

Python快速入门

嵩天

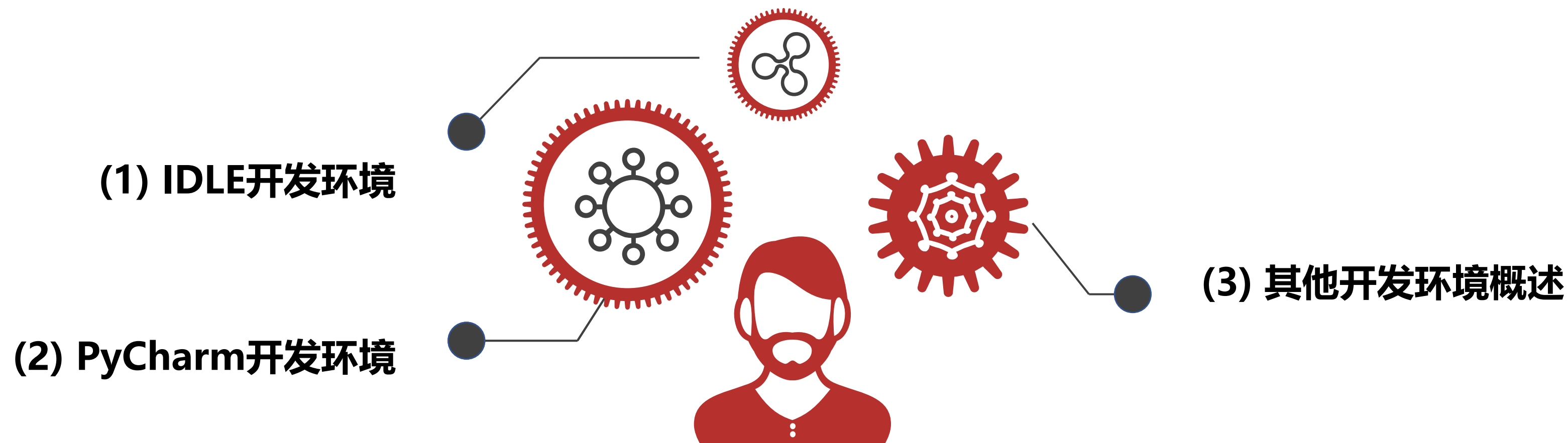
Python开发工具及环境配置

高天

Python开发工具及环 境配置

Python快速入门
单元开篇

单元开篇



Python开发工具及环境配置

单元开篇

目的：了解Python语言开发工具

掌握1-2种Python语言开发工具

- 1 知道 一批Python语言开发工具
- 2 掌握 IDLE和PyCharm集成开发环境

Python开发工具及环境配置

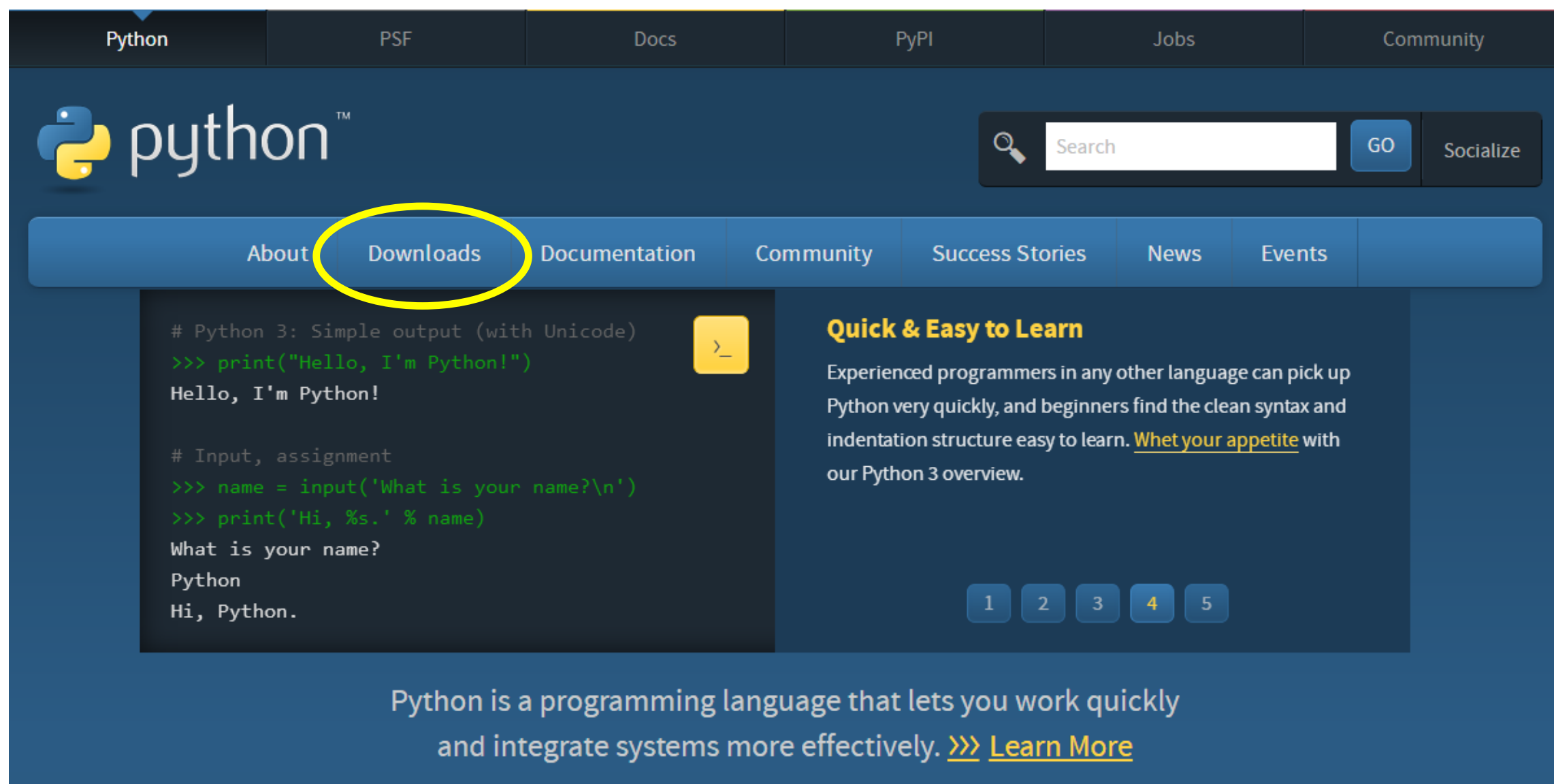


Python快速入门

IDLE开发工具

Python解释器安装

<http://www.python.org/>



Python解释器安装

<http://www.python.org/>

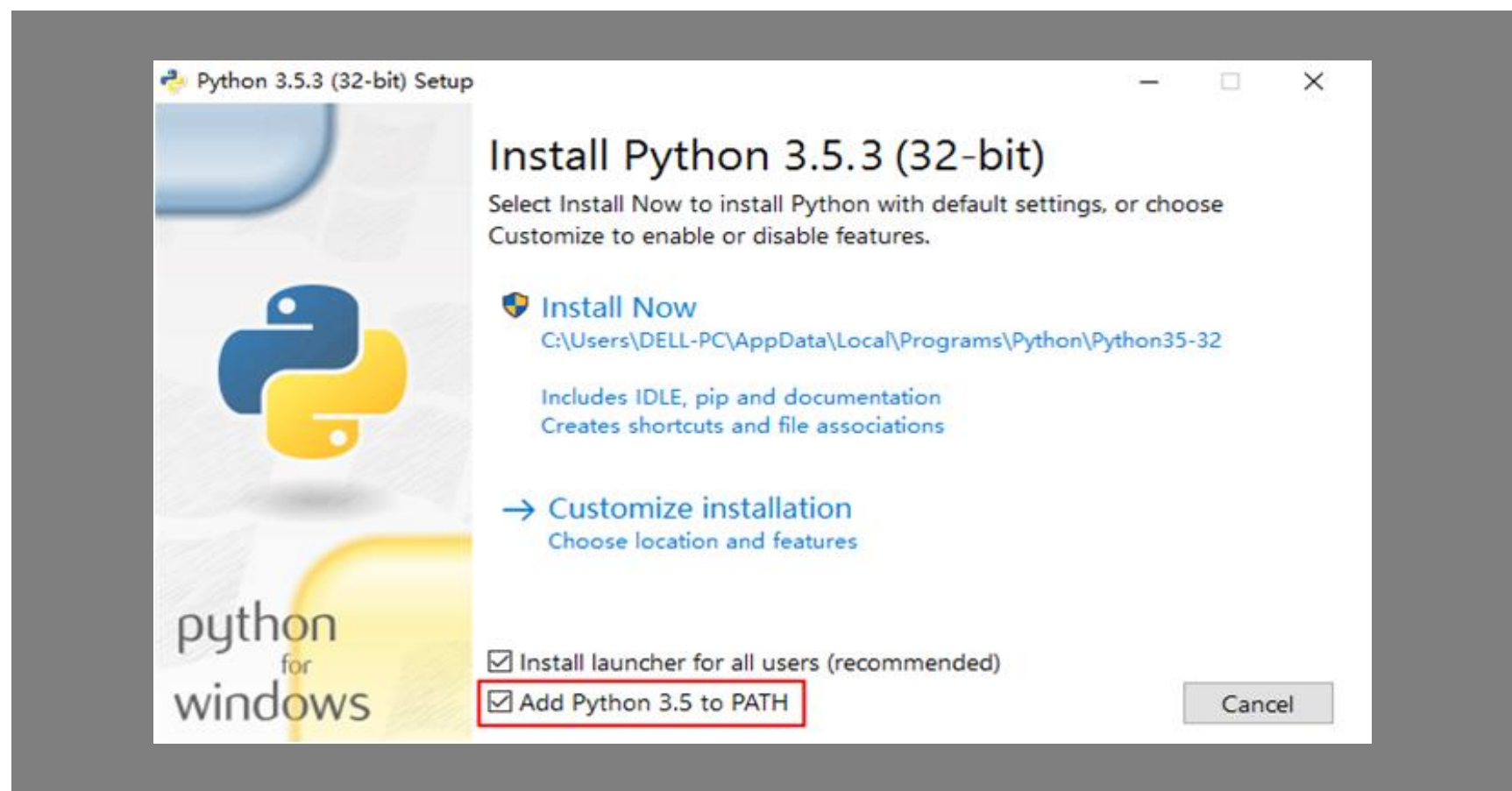
- [Python 3.6.5 - 2018-03-28](#)
 - [Download Windows x86 web-based installer](#)
 - [Download Windows x86 executable installer](#)
 - [Download Windows x86 embeddable zip file](#)
 - [Download Windows x86-64 web-based installer](#)
 - [Download Windows x86-64 executable installer](#)
 - [Download Windows x86-64 embeddable zip file](#)
 - [Download Windows help file](#)

- x86 32位Python解释器
- X86-64 64位Python解释器

务必安装3.5.3以上版本，不要安装2.x系列

Python解释器安装

安装过程

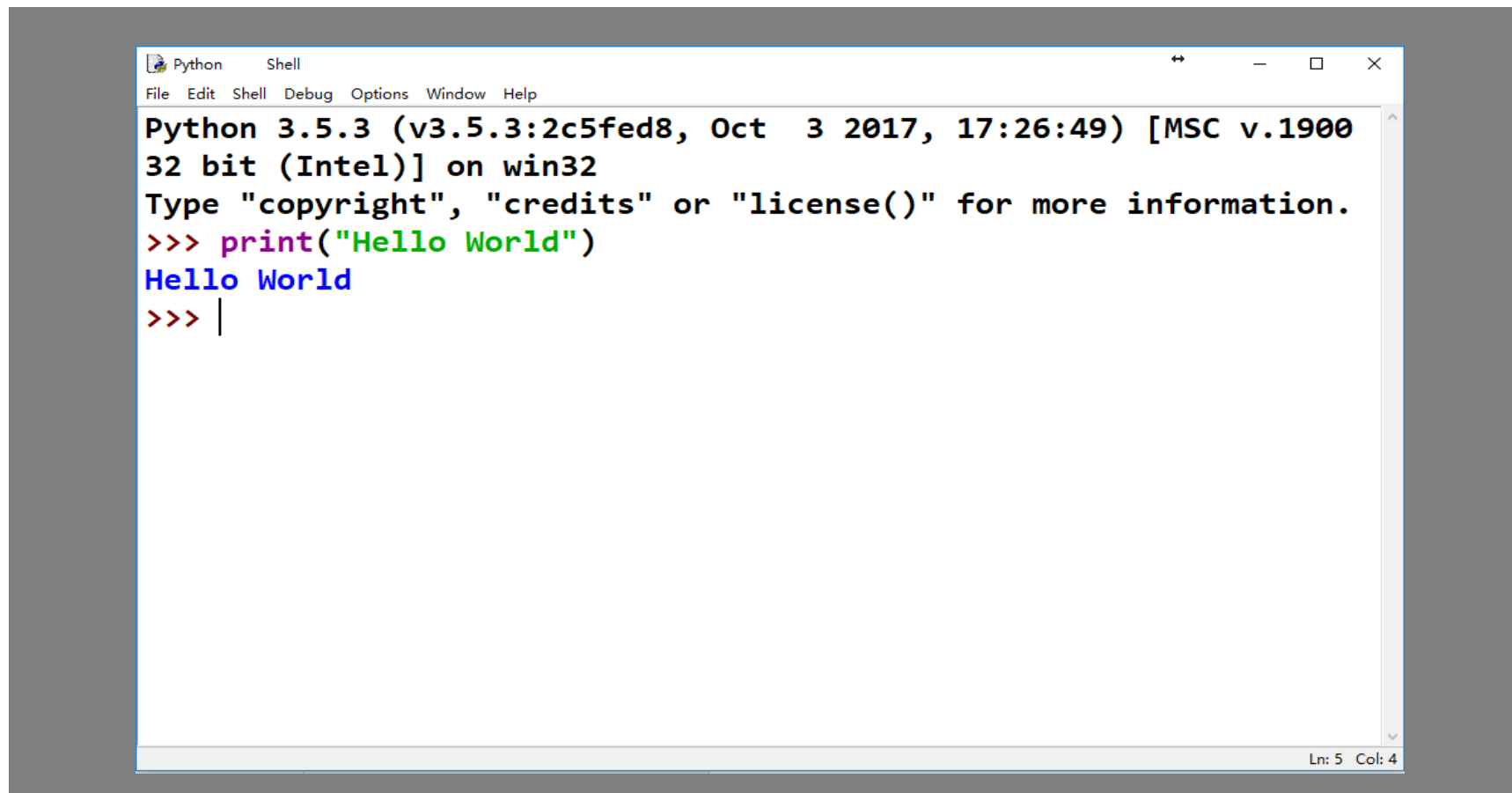


- 选中添加路径选项

务必安装3.5.3以上版本，不要安装2.x系列

IDLE开发环境

交互式环境

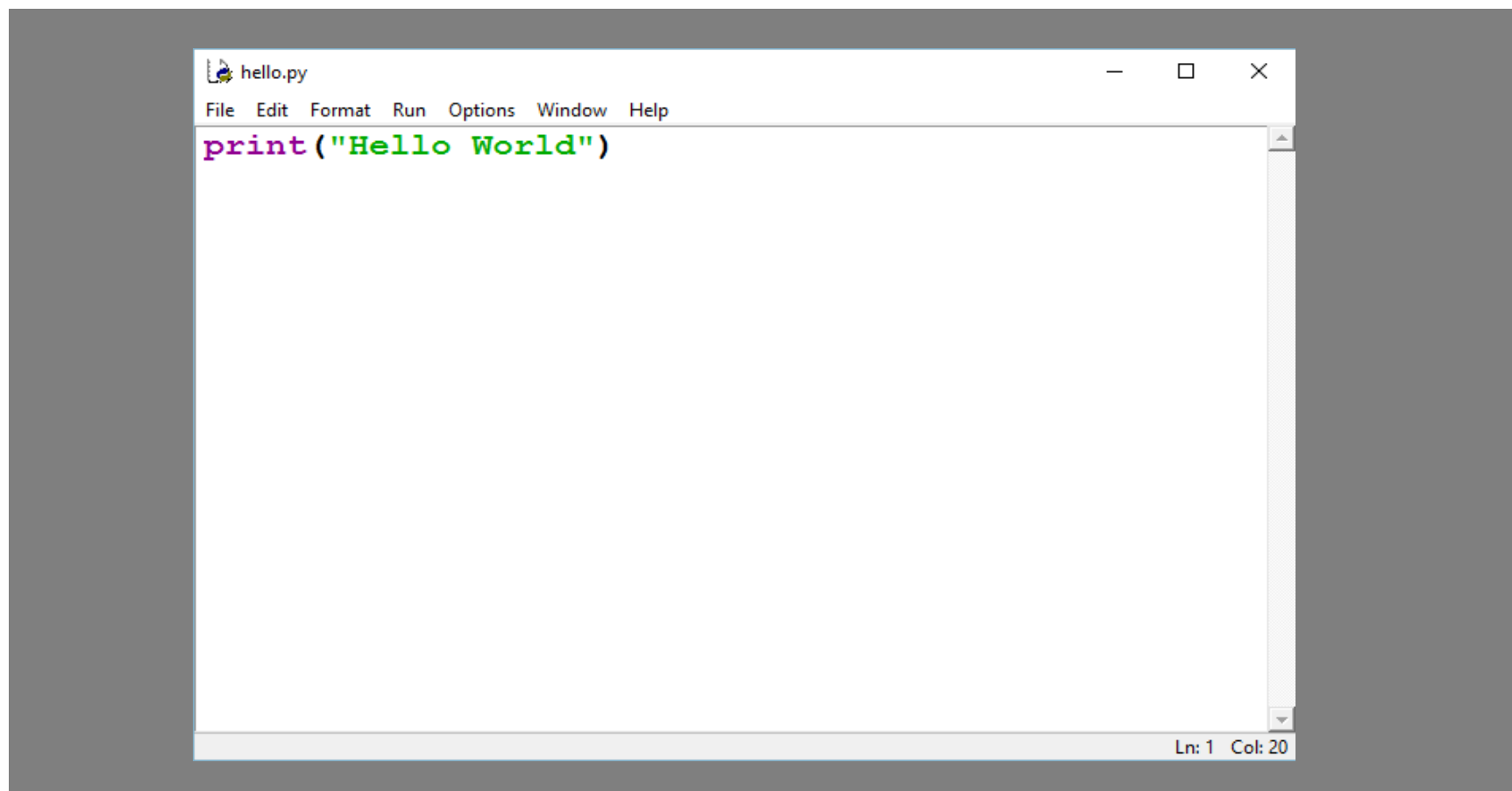


```
Python 3.5.3 (v3.5.3:2c5fed8, Oct 3 2017, 17:26:49) [MSC v.1900
32 bit (Intel)] on win32
Type "copyright", "credits" or "license()" for more information.
>>> print("Hello World")
Hello World
>>> |
```

- >>> 是交互式的提示符
- 每输入一行代码，运行相应结果

IDLE开发环境

文件式环境



- CTRL+N启动一个文本编辑器
- IDLE提供的Python文件式环境

快捷键

- CTRL + N: 在IDLE交互界面下, 用来启动IDLE编辑器
- CTRL + Q: 退出IDLE或IDLE编辑器
- ALT + 3: 在IDLE编辑器内, 注释选定区域文本
- ALT + 4: 在IDLE编辑器内, 解除注释选定区域文本
- ALT + Q: 在IDLE编辑器内, 将Python代码进行格式化布局
- F5: 在IDLE编辑器内, 执行Python程序

写段代码试一试

```
#SimpleTempConvert.py  
TempStr = input("请输入摄氏温度值: ")  
F = 1.8*eval(TempStr) + 32  
print("对应的华氏温度是{:.2f}F".format(F))
```



Python快速入门


PyCharm开 发工具

Pycharm工具安装


<https://www.jetbrains.com/pycharm>



Pycharm工具安装

**PyCharm**

Coming in 2017.1 What's New **2016.3** Features Docs & Demos Buy **Download**



Version: 2016.3.2
Build: 163.10154.50
Released: December 30, 2016

[System requirements](#)
[Installation Instructions](#)
[Previous versions](#)

Download PyCharm

[macOS](#) **Windows** [Linux](#)

Professional

Full-featured IDE for Python & Web development

DOWNLOAD


232 MB

Community

Lightweight IDE for Python & Scientific development

DOWNLOAD

179 MB

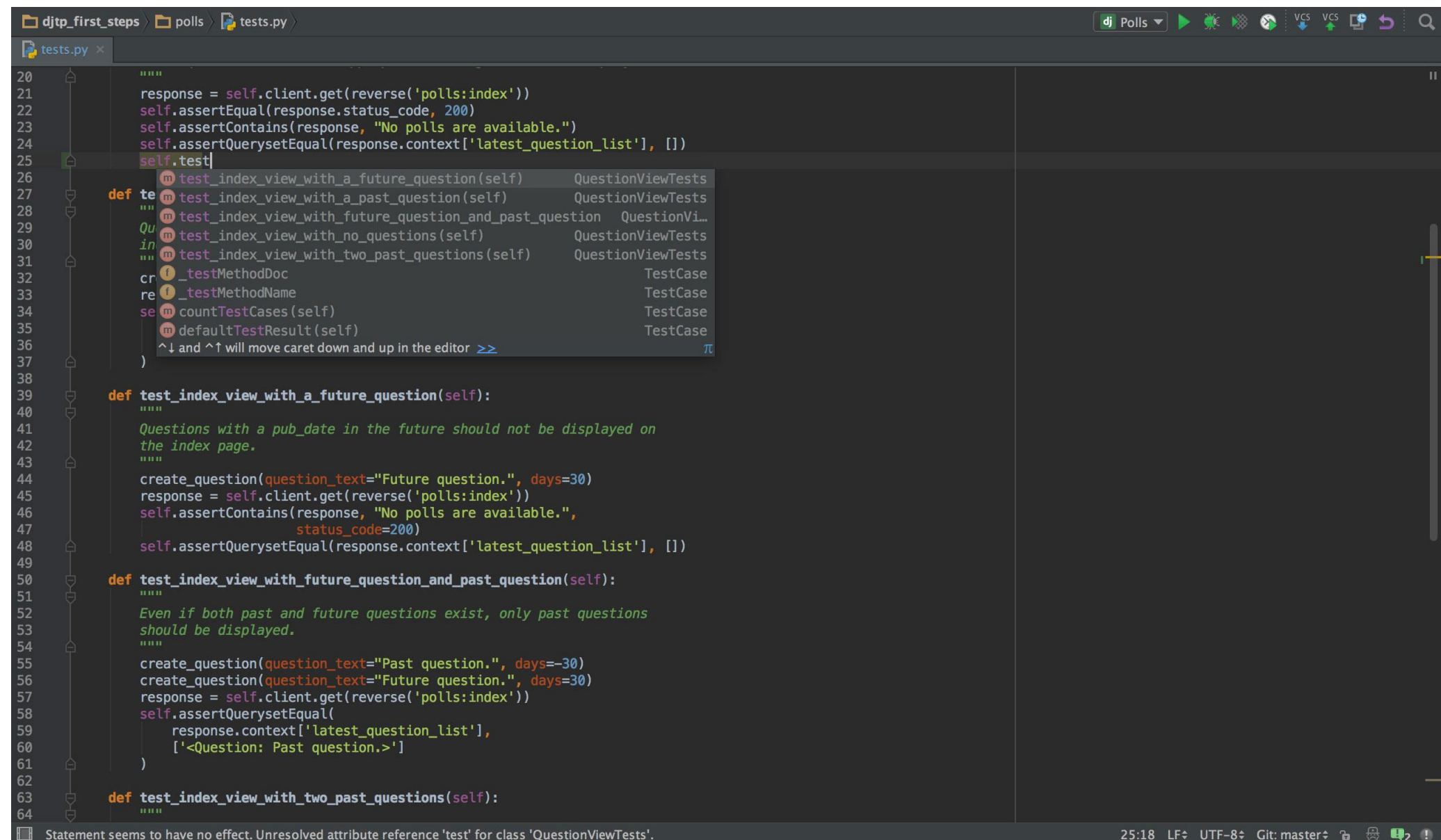


Get the **ToolBox App** to download PyCharm and its future updates with ease

免费、开源工具
需要预先安装
Python解释器

Pycharm开发工具

- ▣ 社区版免费
- ▣ 调试功能丰富
- ▣ 通用类Python开发
- ▣ 适合较复杂工程
- ▣ Win/Linux/Mac OS



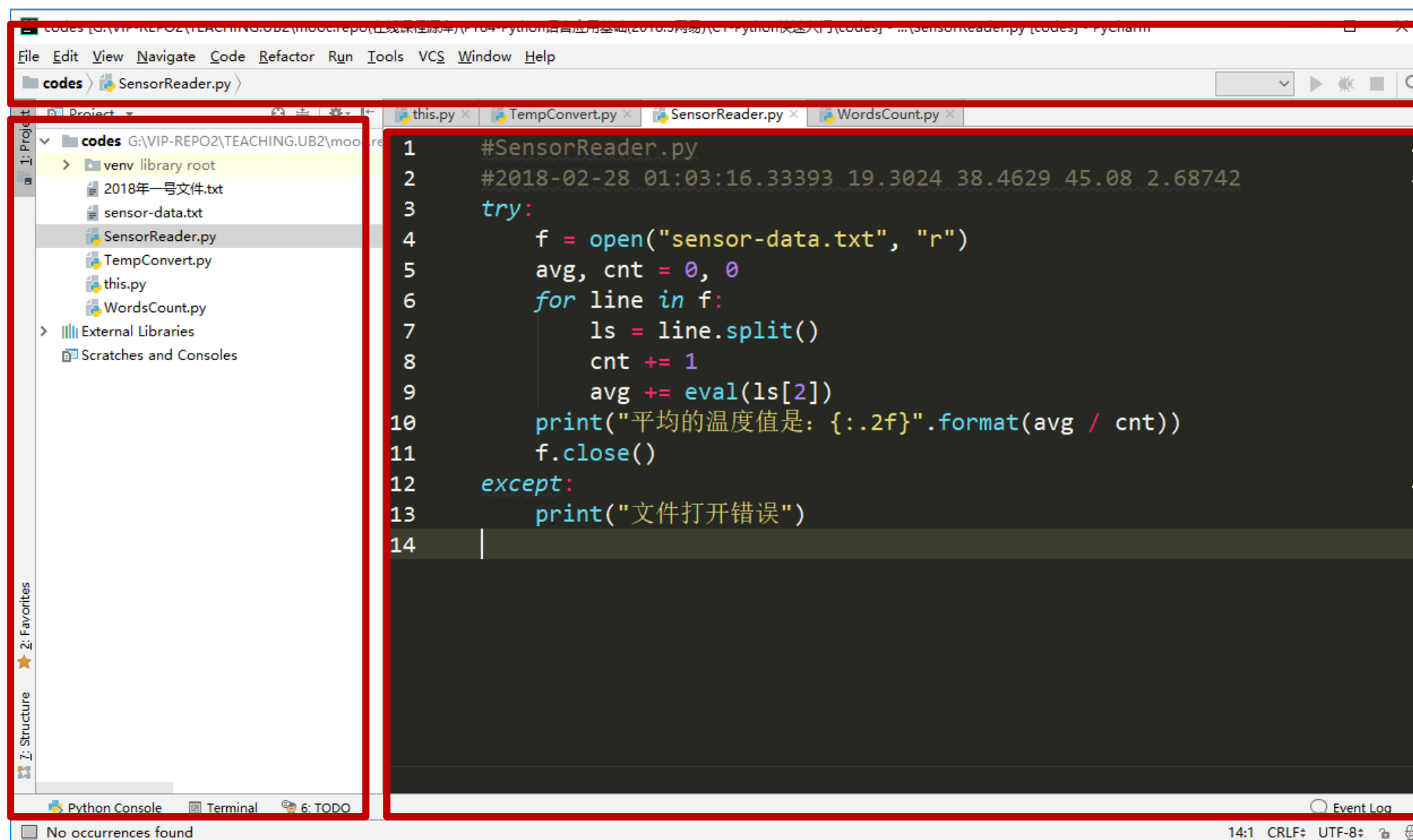
```
20
21
22 response = self.client.get(reverse('polls:index'))
23 self.assertEqual(response.status_code, 200)
24 self.assertContains(response, "No polls are available.")
25 self.assertQuerysetEqual(response.context['latest_question_list'], [])
26 self.test
27
28 def setUp(self):
29     """
30     """
31     self.create_question(question_text="Future question.", days=30)
32     self.create_question(question_text="Past question.", days=-30)
33     response = self.client.get(reverse('polls:index'))
34     self.assertQuerysetEqual(response.context['latest_question_list'], [])
35
36 def test_index_view_with_a_future_question(self):
37     """
38     Questions with a pub_date in the future should not be displayed on
39     the index page.
40     """
41     create_question(question_text="Future question.", days=30)
42     response = self.client.get(reverse('polls:index'))
43     self.assertContains(response, "No polls are available.",
44                        status_code=200)
45     self.assertQuerysetEqual(response.context['latest_question_list'], [])
46
47 def test_index_view_with_future_question_and_past_question(self):
48     """
49     Even if both past and future questions exist, only past questions
50     should be displayed.
51     """
52     create_question(question_text="Past question.", days=-30)
53     create_question(question_text="Future question.", days=30)
54     response = self.client.get(reverse('polls:index'))
55     self.assertQuerysetEqual(
56         response.context['latest_question_list'],
57         ['<Question: Past question.>']
58     )
59
60 def test_index_view_with_two_past_questions(self):
61     """
62     """
63
64
```

Pycharm开发工具

工程导航

工具菜单

代码编写



哪些人适合用IDE（集成开发环境）？

- 专业程序员
- 致力于成为专业程序员的学习者
- 编程代码量一般超过100行
- 编程初学者、入门学习者，请用IDLE



Python快速入门

其他开发工具 概述

其他开发工具概述

文本工具类

- Notepad++
- Vim & Emacs
- Sublime Text
- Atom
- Komodo Edit

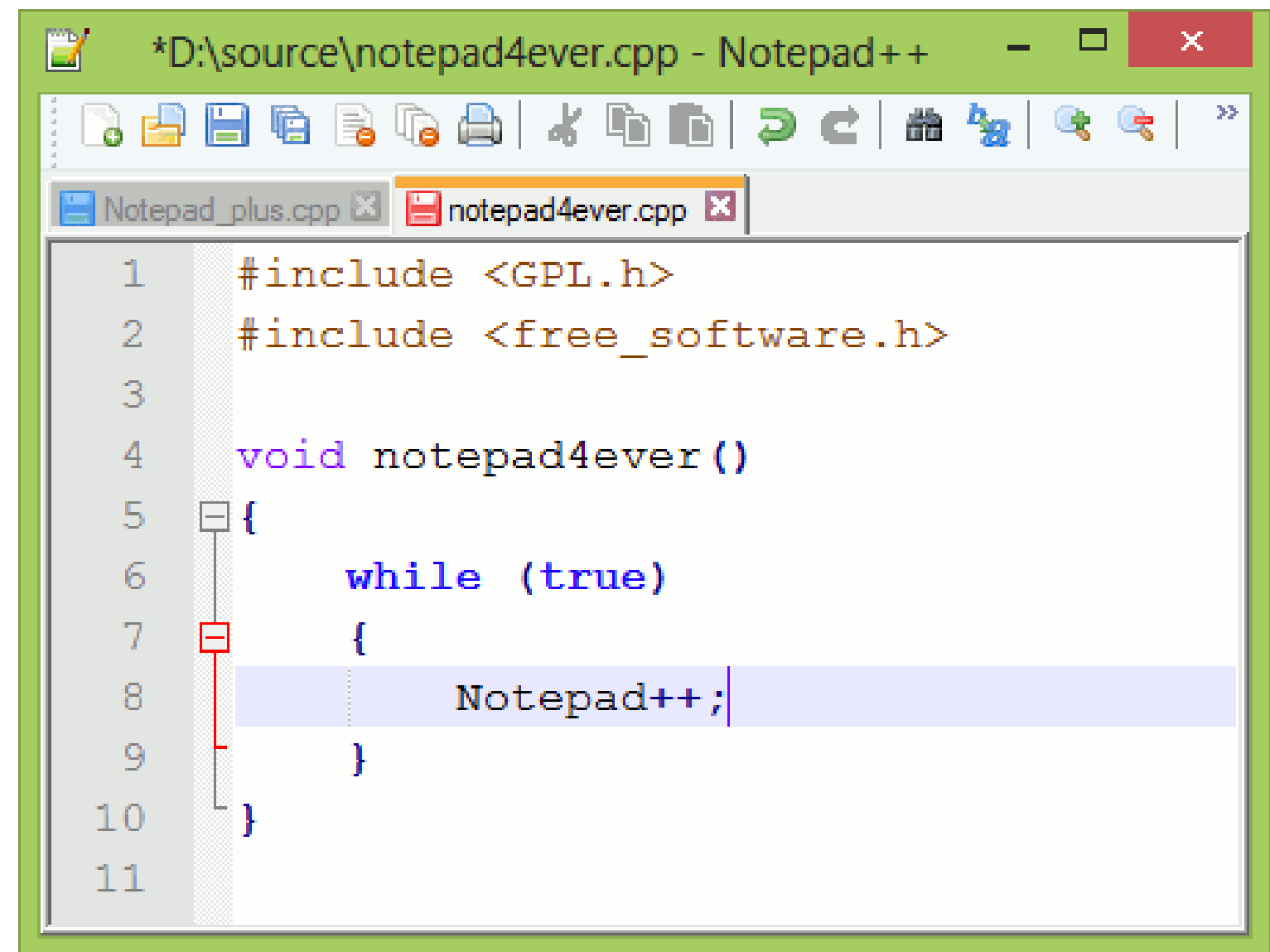
集成工具类

- Wing
- PyDev & Eclipse
- Visual Studio
- Visual Studio Code
- Anaconda & Spyder

Notepad++

<https://notepad-plus-plus.org>

- 轻巧的文本编辑器
- 免费使用
- 适合各类编程语言
- 适合专业程序员
- Win为主

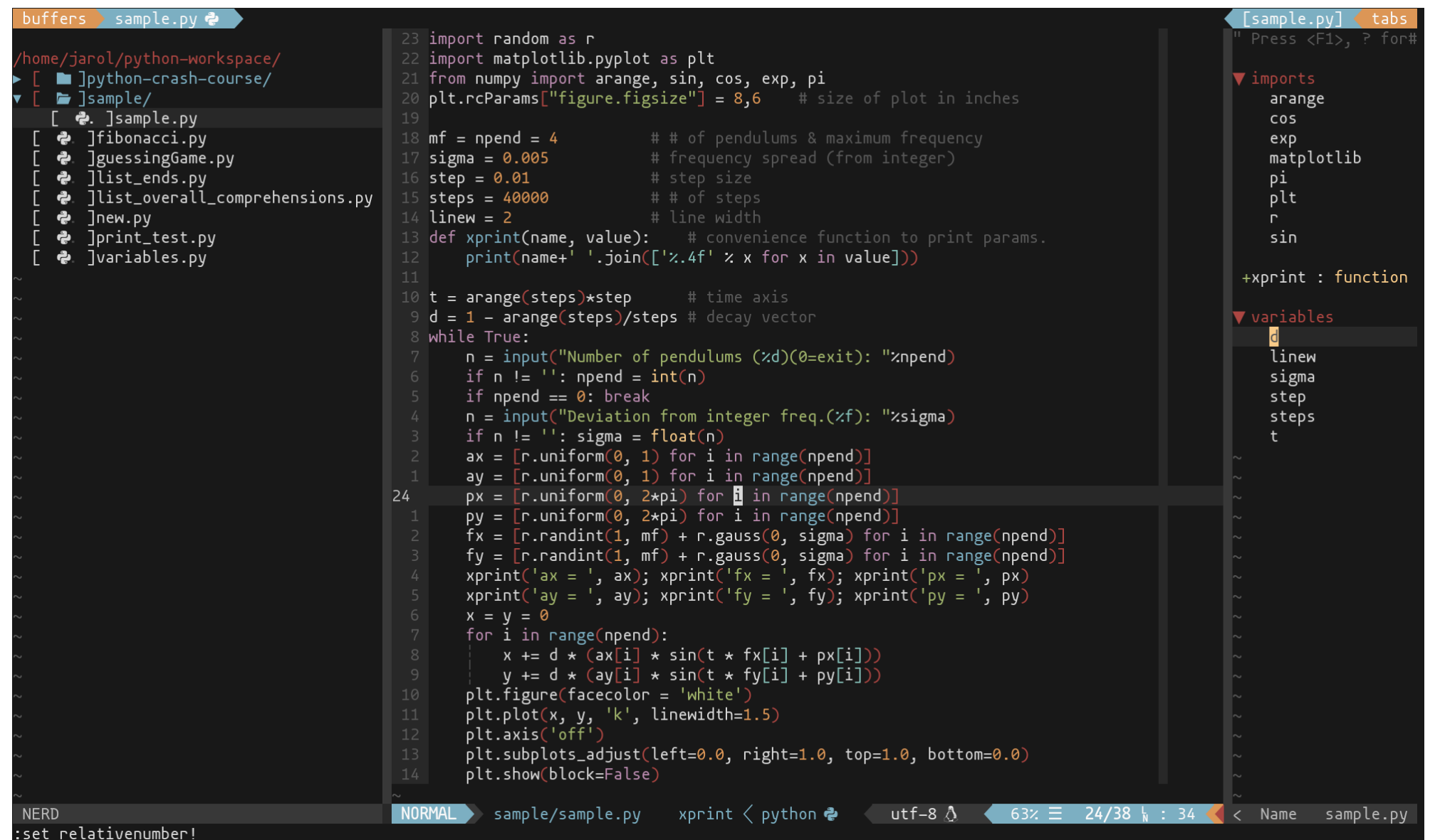


The screenshot shows the Notepad++ application window with the title bar '*D:\source\notepad4ever.cpp - Notepad++'. The window contains two tabs: 'Notepad_plus.cpp' and 'notepad4ever.cpp'. The 'notepad4ever.cpp' tab is active, displaying the following C++ code:

```
1  #include <GPL.h>
2  #include <free_software.h>
3
4  void notepad4ever()
5  {
6      while (true)
7      {
8          Notepad++;
9      }
10 }
11
```

Vim & Emacs

- 老牌经典文本编辑器
- 免费使用
- 专业编程体验
- 适合专业程序员
- Linux为主



```
import random as r
import matplotlib.pyplot as plt
from numpy import arange, sin, cos, exp, pi
plt.rcParams["figure.figsize"] = 8,6 # size of plot in inches

mf = npend = 4 # # of pendulums & maximum frequency
sigma = 0.005 # frequency spread (from integer)
step = 0.01 # step size
steps = 4000 # # of steps
linewidth = 2 # line width

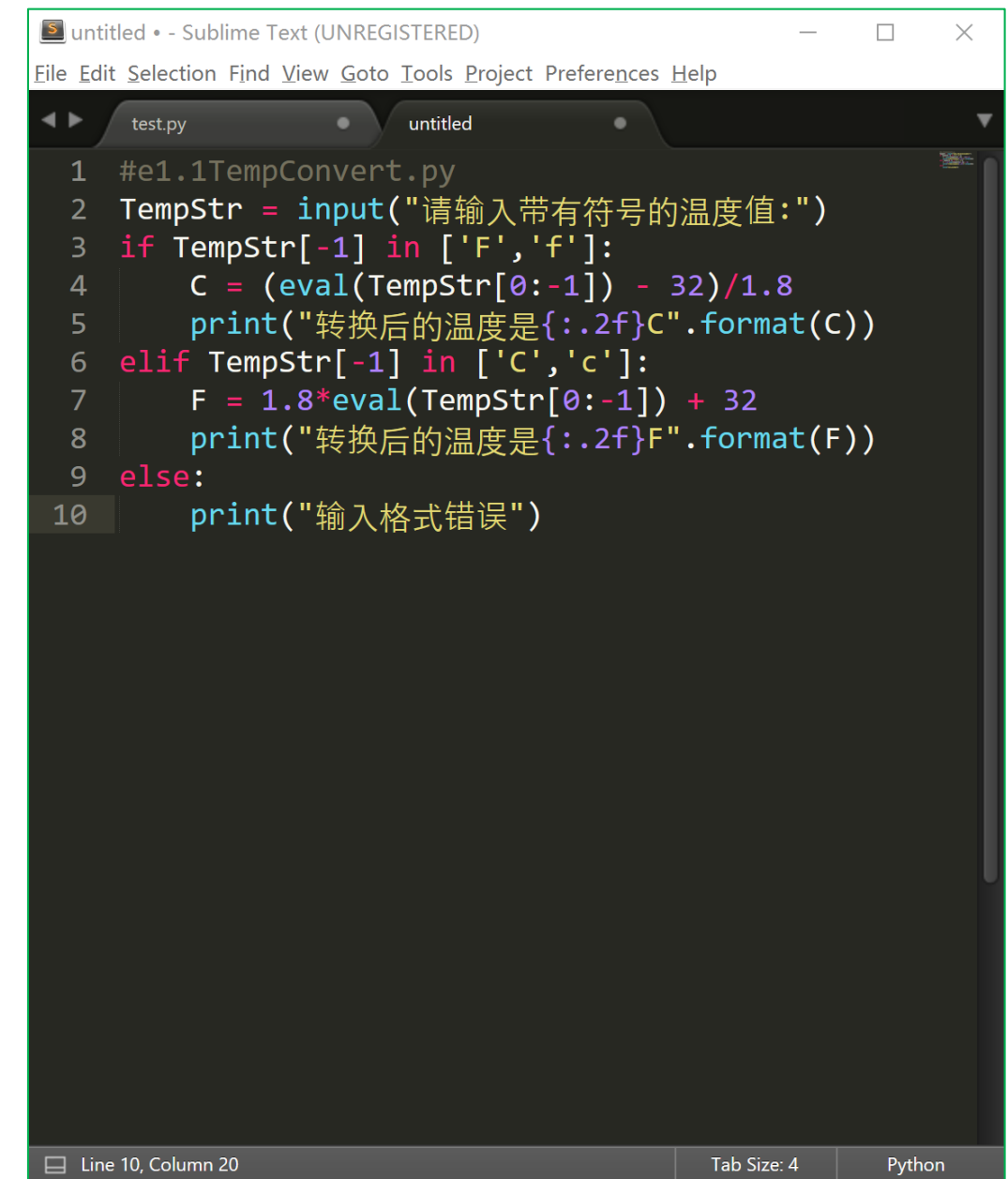
def xprint(name, value): # convenience function to print params.
    print(name+' '.join(['%.4f' % x for x in value]))

t = arange(steps)*step # time axis
d = 1 - arange(steps)/steps # decay vector
while True:
    n = input("Number of pendulums (%d)(0=exit): "%npend)
    if n != '': npend = int(n)
    if npend == 0: break
    n = input("Deviation from integer freq.(%f): "%sigma)
    if n != '': sigma = float(n)
    ax = [r.uniform(0, 1) for i in range(npend)]
    ay = [r.uniform(0, 1) for i in range(npend)]
    px = [r.uniform(0, 2*pi) for i in range(npend)]
    py = [r.uniform(0, 2*pi) for i in range(npend)]
    fx = [r.randint(1, mf) + r.gauss(0, sigma) for i in range(npend)]
    fy = [r.randint(1, mf) + r.gauss(0, sigma) for i in range(npend)]
    xprint('ax = ', ax); xprint('fx = ', fx); xprint('px = ', px)
    xprint('ay = ', ay); xprint('fy = ', fy); xprint('py = ', py)
    x = y = 0
    for i in range(npend):
        x += d * (ax[i] * sin(t * fx[i] + px[i]))
        y += d * (ay[i] * sin(t * fy[i] + py[i]))
    plt.figure(facecolor = 'white')
    plt.plot(x, y, 'k', linewidth=1.5)
    plt.axis('off')
    plt.subplots_adjust(left=0.0, right=1.0, top=1.0, bottom=0.0)
    plt.show(block=False)
```

Sublime Text

<https://www.sublimetext.com>

- 轻巧的文本编辑器
- 免费使用
- 专业编程体验
- 单人独立开发
- 适合专业程序员
- Win/Linux/Mac OS



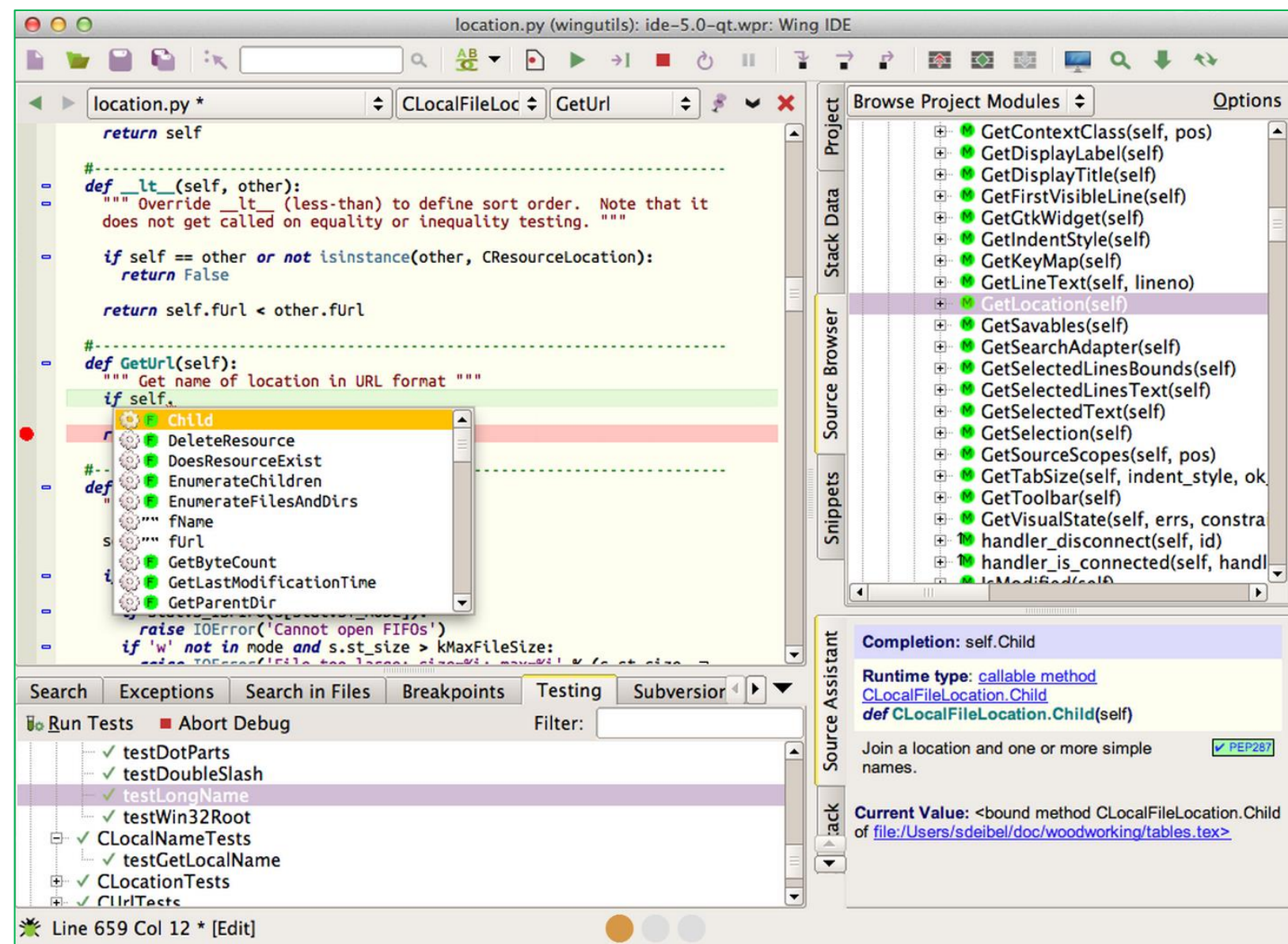
The screenshot shows the Sublime Text editor interface with a dark theme. The title bar reads "untitled - Sublime Text (UNREGISTERED)". The menu bar includes "File", "Edit", "Selection", "Find", "View", "Goto", "Tools", "Project", "Preferences", and "Help". The editor has two tabs: "test.py" and "untitled". The "test.py" tab is active and contains the following Python code:

```
1 #e1.1TempConvert.py
2 TempStr = input("请输入带有符号的温度值:")
3 if TempStr[-1] in ['F', 'f']:
4     C = (eval(TempStr[0:-1]) - 32)/1.8
5     print("转换后的温度是{:.2f}C".format(C))
6 elif TempStr[-1] in ['C', 'c']:
7     F = 1.8*eval(TempStr[0:-1]) + 32
8     print("转换后的温度是{:.2f}F".format(F))
9 else:
10    print("输入格式错误")
```

The status bar at the bottom shows "Line 10, Column 20", "Tab Size: 4", and "Python".

<https://wingware.com>

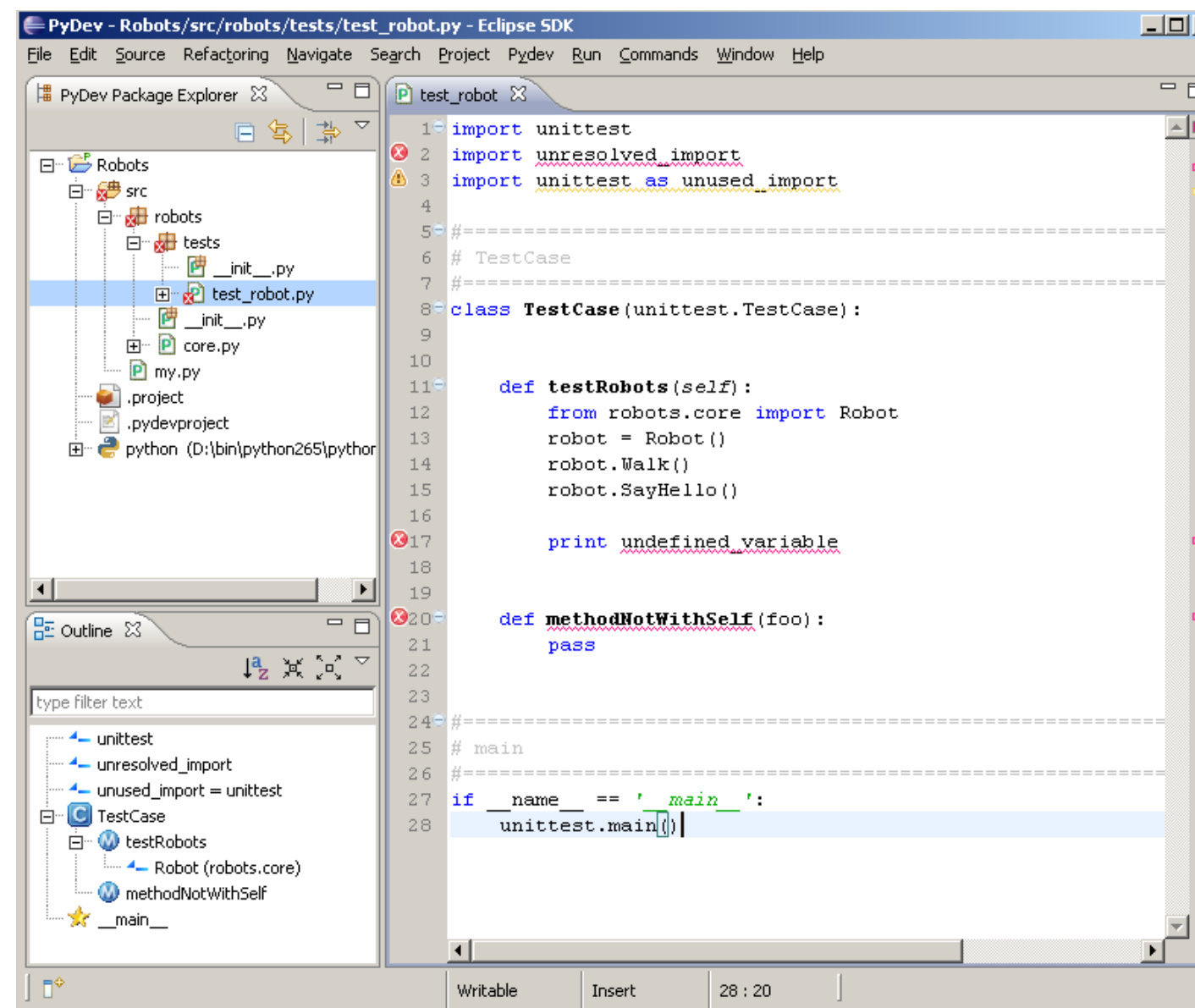
- 收费工具
- 调试功能丰富
- 具有版本控制功能
- 适合多人共同开发
- Win/Linux/Mac OS



Eclipse & PyDev

<https://www.pydev.org>

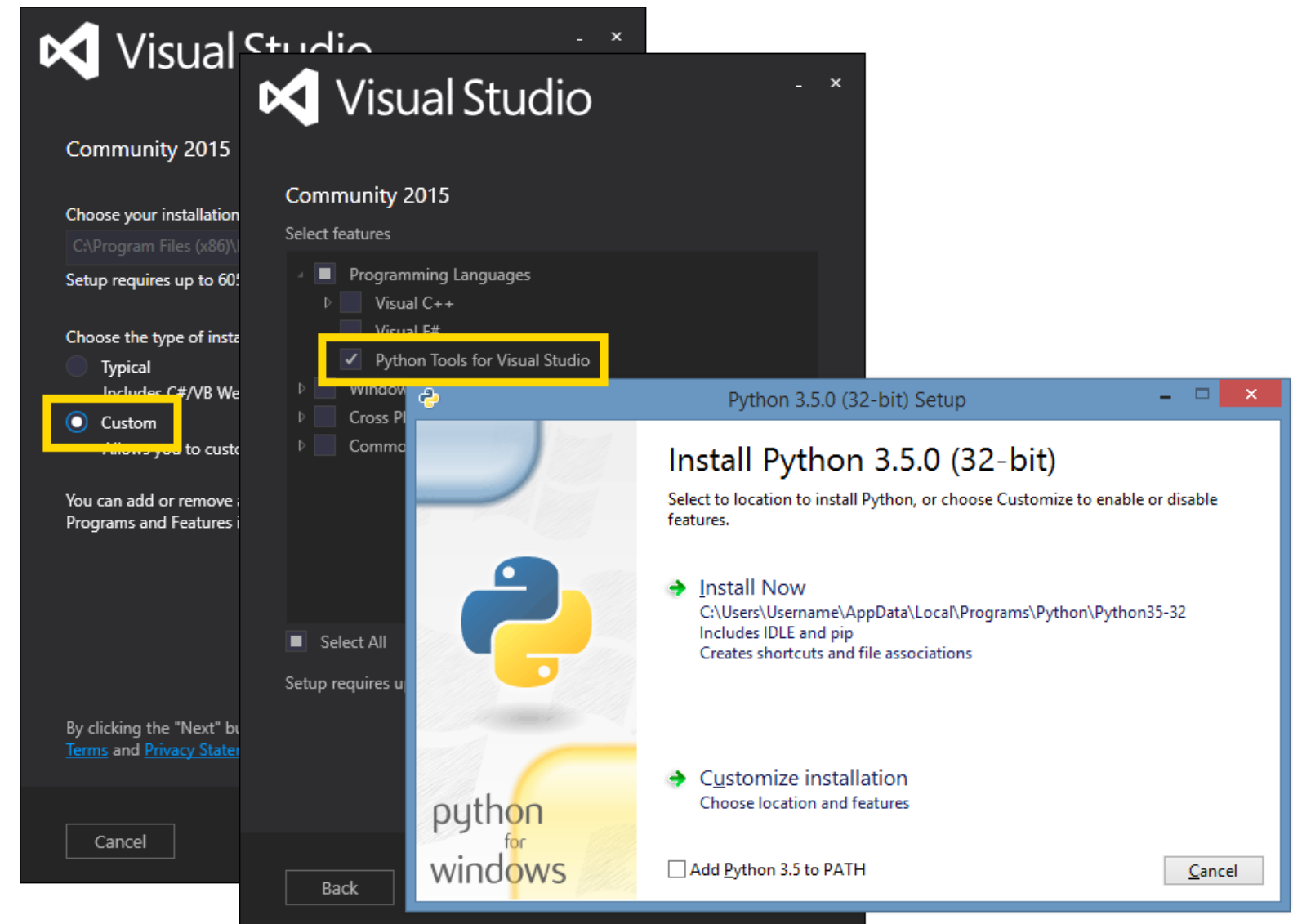
- Eclipse集成
- 开源IDE，免费工具
- 需要有一定开发经验
- 适合Eclipse死粉
- Win/Linux/Mac OS



Visual Studio & PTVS

PTVS: Python Tools for Visual Studio

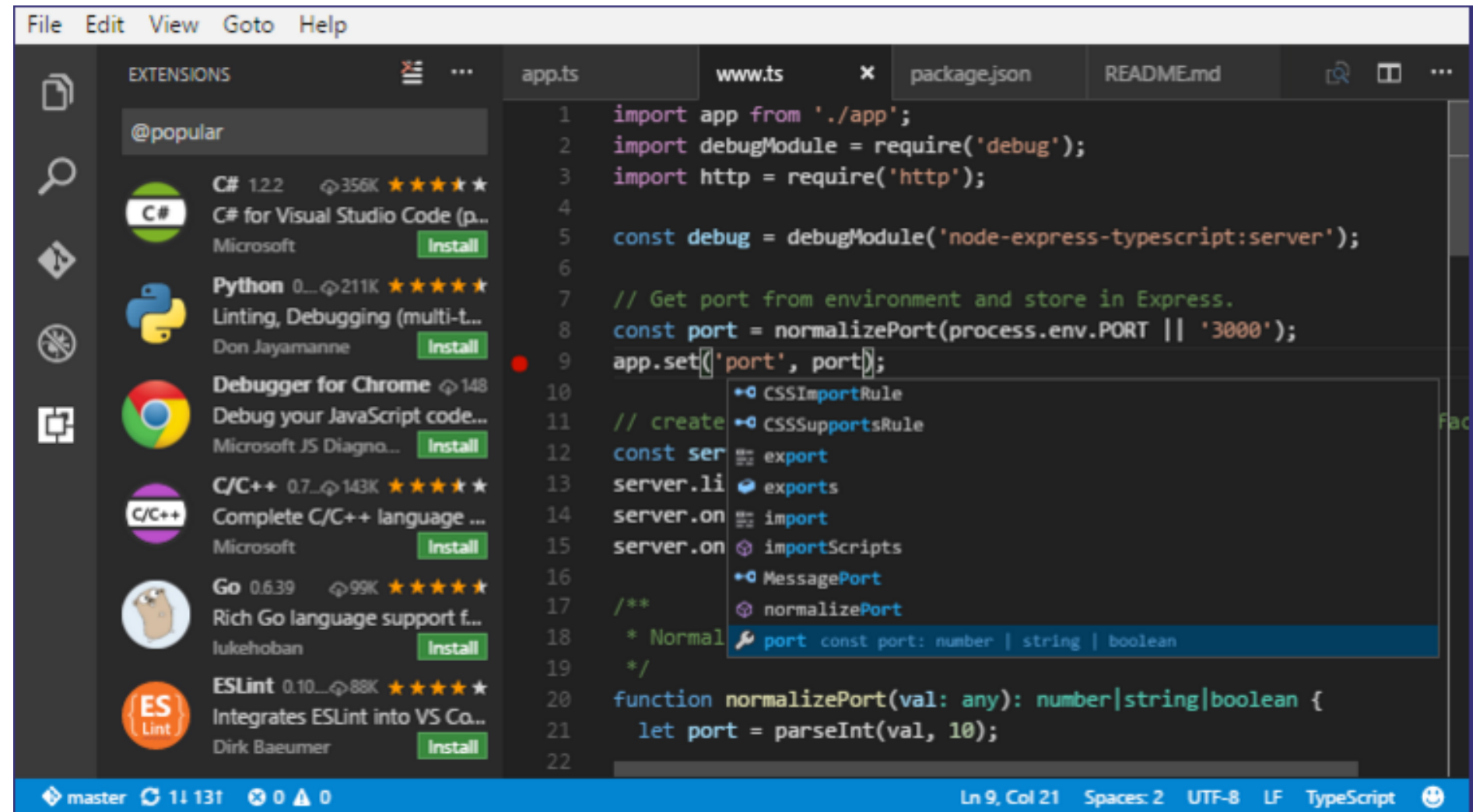
- Visual Studio集成
- 微软出品，收费工具
- 功能非常丰富
- 适合多人共同开发
- Win为主



Visual Studio Code

<https://code.visualstudio.com>

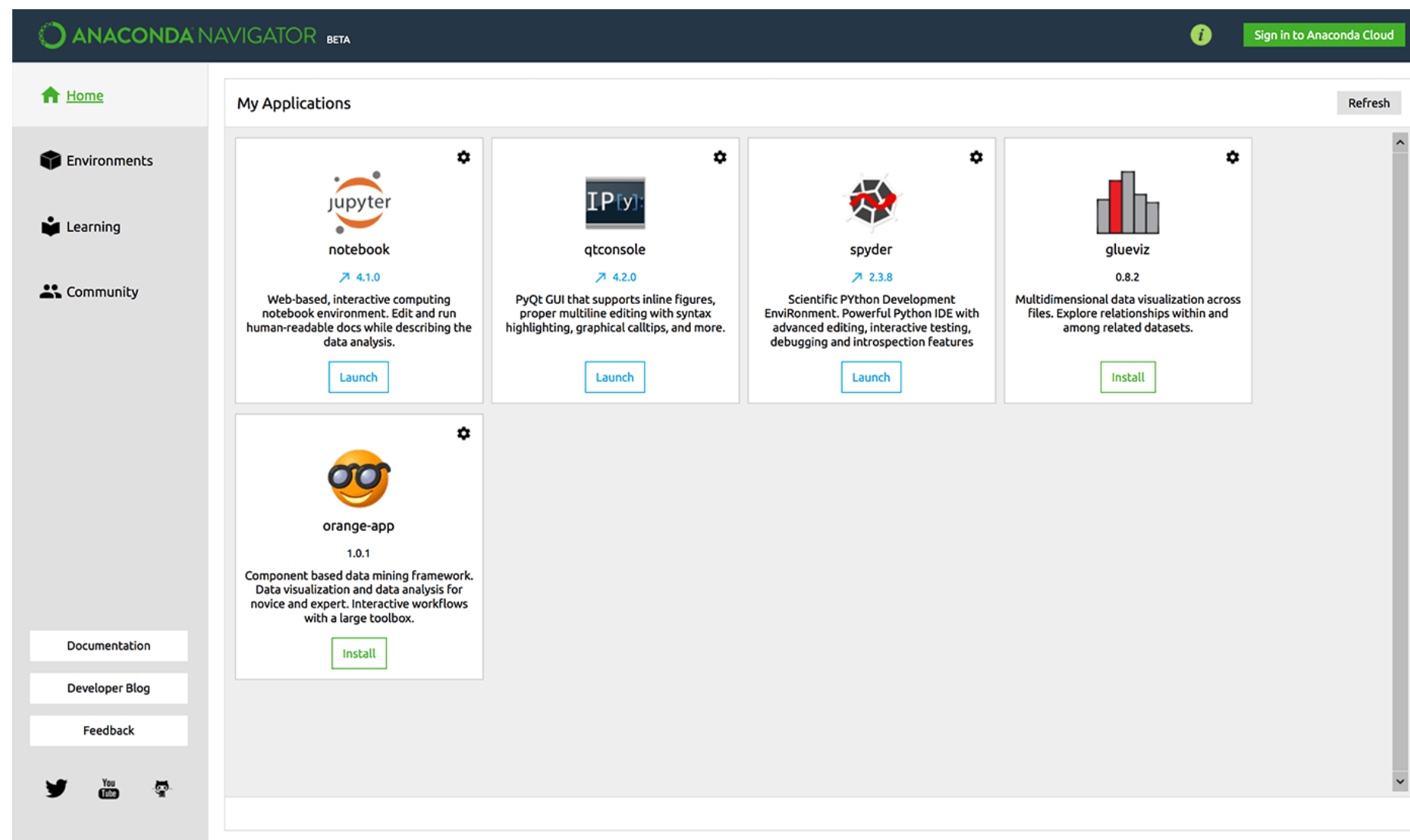
- 独立软件工具
- 微软出品，免费工具
- 功能非常丰富
- 可扩展性很强
- 有AI开发扩展模块
- Win为主



Anaconda

<https://www.continuum.io>

- 开源免费
- 支持超过800个第三方库
- 包括多种主流工具
- 适合数据分析及计算领域
- Win/Linux/Mac OS



其他开发工具概述

文本工具类

- ▣ Notepad++
- ▣ Vim & Emacs
- ▣ Sublime Text
- ▣ Atom
- ▣ Komodo Edit

集成工具类

- ▣ Wing
- ▣ PyDev & Eclipse
- ▣ Visual Studio
- ▣ Visual Studio Code
- ▣ Anaconda & Spyder

■ 该选用哪个开发工具呢?

适合自己的IDE才是最好的IDE
从IDLE和Pycharm开始

Python开发工具及环 境配置

Python快速入门

单元小结

单元小结

(1) IDLE开发环境

安装Python基础开发环境、使用IDLE进行程序开发

(2) PyCharm开发环境

了解并初步使用PyCharm开发环境

(3) 其他开发环境概述

Notepad++、Visual Studio Code、Anaconda等开发工具

 Python ▶ 123

Thank you