让数字科技助力未来发展

KUANFANS 宽泛科技

ubuntu安装cuda、cudnn

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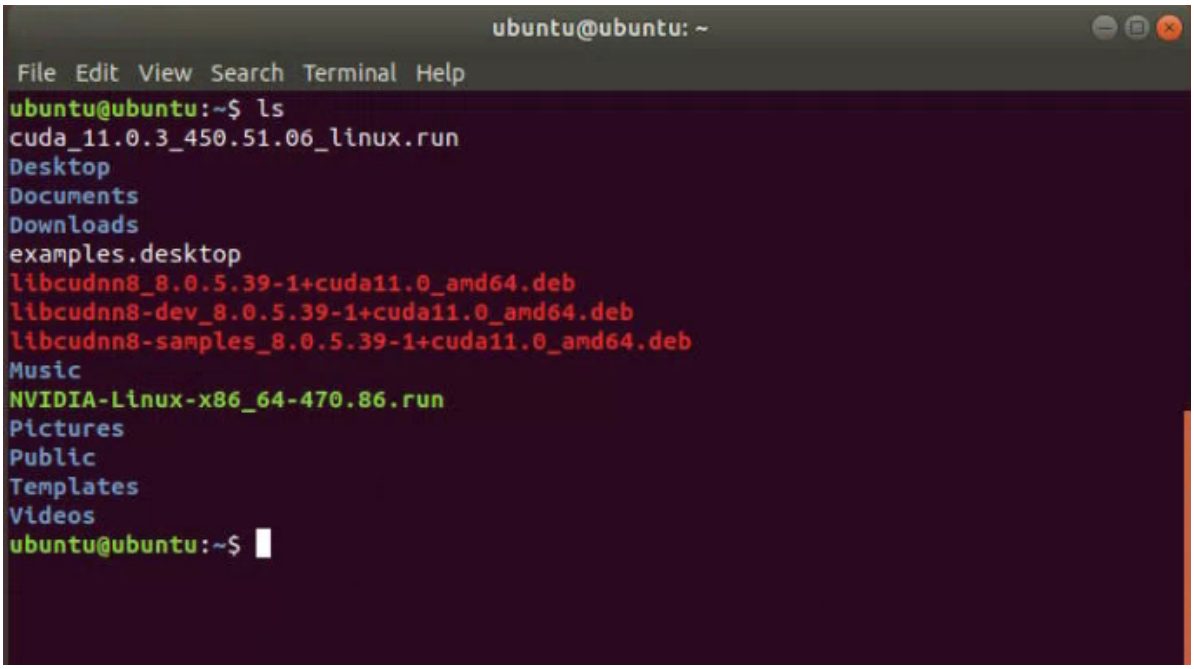
ubuntu安装cuda、cudnn

1、nvidia驱动安装

2、准备cuda、cudnn文件（此文档以*cuda11.0*，*cudnn8.0.5*为例）

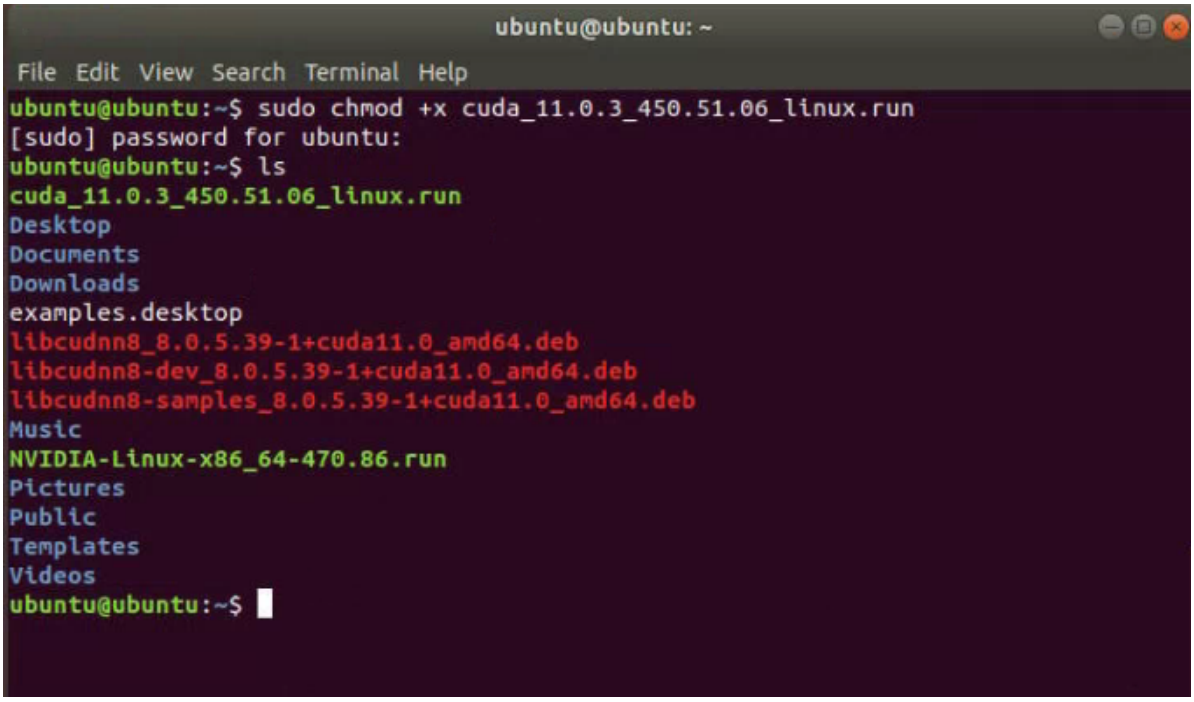
官方下载链接：

```
cuda：https://developer.nvidia.com/cuda-toolkit-archive
cudnn：https://developer.nvidia.com/rdp/form/cudnn-download-survey
```



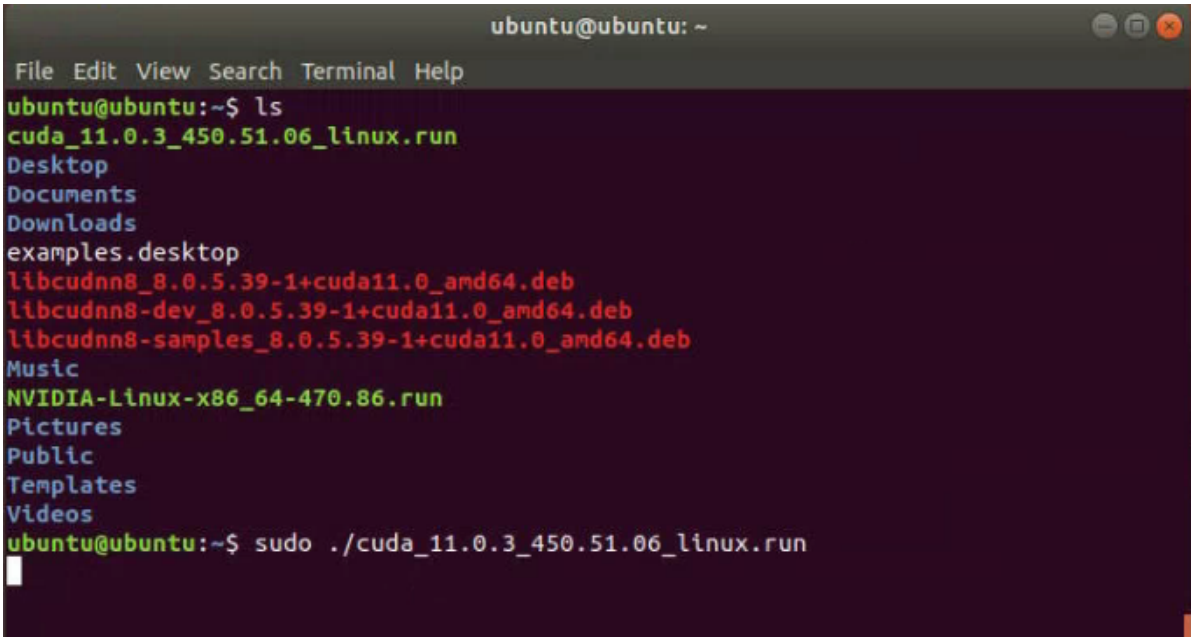
3、cuda文件赋权

```
sudo chmod +x cuda_11.0.3_450.51.06_linux.run
```

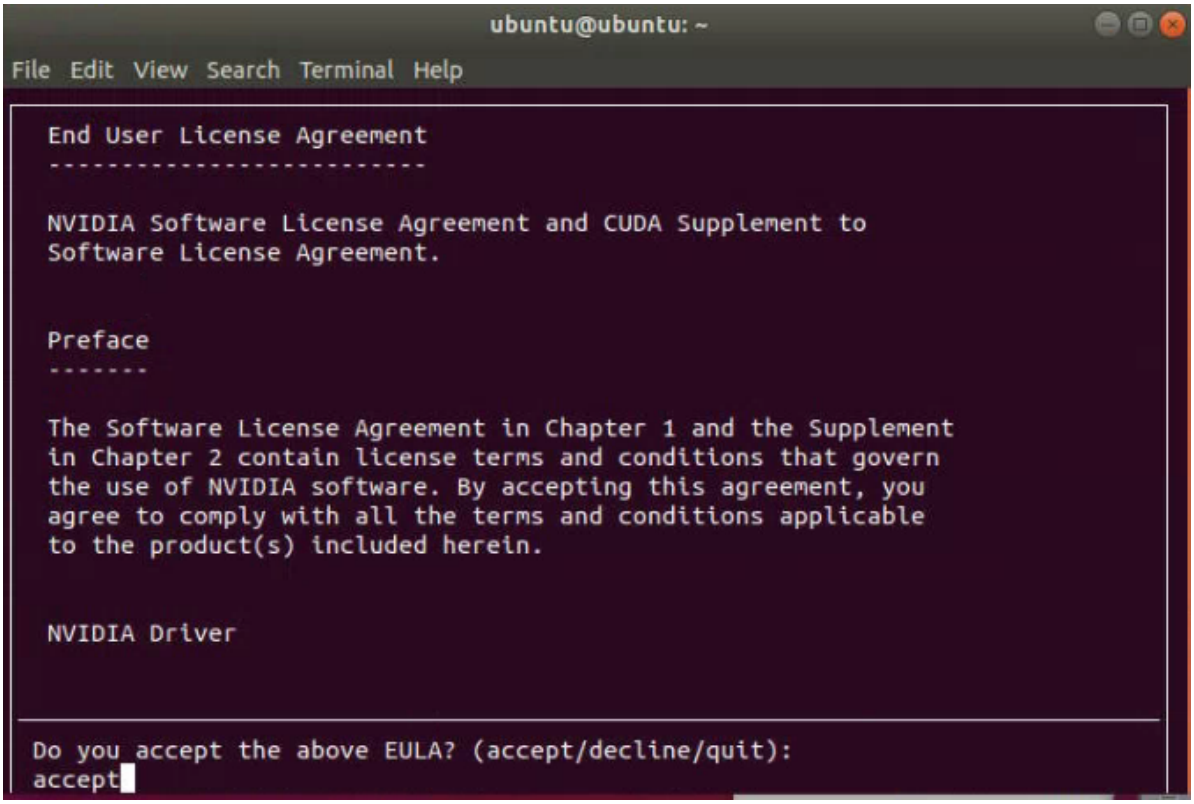


4、安装cuda

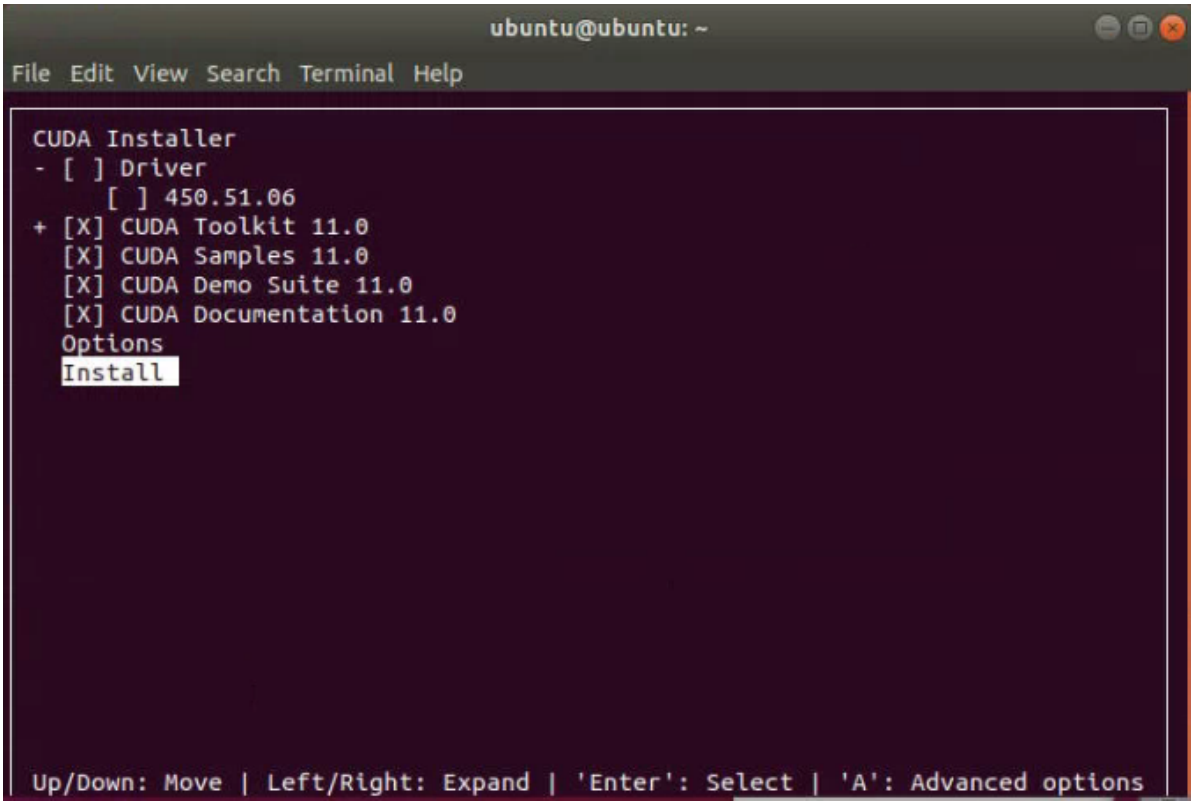
```
sudo ./cuda_11.0.3_450.51.06_linux.run
```



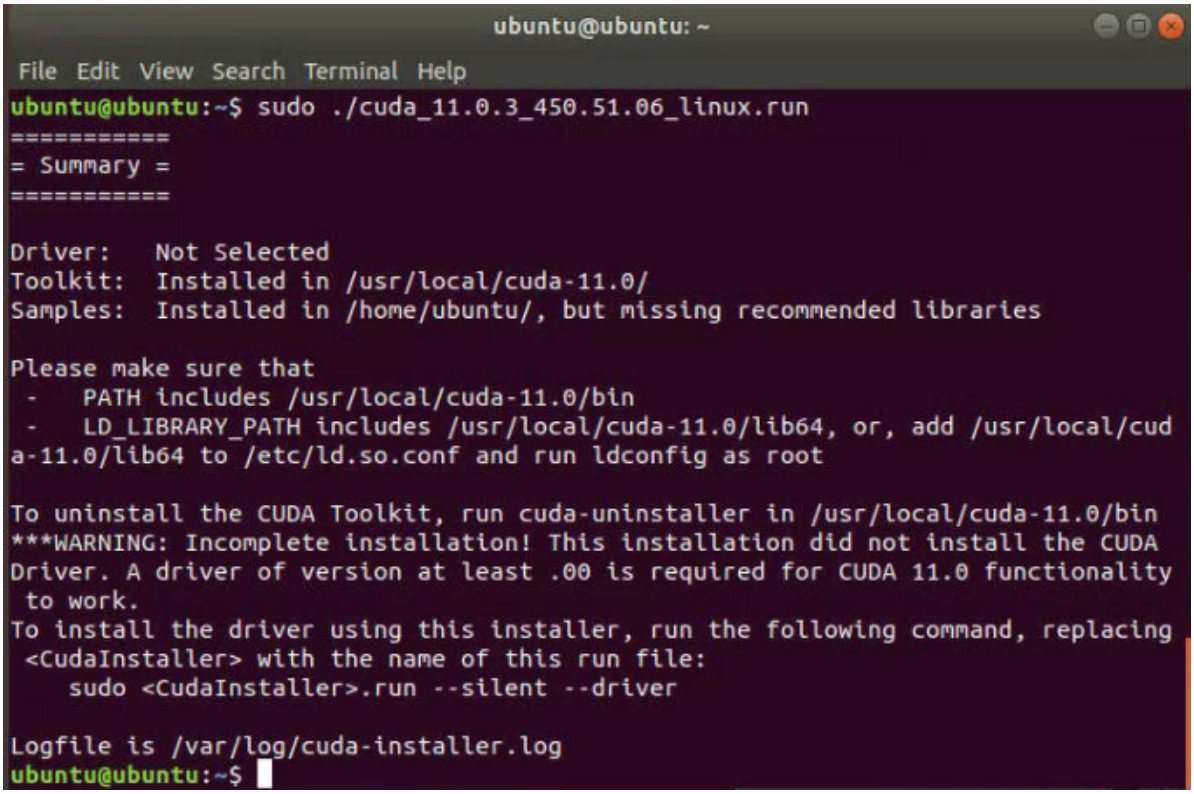
- **Do you accept the above EULA? --accept**



- **CUDA Installer取消勾选Driver，其余默认，选择Install**



- **安装完毕**

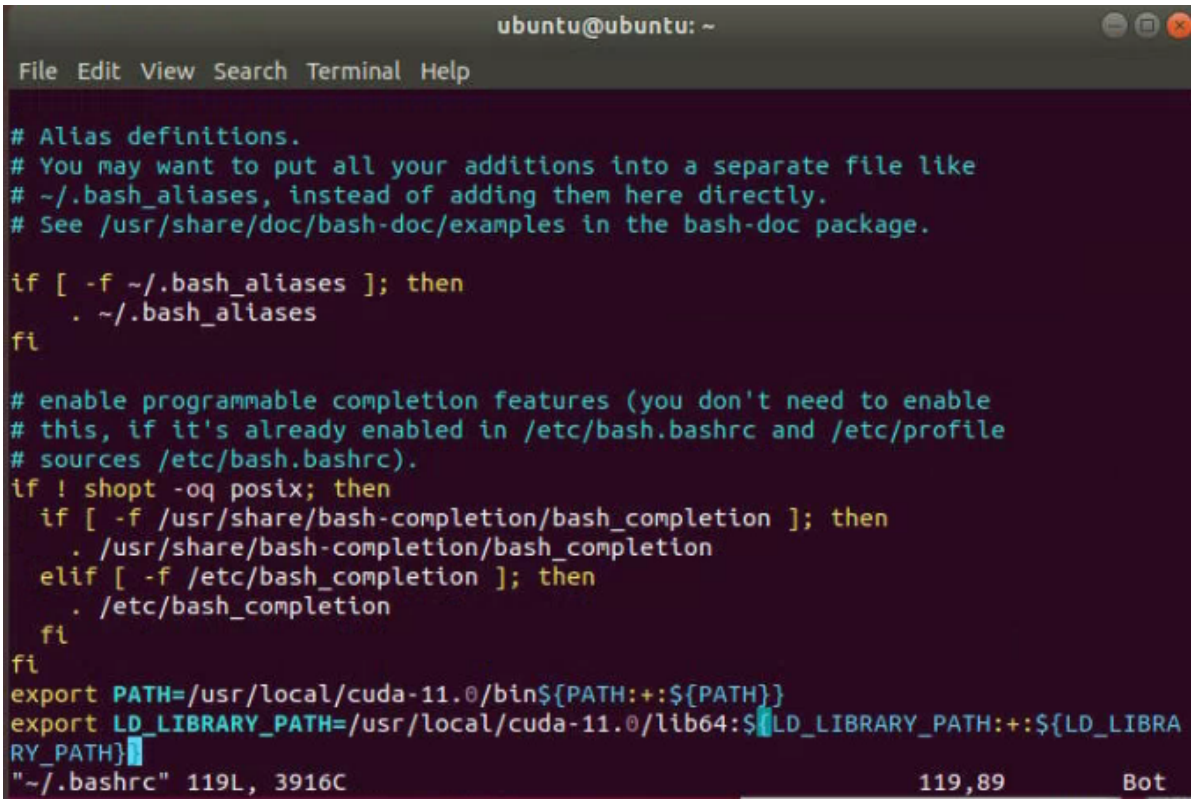


5、添加环境变量

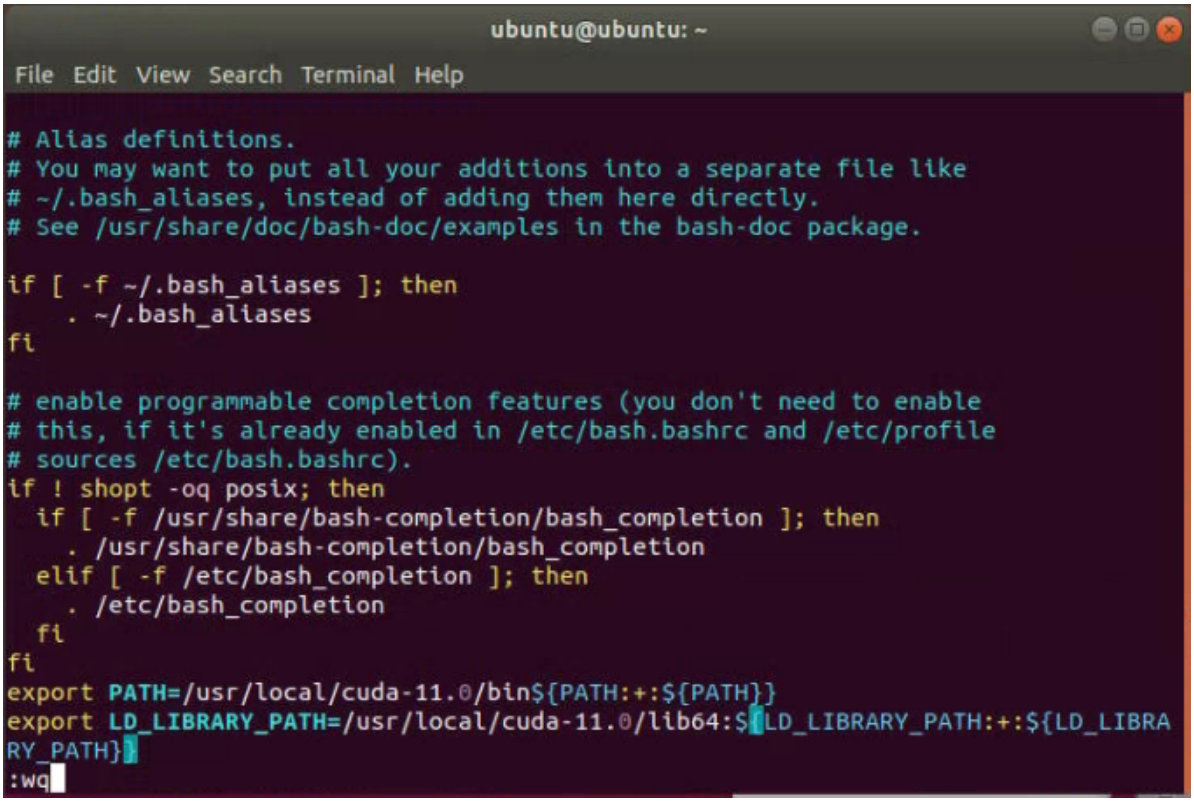
```
sudo vim ~/.bashrc
```

- **在文档最后添加**

```
export PATH=/usr/local/cuda-11.0/bin${PATH:+:${PATH}}
export LD_LIBRARY_PATH=/usr/local/cuda-11.0/lib64:${LD_LIBRARY_PATH:+:${LD_LIBRARY_PATH}}
```

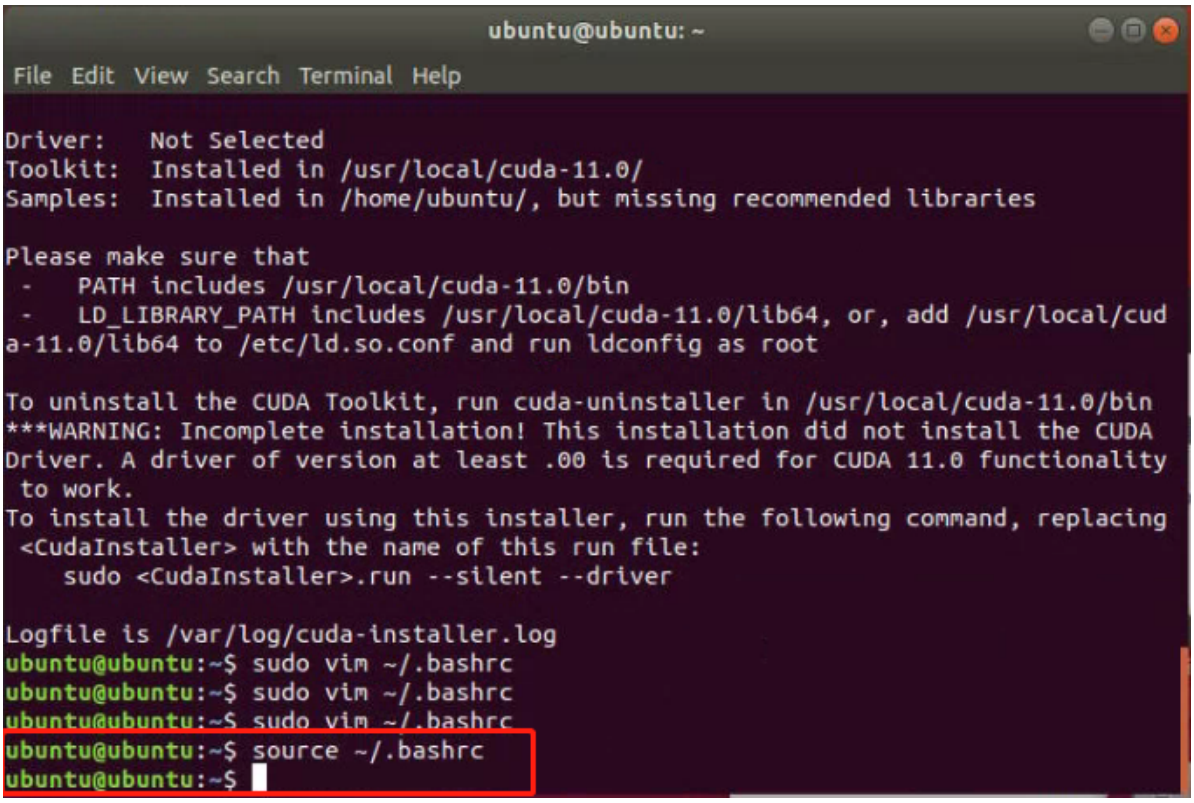


- **shift+:（冒号）,输入wq保存退出**



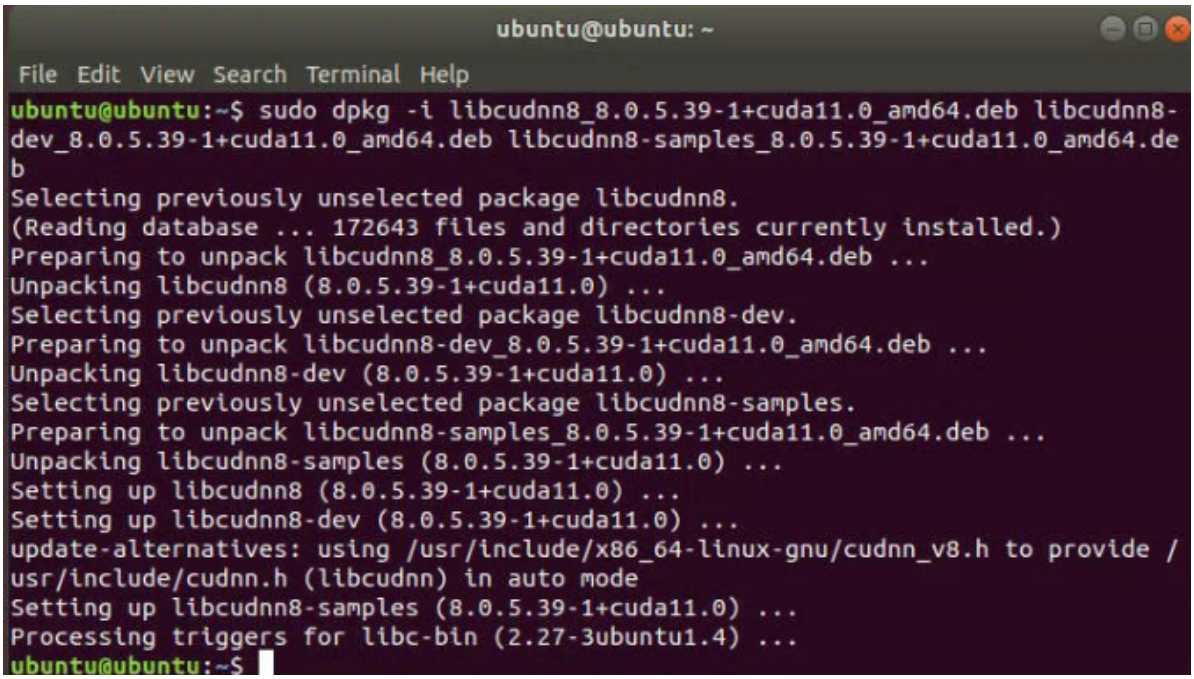
- **启用环境变量**

```
source ~/.bashrc
```



6、安装cudnn

```
sudo dpkg -i libcudnn8_8.0.5.39-1+cuda11.0_amd64.deb
sudo dpkg -i libcudnn8-dev_8.0.5.39-1+cuda11.0_amd64.deb
sudo dpkg -i libcudnn8-samples_8.0.5.39-1+cuda11.0_amd64.deb
此三条命令可合成一条：sudo dpkg -i libcudnn8_8.0.5.39-1+cuda11.0_amd64.deb
libcudnn8-dev_8.0.5.39-1+cuda11.0_amd64.deb libcudnn8-samples_8.0.5.39-
1+cuda11.0_amd64.deb
```



7、验证cuda

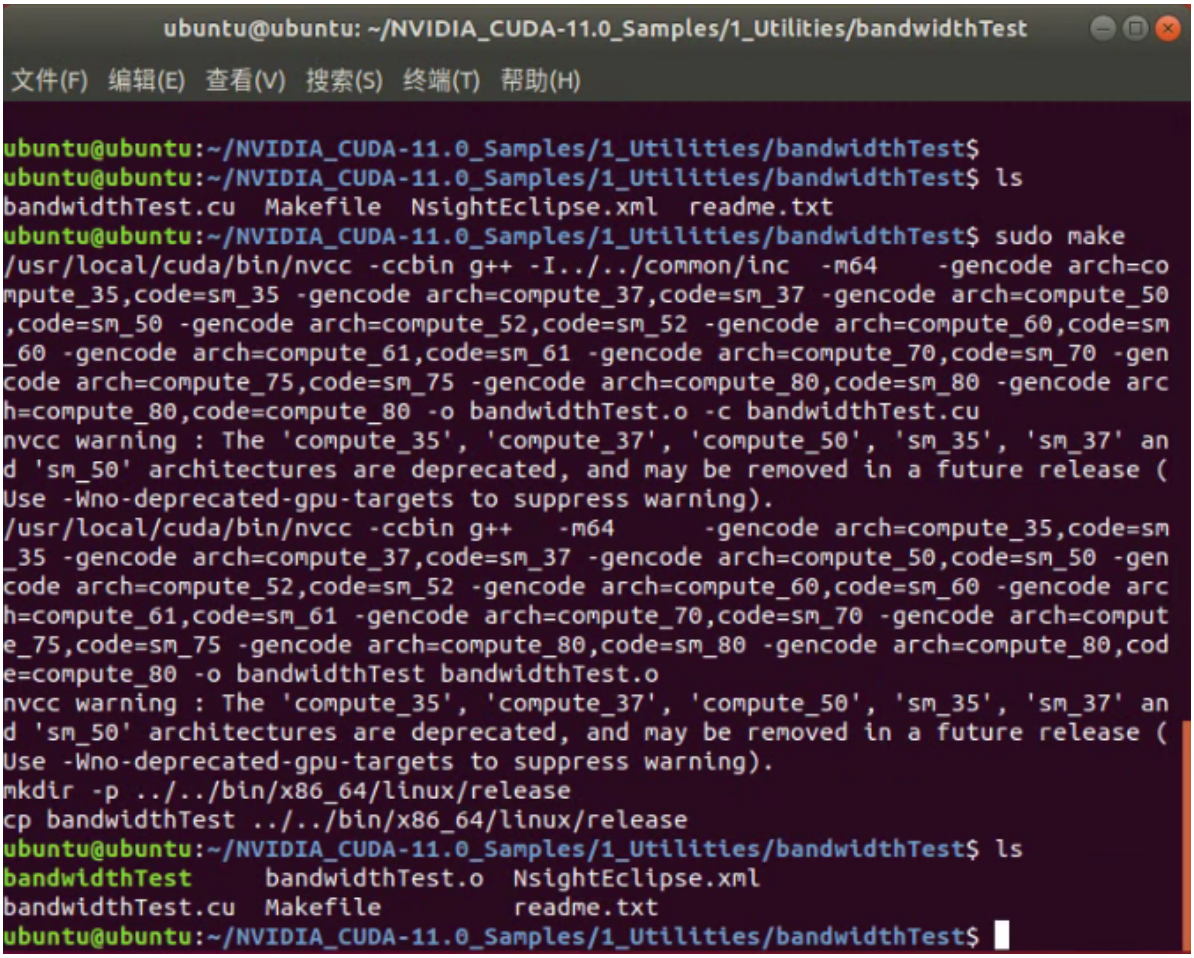
- **确保已经安装了make、gcc、g++，若无，请安装**

安装make、gcc、g++

```
sudo apt install make gcc g++ -y
```

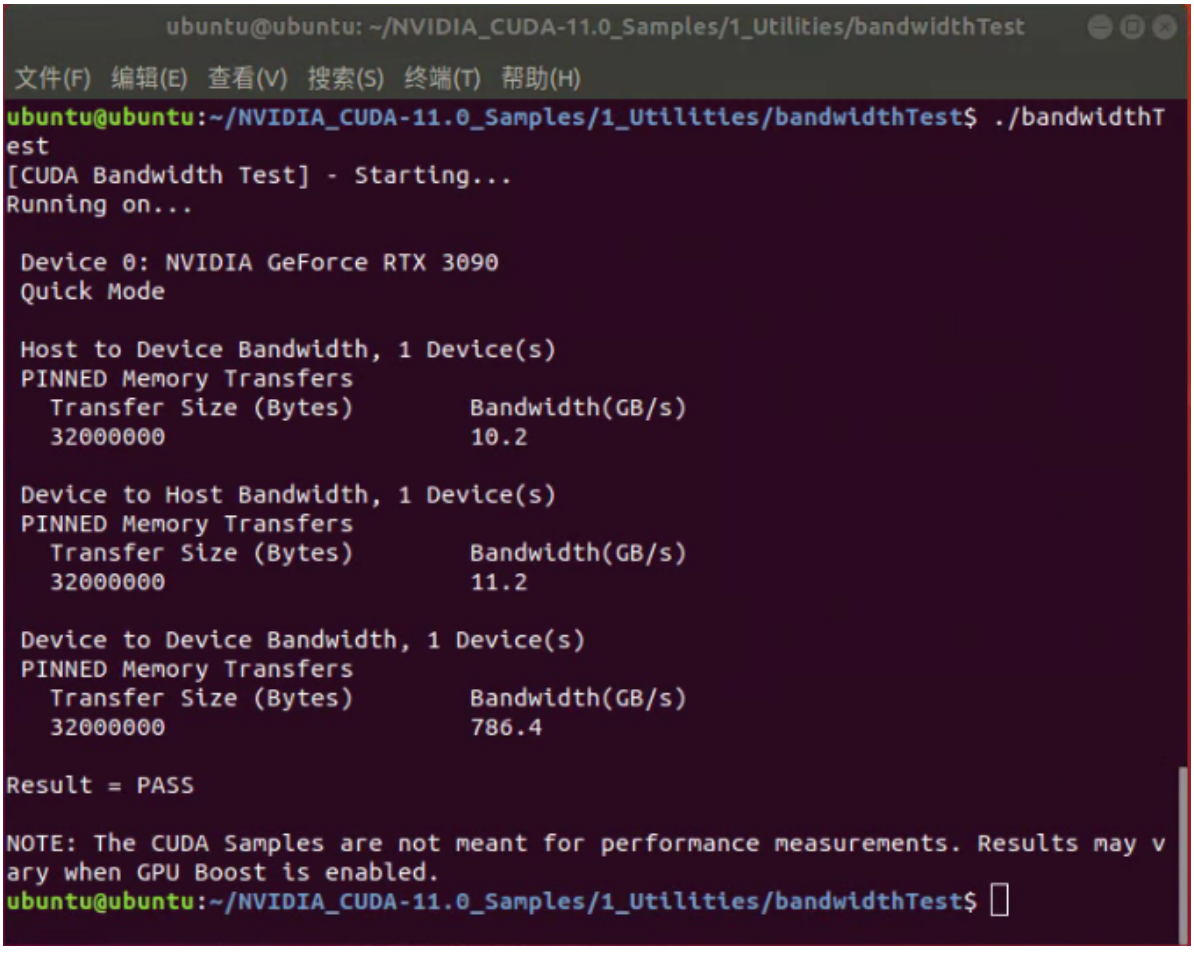
- **进入bandwidthTest验证**

```
cd NVIDIA_CUDA-11.0_Samples/1_Utilities/bandwidthTest/
sudo make
```



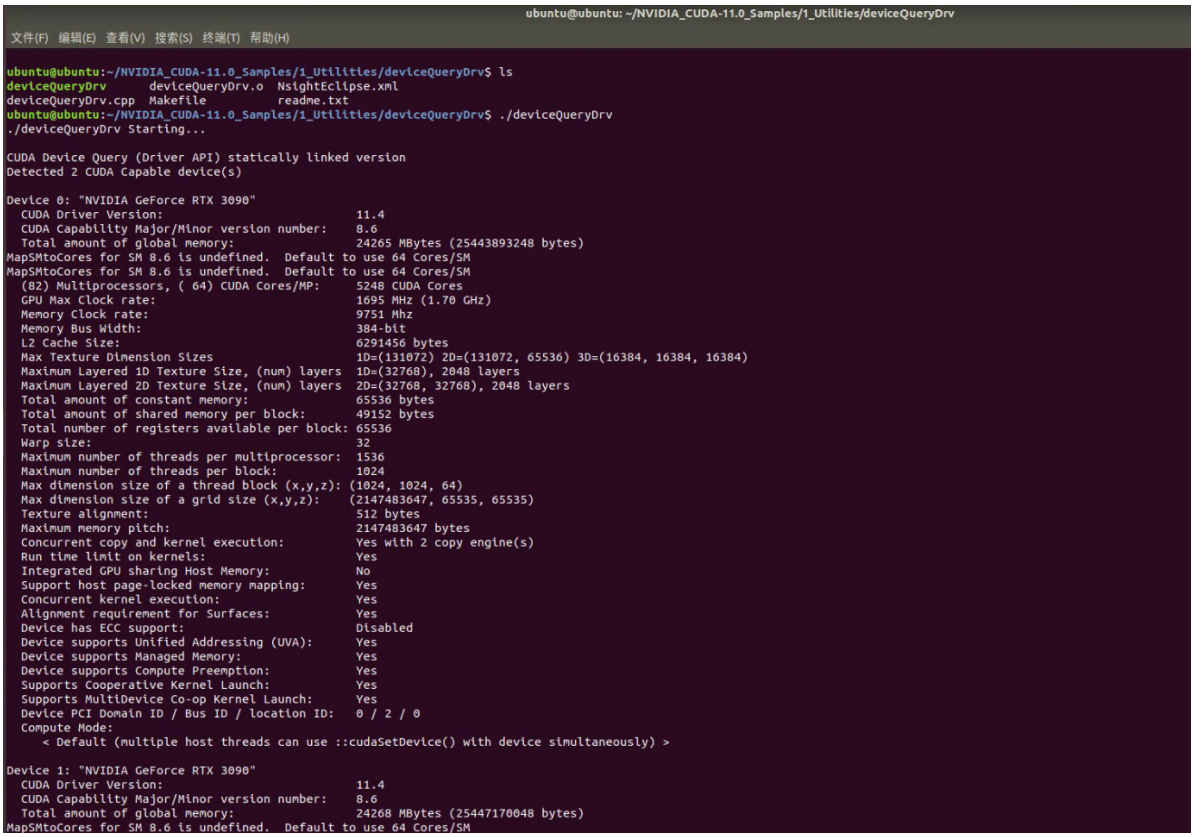
- **执行bandwidthTest**

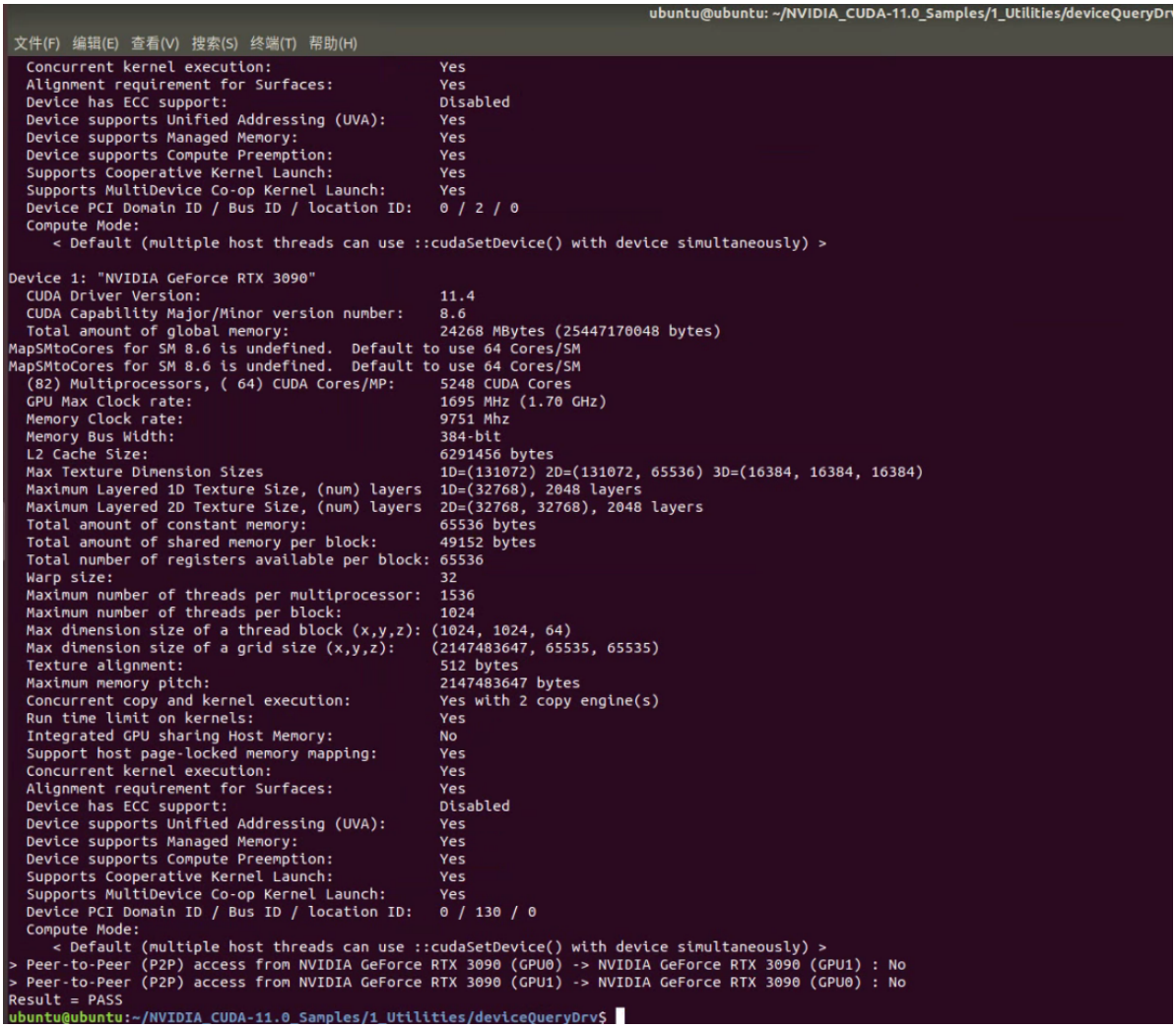
```
./bandwidthTest
```



- **进入deviceQueryDrv验证**

```
cd NVIDIA_CUDA-11.0_Samples/1_Utilities/deviceQueryDrv/
sudo make
./deviceQueryDrv
```

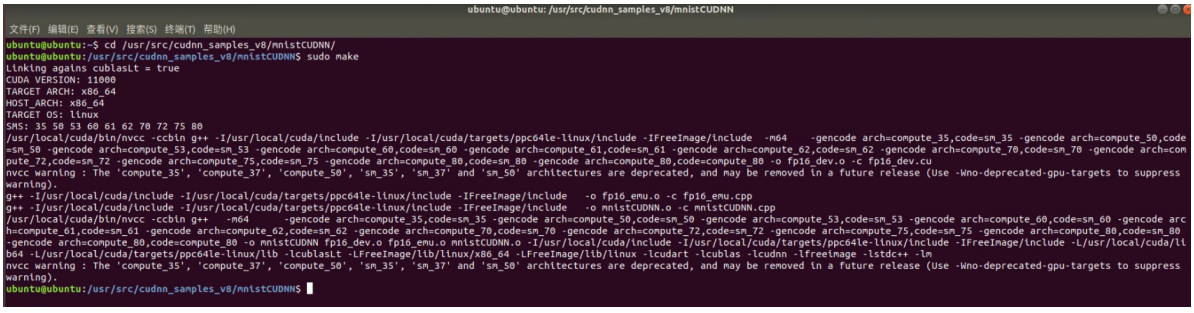


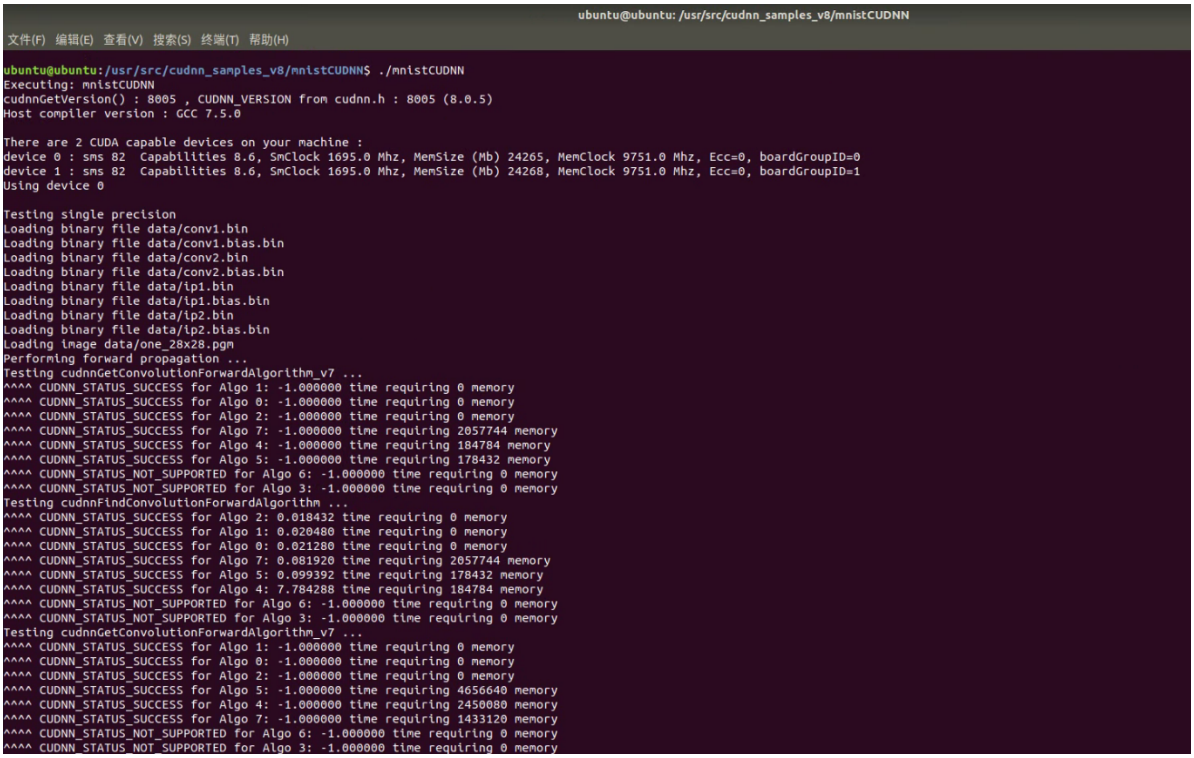


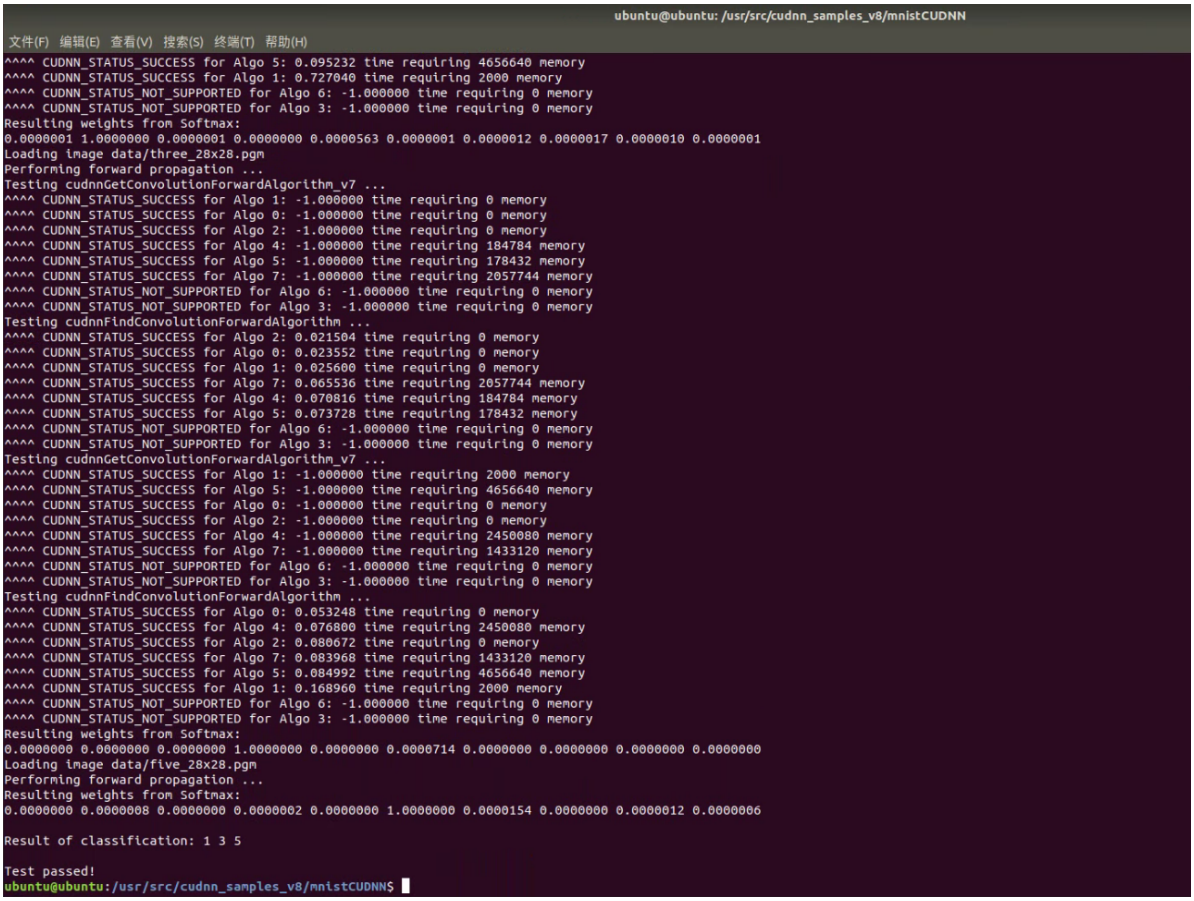
验证结果为*Result = PASS*，则为验证通过

8、验证cudnn

```
cd /usr/src/cudnn_samples_v8/mnistCUDNN/
sudo make
./mnistCUDNN
```

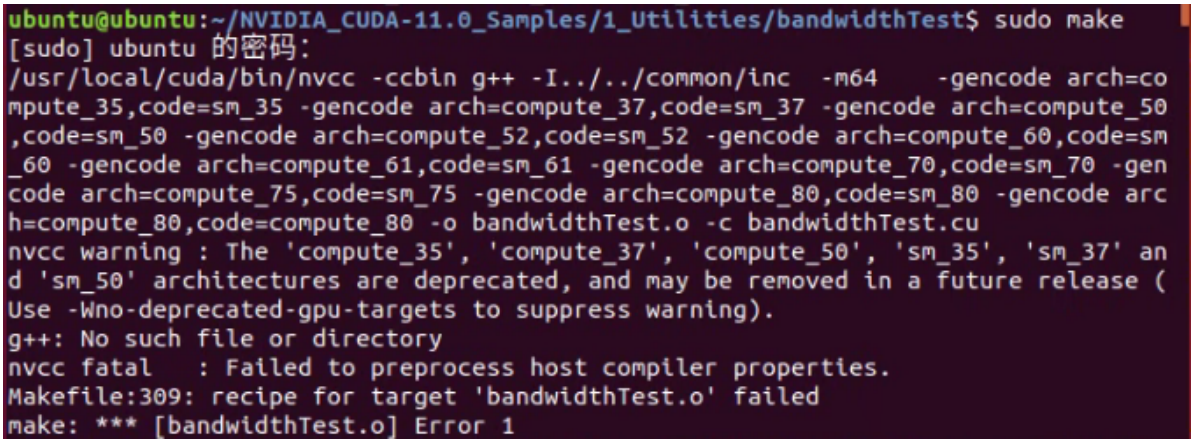






结果为*Test passed*！则通过验证

9、验证过程中出现的问题



安装*make*、*gcc*、*g++*即可解决

宽泛科技

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