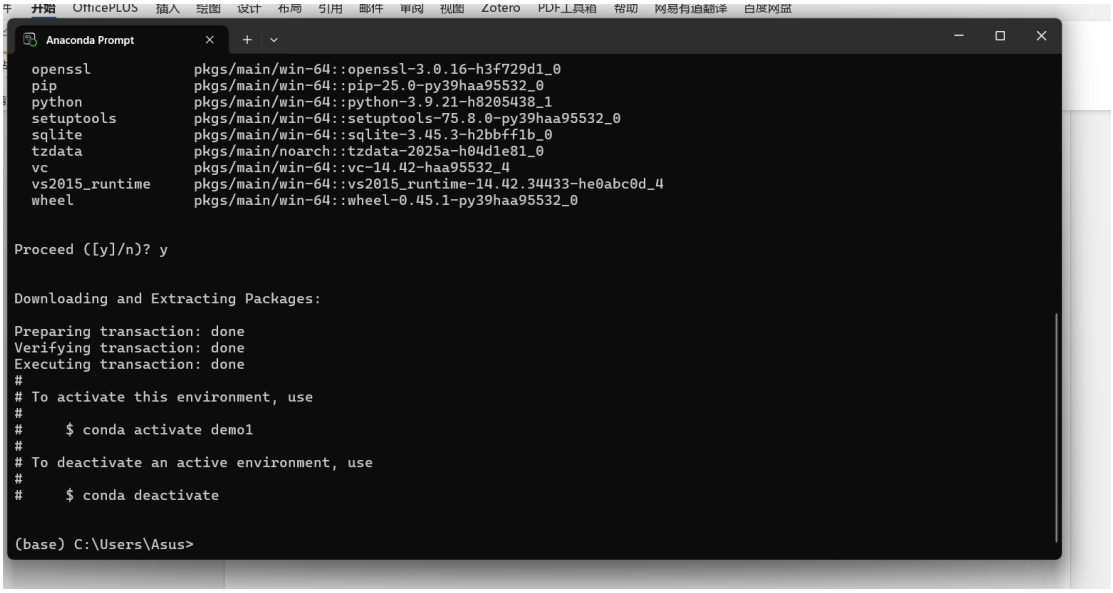
cv 实验 1

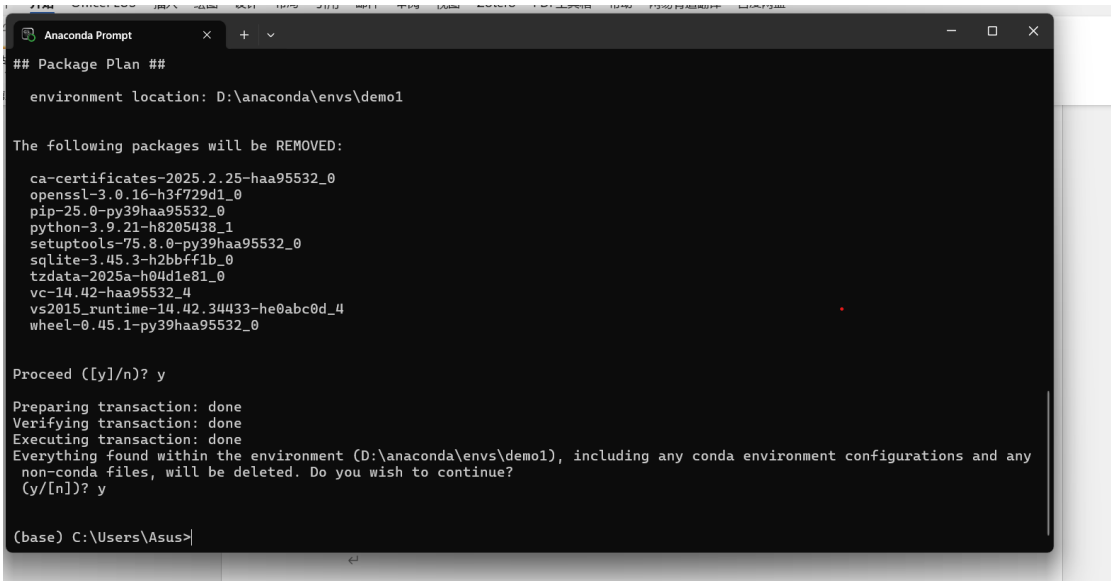
1. anaconda 创建虚拟环境、删除，查看已安装虚拟环境，进入某个虚拟环境，退出某个虚拟环境

(1) 创建和删除虚拟镜像

创建虚拟环境命令：conda create -n demo1 python=3.9

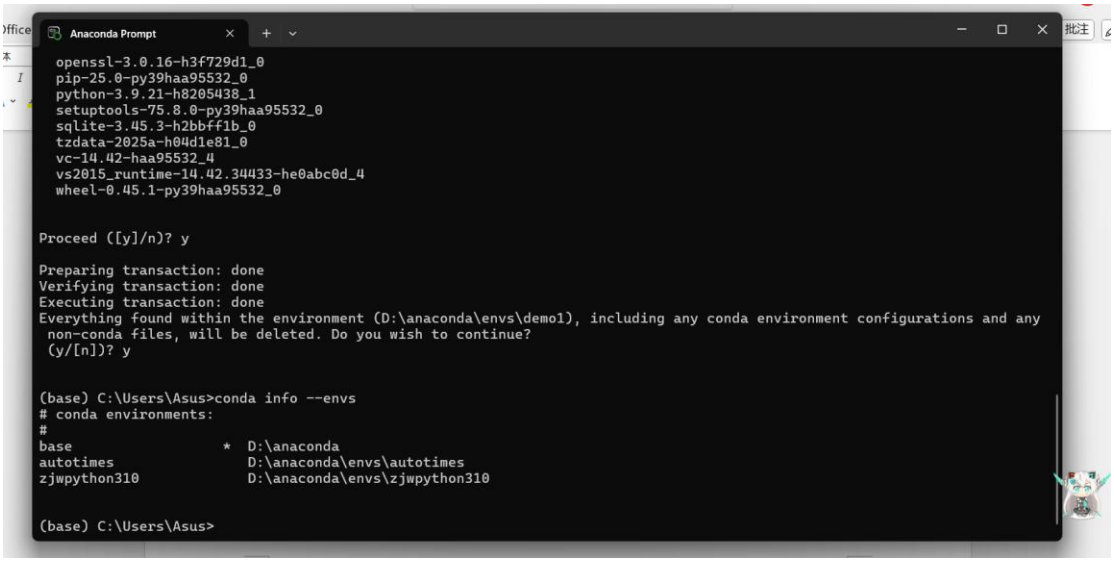


删除虚拟环境命令：conda remove -n demo1 --all



(2) 查看已安装环境

命令：conda info - envs



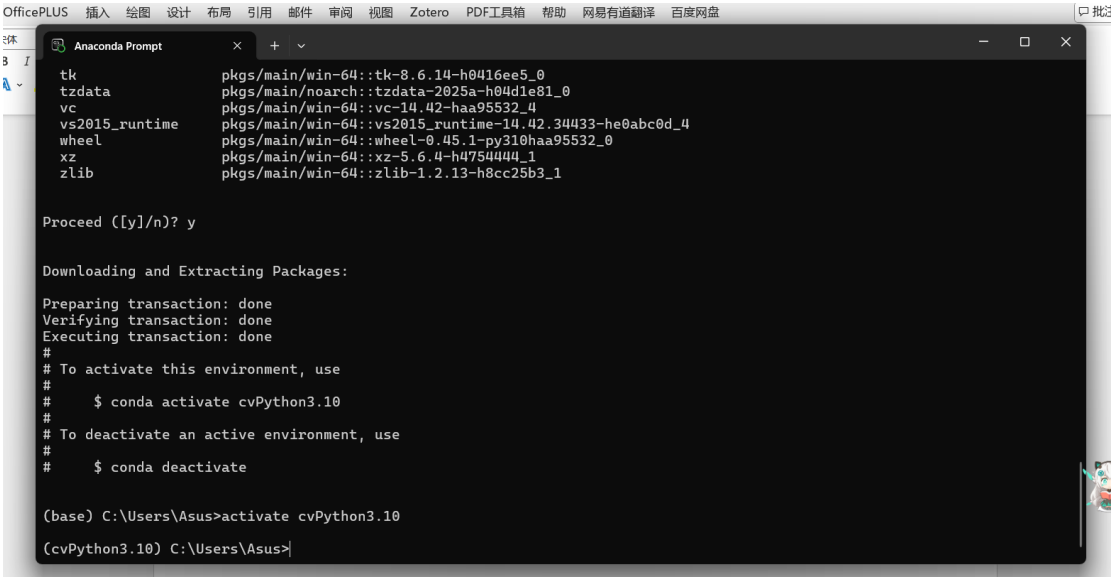
(3) 进入和退出虚拟环境

创建名为 cvPython3.10 的虚拟环境

命令：conda create -n cvPython3.10 python=3.10

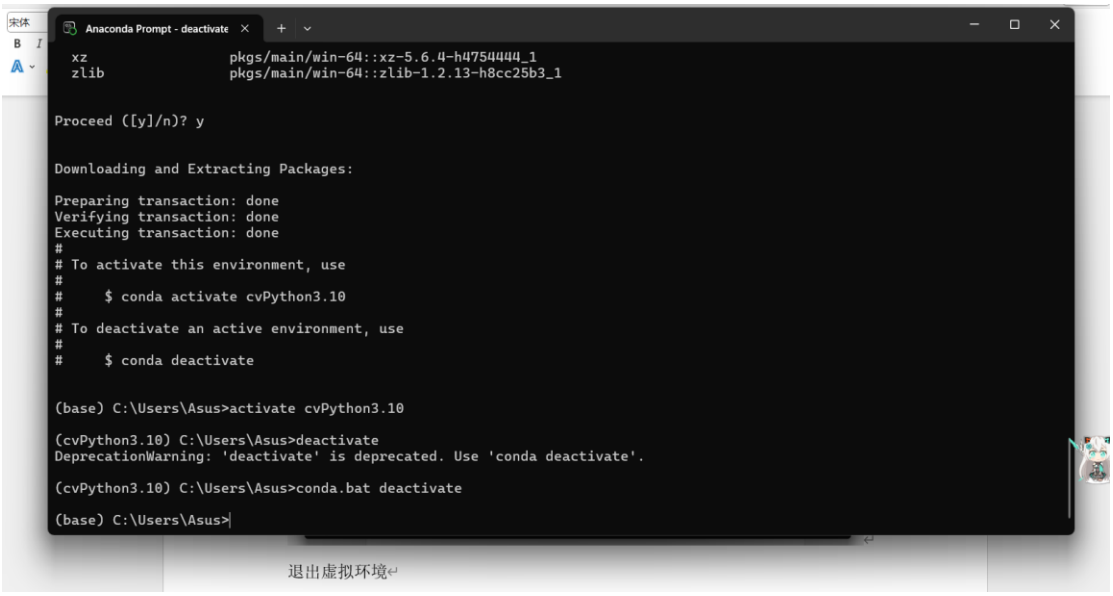
进入虚拟环境

命令：activate cvPython3.10



退出虚拟环境

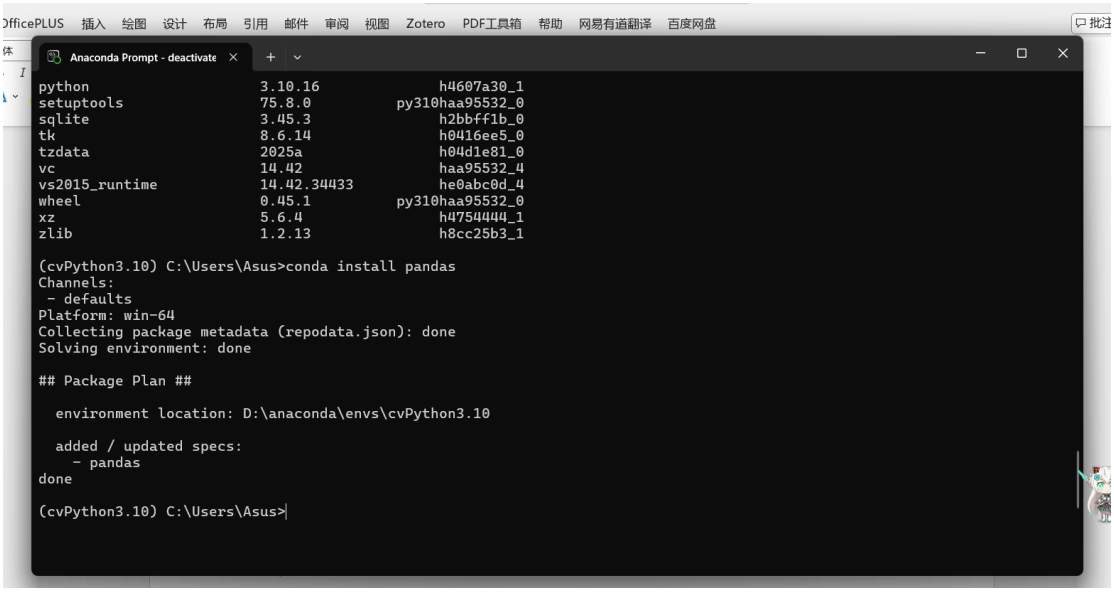
命令：deactivate



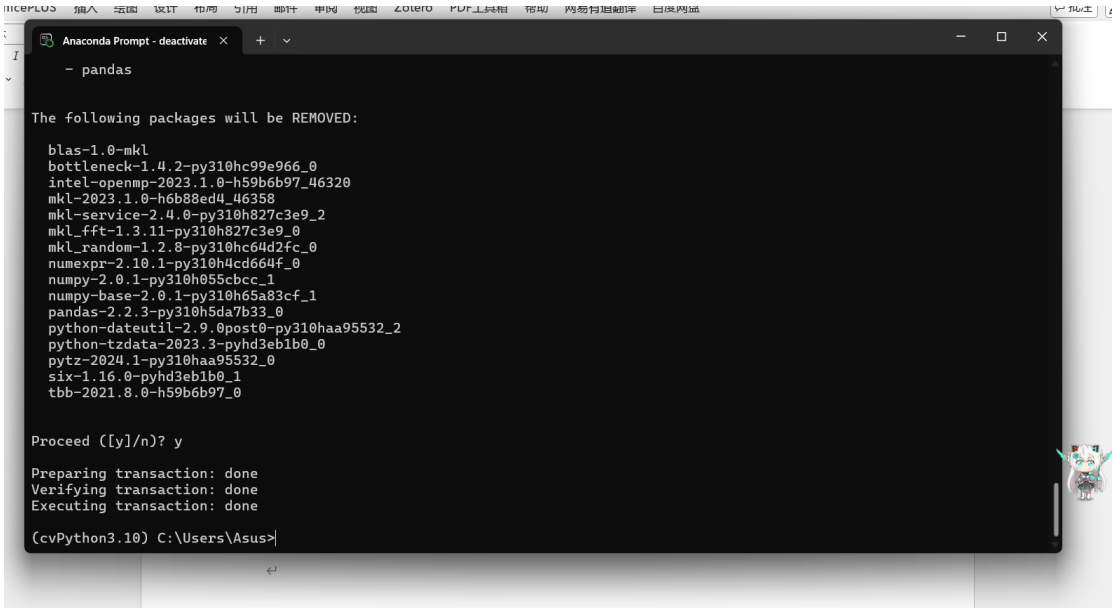
2. 安装和卸载第三方库，查看已安装库，利用清华镜像安装第三方库

(1) 安装和卸载第三方库

安装第三方库命令(pandas)：conda install pandas

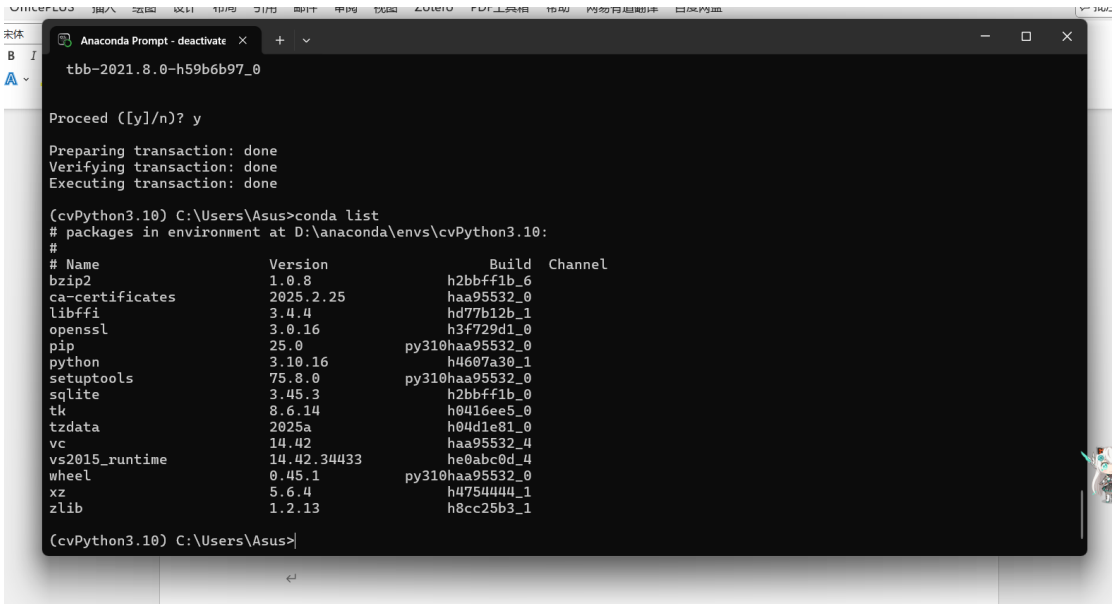


卸载第三方库命令(pandas)：conda remove pandas



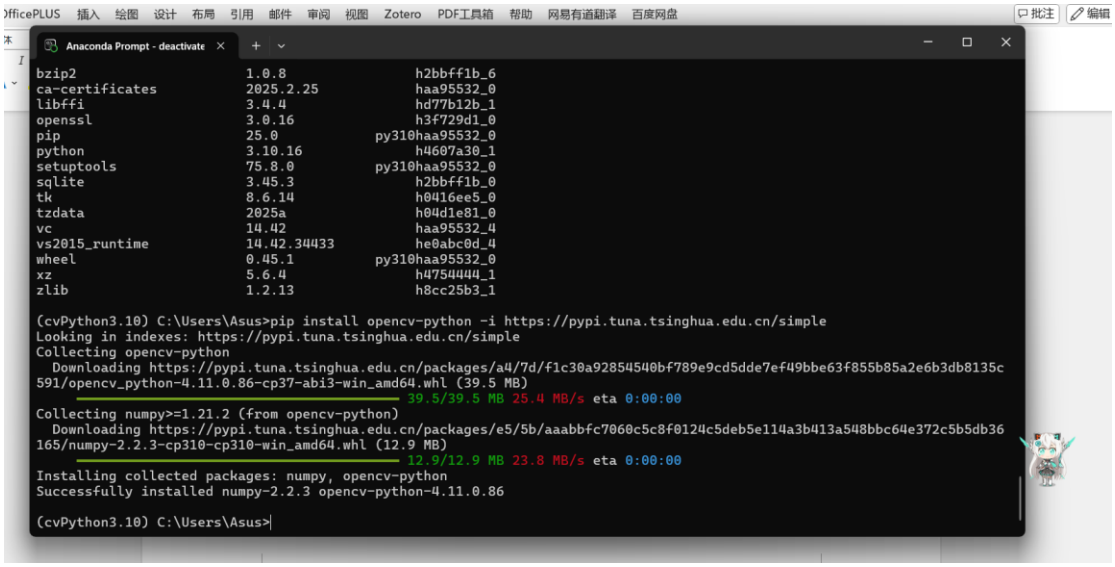
(2) 查看已安装库

命令：conda list



(3) 利用清华镜像安装第三方库

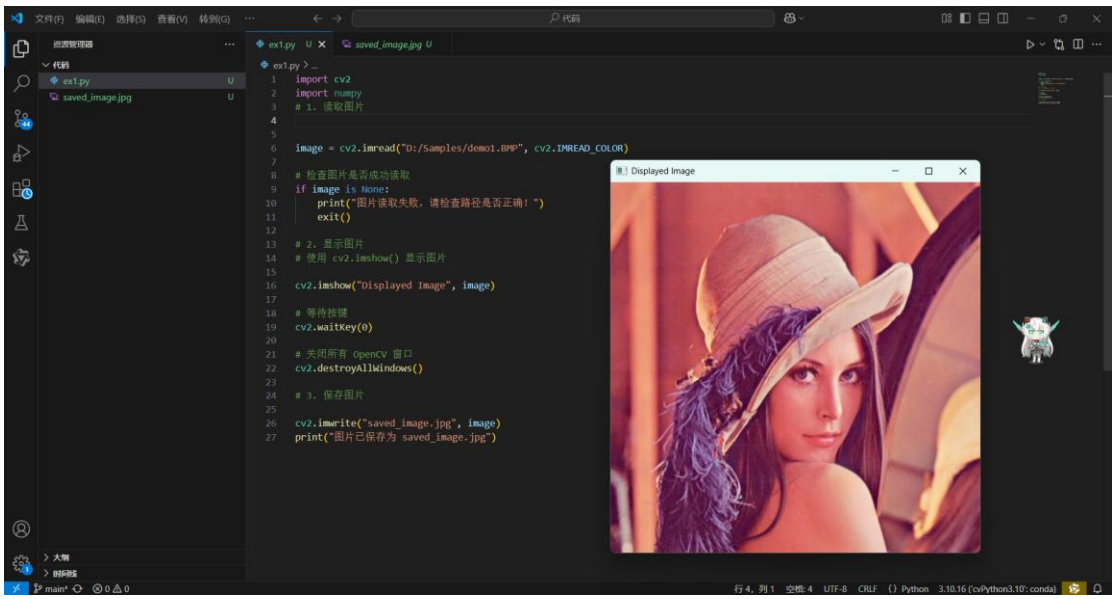
命令：pip install opencv-python -i https://pypi.tuna.tsinghua.edu.cn/simple



3. opencv 读取图片、显示图片、保存图片的代码和注释

(1) 代码和注释

```python
import cv2
import numpy
# 1. 读取图片


image = cv2.imread("D:/Samples/demo1.BMP", cv2.IMREAD_COLOR)

# 检查图片是否成功读取
if image is None:
    print("图片读取失败，请检查路径是否正确！")
    exit()

# 2. 显示图片
# 使用 cv2.imshow() 显示图片

cv2.imshow("Displayed Image", image)

# 等待按键
cv2.waitKey(0)

# 关闭所有 OpenCV 窗口
cv2.destroyAllWindows()
```

```python
# 3. 保存图片

cv2.imwrite("saved_image.jpg", image)
print("图片已保存为 saved_image.jpg")
```

（2）结果