

实验一 实验开发环境的建立

一、实验目的

1. 熟悉开发环境管理软件的使用；
2. 熟悉依赖库的安装；
3. 熟悉基础指令；
4. 熟悉 jupyter notebook 的使用；

二、实验内容

1. 安装 miniconda/Anaconda 管理软件，并新建开发环境；

- miniconda环境
 - 在 <https://repo.anaconda.com/miniconda/> 中选择合适的版本
 - wget <https://repo.anaconda.com/miniconda/> 下载
 - bash Miniconda3-latest-Linux-aarch64.sh 安装 (.sh文件名做相应修改)
 - conda -version 测试是否安装妥当
 - conda create -n dl python=3.x pip (建立名为dl的conda环境，并安装python 3.x版本)

Index of /				
Filename	Size	Last Modified	SHA256	
Miniconda3-latest-Windows-x86_64.exe	88.9M	2025-02-06 14:52:51	39c39848c1ad93b0e938c8732effb449f1c4be07b50b1b2e37c16f355f510f70	
Miniconda3-latest-MacOSX-x86_64.sh	114.9M	2025-02-06 14:52:51	65f91c564abced759ce77ca099239b7ed4ae9835cb4b64a11923cd3b5f57f5f1	
Miniconda3-latest-MacOSX-x86_64.pkg	114.1M	2025-02-06 14:52:51	560d0c61fc5ac869a9bac8acc425b4ba94f86ba84076a9df8cbd9f5f589eb4	
Miniconda3-latest-MacOSX-arm64.sh	111.8M	2025-02-06 14:52:51	24821d2c87598ae0f8e697e612cdf41d00bc9ae563cae8aacd878d50d1a86e1e	
Miniconda3-latest-MacOSX-arm64.pkg	111.8M	2025-02-06 14:52:51	2b69a5da61d0651e85832ab3d254db635bc651480ba0bb0b0de4e586ae3f433	
Miniconda3-latest-Linux-x86_64.sh	147.5M	2025-02-06 14:52:51	832de27a5a35b7963f0a83466abada3eb130e51985355f19e0dc3504270d0d1	
Miniconda3-latest-Linux-s390x.sh	143.4M	2025-02-06 14:52:51	fa0b443ea73c71abd29eb51212c7b032d5089cbb2761aa07f91668b983a2a575	
Miniconda3-latest-Linux-aarch64.sh	121.2M	2025-02-06 14:52:51	ae9d3ea83df97e78fd51c452d0bc75005a28d504c22db6f1000822293f916b54	
Miniconda3-latest-Linux-ppc64le.sh	94.9M	2023-11-16 13:51:52	1a2eda0a9a52a4bd05abbe9de5bb2bc751cd7984c4755deffdf93806f4436e	
Miniconda3-latest-Windows-x86.exe	67.8M	2022-05-16 14:57:25	4fb4e6c9c28b88beab16994bfba4829110ea3145baa60bda5344174ab65d462	
Miniconda3-latest-Linux-x86.sh	62.7M	2019-01-02 10:05:14	f387eded3fa4ddc3104b6775e62d59863b50205c2758a8086a4c2714adafcc4	
Miniconda3-latest-MacOSX-x86.sh	26.0M	2015-08-24 12:34:00	f1f45db076cc7d76367933866c215920f2e1d144c689630324a0360d9f017949	
Miniconda3-latest-Linux-armv7l.sh	29.9M	2015-08-24 12:34:00	21797d383260e1f0fb89f1157b4ff1b6658885e8b710aecddadac8c2658ed2f	
Miniconda3-py39_25.1.1-0-Windows-x86_64.exe	86.0M	2025-02-06 14:52:51	737e4b91dafb1ae4fae9f1ac745c4fb66cbe9d7a345491cf5675b55a06921b5c	
Miniconda3-py39_25.1.1-0-MacOSX-x86_64.sh	111.0M	2025-02-06 14:52:51	3752cbfae31526e53cae1b2976e183787fc98782c63bbd048853ed880616051	
Miniconda3-py39_25.1.1-0-MacOSX-x86_64.pkg	110.3M	2025-02-06 14:52:51	9a0633ba1ae4a759371af6ba52be96265c	
Miniconda3-py39_25.1.1-0-MacOSX-arm64.sh	108.0M	2025-02-06 14:52:51	6d0e09a8e0f531e09791f033529a6142c0e	
Miniconda3-py39_25.1.1-0-MacOSX-arm64.pkg	107.2M	2025-02-06 14:52:51	95467e4cfcd5f1833cd361da3184b3cc7a6	
Miniconda3-py39_25.1.1-0-Linux-x86_64.sh	135.4M	2025-02-06 14:52:51	13a5870ab5b5c75f32a54eac2ba8d8ff38e	
Miniconda3-py39_25.1.1-0-Linux-s390x.sh	132.1M	2025-02-06 14:52:51	8220e1e67cc73a51d90108f5bdf5451aefc	
Miniconda3-py39_25.1.1-0-Linux-aarch64.sh	130.4M	2025-02-06 14:52:51	6013a477747f9c4c000f4c0b7b0b037c3a	

```
root@416099b7713d:~# conda --version
conda 25.1.1
root@416099b7713d:~#
```

2. 安装所需依赖包；

- 安装所需的包

- pip install jupyter numpy d2l matplotlib torch torchvision (torch和torchvision可能下载较慢, 可以替换国内源)

```
# zhouxin @ MacBookPro in (base) ~ [9:44:14]
$ conda env list
# conda environments:
#
base                  * /Users/zhouxin/miniconda3
AIEngine              /Users/zhouxin/miniforge3/envs/AIEngine
GPT                   /Users/zhouxin/miniforge3/envs/GPT
dctwin                /Users/zhouxin/miniforge3/envs/dctwin
dcwiz-backend         /Users/zhouxin/miniforge3/envs/dcwiz-backend
dl                    /Users/zhouxin/miniforge3/envs/dl
gpt_ac                /Users/zhouxin/miniforge3/envs/gpt_ac
pdm                   /Users/zhouxin/miniforge3/envs/pdm
py39                  /Users/zhouxin/miniforge3/envs/py39
```

```
# zhouxin @ MacBookPro in (dl) ~ [9:45:23]
$ conda list
# packages in environment at /Users/zhouxin/miniforge3/envs/dl:
#
# Name                    Version            Build    Channel
anyio                     4.5.2              pypi_0  pypi
appnope                   0.1.4              pypi_0  pypi
argon2-cffi               23.1.0             pypi_0  pypi
argon2-cffi-bindings     21.2.0             pypi_0  pypi
arrow                     1.3.0              pypi_0  pypi
asttokens                 3.0.0              pypi_0  pypi
async-lru                 2.0.4              pypi_0  pypi
attrs                     25.1.0             pypi_0  pypi
babel                     2.17.0             pypi_0  pypi
backcall                  0.2.0              pypi_0  pypi
beautifulsoup4            4.13.3             pypi_0  pypi
bleach                    6.1.0              pypi_0  pypi
bzip2                     1.0.8              hf9b78c6_7  https
certifi                   2025.1.31          hf0a4a13_0  https
cffi                      1.17.1             pypi_0  pypi
charset-normalizer        3.4.1              pypi_0  pypi
comm                      0.2.2              pypi_0  pypi
contourpy                 1.1.1              pypi_0  pypi
cycler                    0.12.1             pypi_0  pypi
d2l                       1.0.3              pypi_0  pypi
debugpy                   1.8.12             pypi_0  pypi
decorator                  5.1.1              pypi_0  pypi
```

3. 学习启动 jupyter notebook, 并运行简单程序, 验证

开发环境安装是否成功;

三、实验过程 (实验报告)

四、实验结果 (实验报告)

五、实验总结 (实验报告)