

## VPYTHON教程

Vpython安装

3D箭头(Arrow)教程

3D箱盒(Box)教程

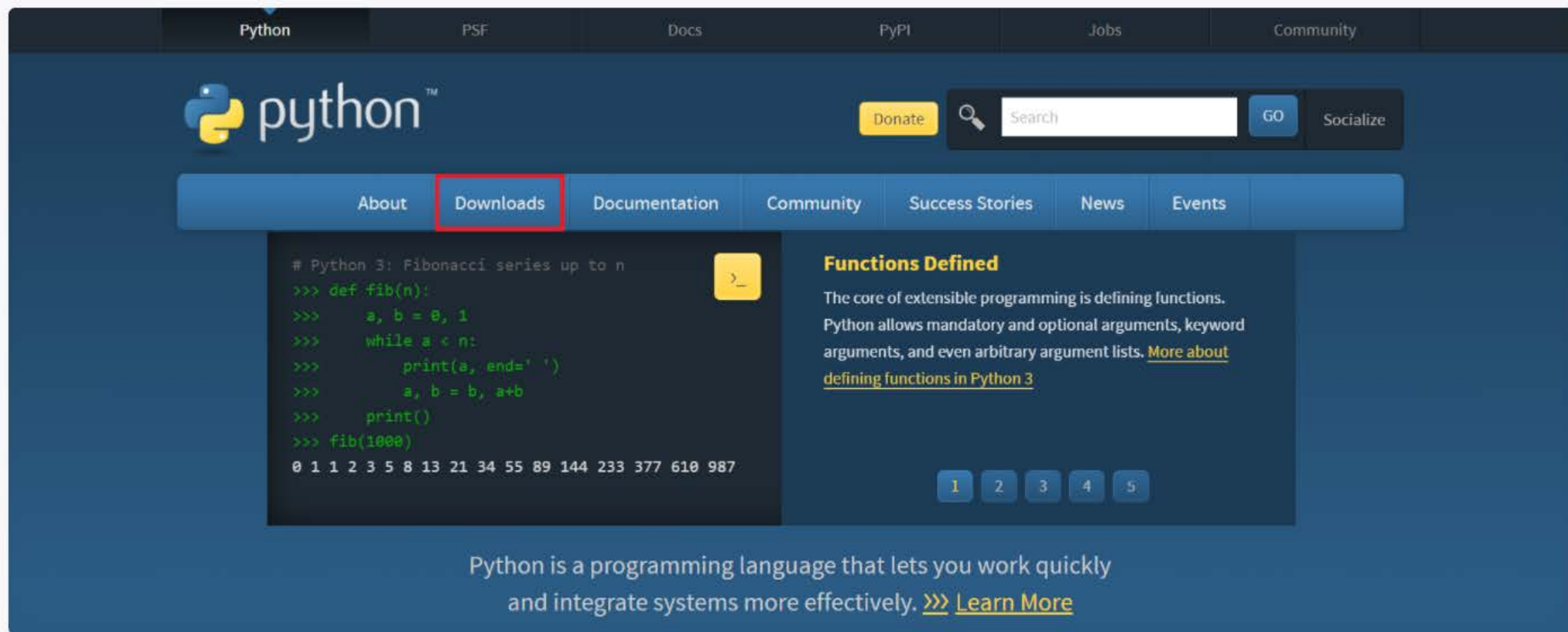
3D球型(Sphere)教程

动画制作基础

Vpython安装方法共两种接下来分别介绍。

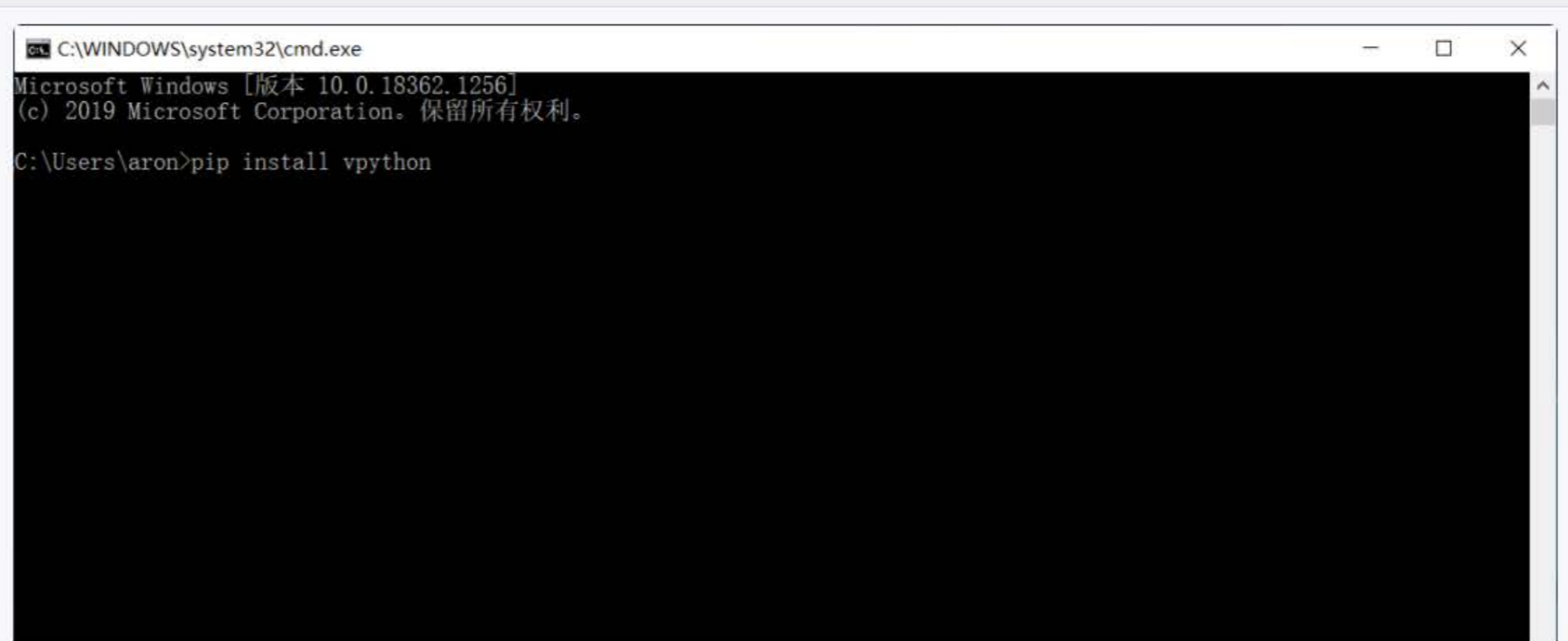
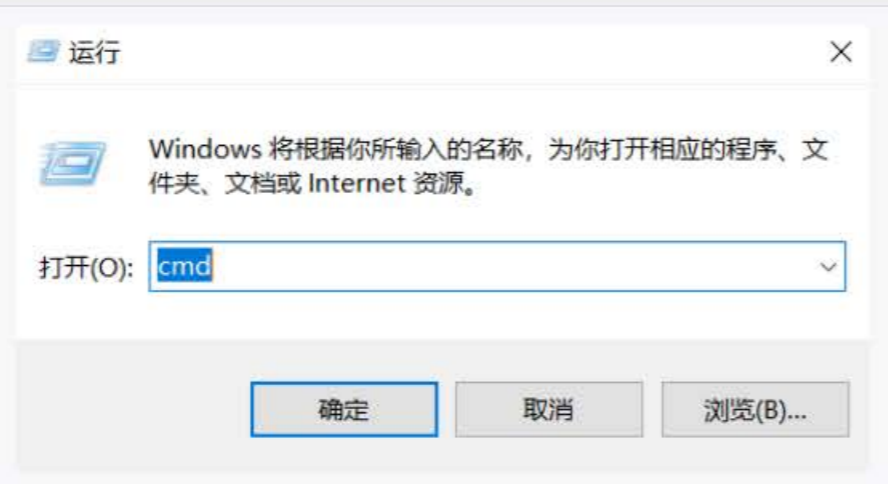
方法一：

1、如图所示，现在电脑中安装python:打开 <https://www.python.org/>网址，点击Downloads下载



2、安装好python后，按住win+R，在输入cmd，在跳出的黑色界面中输入pip install vpython

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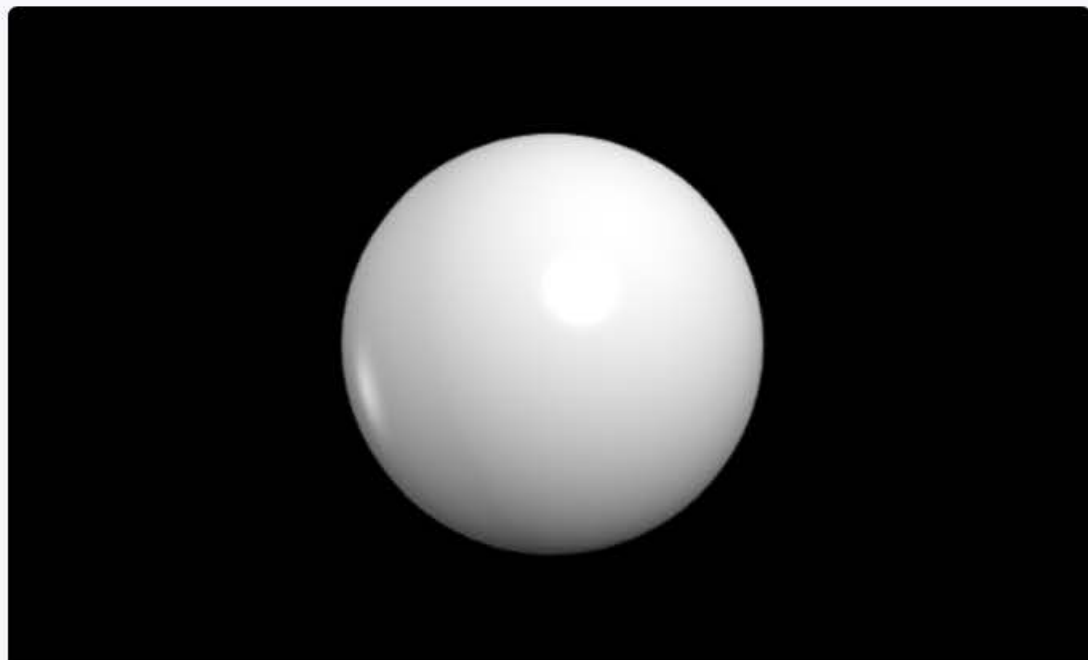


这一步可能不同的电脑会遇到不同的报错信息，如果不能顺利安装，查看一下报错信息，将报错信息复制到网上寻找解决方案。一般遇到的情况如下：pip更新失败或者下载vpython失败，可能是服务器在国外，可以用镜像网站，可以参考如下或其他相关网址：<https://cloud.tencent.com/developer/article/1742030>（也可以找其他镜像网站）

3.在电脑开始界面中，你会找到跟python一起出现的shell，打开，输入`from vpython import*`，换行，再输入`sphere()`，如果出现如下画面，说明安装一切正常，可以正式开始使用vpython库了。

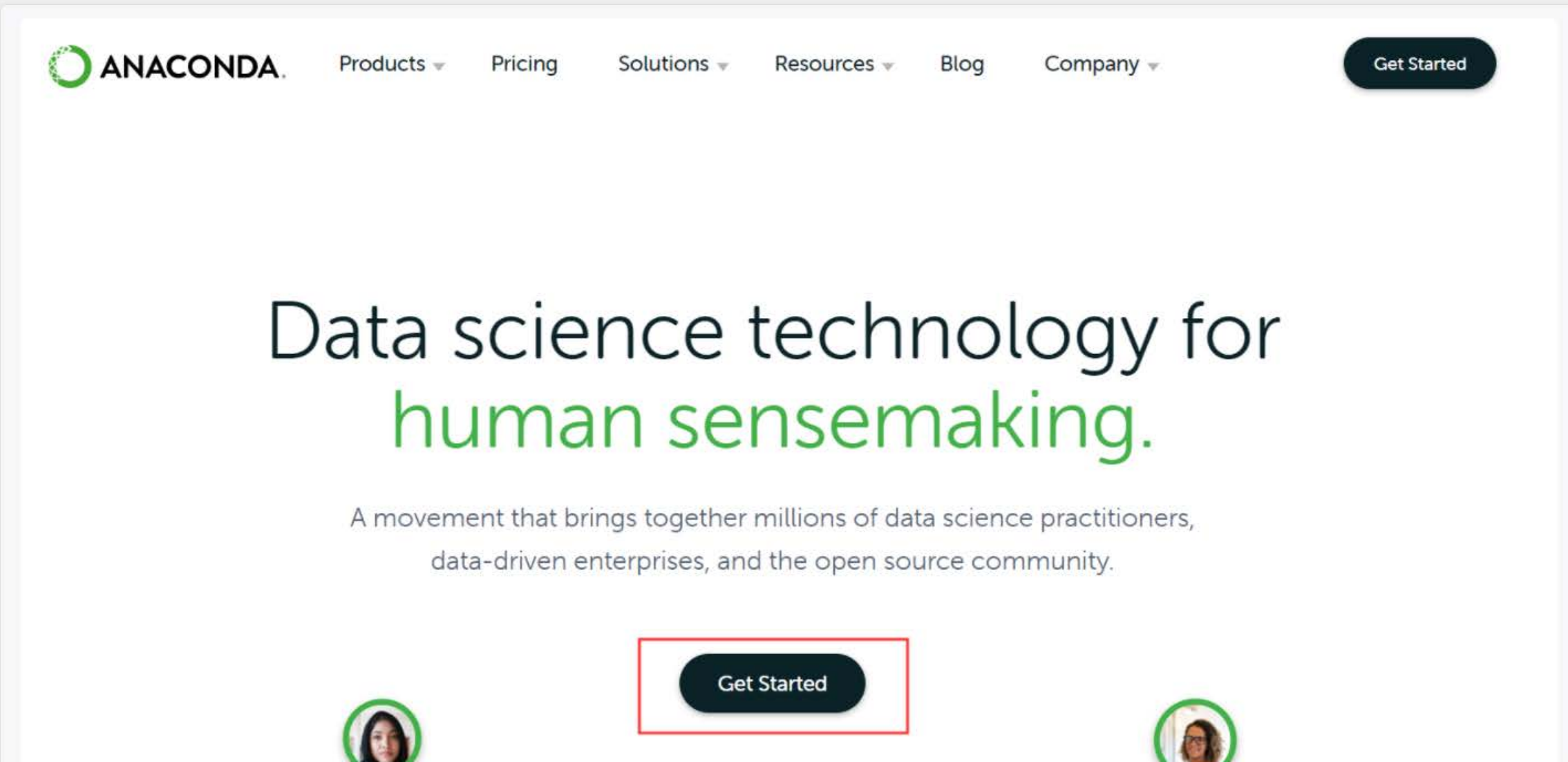
```
from vpython import*  
sphere()
```

效果图如图所示：



方法二:

1、打开网址: <https://www.anaconda.com/>, 安装anaconda, 安装过程中注意添加到环境变量。

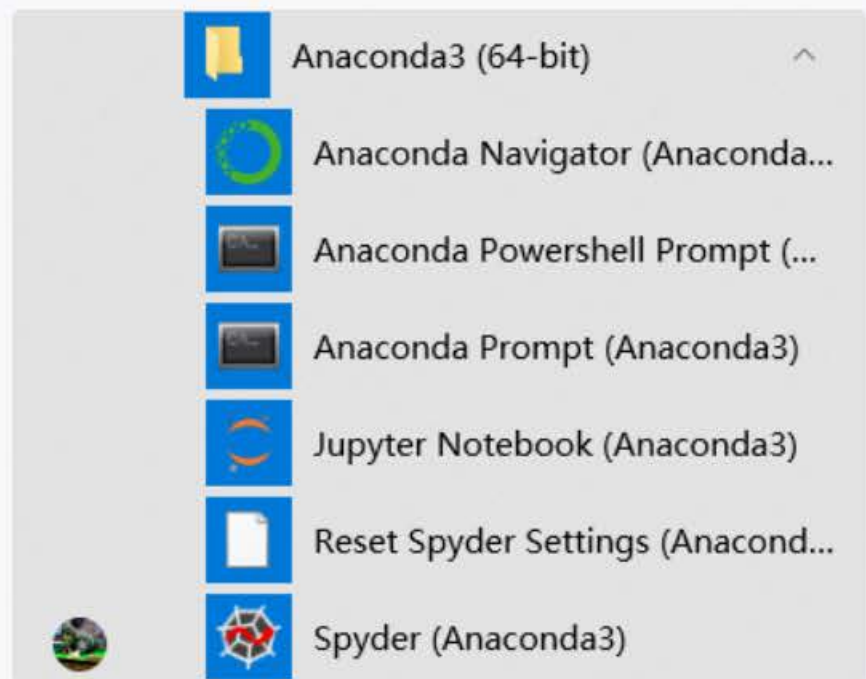


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Request an Anaconda demo

Download Anaconda installers

2.在开始菜单中，点击Anaconda Prompt，如下图





3.在打开的界面中输入`pip install vpython`, 如下图:

```
管理员: Anaconda Prompt (Anaconda3)

(base) C:\Users\Administrator>pip install vpython
Requirement already satisfied: vpython in d:\anaconda\anaconda3\lib\site-packages (7.6.1)
Requirement already satisfied: ipykernel in d:\anaconda\anaconda3\lib\site-packages (from vpython) (5.3.4)
Requirement already satisfied: jupyter-server-proxy in d:\anaconda\anaconda3\lib\site-packages (from vpython) (3.0.2)
Requirement already satisfied: autobahn in d:\anaconda\anaconda3\lib\site-packages (from vpython) (21.3.1)
Requirement already satisfied: numpy in d:\anaconda\anaconda3\lib\site-packages (from vpython) (1.20.1)
Requirement already satisfied: jupyter in d:\anaconda\anaconda3\lib\site-packages (from vpython) (1.0.0)
Requirement already satisfied: txaiorpc>=21.2.1 in d:\anaconda\anaconda3\lib\site-packages (from autobahn->vpython) (21.2.1)
Requirement already satisfied: hyperlink>=21.0.0 in d:\anaconda\anaconda3\lib\site-packages (from autobahn->vpython) (21.0.0)
Requirement already satisfied: cryptography>=3.4.6 in d:\anaconda\anaconda3\lib\site-packages (from autobahn->vpython) (3.4.7)
Requirement already satisfied: cffi>=1.12 in d:\anaconda\anaconda3\lib\site-packages (from cryptography>=3.4.6->autobahn->vpython) (1.14.5)
Requirement already satisfied: pycparser in d:\anaconda\anaconda3\lib\site-packages (from cffi>=1.12->cryptography>=3.4.6->autobahn->vpython) (2.20)
Requirement already satisfied: idna>=2.5 in d:\anaconda\anaconda3\lib\site-packages (from hyperlink>=21.0.0->autobahn->vpython) (2.10)
Requirement already satisfied: tornado>=4.2 in d:\anaconda\anaconda3\lib\site-packages (from ipykernel->vpython) (6.1)
Requirement already satisfied: ipython>=5.0.0 in d:\anaconda\anaconda3\lib\site-packages (from ipykernel->vpython) (7.22.0)
Requirement already satisfied: traitlets>=4.1.0 in d:\anaconda\anaconda3\lib\site-packages (from ipykernel->vpython) (5.0.5)
Requirement already satisfied: jupyter-client in d:\anaconda\anaconda3\lib\site-packages (from ipykernel->vpython) (6.1.12)
Requirement already satisfied: pickleshare in d:\anaconda\anaconda3\lib\site-packages (from ipython>=5.0.0->ipykernel->vpython) (0.7.5)
Requirement already satisfied: prompt-toolkit!=3.0.0,!=3.0.1,<3.1.0,>=2.0.0 in d:\anaconda\anaconda3\lib\site-packages (from ipython>=5.0.0->ipykernel->vpython) (3.0.2)
```

4.检查vpython是否安装成功, 继续输入`pip list`, 如下图:

```
管理员: Anaconda Prompt (Anaconda3)
```

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4.检查vpython是否安装成功,继续输入pip list,如下图:

管理员: Anaconda Prompt (Anaconda3)

```
(base) C:\Users\Administrator>pip list
Package            Version
-----
aiohttp            3.7.4.post0
alabaster          0.7.12
anaconda-client    1.7.2
anaconda-navigator 2.0.3
anaconda-project   0.9.1
anyio              2.2.0
appdirs           1.4.4
argh               0.26.2
argon2-cffi        20.1.0
asn1crypto         1.4.0
astroid            2.5
astropy            4.2.1
async-generator    1.10
async-timeout      3.0.1
atomicwrites       1.4.0
attrs              20.3.0
autobahn           21.3.1
autopep8           1.5.6
Babel              2.9.0
backcall           0.2.0
backports.functools-lru-cache 1.6.4
backports.shutil-get-terminal-size 1.0.0
backports.tempfile 1.0
backports.weakref  1.0.post1
bcrypt             3.2.0
beautifulsoup4    4.9.3
bitarray           1.9.2
```

找到vpython,说明安装成功。

管理员: Anaconda Prompt (Anaconda3)

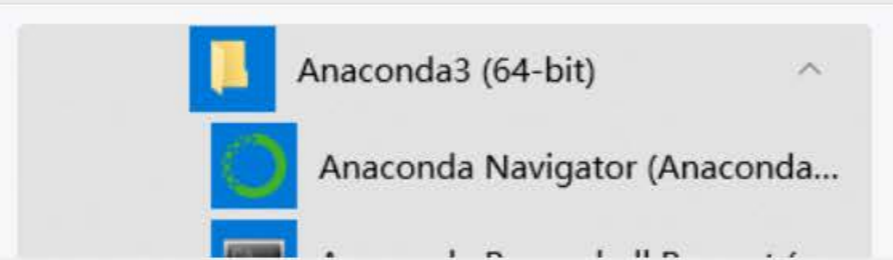
```
tifffile          2021.4.8
toml               0.10.2
toolz              0.11.1
```

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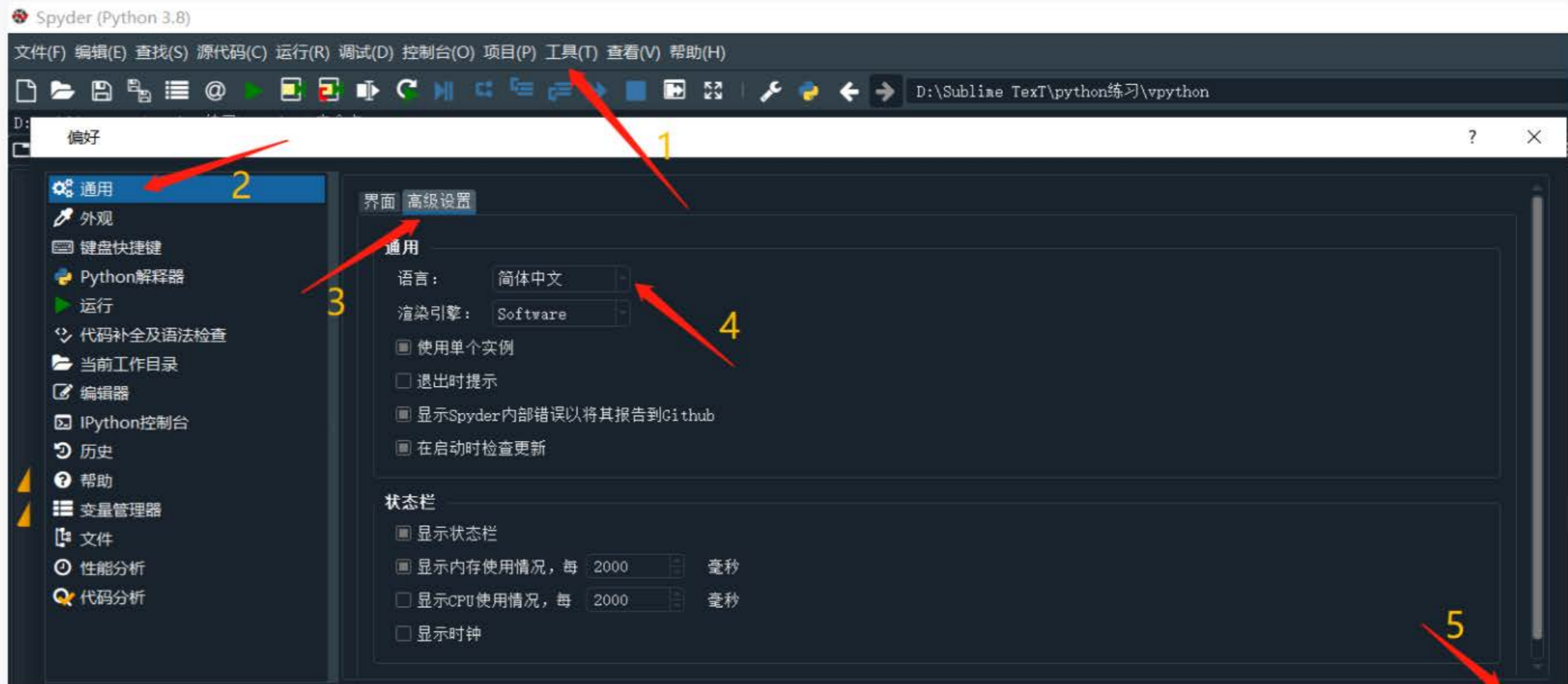
```
管理员: Anaconda Prompt (Anaconda3)
tiff file 2021.4.8
toml 0.10.2
toolz 0.11.1
tornado 6.1
tqdm 4.59.0
traitlets 5.0.5
txaio 21.2.1
typed-ast 1.4.2
typing-extensions 3.7.4.3
ujson 4.0.2
unicodcsv 0.14.1
urllib3 1.26.4
vpython 7.6.1
watchdog 1.0.2
wcwidth 0.2.5
webencodings 0.5.1
Werkzeug 1.0.1
wheel 0.36.2
widgetsnextension 3.5.1
win-inet-pton 1.1.0
win-unicode-console 0.5
wincertstore 0.2
wrap 1.12.1
xlrd 2.0.1
XlsxWriter 1.3.8
xlwings 0.23.0
xlwt 1.3.0
xmldict 0.12.0
yapf 0.31.0
yarl 1.6.3
```

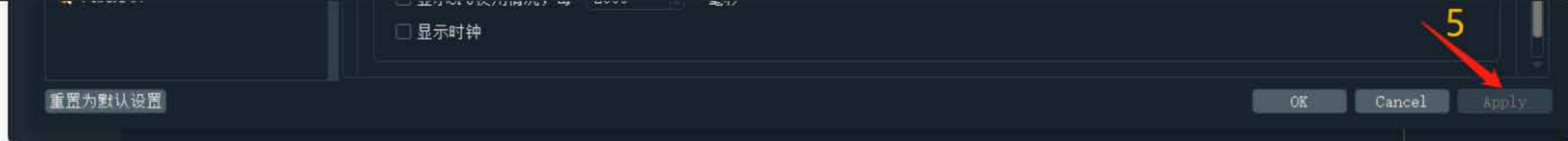
5.点击开始菜单，找到Spyder编辑器：



- Reset Spyder Settings (Anacond...
- Spyder (Anaconda3)

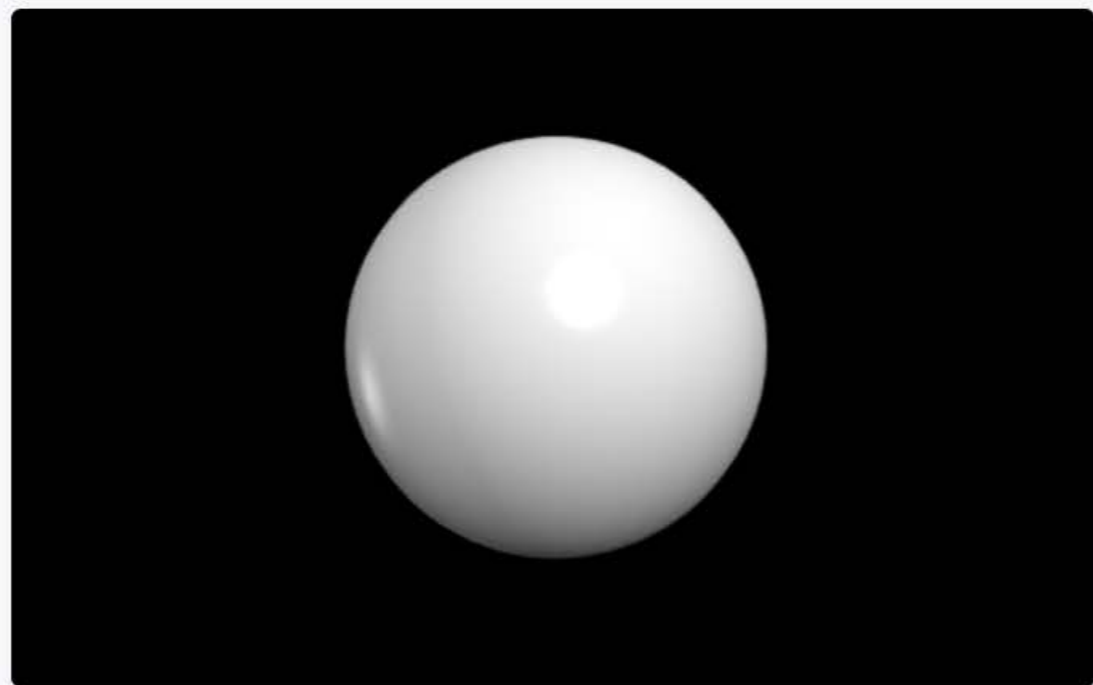
6, 简单设置一下编辑器, 比如将其变为中文:





更多设置，可以网上找相关教程。

7, 在spyder中界面中输入`from vpython import*`, 换行, 输入`sphere()`, 见到如下画面说明安装成功:



本教程使用方法二安装，使用spyder写程序。