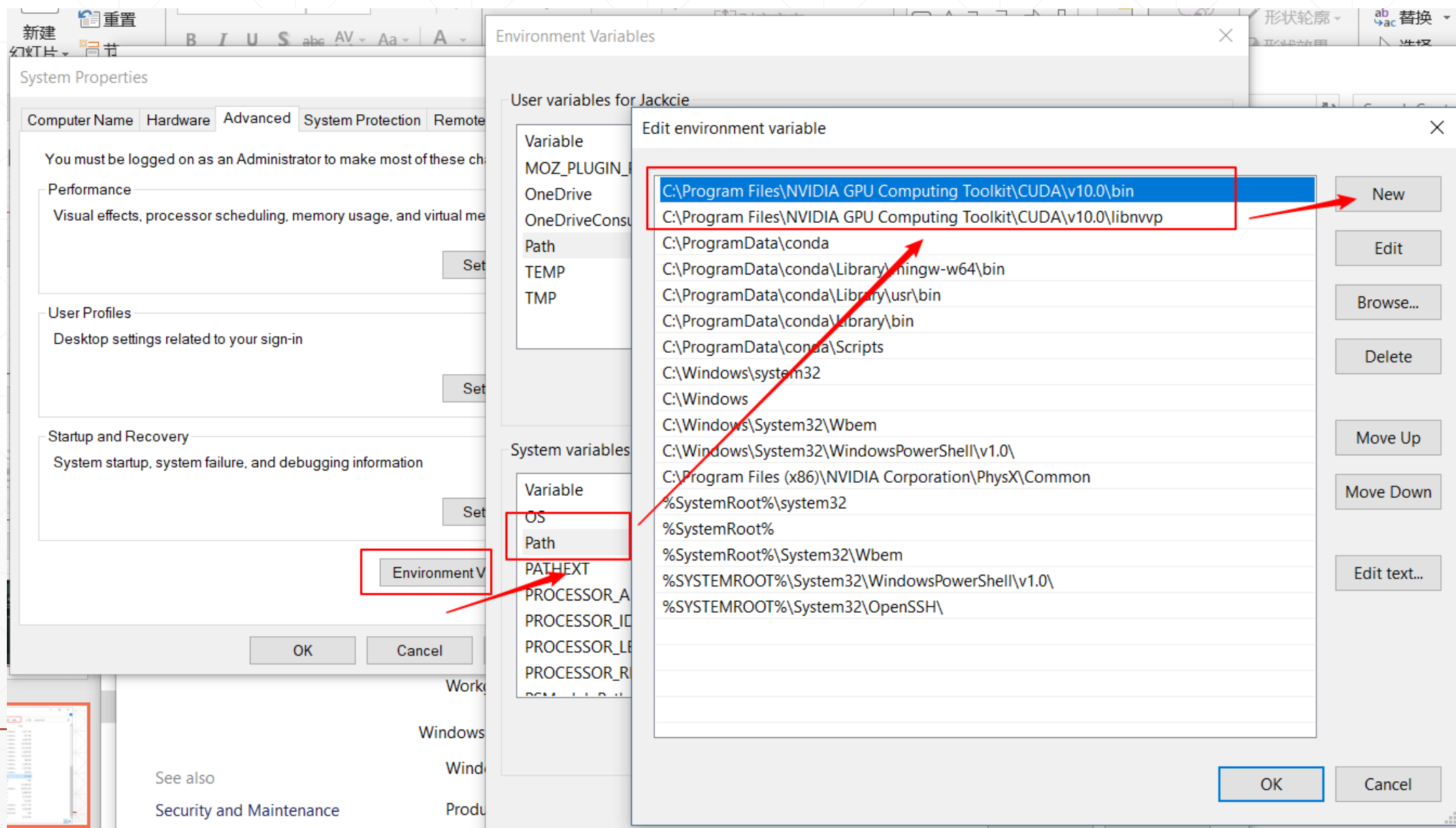
Step2.2.cuDNN确认



Step2.3.环境变量配置

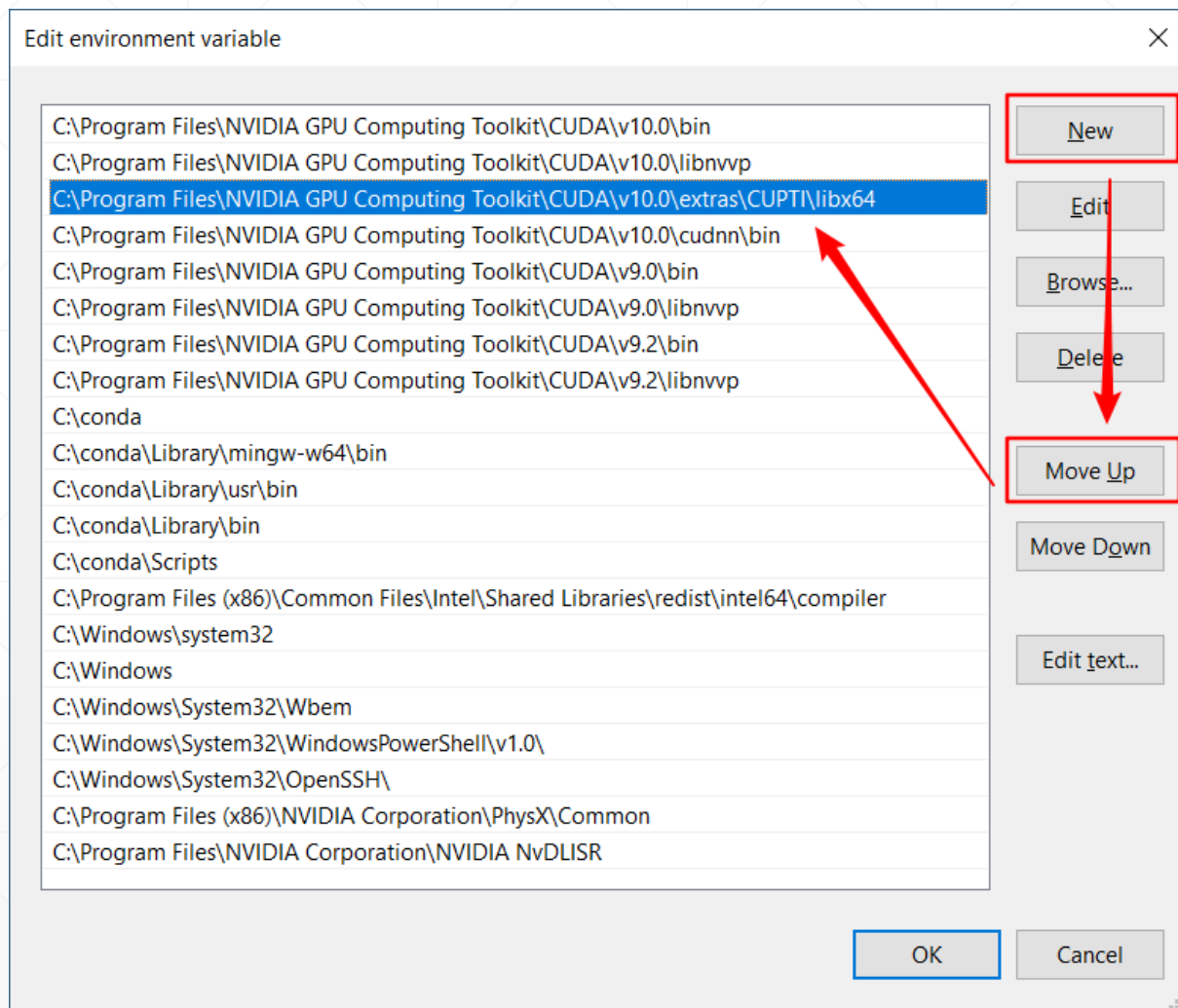


Step2.3.环境变量配置



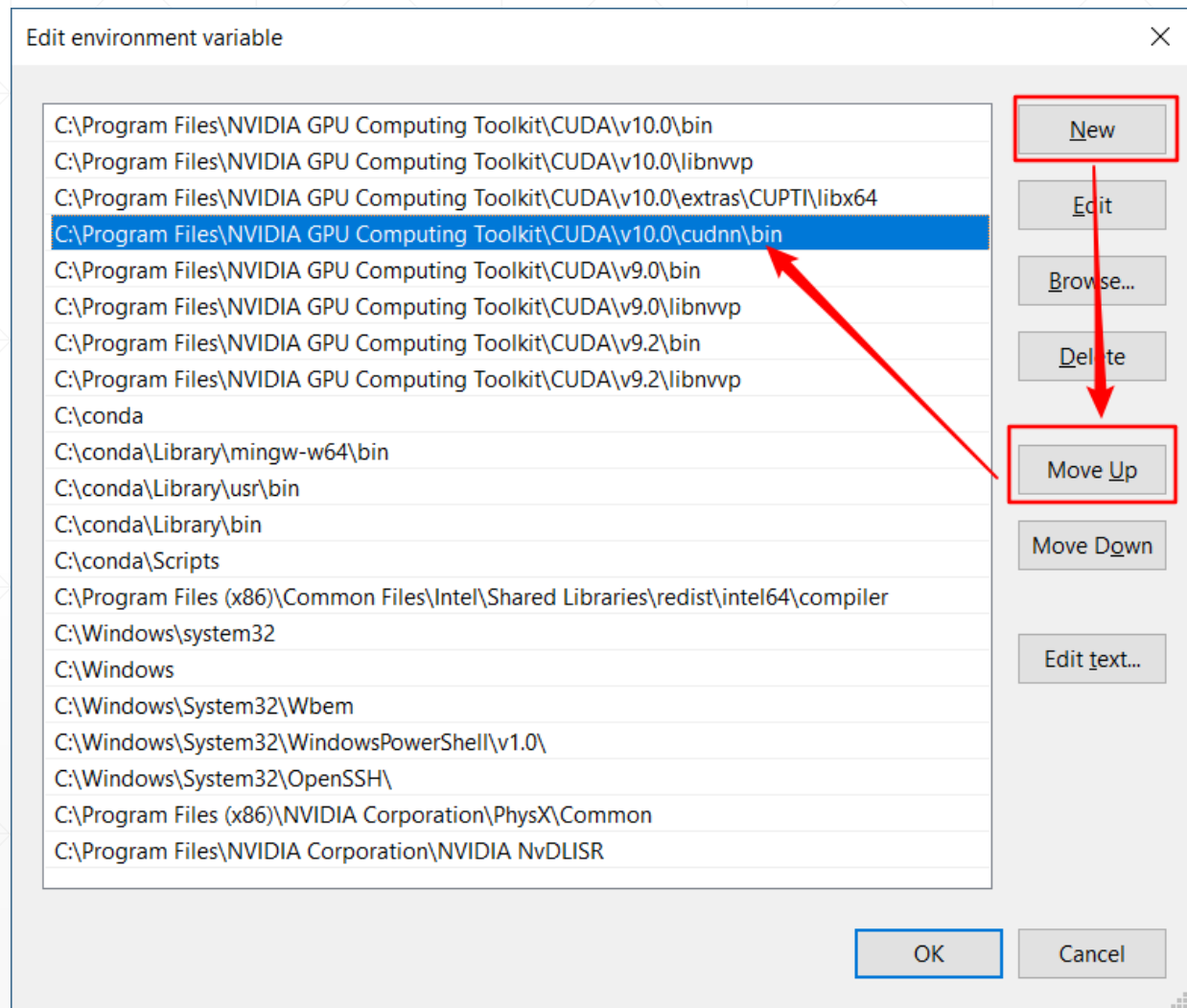
Step2.3.添加CUPTI路径

- 点击New增加条目
- 点击Move Up可上调行



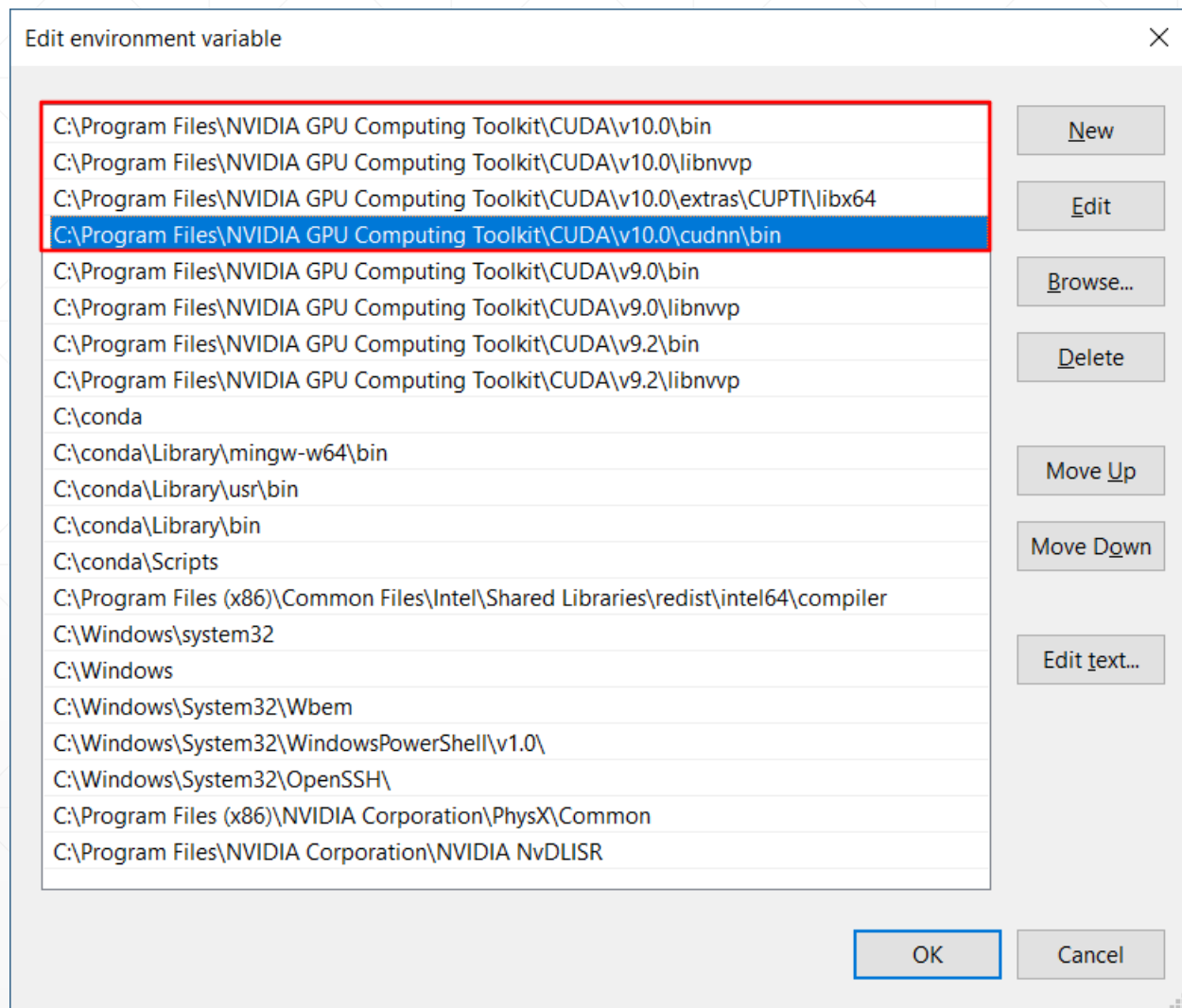
Step2.3.添加cuDNN路径

- 点击New增加条目
- 点击Move Up可上调行



Step2.3.PATH变量确认

- 4行缺一不可
- 4行必须位于顶部



Step2.4.CUDA 测试

```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows [Version 10.0.17134.471]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Users\drage>nvcc -V
nvcc: NVIDIA (R) Cuda compiler driver
Copyright (c) 2005-2018 NVIDIA Corporation
Built on Sat_Aug_25_21:08:04_Central_Daylight_Time_2018
Cuda compilation tools, release 10.0, V10.0.130
```

Step3.TensorFlow安装



GPU版本，确认电脑有N卡

```
pip install tensorflow-gpu==2.0.0-rc0 numpy matplotlib pandas -i https://pypi.tuna.tsinghua.edu.cn/simple
```

CPU版本，没有N卡可以先用CPU版本

```
pip install tensorflow==2.0.0-rc0 numpy matplotlib pandas -i https://pypi.tuna.tsinghua.edu.cn/simple
```

```
pip install tensorflow-gpu==2.0.0-rc0 numpy matplotlib pandas -i https://pypi.tuna.tsinghua.edu.cn/simple
```

Step3.TensorFlow测试



```
In [1]: import tensorflow as tf
```

```
In [2]: tf.constant(1.)+tf.constant(2.)
```

```
...
```

```
tensorflow/stream_executor/platform/default/dso_loader.cc:42] Successfully opened  
dynamic library libcuda.so.1
```

```
2019-03-14 12:58:04.383277: I
```

```
name: GeForce GTX 1070 major: 6 minor: 1 memoryClockRate(GHz): 1.759
```

```
pciBusID: 0000:01:00.0
```

```
totalMemory: 7.93GiB freeMemory: 7.10GiB
```

```
Out[2]: <tf.Tensor: id=2, shape=(), dtype=float32, numpy=3.0>
```

```
In [5]: tf.test.is_gpu_available()
```

```
...
```

```
Out[5]: True
```


Step4.PyCharm安装

Windows

macOS

Linux

Professional

Full-featured IDE
for Python & Web
development

DOWNLOAD

Free trial

Community

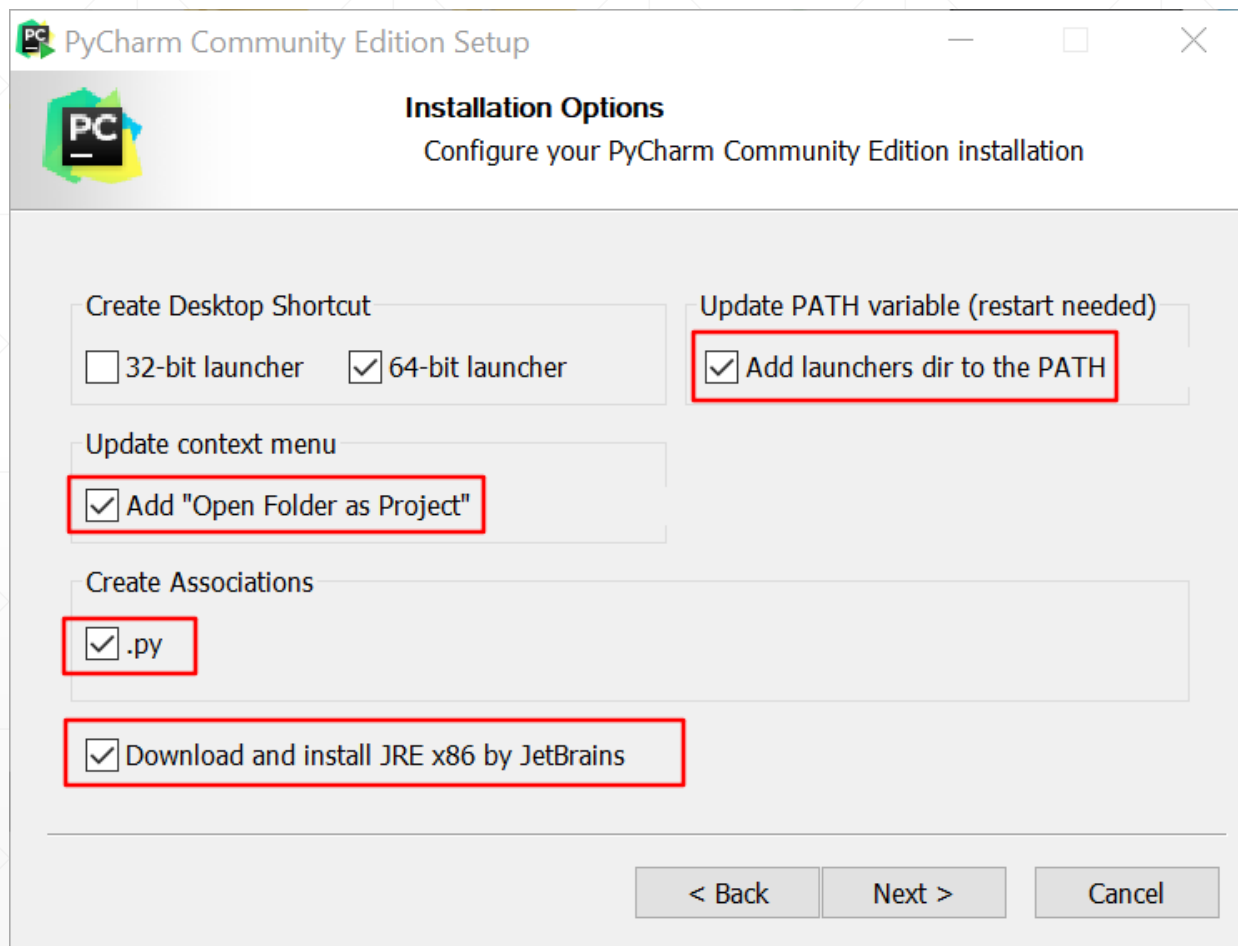
Lightweight IDE
for Python & Scientific
development

DOWNLOAD

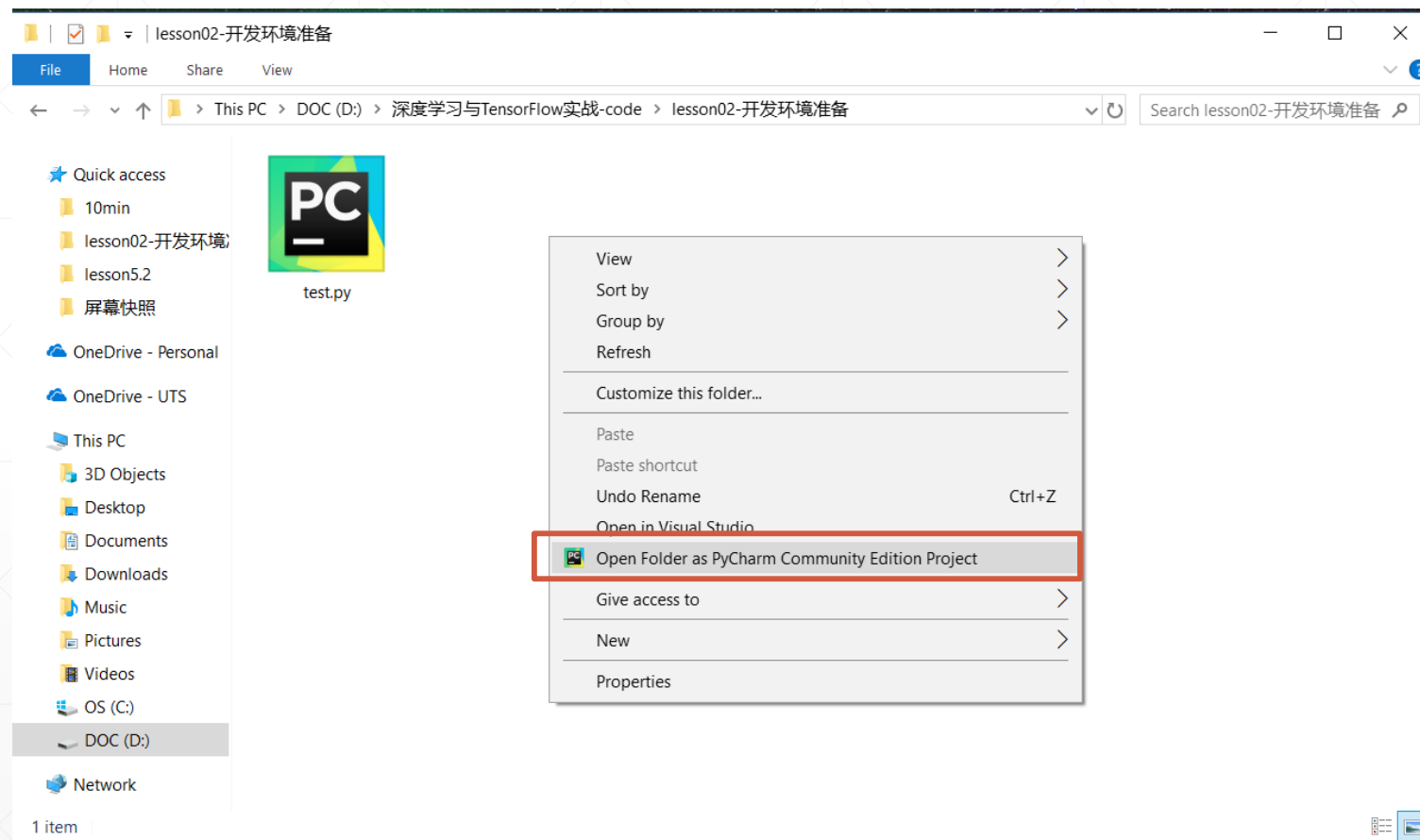
Free, open-source

Step4.PyCharm安装

- And reboot



Step4.PyCharm安装



Step4.PyCharm配置





下一课时

选看1: Win10安装过程手把手指导

选看2: Ubuntu安装过程手把手指导

必看: Lesson03

Thank You.
