

# 1. Introduction



《Python程序设计》 / 教师：罗志一

School of Computer Science and Technology  
计算机科学与技术学院



# 概览

---

- 开发工具
- 环境配置
- 动手试试



# 工具1: IDLE

## ● 下载并安装Python

- <https://www.python.org/downloads/>





## Active Python Releases

For more information visit the [Python Developer's Guide](#).

Python version	Maintenance status	First released	End of support	Release schedule
3.12	<a href="#">prerelease</a>	2023-10-02 (planned)	2028-10	<a href="#">PEP 693</a>
3.11	bugfix	2022-10-24	2027-10	<a href="#">PEP 664</a>
3.10	security	2021-10-04	2026-10	<a href="#">PEP 619</a>
3.9	security	2020-10-05	2025-10	<a href="#">PEP 596</a>
3.8	security	2019-10-14	2024-10	<a href="#">PEP 569</a>

## Looking for a specific release?

Python releases by version number:

Release version	Release date	Click for more	
<a href="#">Python 3.11.5</a>	Aug. 24, 2023	<a href="#">Download</a>	<a href="#">Release Notes</a>
<a href="#">Python 3.10.13</a>	Aug. 24, 2023	<a href="#">Download</a>	<a href="#">Release Notes</a>
<a href="#">Python 3.9.18</a>	Aug. 24, 2023	<a href="#">Download</a>	<a href="#">Release Notes</a>
<a href="#">Python 3.8.18</a>	Aug. 24, 2023	<a href="#">Download</a>	<a href="#">Release Notes</a>
<a href="#">Python 3.10.12</a>	June 6, 2023	<a href="#">Download</a>	<a href="#">Release Notes</a>
<a href="#">Python 3.11.4</a>	June 6, 2023	<a href="#">Download</a>	<a href="#">Release Notes</a>
<a href="#">Python 3.11.3</a>	June 6, 2023	<a href="#">Download</a>	<a href="#">Release Notes</a>

[View older releases](#)



## Active Python Releases

For more information visit the [Python Developer's Guide](#).

Python version	Maintenance status	First released	End of support	Release schedule
3.12	<a href="#">prerelease</a>	2023-10-02 (planned)	2028-10	<a href="#">PEP 693</a>
3.11	bugfix	2022-10-24	2027-10	<a href="#">PEP 664</a>
3.10	security	2021-10-04	2026-10	<a href="#">PEP 619</a>
3.9	security	2020-10-05	2025-10	<a href="#">PEP 596</a>
3.8	security	2019-10-14	2024-10	<a href="#">PEP 569</a>

## Looking for a specific release?

Python releases by version number:

Release version	Release date		Click for more
<a href="#">Python 3.11.5</a>	Aug. 24, 2023	<a href="#">Download</a>	<a href="#">Release Notes</a>
<a href="#">Python 3.10.13</a>	Aug. 24, 2023	<a href="#">Download</a>	<a href="#">Release Notes</a>
<a href="#">Python 3.9.18</a>	Aug. 24, 2023	<a href="#">Download</a>	<a href="#">Release Notes</a>
<a href="#">Python 3.8.18</a>	Aug. 24, 2023	<a href="#">Download</a>	<a href="#">Release Notes</a>
<a href="#">Python 3.10.12</a>	June 6, 2023	<a href="#">Download</a>	<a href="#">Release Notes</a>
<a href="#">Python 3.11.4</a>	June 6, 2023	<a href="#">Download</a>	<a href="#">Release Notes</a>

[View older releases](#)



# 工具1: IDLE

- 安装Python
  - Windows x86 MSI installer (32-bit)
  - Windows x86-64 MSI installer (64-bit)

## Files

Version	Operating System	Description	MD5 Sum	File Size	GPG	<a href="#">Sigstore</a>
<a href="#">Gzipped source tarball</a>	Source release		b628f21aae5e2c3006a12380905bb640	26571003	<a href="#">SIG</a>	<a href="#">.sigstore</a>
<a href="#">XZ compressed source tarball</a>	Source release		393856f1b7713aa8bba4b642ab9985d3	20053580	<a href="#">SIG</a>	<a href="#">.sigstore</a>
<a href="#">macOS 64-bit universal2 installer</a>	macOS	for macOS 10.9 and later	7a24f8b4eeca34899b7d75caaec3bc73	44239554	<a href="#">SIG</a>	<a href="#">.sigstore</a>
<a href="#">Windows embeddable package (32-bit)</a>	Windows		add17856887d34c04a9cfd6c051c4bea	10053367	<a href="#">SIG</a>	<a href="#">.sigstore</a>
<a href="#">Windows embeddable package (64-bit)</a>	Windows		c5e83dc45630df2236720a18170bf941	11170359	<a href="#">SIG</a>	<a href="#">.sigstore</a>
<a href="#">Windows embeddable package (ARM64)</a>	Windows		8fc7d74daf27882f2a32a1b10c3a3a2c	10428395	<a href="#">SIG</a>	<a href="#">.sigstore</a>
<a href="#">Windows installer (32 -bit)</a>	Windows		ac8e48a759a6222ce9332691568fe67a	24662424	<a href="#">SIG</a>	<a href="#">.sigstore</a>
<a href="#">Windows installer (64-bit)</a>	Windows	Recommended	3afd5b0ba1549f5b9a90c1e3aa8f041e	25932664	<a href="#">SIG</a>	<a href="#">.sigstore</a>
<a href="#">Windows installer (ARM64)</a>	Windows	Experimental	cd2bfd6bb39a6c84dbf9d1615b9f53b5	25197192	<a href="#">SIG</a>	<a href="#">.sigstore</a>



## 工具2: Pycharm

### ● 下载并安装Pycharm

- <https://www.jetbrains.com/zh-cn/pycharm/download/>



版本: 2022.2.1  
生成: 222.3739.56  
2022年8月17日

[系统要求](#)

[安装说明](#)

[其他版本](#)

[第三方软件](#)

### 下载 PyCharm

Windows macOS Linux

#### Professional

适用于科学和 Web Python 开发。支持 HTML、JS 和 SQL。

下载

.dmg (Intel) ▼

可免费试用 30 天

#### Community

适用于纯 Python 开发

下载

.dmg (Intel) ▼

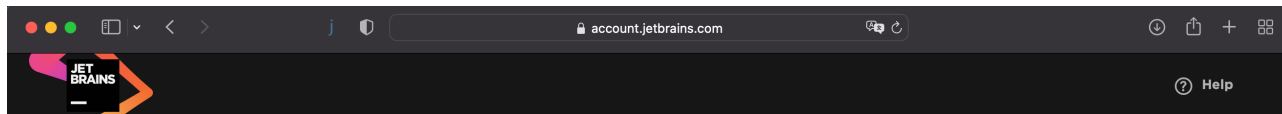
免费, 开源

**i** 选择适用于 Intel 或 Apple Silicon 的安装程序



## 工具2: Pycharm

### 用学校邮箱注册JetBrains账户并登录



#### Welcome to JetBrains Account



**Access your purchases**  
and view your order history



**Identify expired and outdated licenses,**  
order new licenses and upgrades



**Manage your company licenses**  
and distribute them to end users

**Sign in with existing account**

Email address or Username

Password

**Sign In** [Forgot password?](#)

Or sign in with:

Google

**Not registered yet?**

**Create JetBrains Account**

Your email address

**Sign Up**





## 工具2: Pycharm

### ● 申请免费的学生或教师license

2. 第二年license到期,  
申请新的license。

更早 (4)

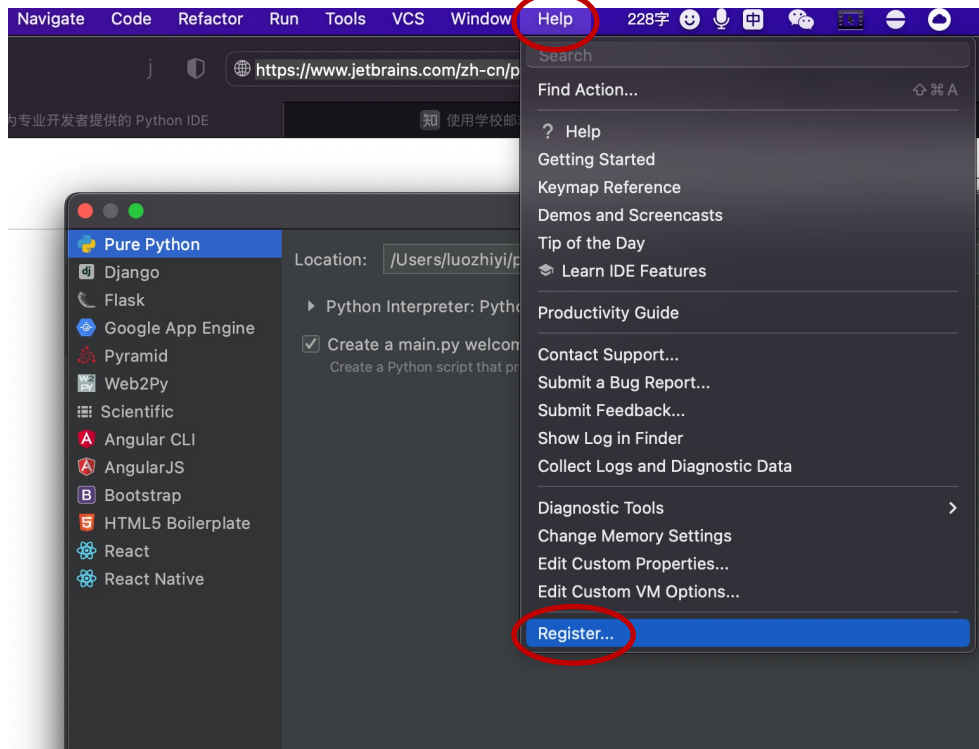
<input type="checkbox"/>	JetBrains Sales		[收件箱] License Certificate for your <b>JetBrains</b> Educational Pack / Order D375986090 ...Please use your <b>JetBrains</b> Account to access <b>JetBrains</b> ...	5月25日
<input type="checkbox"/>	JetBrains Account		[收件箱] <b>JetBrains</b> Educational Pack confirmation ...Kind Regards, The <b>JetBrains</b> team <a href="http://www.jetbrains.com">www.jetbrains.com</a> ...	5月25日
<input type="checkbox"/>	JetBrains Sales		[收件箱] License Certificate for your <b>JetBrains</b> Educational Pack / Order D374028785 ...Kind Regards, The <b>JetBrains</b> team <a href="http://www.jetbrains.com">www.jetbrains.com</a> ...	2021-05-26
<input type="checkbox"/>	JetBrains Account		[收件箱] <b>JetBrains</b> Educational Pack confirmation ...Kind Regards, The <b>JetBrains</b> team <a href="http://www.jetbrains.com">www.jetbrains.com</a> ...	2021-05-26

1. 首次申请license,  
有效期一年。



## 工具2: Pycharm

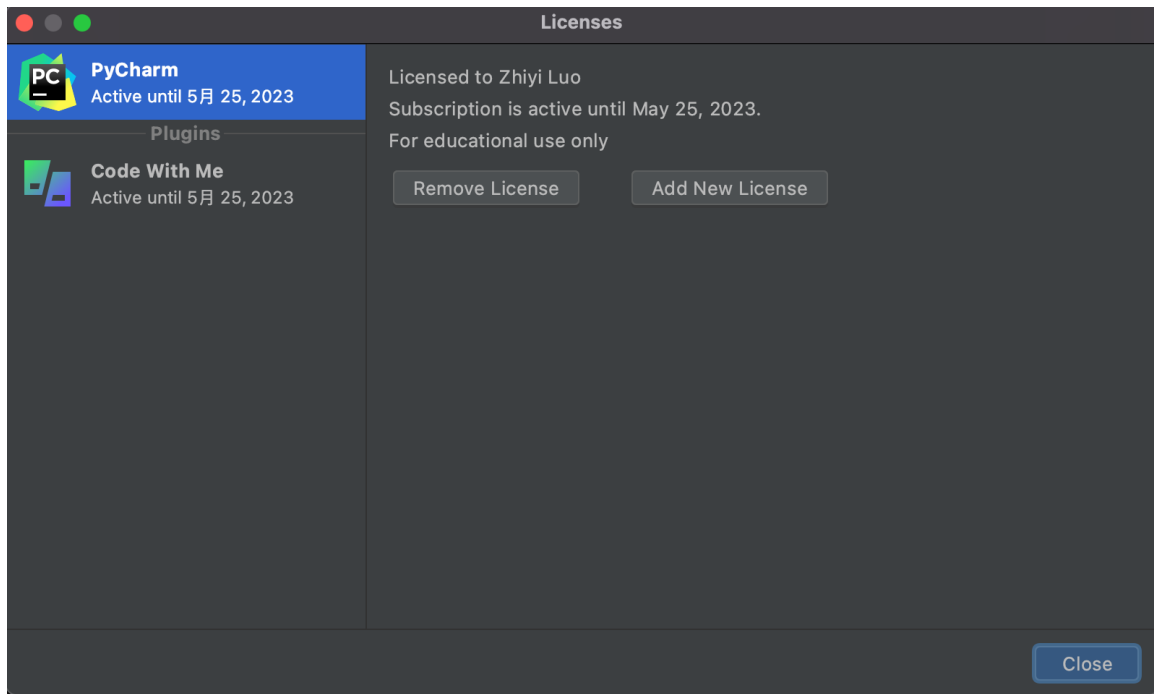
### 用申请到的license激活Pycharm





## 工具2: Pycharm

### 用申请到的license激活Pycharm





# 环境配置: Anaconda

## 🕒 下载Anaconda Installer

- 官方下载链接:

<https://www.anaconda.com/products/distribution>



ANACONDA

Products ▾

Pricing

Solutions ▾

Resources ▾

Partners ▾

Blog

Company ▾

Contact Sales

Individual Edition is now

## ANACONDA DISTRIBUTION

The world's most popular open-source Python distribution platform

浏览器会根据当前使用的操作系统为你推荐安装文件，点击“Download”下载即可。





## 环境配置: Anaconda

### ◎ 从清华大学镜像下载Anaconda

- 如果安装包下载速度过慢，可以使用Anaconda国内源（例如：清华大学镜像）进行下载。
- Anaconda清华源的下载列表链接为：  
<https://mirrors.tuna.tsinghua.edu.cn/anaconda/archive/>



# 环境配置: Anaconda

## 从清华大学镜像下载Anaconda

The screenshot shows the 'mirrors.tuna.tsinghua.edu.cn' website. The page title is '清华大学开源软件镜像站' (Tsinghua University Open Source Software Mirror). The navigation bar includes links for HOME, EVENTS, BLOG, RSS, PODCAST, and MIRRORS. The main content area is titled 'Index of /anaconda/archive/' and shows a list of files with columns for File Name, File Size, and Date. The last update is noted as 2022-09-01 05:51.

File Name ↓	File Size ↓	Date ↓
Parent directory/	-	-
Anaconda3-2022.05-MacOSX-arm64.sh	304.8 MiB	2022-06-08 01:42
Anaconda3-2022.05-MacOSX-arm64.pkg	316.4 MiB	2022-06-08 01:42
Anaconda3-2022.05-Windows-x86.exe	487.8 MiB	2022-05-11 02:36
Anaconda3-2022.05-Windows-x86_64.exe	593.9 MiB	2022-05-11 02:36
Anaconda3-2022.05-MacOSX-x86_64.sh	584.0 MiB	2022-05-11 02:36
Anaconda3-2022.05-MacOSX-x86_64.pkg	591.0 MiB	2022-05-11 02:36
Anaconda3-2022.05-Linux-x86_64.sh	658.8 MiB	2022-05-11 02:35
Anaconda3-2022.05-Linux-s390x.sh	279.8 MiB	2022-05-11 02:35
Anaconda3-2022.05-Linux-ppc64le.sh	367.3 MiB	2022-05-11 02:35
Anaconda3-2022.05-Linux-aarch64.sh	567.6 MiB	2022-05-11 02:35
Anaconda3-2021.11-Windows-x86_64.exe	510.3 MiB	2021-11-18 02:14



## 环境配置: Anaconda

- ◎ 从清华大学镜像下载Anaconda
  - 下载完成之后，双击安装包进行安装。



## 环境配置: Anaconda

### ◎ 从清华大学镜像下载Anaconda

#### ○ 使用帮助文档在:

<https://mirrors.tuna.tsinghua.edu.cn/help/anaconda/>

- 在用户目录下配置`condarc`文件
- macOS和Linux用户可直接在用户目录`/home/username`下创建`.condarc`文件，并写入配置内容。
- Windows用户无法直接创建名为`.condarc`的文件，可先执行`conda config --set show_channel_urls yes`命令生成该文件，再写入配置内容。





## 环境配置: Anaconda

### ● 创建Python虚拟环境

- `conda create -n <环境名称>`
- 例如, 可以使用如下命令将新建环境命名为`pycourse`, 并指定该环境的Python版本为3.9: `conda create -n pycourse python=3.9`

### ● 查看Anaconda中的所有虚拟环境

- `conda info --envs`

### ● 激活指定环境

- `conda activate <环境名称>`

### ● 退出当前激活的环境

- `conda deactivate`

如果.condarc中配置了清华源  
此处无需翻墙即可成功。

# 动手试试!





# 运行 Python

## ● 使用交互解释器

```
06:44:29 with luozhiyi in ~ via ©base  
→ python  
Python 3.8.5 (default, Sep 4 2020, 02:22:02)  
[Clang 10.0.0 ] :: Anaconda, Inc. on darwin  
Type "help", "copyright", "credits" or "license" for more information.  
>>> █
```



# 运行 Python

## ● 使用Python文件

创建并编写一个Python程序文件，并运行：

1. 打开文件编辑器
2. 键入文本 `print(61)`
3. 保存并将文件命名为 `61.py`.
4. 打开终端窗口
5. 输入以下命令运行python程序：  
`$ python 61.py`

你将会看到一行输出：61

# 将Python用作计算器





## 第一个例子: Hello World!

```
print('Hello World')
```



## 第一个例子: Hello World!

```
# Define a main() function that prints a little greeting.
```

```
def main():  
    print('Hello World')
```

```
main()
```



## 第一个例子: Hello World!

```
# Define a main() function that prints a little greeting.
```

```
def main():
```

```
    print('Hello World')
```

```
main()
```

缩进：四个空格





## 第一个例子: Hello World!

```
# Define a main() function that prints a little greeting.  
def main():  
    print('Hello World')  
  
# This is the standard boilerplate that calls the main() function.  
if __name__ == '__main__':  
    main()
```



# 第一个例子: Hello World!

```
import sys

# Define a main() function that prints a little greeting.
def main():
    # Get the name from the command line, using 'World' as a fallback.
    if len(sys.argv) >= 2:
        name = sys.argv[1]
    else:
        name = 'World'
    print('Hello', name)

# This is the standard boilerplate that calls the main() function.
if __name__ == '__main__':
    main()
```



# 第一个例子: Hello World!

```
import sys
```

```
# Define a main() function that prints a little greeting.
```

```
def main():
```

```
    # Get the name from the command line, using 'World' as a fallback.
```

```
    if len(sys.argv) >= 2:
```

```
        name = sys.argv[1]
```

```
    else:
```

```
        name = 'World'
```

```
    print('Hello', name)
```

此处应有多少空格?

```
# This is the standard boilerplate that calls the main() function.
```

```
if __name__ == '__main__':
```

```
    main()
```