

私信

关注

搜博主文章



热门文章

Python 二次开发 AutoCAD 简介 73795  
 Python AutoCAD 绘图 28767  
 Python AutoCAD 选择集 12894  
 nCodeDL 疲劳分析 简明教程 12570  
 HyperMesh 使用指南 12353

分类专栏

Hydrodynamics	1篇
AutoCAD	9篇
MDB	1篇
nCodeDL	4 articles
Engineering Mathemat...	

latest comment

Python AutoCAD selection set  
 Homecoming: What should I do if this error occurs? I converted a circle to vtobj, bu' ...  
 Python AutoCAD drawing  
 weixin\_46670052: Thank you for your answer. Yesterday I saw an article which is ...  
 Python AutoCAD drawing  
 Hulunbuir: Then your CAD version is not 2014. The .19 means the 2014 version o ...  
 Python AutoCAD drawing  
 weixin\_46670052: Hello, blogger. I am very presumptuous. I would like to ask you w ...  
 ANSYS finite element analysis contact a...  
 Hulunbuir: Absolutely, just ask, it will definitely be resolved.

Would you like to recommend "Blog"

Strongly not recomme Not so so recomme highly recomme

latest articles

Python language to create Abaqus inp file  
 Python language to create ANSYS APDL command flow  
 Python language to create HyerMesh Tcl command flow

6 articles in 2021 26 articles in 2020  
 10 articles in 2019

contents

7.3 Dynamic block
8. Color
Nine, important methods
9.1 SendCommad
9.2 GetEntity
9.3 SetXData/GetXData
X. Documents
10.1 Save as .dwg/.dx
10.2 Save as .pdf
10.3 Save as .jpg/.png

Hulunbuir 奇幻面壁

刚刚无认证

124 Description 8493 26万+

Thirteen, the end

130 References 507 867 2000

积分 粉丝 赞赏 评论 收藏

原创 Top Hulunbuir 2020-03-05 14:03:14 73875 Collection 600

Classification column: AutoCAD Article tags: Python AutoCAD pyautocad pywin32 ezdxf

copyright

AutoCAD The column contains the content

23 Subscribe 9 articles

Subscribe to the column

## contents

## Blog Links

1. Frontier

Two, ActiveX Automation

Three, development documents/tools

3.1 AutoCAD Help

3.2 ArxDbg

Four, available Python libraries

4.1 pyautocad

4.2 pywin32

4.3 ezdxf

4.4 dxfragger

4.5 dxfwrite

4.6 gdal

5. Connection with CAD

5.1 ProgID

5.2 Example

Six, data conversion

Seven, drawing

7.1 Chamfered rectangle

7.2 Closed polyline pattern fill

7.3 Dynamic block

8. Color

Nine, important methods

9.1 SendCommad

9.2 GetEntity

9.3 SetXData/GetXData

X. Documents

10.1 Save as .dwg/.dx

10.2 Save as .pdf

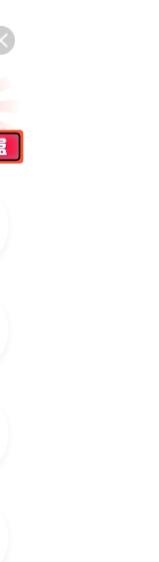
10.3 Save as .jpg/.png

11. Acknowledgements

12. Description

Thirteen, the end

14. References



Column list

Your browser is currently zoomed, and the page may be misaligned. It is recommended to display at 100% size.



常用工程软件二次开发的整合平台

获得更多源代码，扫码关注微信公众号

QQ 群: 143014807

Your browser is currently zoomed, and the page may be misaligned. It is recommended to display at 100% size.

一、前沿

- AutoCAD** (Autodesk Computer Aided Design) 是 Autodesk (欧特克) 公司首次于 1982 年开发的自动计算机辅助设计软件，在土木建筑，装饰装潢，工业制图，工程制图，电子工业，服装加工等诸多领域有着广泛的应用，主要用于二维绘图、详细绘制、设计文档和基本三维设计，现已经成为国际上广为流行的绘图工具。

上世纪 80 年代末 90 年代初， Guido van Rossum 在荷兰国家数学和计算机科学研究所设计出计算机程序设计语言 Python 。 Python 是一个高层次的结合了解释性、编译性、互动性和面向对象的脚本语言，具有很强的可读性。相比其他语言，语法结构更具特色。同时，它也是一种跨平台的计算机程序设计语言，越来越多地用于独立的、大型项目的开发。

## 为什么采用 Python 语言二次开发 AutoCAD ?

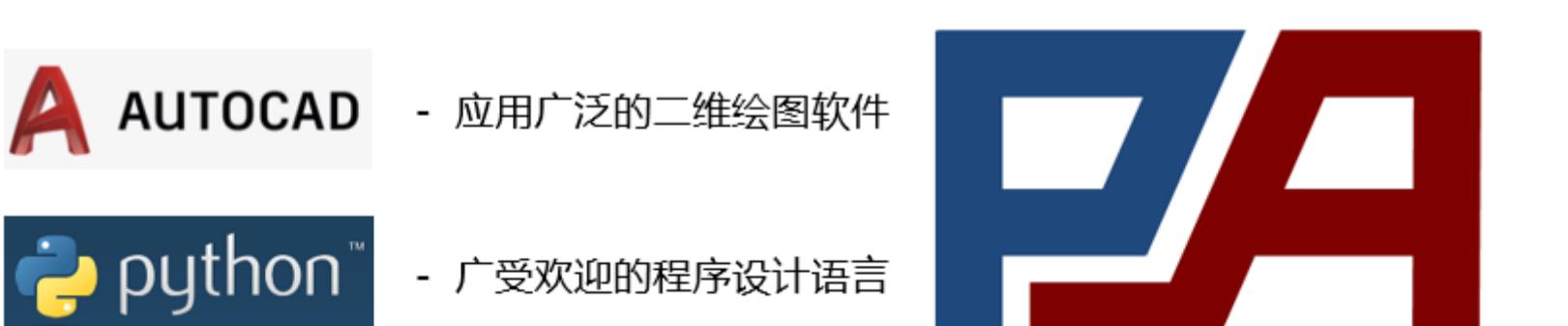
- Python 是一种代表简单主义思想的语言，简单易学，应用范围广泛。
  - Python 拥有大量第三方库，可轻易实现各种应用程序间的数据交换，如 AutoCAD 与 Excel / Word 间的数据交换。
  - 只要具有基础的 Python 编程能力，就可实现对 AutoCAD 的二次开发，而不必特意学习 VBA 或者 LISP。

吾生也有涯，而知也无涯，以有涯随无涯，殆已。

总之，人的精力是有限的，Windows 平台上的应用程序是各种各样的，我们力争只熟练掌握一门编程语言就能将各种应用程序串联起来，以实现数据的顺利传递，从而大幅度地提高工作效率和质量。这也是我当时在全网参考代码很少的情况下坚持用 Python 调用 CAD 的原因。

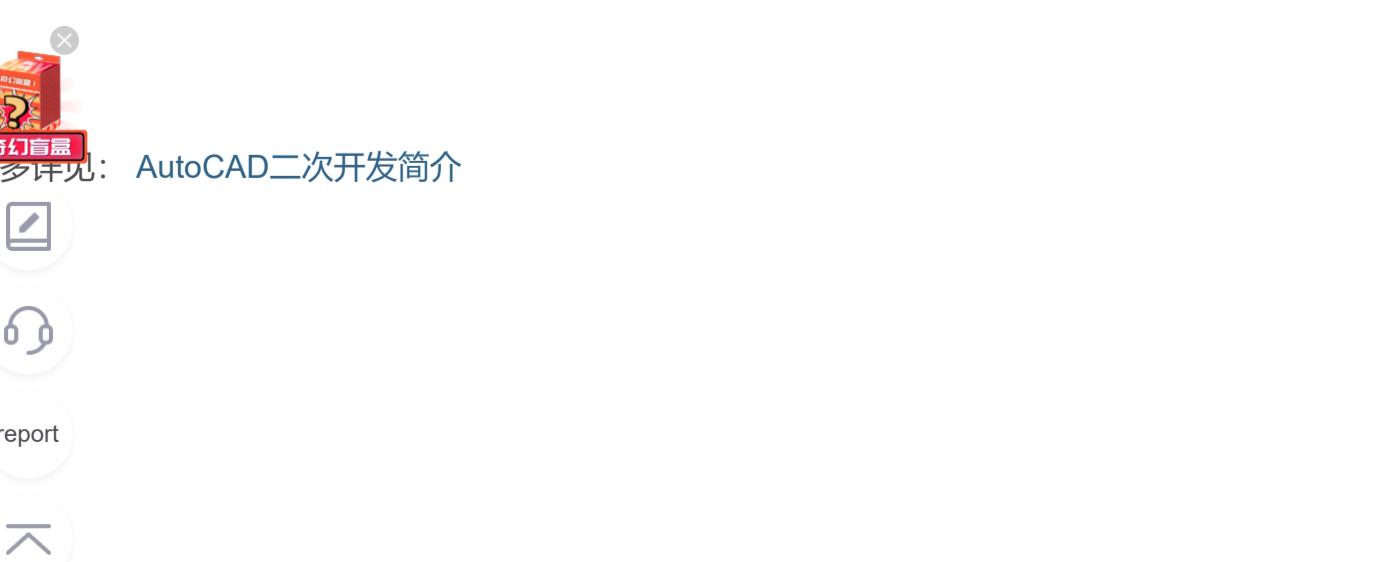
这个过程并非顺利，本人纯野生学习 Python，很多小 bug 都要查很久的资料才能解决。因粗心看错了帮助文档的参数定义，在绘制椭圆这卡了将近一个月；因不了解 CAD 系统对颜色的定义规则，在模型空间背景色设置上卡了将近3个月，通过不断测试，硬是靠最原始的总结规律得到了颜色指定的换算公式；因不了解 Python 中的数据类型如何对应 AutoCAD 中的 Variant，图案填充这又卡了好几个月，最终在 [ke1078](#) 大神的帮助下，顺利实现了图案填充的绘制。

为了使后续的学习者少走弯路，把宝贵的时间用于所研究的问题上，而非软件操作层面，特此，将本人所了解到的 Python 语言二次开发 CAD 的有关内容记录在此系列博客上。还需说明的是，因本人能力和水平确实有限，博客中的有关表述可能不严谨，甚至错误，还请大家及时批评指正。



## 二、ActiveX Automation

AutoCAD二次开发简介



私信

关注

搜博主文章



## 热门文章

- Python 二次开发 AutoCAD 简介 73795
- Python AutoCAD 绘图 28767
- Python AutoCAD 选择集 12894
- nCodeDL 疲劳分析 简明教程 12570
- HyperMesh 使用指南 12353

## 分类专栏

- Hydrodynamics 1篇
- AutoCAD 9篇
- MDB 1篇
- nCodeDL 4 articles
- Engineering Mathematics ...

## latest comment

- Python AutoCAD selection set  
Homecoming: What should I do if this error occurs? I converted a circle to vtobj, bu' ...
- Python AutoCAD drawing  
weixin\_46670052: Thank you for your answer. Yesterday I saw an article which is ...
- Python AutoCAD drawing  
Hulunbuir: Then your CAD version is not 2014. The .19 means the 2014 version o ...
- Python AutoCAD drawing  
weixin\_46670052: Hello, blogger. I am very presumptuous. I would like to ask you w ...
- ANSYS finite element analysis contact a...  
Hulunbuir: Absolutely, just ask, it will definitely be resolved.

## Would you like to recommend "Blog"

- Strongly not recomme Not so so recomme highly recomme

## latest articles

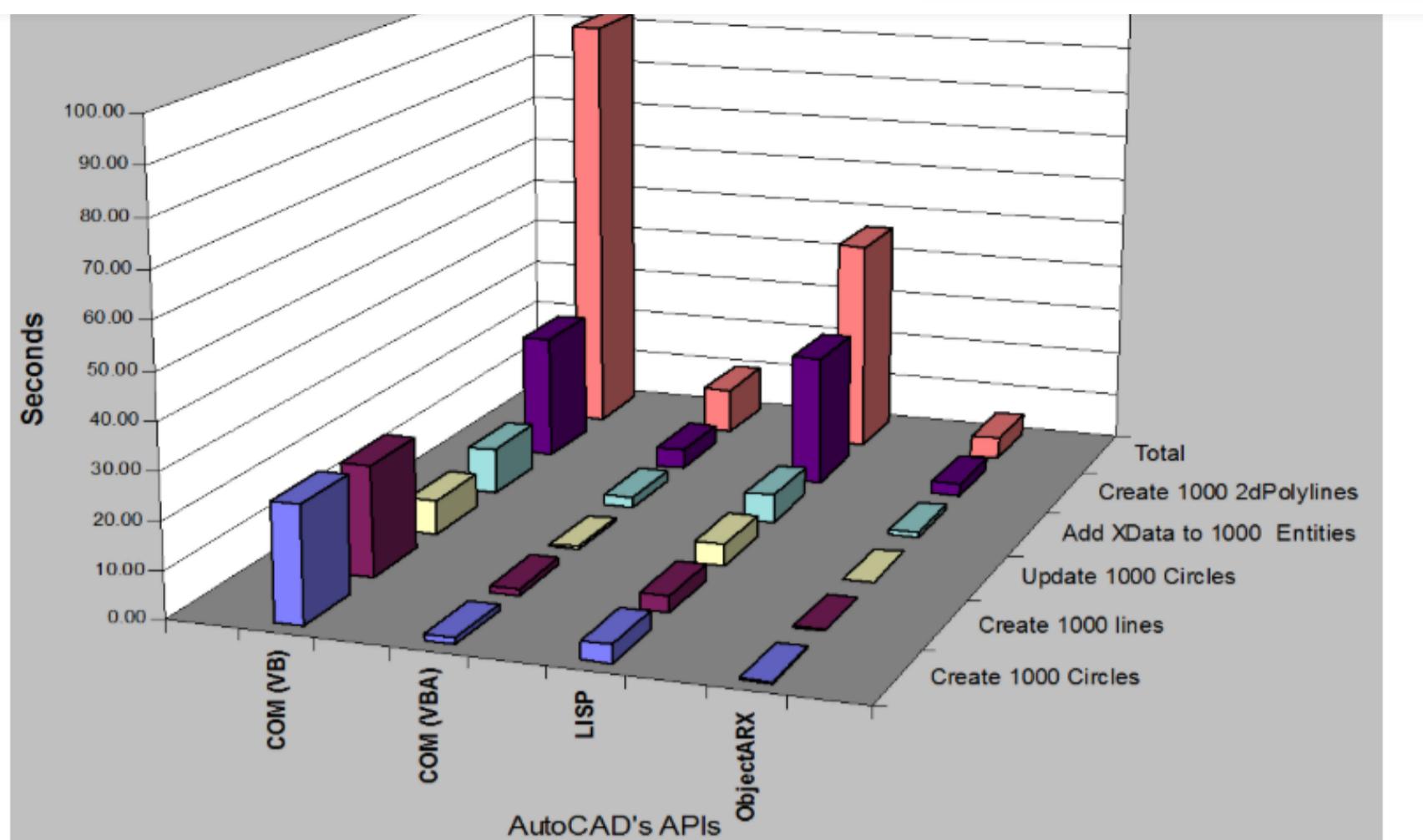
- Python language to create Abaqus inp file  
Python language to create ANSYS APDL command flow  
Python language to create HyerMesh Tcl command flow

6 articles in 2021    26 articles in 2020  
10 articles in 2019

## contents

- 7.3 Dynamic block
- 8. Color
- Nine, important methods
- 9.1 SendCommad
- 9.2 GetEntity
- 9.3 SetXData/GetXData
- X. Documents
- 10.1 Save as .dwg/.dxf
- 10.2 Save as .pdf
- 10.3 Save as .jpg/.png

- Hulunbuir VIP  
knowledge management  
积分 124 Description 8493 26万+  
Thirteen, the end  
130 References 507 867 2000  
积分 粉丝 赞同 评论 收藏

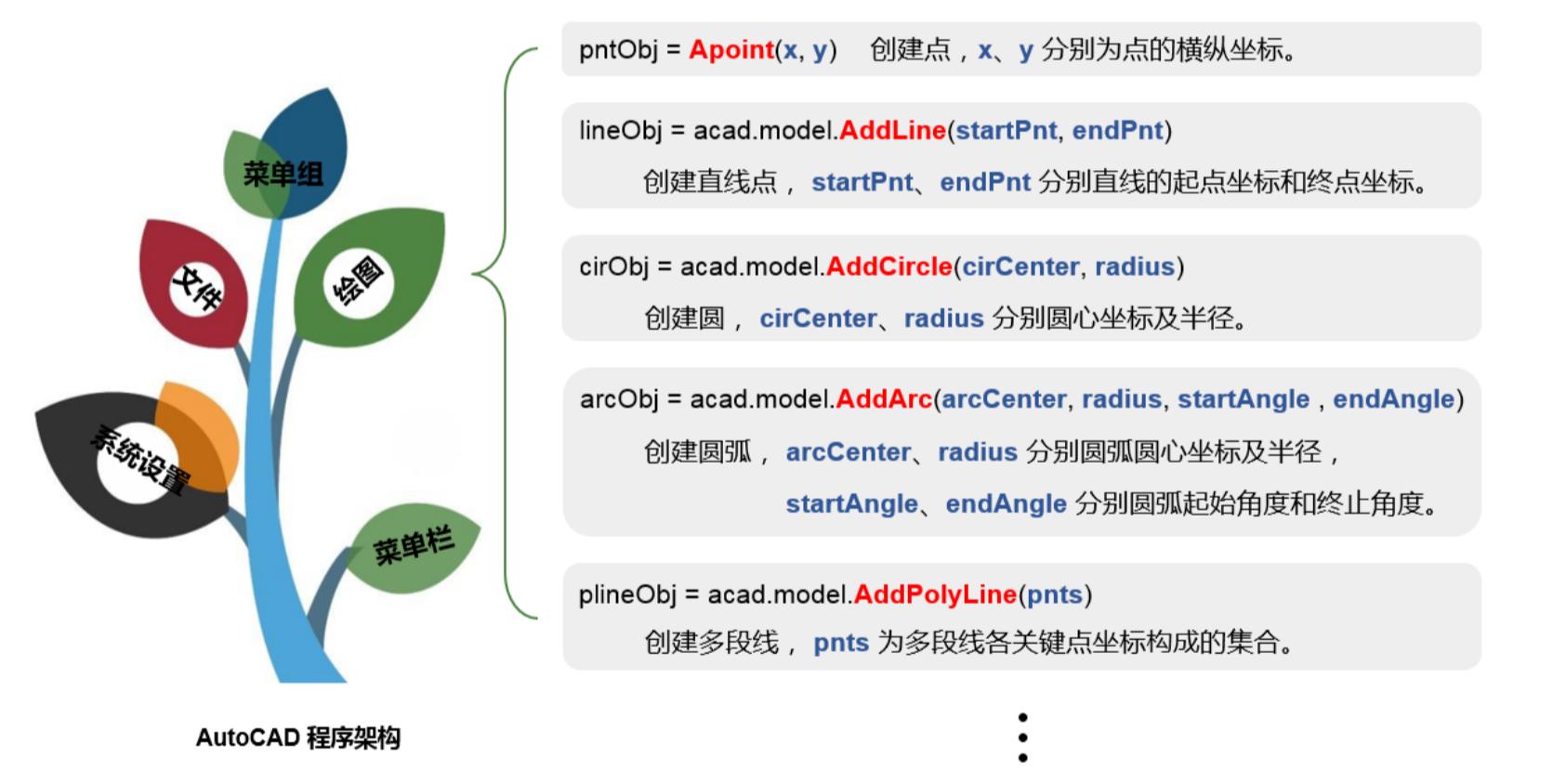
<https://blog.csdn.net/Hulunbuir>

AutoCAD API Performance

ActiveX Automation 是 ActiveX 为 Windows 用户提供的一项重要技术，可以使各应用程序间通过数据嵌入或链接的方式共享数据，并在 Windows 系统统一管理下进行协调，让这些应用程序以一定的流程相互沟通，相互控制，即一个程序暴露其可用对象，另一个程序控制这些对象，设置属性、调用方法，从而实现某种功能，完成所要求的动作。

AutoCAD 程序开放某些对象给 Windows 系统，使用程序语言并通过 ActiveX Automation，我们就可以对这些对象进行存取。AutoCAD ActiveX 接口的主要构件就对象，每一个显眼的对象均精确代表一个 AutoCAD 组件。

AutoCAD 以分层结构来组织对象，分层结构的视图称为“对象模型”，如下图所示。Application 对象是 AutoCAD ActiveX Automation 对象模型的根对象，通过它，用户可以访问任何其他的对象或任何对象指定的特性或方法。对象模型给出了上级对象与下级对象之间的访问关系。

<https://blog.csdn.net/Hulunbuir>

AutoCAD 对象都至少具有一个属性，用于描述对象。例如，圆具有半径、面积、线型等属性，通过这些属性能描述出一个具体的圆。

• 参考资料：AutoCAD ActiveX 二次开发技术。

## 三、开发文档/工具

## 3.1 AutoCAD Help



私信 关注

搜博主文章

热门文章

- Python 二次开发 AutoCAD 简介 73795
- Python AutoCAD 绘图 28767
- Python AutoCAD 选择集 12894
- nCodeDL 疲劳分析 简明教程 12570
- HyperMesh 使用指南 12353

分类专栏

- Hydrodynamics 1篇
- AutoCAD 9篇
- MDB 1篇
- nCodeDL 4 articles
- Engineering Mathemati...

## latest comment

Python AutoCAD selection set  
Homecoming: What should I do if this error occurs? I converted a circle to vtobj, bu' ...  
Python AutoCAD drawing  
weixin\_46670052: Thank you for your answer. Yesterday I saw an article which is ...  
Python AutoCAD drawing  
Hulunbuir: Then your CAD version is not 2014. The .19 means the 2014 version o ...  
Python AutoCAD drawing  
weixin\_46670052: Hello, blogger. I am very presumptuous. I would like to ask you w ...  
ANSYS finite element analysis contact a...  
Hulunbuir: Absolutely, just ask, it will definitely be resolved.

## Would you like to recommend "Blog"

Strongly not recomme... Not so so recomme... highly recomme...

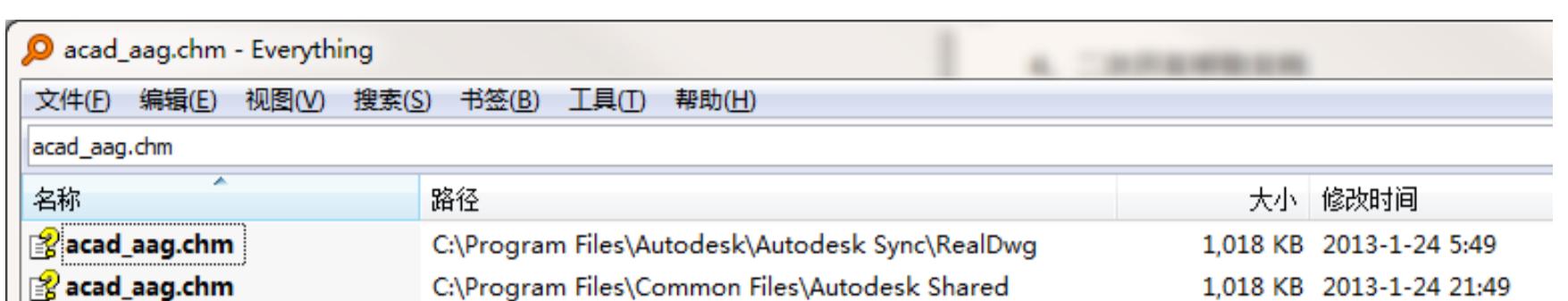
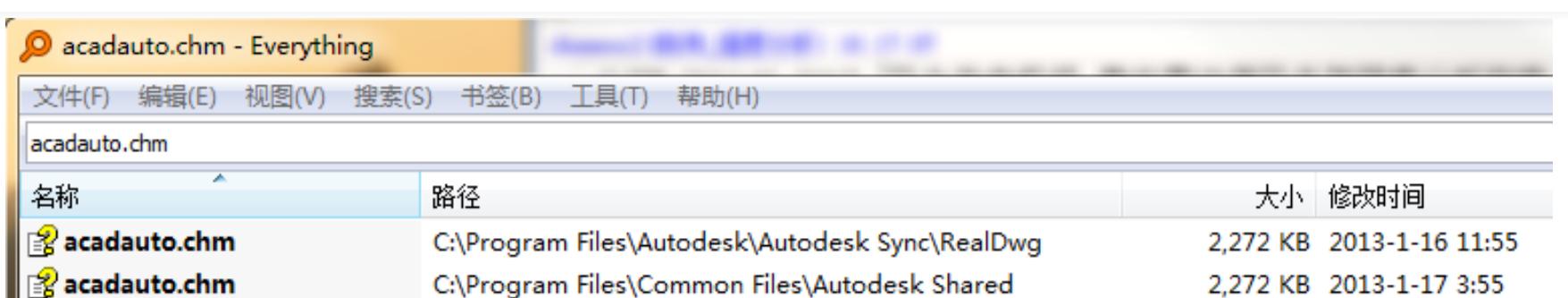
## latest articles

Python language to create Abaqus inp file  
Python language to create ANSYS APDL command flow  
Python language to create HyerMesh Tcl command flow  
6 articles in 2021 26 articles in 2020  
10 articles in 2019

## contents

7.3 Dynamic block  
8. Color  
Nine, important methods  
9.1 SendCommd  
9.2 GetEntity  
9.3 SetXData/GetXData  
X. Documents  
10.1 Save as .dwg/.dxf  
10.2 Save as .pdf  
10.3 Save as .jpg/.png  
Hulunbuir VIP  
Knowledge Management 新无认证  
124 Description 8493 26万+  
Thirteen, the end

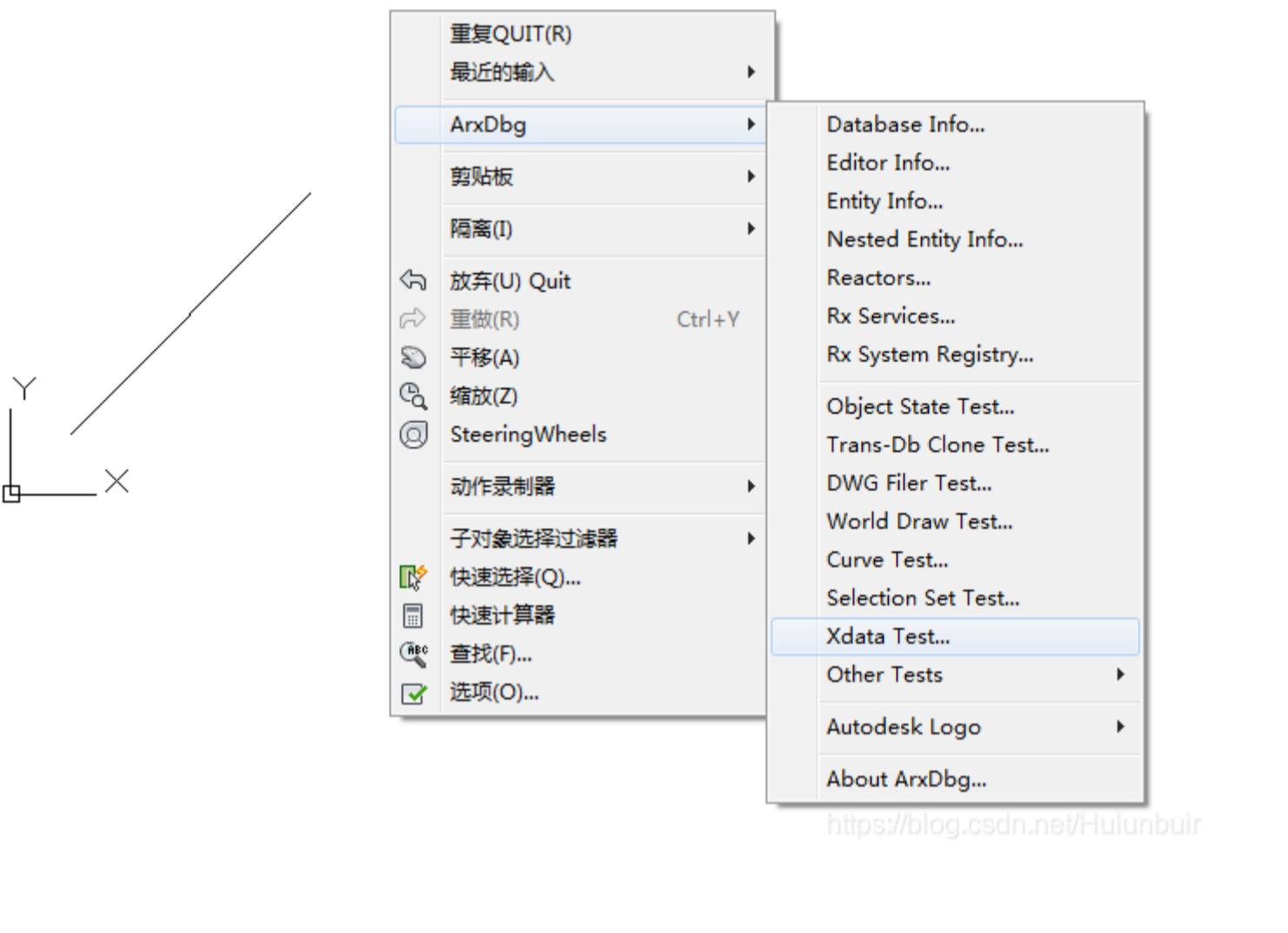
Hulunbuir focus on



帮助文档的获取

## 3.2 ArxDbg

ArxDbg 是 ObjectARX SDK 中包含多年的示例项目的名称。它的主要目的是演示如何使用 ObjectARX API，但它本身就是一个完全独立的应用程序。ObjectARX 程序员经常在开发期间使用此实用程序来测试和执行他们的应用程序代码。更多详见：[ObjectARX] ArxDbg介绍、自动加载及其下载。



https://blog.csdn.net/Hulunbuir

ArxDbg

• 下载链接：ACAD二次开发必备辅助工具-ArxDbg 2005-2021各版本。

## 四、可用Python库

在介绍各种 Python 库前，有必要对 AutoCAD 的文件系统做一个简单的了解。

dwg 是 AutoCAD 以及基于 AutoCAD 的软件保存设计数据所用的一种专有文件格式 (AutoCAD的图形文件)。

dxl 是 AutoCAD 绘图交换文件，它是 Autodesk 公司开发的用于 AutoCAD 与其它软件之间进行 CAD 数据交换的 CAD 数据文件格式。

dxl (图形交换文件) 是一种开放的矢量数据格式，它包含对应的 dwg 文件的全部信息，主要用于不同版本 CAD 间的数据交换。可以分为两类：ASCII 格式和二进制格式；ASCII 具有可读性好的特点，但占用的空间较大；二进制格式则占用的空间小、读取速度快。由于 AutoCAD 是最流行的 CAD 系统，DXL 也被广泛使用，成为事实上的标准。绝大多数 CAD 系统都能读入或输出 DXL 文件。ASCII 格式的 DXL 可以用文本编辑器进行查看。它包含对应的 dwg 文件的全部信息，不是 ASCII 码形式，可读性差，但用它形成图形速度快，不同类型的计算机哪怕是用同一版本的文件，其 dwg 文件也是不可交换的。为了克服这一缺点，AutoCAD 提供了 dxl 类型文件，其内部为 ASCII 和这样不同类型的计算机可通过交换 dxl 文件来达到交换图形的目的，由于 dxl 文件可读性好，用户可方便地对它进行修改，编程，达到从外部直接进行编辑和修改的目的。

dwg 格式以及它的 ASCII 格式变体 dxl，已经成为 CAD 制图数据交换中的事实文件标准。



[1]

.dwg：脱离 AutoCAD 软件环境读写 dwg 格式文件，基本无法实现，通过 COM 自动化操作是一个可选的方案。<sup>[1]</sup>

[1]

Your browser is currently zoomed, and the page may be misaligned. It is recommended to display at 100% size.

130 References 507 867 2000  
积分 粉丝 获赞 评论 收藏

170 341 600

Column list

私信

关注

搜博主文章



## 热门文章

- Python 二次开发 AutoCAD 简介 73795
- Python AutoCAD 绘图 28767
- Python AutoCAD 选择集 12894
- nCodeDL 疲劳分析 简明教程 12570
- HyperMesh 使用指南 12353

## 分类专栏

- Hydrodynamics 1篇
- AutoCAD 9篇
- MDB 1篇
- nCodeDL 4 articles
- Engineering Mathematics ...

## latest comment

- Python AutoCAD selection set  
Homecoming: What should I do if this error occurs? I converted a circle to vtobj, bu' ...
- Python AutoCAD drawing  
weixin\_46670052: Thank you for your answer. Yesterday I saw an article which is ...
- Python AutoCAD drawing  
Hulunbuir: Then your CAD version is not 2014. The .19 means the 2014 version o ...
- Python AutoCAD drawing  
weixin\_46670052: Hello, blogger. I am very presumptuous. I would like to ask you w ...
- ANSYS finite element analysis contact a...  
Hulunbuir: Absolutely, just ask, it will definitely be resolved.

## Would you like to recommend "Blog"

- Details Page" to your friends?
- 
- Strongly not recomme Not so so recomme highly recomme

## latest articles

- Python language to create Abaqus inp file
- Python language to create ANSYS APDL command flow
- Python language to create HyerMesh Tcl command flow
- 6 articles in 2021 26 articles in 2020
- 10 articles in 2019

## contents

- 7.3 Dynamic block
- 8. Color
- Nine, important methods
- 9.1 SendCommad
- 9.2 GetEntity
- 9.3 SetXData/GetXData
- X. Documents
- 10.1 Save as .dwg/.dxf
- 10.2 Save as .pdf
- 10.3 Save as .jpg/.png
- 124 Description 8493 26万+   
Thirteen, the end
- 130 References 507 867 2000
- 积分 粉丝 赞同 评论 收藏

## 4.1 pyautocad

pyautocad 库由俄罗斯工程师 Roman Haritonov 开发，用于简化使用 Python 语言编写 AutoCAD ActiveX Automation 脚本。主要参考资料如下：

- PyPy: [pyautocad 0.2.0](#)。
- GitHub: [reclosedev/pyautocad](#)。
- Documentation: [pyautocad's documentation](#)。
- Blog: 1. [Python3操作AutoCAD：利用pyautocad库能够自动化地进行CAD画图](#). 陆壹爵爷。  
2. 利用python控制Autocad: [pyautocad.bsider](#)。

**与CAD连接的Python代码**

```

1 from pyautocad import Autocad
2
3 acad = Autocad(create_if_not_exists=True)
4
5 acad.prompt("Hello! Autocad from Python.")
6
7 print(acad.doc.Name)

```

导入第三方库pyautocad  
俄罗斯工程师Roman Haritonov开发实现了Python语言对AutoCAD的控制

连接正在运行的AutoCAD文件  
如没有正在运行的文件则启动CAD程序

显示目前处于Python控制下文件的名称

在CAD提示工具栏里显示文字 "Hello! Autocad from Python."

用于提示用户该CAD文件，已实现和Python的连接。

pyautocad库与AutoCAD的连接

事实上，pyautocad 库仅仅起到了接口作用，pyautocad 利用 comtypes.client 启动或连接 CAD (pyautocad源代码)，如下图所示：

```

@property
def app(self):
    """ Returns active :class:`AutoCAD.Application` """
    if self._app is None:
        try:
            self._app = comtypes.client.GetActiveObject('AutoCAD.Application', dynamic=True)
        except WindowsError:
            if not self._create_if_not_exists:
                raise
            self._app = comtypes.client.CreateObject('AutoCAD.Application', dynamic=True)
            self._app.Visible = self._visible
        return self._app

@property
def doc(self):
    """ Returns `ActiveDocument` of current :attr:`Application` """
    return self.app.ActiveDocument

```

https://blog.csdn.net/Hulunbuir

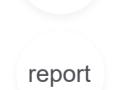
pyautocad源代码 (部分)

```

1 import comtypes.client
2
3 try:
4     acad = comtypes.client.GetActiveObject('AutoCAD.Application', dynamic=True)
5 except WindowsError:
6     acad = comtypes.client.CreateObject('AutoCAD.Application', dynamic=True)
7     acad.Visible = True

```

pyautocad启动/连接CAD的Python代码



report

## 4.2 pywin32

pywin32 是一个 Python 库，为 Python 提供访问 Windows API 的扩展，提供了齐全的 windows 常量、接口、线程以及 COM 机制等。了解更多详见博客：[如何利用Python和win32编程避免重复性体力劳动（一）](#)。主要参考资料如下：

Hulunbuir focus on

170 341 600 Column list

Your browser is currently zoomed, and the page may be misaligned. It is recommended to display at 100% size.

私信 关注

搜博主文章



## 热门文章

- Python 二次开发 AutoCAD 简介 73795
- Python AutoCAD 绘图 28767
- Python AutoCAD 选择集 12894
- nCodeDL 疲劳分析 简明教程 12570
- HyperMesh 使用指南 12353

## 分类专栏

- Hydrodynamics 1篇
- AutoCAD 9篇
- MDB 1篇
- nCodeDL 4 articles
- Engineering Mathemati...

## latest comment

- Python AutoCAD selection set  
Homecoming: What should I do if this error occurs? I converted a circle to vtobj, bu...  
Python AutoCAD drawing  
weixin\_46670052: Thank you for your answer. Yesterday I saw an article which is ...  
Python AutoCAD drawing  
Hulunbuir: Then your CAD version is not 2014. The .19 means the 2014 version o...  
Python AutoCAD drawing  
weixin\_46670052: Hello, blogger. I am very presumptuous. I would like to ask you w...  
ANSYS finite element analysis contact a...  
Hulunbuir: Absolutely, just ask, it will definitely be resolved.

## Would you like to recommend "Blog"

Strongly not recomme... highly recomme...

## latest articles

- Python language to create Abaqus inp file  
Python language to create ANSYS APDL command flow  
Python language to create HyerMesh Tcl command flow  
6 articles in 2021 26 articles in 2020  
10 articles in 2019

## contents

- 7.3 Dynamic block
- 8. Color
- Nine, important methods
  - 9.1 SendCommd
  - 9.2 GetEntity
  - 9.3 SetXData/GetXData
- X. Documents
  - 10.1 Save as .dwg/.pdf
  - 10.2 Save as .pdf
  - 10.3 Save as .jpg/.png

- 124 Description 8493 26万+   
130 References 507 867 2000  
积分 粉丝 赞同 评论 收藏

• GitHub: <https://github.com/mhammond/pywin32>.

## 与 CAD 的连接

```
1 #!/usr/bin/env python
2 # -*- coding: utf-8 -*-
3 """
4 =====
5 Author: DalNur
6 Email: liyang@alu.hit.edu.cn
7 =====
8 """
9
10
11 import win32com.client as win32
12
13 wincad = win32.Dispatch("AutoCAD.Application")
14 doc = wincad.ActiveDocument
15 msp = doc.ModelSpace
16
17 doc.Utility.Prompt("Hello! Autocad from pywin32com.\n")
18
19 print(doc.Name)
```

## 示例

```
# 1. 导入第三方库
import pythoncom
import win32com.client
from openpyxl import load_workbook
# 2. 声明调用的函数
acad = win32com.client.Dispatch("AutoCAD.Application")
doc = acad.ActiveDocument
msp = doc.ModelSpace
# 3. 读取Excel文件中的关键点坐标
wb = load_workbook('Logo关键点坐标.xlsx')
ws = wb.get_sheet_by_name('sheet1')
pnts = [ws.cell(row=i+4, column=j+3).value for i in range(128) for j in range(3)]
# 4. 分别设置颜色
pnts = win32com.client.VARIANT(pythoncom.VT_ARRAY | pythoncom.VT_R8, pnts)
pline_obj = mp.AddPolyline(pnts)
outerLoop = win32com.client.VARIANT(pythoncom.VT_ARRAY | pythoncom.VT_DISPATCH, [pline_obj])
hatchObj = mp.Add Hatch(0, "SOLID", True)
hatchObj.AppendOuterLoop(outerLoop)
hatchObj.Evaluate()
pline_obj.Delete()
# 5. 为底面填充颜色
clr = doc.Application.GetInterfaceObject("AutoCAD.AcmColor.19")
clr.SetRGB(0, 0, 255)
hatchObj.trueColor = clr
```

Python代码

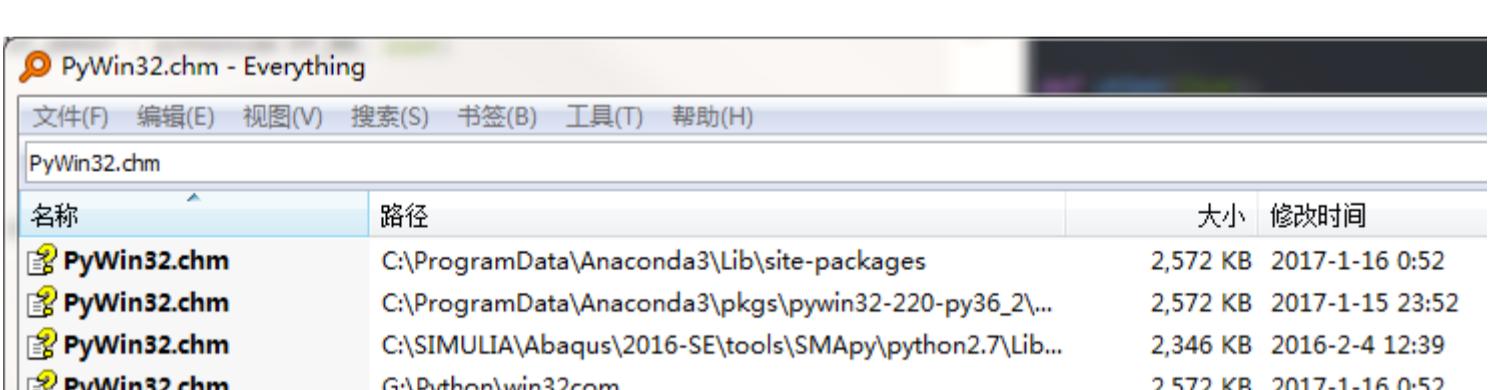
A	B	C	D	E
序号	x	y	z	
1	1144.3	638.7	0	
2	1028.1	596.8	0	
3	925.2	547.3	0	
4	860.4	497.8	0	
5	826.1	465.4	0	
6	809	431.2	0	
7	782.3	440.7	0	
8	736.6	478.8	0	
9	709.9	511.1	0	
10	704.2	539.7	0	

代码运行结果 [blog.csdn.net/hulunbuir](http://blog.csdn.net/hulunbuir)

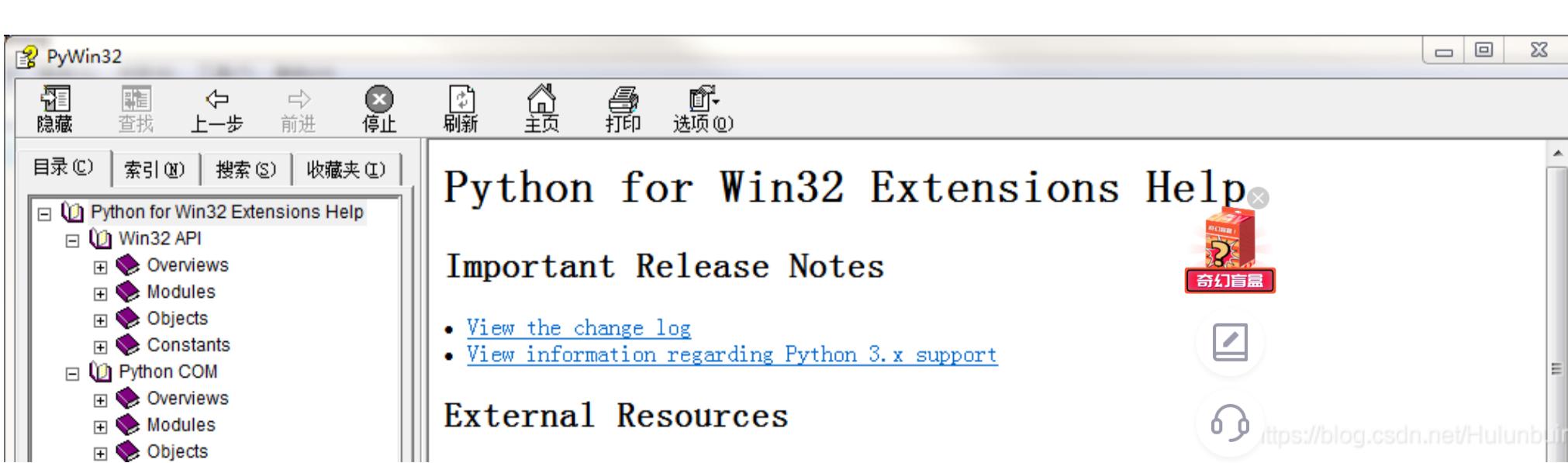
win32com连接CAD示例 (与Excel交互)

## pywin32 Help

首先确保你已经成功安装了 pywin32 模块，然后在搜索神器 Everything 的搜索栏中输入 PyWin32.chm，便可得到其所在的路径。



PyWin32帮助文档的获取



PyWin32帮助文档

Your browser is currently zoomed, and the page may be misaligned. It is recommended to display at 100% size.

私信

关注

搜博主文章



## 热门文章

- Python 二次开发 AutoCAD 简介 73795
- Python AutoCAD 绘图 28767
- Python AutoCAD 选择集 12894
- nCodeDL 疲劳分析 简明教程 12570
- HyperMesh 使用指南 12353

## 分类专栏

- Hydrodynamics 1篇
- AutoCAD 9篇
- MDB 1篇
- nCodeDL 4 articles
- Engineering Mathemat... 1

## latest comment

Python AutoCAD selection set  
Homecoming: What should I do if this error occurs? I converted a circle to vtobj, bu' ...  
Python AutoCAD drawing  
weixin\_46670052: Thank you for your answer. Yesterday I saw an article which is ...  
Python AutoCAD drawing  
Hulunbuir: Then your CAD version is not 2014. The .19 means the 2014 version o ...  
Python AutoCAD drawing  
weixin\_46670052: Hello, blogger. I am very presumptuous. I would like to ask you w ...  
ANSYS finite element analysis contact a...  
Hulunbuir: Absolutely, just ask, it will definitely be resolved.

## Would you like to recommend "Blog"

Strongly not recomme... Not so so recomme... highly recomme...

## latest articles

- Python language to create Abaqus inp file
- Python language to create ANSYS APDL command flow
- Python language to create HyerMesh Tcl command flow
- 6 articles in 2021 26 articles in 2020
- 10 articles in 2019

## contents

- 7.3 Dynamic block
- 8. Color
- Nine, important methods
- 9.1 SendCommad
- 9.2 GetEntity
- 9.3 SetXData/GetXData
- X. Documents

10.1 Save as .dwg/.dxf

10.2 Save as .pdf

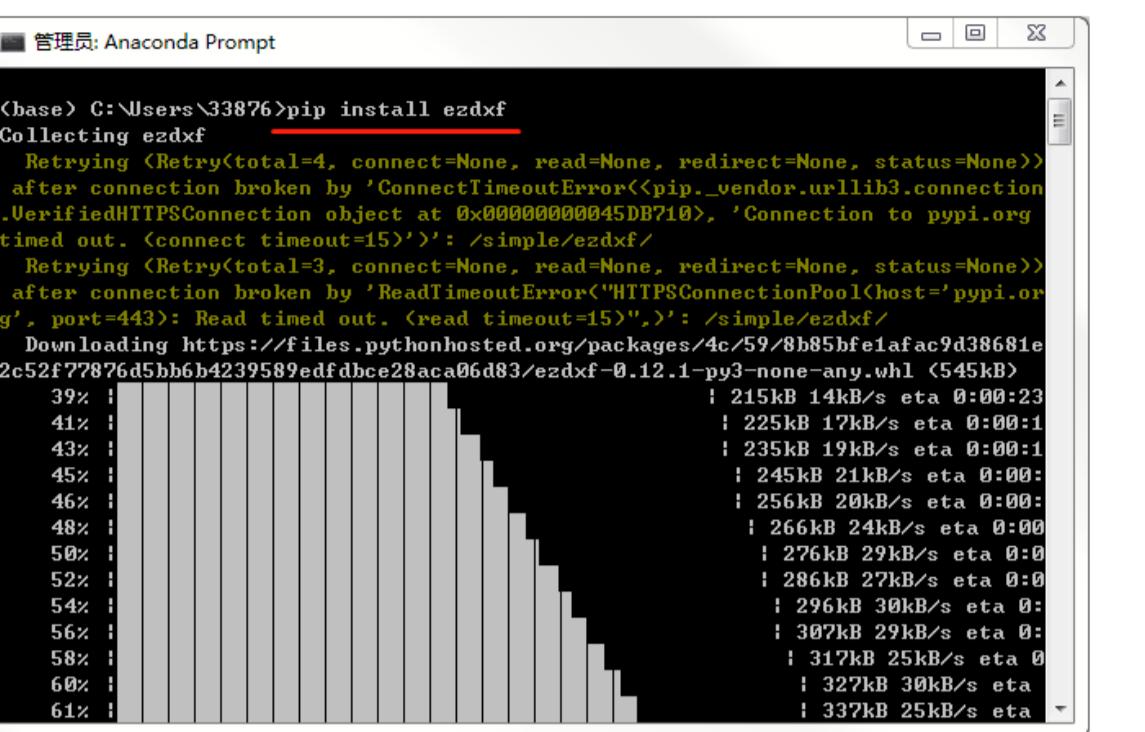
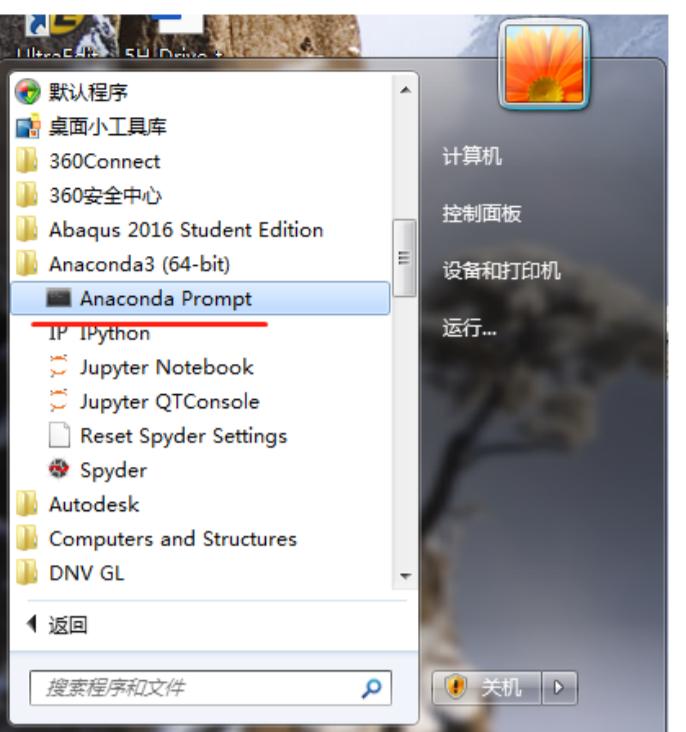
10.3 Save as .jpg/.png  
 Hulunbuir VIP  
knowledge management 新无认证

124 Description 8493 26万+

130 References 507 867 2000

积分 粉丝 获赞 评论 收藏

如已安装 Anaconda，在 Anaconda Prompt 中键入 pip install ezdxf 便可自动完成该库的导入，如下图所示；如未安装 Anaconda，也可 pip 手动导入，其在 PyPI (Python Package Index) 上的注册地址为：<https://pypi.org/project/ezdxf/>。



<https://blog.csdn.net/Hulunbuir>

Your browser is currently zoomed, and the page may be misaligned. It is recommended to display at 100% size.

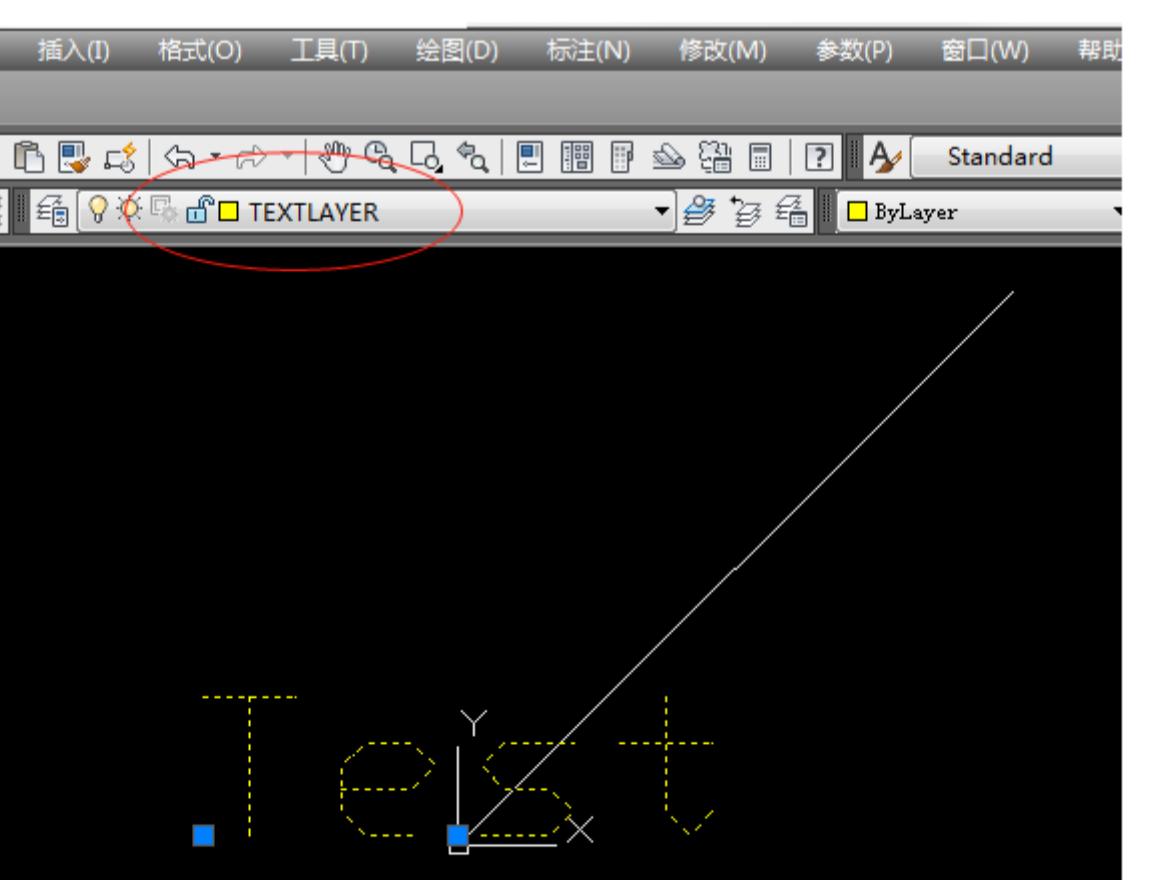
- GitHub: <https://github.com/mozman/ezdxf>。
- Documentation: <https://ezdxf.readthedocs.io/en/stable/>。
- Blog: [使用Python读写DXF和DWG文件](#)。

## 示例

```

1 import ezdxf
2
3 # Create a new DXF document.
4 doc = ezdxf.new(dxfversion='R2010')
5
6 # Create new table entries (Layers, Linetypes, text styles, ...).
7 doc.layers.new('TEXTLAYER', dxfattribs={'color': 2})
8
9 # DXF entities (LINE, TEXT, ...) reside in a Layout (modelspace,
10 # paperspace Layout or block definition).
11 msp = doc.modelspace()
12
13 # Add entities to a layout by factory methods: layout.add_...
14 msp.add_line((0, 0), (10, 10), dxfattribs={'color': 7})
15 msp.add_text(
16     'Test',
17     dxfattribs={
18         'layer': 'TEXTLAYER'
19     }).set_pos((0, 0.2), align='CENTER')
20
21 # Save DXF document.
22 doc.saveas('test.dxf')

```



<https://blog.csdn.net/Hulunbuir>

ezdxf生成.dxf文件



## 4.4 dxfgrabber

- GitHub: <https://github.com/mozman/dxfgrabber>。
- Documentation: <https://dxfgrabber.readthedocs.io/en/latest/>。

Hulunbuir focus on

170 341 600

Column list

私信

关注

搜博主文章



## 热门文章

- Python 二次开发 AutoCAD 简介 73795
- Python AutoCAD 绘图 28767
- Python AutoCAD 选择集 12894
- nCodeDL 疲劳分析 简明教程 12570
- HyperMesh 使用指南 12353

## 分类专栏

- Hydrodynamics 1篇
- AutoCAD 9篇
- MDB 1篇
- nCodeDL 4 articles
- Engineering Mathematics ...

## latest comment

- Python AutoCAD selection set  
Homecoming: What should I do if this error occurs? I converted a circle to vtobj, bu' ...
- Python AutoCAD drawing  
weixin\_46670052: Thank you for your answer. Yesterday I saw an article which is ...
- Python AutoCAD drawing  
Hulunbuir: Then your CAD version is not 2014. The .19 means the 2014 version o ...
- Python AutoCAD drawing  
weixin\_46670052: Hello, blogger. I am very presumptuous. I would like to ask you w ...
- ANSYS finite element analysis contact a...  
Hulunbuir: Absolutely, just ask, it will definitely be resolved.

## Would you like to recommend "Blog"

- Details Page" to your friends?
- 
- Strongly not recomme Not so recomme recomme highly recomme

## latest articles

- Python language to create Abaqus inp file
- Python language to create ANSYS APDL command flow
- Python language to create HyerMesh Tcl command flow

6 articles in 2021 26 articles in 2020  
10 articles in 2019

## contents

- 7.3 Dynamic block
- 8. Color
- Nine, important methods
  - 9.1 SendCommad
  - 9.2 GetEntity
  - 9.3 SetXData/GetXData
- X. Documents
  - 10.1 Save as .dwg/.dxf
  - 10.2 Save as .pdf
  - 10.3 Save as .jpg/.png

Hulunbuir VIP  
Knowledge Management 新无认证

124 Description 8493 26万+  
积分 130 参与讨论 507 赞同 867 收藏 2000

Hulunbuir focus on

- Github: <https://github.com/mozman/dxfwrite>.
- Documentation: <https://dxfwrite.readthedocs.io/en/latest/>.

## 4.6 gdal

- Blog: 使用Python读写DXF和DWG文件。

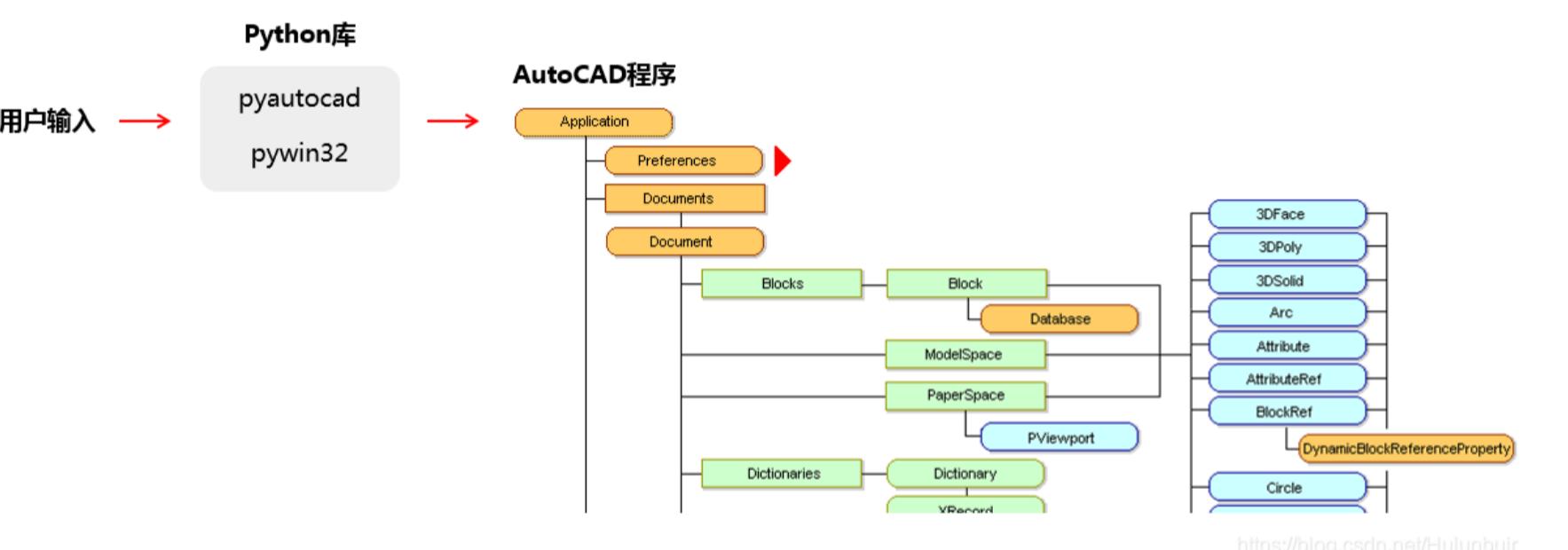
以上，便是截止目前常见的 AutoCAD 二次开发 Python 库，可根据个人需要，选择合适的 Python 库。

若想创建 .dwg 文件，建议采用 pywin32 库；若想创建 .dxf 文件，同时脱离 AutoCAD 软件环境，则可采用 ezdxf、dxfwrite，也可以采用 pywin32 库绘制好相应的文件后，以另存为的方式创建 .dxf 文件。

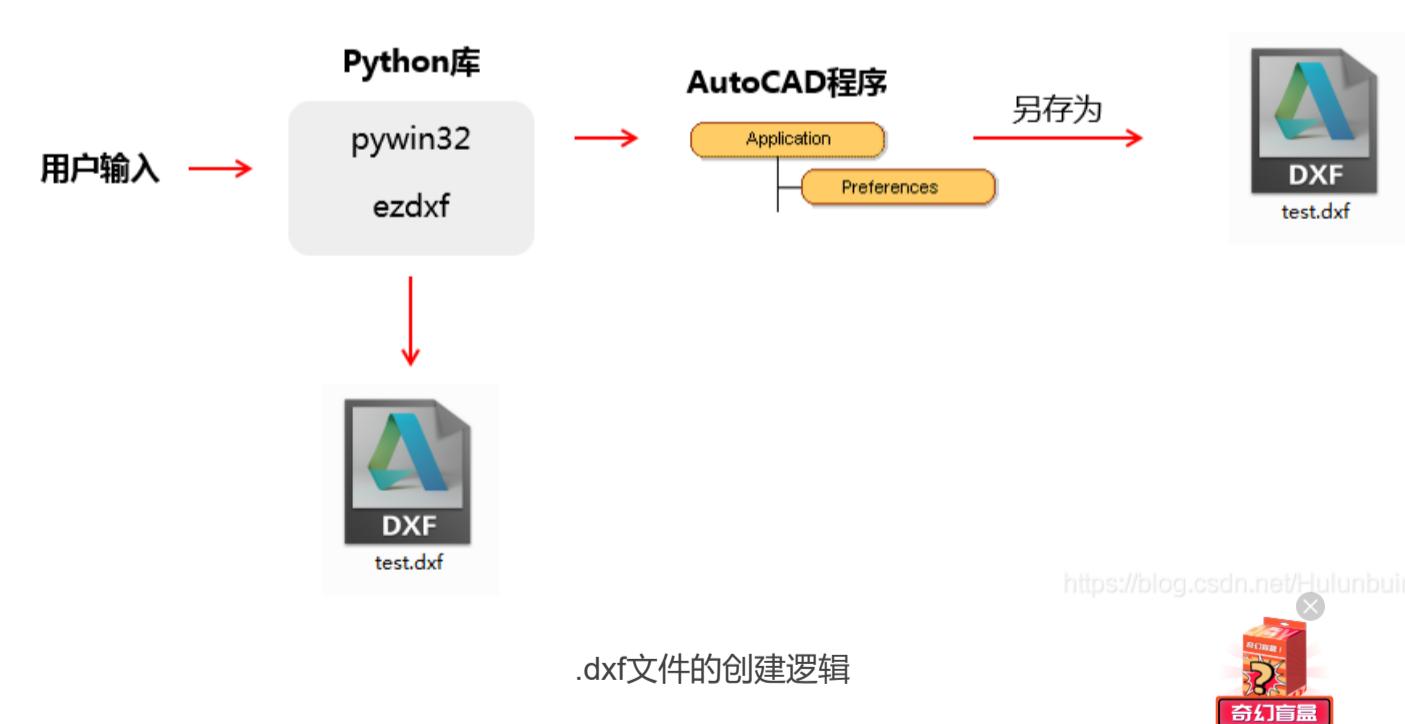
事实上，pyautocad 库和 pywin32 库仅仅起到了接口作用，它们只是构建好数据传输的通道，真正实现图形创建的是 AutoCAD 程序本身，AutoCAD 应用程序接收来自 Python 的命令后，完成图形的绘制等。因此，大家不必纠结于采用何种方式与 CAD 建立连接。

就反应速度而言，pyautocad 库相对较慢，而且好多高级的绘图功能 pyautocad 库暂时无法实现，如图案填充、选择集功能的实现等。所以，建议大家采用 pywin32 库即 win32com 方式连接 CAD 创建 .dwg 文件。除了速度方面的原因外，利用这个库，可以与 Excel、Word、Sap2000 等其他程序构建起数据传输通道，看到这不是觉得很爽，对的，我们的最终目的就是要用 Python 将各种计算软件联系起来，以实现某一工程问题的快速处理。例如一幢高层建筑的设计，我们可以按如下方式进行：Excel 提供用户输入数据、SAP2000 进行全局多工况内力弹性计算、Abaqus 完成局部弹性分析、nCode 进行个别钢构件的高周疲劳分析、AutoCAD 完成施工图的绘制、Word 生成最终的计算说明文件，以上操作均可在 Python 的控制下快速进行。

- Python 二次开发 Excel 简介
- Python 二次开发 SAP2000 概述
- Abaqus 二次开发 基本概念
- nCodeDL 疲劳分析 简明教程
- Python 二次开发 Word 简介



<https://blog.csdn.net/hulunbuir>



<https://blog.csdn.net/hulunbuir>

## 五、与CAD的连接

## 5.1 ProgID

Column list

Your browser is currently zoomed, and the page may be misaligned. It is recommended to display at 100% size.

私信 关注

搜博主文章



## 热门文章

- Python 二次开发 AutoCAD 简介 73795
- Python AutoCAD 绘图 28767
- Python AutoCAD 选择集 12894
- nCodeDL 疲劳分析 简明教程 12570
- HyperMesh 使用指南 12353

## 分类专栏

- Hydrodynamics 1篇
- AutoCAD 9篇
- MDB 1篇
- nCodeDL 4 articles
- Engineering Mathemat... 1

## latest comment

- Python AutoCAD selection set  
Homecoming: What should I do if this error occurs? I converted a circle to vtobj, bu' ...  
Python AutoCAD drawing  
weixin\_46670052: Thank you for your answer. Yesterday I saw an article which is ...  
Python AutoCAD drawing  
Hulunbuir: Then your CAD version is not 2014. The .19 means the 2014 version o ...  
Python AutoCAD drawing  
weixin\_46670052: Hello, blogger. I am very presumptuous. I would like to ask you w ...  
ANSYS finite element analysis contact a...  
Hulunbuir: Absolutely, just ask, it will definitely be resolved.

## Would you like to recommend "Blog"



Strongly not recomme

Not so so recomme

highly recomme

Strongly recomme

Not recomme

so so recomme

highly recomme

Strongly recomme

Not recomme

so so recomme

highly recomme

Strongly not recomme

Not so so recomme

highly recomme

Strongly recomme

Not recomme

so so recomme

highly recomme

Strongly recomme

Not recomme

so so recomme

highly recomme

Strongly recomme

Not recomme

so so recomme

highly recomme

Strongly not recomme

Not so so recomme

highly recomme

Strongly recomme

Not recomme

so so recomme

highly recomme

Strongly not recomme

Not so so recomme

highly recomme

Strongly recomme

Not recomme

so so recomme

highly recomme

Strongly not recomme

Not so so recomme

highly recomme

Strongly recomme

Not recomme

so so recomme

highly recomme

Strongly not recomme

Not so so recomme

highly recomme

Strongly recomme

Not recomme

so so recomme

highly recomme

Strongly not recomme

Not so so recomme

highly recomme

Strongly recomme

Not recomme

so so recomme

highly recomme

Strongly not recomme

Not so so recomme

highly recomme

Strongly recomme

Not recomme

so so recomme

highly recomme

Strongly not recomme

Not so so recomme

highly recomme

Strongly recomme

Not recomme

so so recomme

highly recomme

Strongly not recomme

Not so so recomme

highly recomme

Strongly recomme

Not recomme

so so recomme

highly recomme

Strongly not recomme

Not so so recomme

highly recomme

Strongly recomme

Not recomme

so so recomme

highly recomme

Strongly not recomme

Not so so recomme

highly recomme

Strongly recomme

Not recomme

so so recomme

highly recomme

Strongly not recomme

Not so so recomme

highly recomme

Strongly recomme

Not recomme

so so recomme

highly recomme

Strongly not recomme

Not so so recomme

highly recomme

Strongly recomme

Not recomme

so so recomme

highly recomme

Strongly not recomme

Not so so recomme

highly recomme

Strongly recomme

Not recomme

so so recomme

highly recomme

Strongly not recomme

Not so so recomme

highly recomme

Strongly recomme

Not recomme

so so recomme

highly recomme

Strongly not recomme

Not so so recomme

highly recomme

Strongly recomme

Not recomme

so so recomme

highly recomme

Strongly not recomme

Not so so recomme

highly recomme

Strongly recomme

Not recomme

so so recomme

highly recomme

Strongly not recomme

Not so so recomme

highly recomme

Strongly recomme

Not recomme

so so recomme

highly recomme

Strongly not recomme

Not so so recomme

highly recomme

Strongly recomme

Not recomme

so so recomme

highly recomme

Strongly not recomme

Not so so recomme

highly recomme

Strongly recomme

Not recomme

so so recomme

highly recomme

Strongly not recomme

Not so so recomme

highly recomme

Strongly recomme

Not recomme

so so recomme

highly recomme

Strongly not recomme

Not so so recomme

highly recomme

Strongly recomme

Not recomme

so so recomme

highly recomme

Strongly not recomme

Not so so recomme

highly recomme

Strongly recomme

Not recomme

so so recomme

highly recomme

Strongly not recomme

Not so so recomme

highly recomme

Strongly recomme

Not recomme

so so recomme

highly recomme

Strongly not recomme

Not so so recomme

highly recomme

Strongly recomme

Not recomme

so so recomme

highly recomme

Strongly not recomme

Not so so recomme

highly recomme

Strongly recomme

Not recomme

so so recomme

highly recomme

Strongly not recomme

Not so so recomme

highly recomme

Strongly recomme

Not recomme

私信 关注

搜博主文章



## 热门文章

- Python 二次开发 AutoCAD 简介 73795
- Python AutoCAD 绘图 28767
- Python AutoCAD 选择集 12894
- nCodeDL 疲劳分析 简明教程 12570
- HyperMesh 使用指南 12353

## 分类专栏

- Hydrodynamics 1篇
- AutoCAD 9篇
- MDB 1篇
- nCodeDL 4 articles
- Engineering Mathem... 1

## latest comment

- Python AutoCAD selection set  
Homecoming: What should I do if this error occurs? I converted a circle to vtobj, bu' ...
- Python AutoCAD drawing  
weixin\_46670052: Thank you for your answer. Yesterday I saw an article which is ...
- Python AutoCAD drawing  
Hulunbuir: Then your CAD version is not 2 014. The .19 means the 2014 version o ...
- Python AutoCAD drawing  
weixin\_46670052: Hello, blogger. I am very presumptuous. I would like to ask you w ...
- ANSYS finite element analysis contact a...  
Hulunbuir: Absolutely, just ask, it will definitely be resolved.

## Would you like to recommend "Blog"

Strongly not recomme Not so so recomme highly recomme

## latest articles

- Python language to create Abaqus inp file  
Python language to create ANSYS APDL command flow  
Python language to create HyerMesh Tcl command flow
- 6 articles in 2021 26 articles in 2020  
10 articles in 2019

## contents

- 7.3 Dynamic block
- 8. Color
- Nine, important methods
- 9.1 SendCommad
- 9.2 GetEntity
- 9.3 SetXData/GetXData
- X. Documents
- 10.1 Save as .dwg/.dxf
- 10.2 Save as .pdf
- 10.3 Save as .jpg/.png  
 Hulunbuir VIP  
knowledge management 新无认证

- 124 Description 8493 26万+   
积分 130 参与讨论 507 赞同 867 收藏 2000  
积分 粉丝 赞同 评论 收藏

```

37 print(doc.Name)
38 msp = doc.ModelSpace
39
40 # 3. 创建图元
41 x1, y1 = 0, 0
42 x2, y2 = 100, 100
43 p1, p2, = APoint(x1, y1), APoint(x2, y2)
44 msp.AddLine(p1, p2)
45
46 # 4. 文件保存
47 directory = r"D:" # 工作目录
48 dwgname = "ZK.dwg" # 工作目录
49 path = directory + "\\" + dwgname
50 dwgobj.Close(True, path)
51
52 # 5. 程序退出
53 acad.ActiveDocument.Application.Quit()

```

## 六、数据转换

**目的：**为了保证程序的顺利运行，用户输入的数据类型需转换成 CAD 能识别的数据类型。

**说明：**本人非计算机专业出身，以下表述纯属个人理解，不妥/错误之处还请各位批评指正。

Python 中的数据类型较少，且对数据本身的要求也较为宽松，如一个列表中的各个元素可以分别属于不同的数据类型，这虽然有利于降低程序的编写难度，但也对 CAD 的二次开发产生了一些不必要的麻烦。

在 CAD 二次开发过程中，很多函数/方法的参数要求输入的数据类型为 **Variant (array of objects)**，但在 Python 中似乎又没有哪一种数据类型与之直接相对应，若采用 **list** 代替 **Variant**，那么程序无法顺利执行，报错为 “**对象数组无效**”。因此，需要某种转换方式，将 Python 中定义的变量转换为能够被 CAD 识别的数据类型 **Variant**。

VARIANT 结构体主要是使用在 COM (组件对象模型) 中用于传递参数使用，它的存在主要是为了保持一个在 COM 参数传递方法的统一性，它几乎包含了所有普通常用类型的数据类型的传递，如整型，浮点型，布尔型等，以及相应类型的指针类型，如整型指针。<sup>[2]</sup>

部分类型与变量对应关系如下表：

Member name	Description
VT_EMPTY	Indicates that a value was not specified.
VT_R8	Indicates a double value.
VT_DISPATCH	Indicates an IDispatch pointer.

另外，NumPy arrays can be passed as VARIANT arrays arguments. The array is converted to a SAFEARRAY according to its type.<sup>[3]</sup> (此为 comtypes 库帮助文档原文，本人对计算机了解有限，为了不曲解原文，此处不做翻译)，部分对应关系如下：

NumPy type	VARIANT type
int32, int, intc, int_	VT_I4
uint32, uint, uintc	VT_UI4
float64, float_	VT_R8

comtypes 是一个轻量级的 python com 包，其中文网站详见：<https://www.cnpython.com/pypi/comtypes/>；官方文档详见：comtypes 1.1.3 documentation。

NumPy 是用 Python 进行科学计算的基础软件包，其官方的中文文档详见网站：[Numpy 中文网](#)。

在 Python 调用 AutoCAD 过程中，常用的数据转换函数如下：

```

1 #!/usr/bin/env python
2 # -*- coding: utf-8 -*-
3
4 """
5 =====
6 Author: DalNur
7 Email: liyang@alu.hit.edu.cn

```



私信 关注

搜博主文章



## 热门文章

- Python 二次开发 AutoCAD 简介 73795
- Python AutoCAD 绘图 28767
- Python AutoCAD 选择集 12894
- nCodeDL 疲劳分析 简明教程 12570
- HyperMesh 使用指南 12353

## 分类专栏

- Hydrodynamics 1篇
- AutoCAD 9篇
- MDB 1篇
- nCodeDL 4 articles
- Engineering Mathemat...

## latest comment

- Python AutoCAD selection set  
Homecoming: What should I do if this error occurs? I converted a circle to vtobj, bu' ...
- Python AutoCAD drawing  
weixin\_46670052: Thank you for your answer. Yesterday I saw an article which is ...
- Python AutoCAD drawing  
Hulunbuir: Then your CAD version is not 2014. The .19 means the 2014 version o ...
- Python AutoCAD drawing  
weixin\_46670052: Hello, blogger. I am very presumptuous. I would like to ask you w ...
- ANSYS finite element analysis contact a...  
Hulunbuir: Absolutely, just ask, it will definitely be resolved.

## Would you like to recommend "Blog"

Details Page" to your friends?

Strongly Not so so recommend highly

## latest articles

- Python language to create Abaqus inp file
- Python language to create ANSYS APDL command flow
- Python language to create HyerMesh Tcl command flow
- 6 articles in 2021 26 articles in 2020
- 10 articles in 2019

## contents

- 7.3 Dynamic block
- 8. Color

## Nine, important methods

- 9.1 SendCommand
- 9.2 GetEntity
- 9.3 SetXData/GetXData

## X. Documents

- 10.1 Save as .dwg/.dxf
- 10.2 Save as .pdf
- 10.3 Save as .jpg/.png

Hulunbuir VIP  
Knowledge Management 新无认证

124 Description 8493 26万+  
积分 10000 评论 1000 收藏

```

12 import pythoncom
13
14 wincad = win32com.client.Dispatch("AutoCAD.Application.19")
15 doc = wincad.ActiveDocument
16 doc.Utility.Prompt("Hello! Autocad from pywin32.")
17 msp = doc.ModelSpace
18 print(doc.Name)
19
20 def vtpnt(x, y, z=0):
21     """坐标点转化为浮点数"""
22     return win32com.client.VARIANT(pythoncom.VT_ARRAY | pythoncom.VT_R8, (x, y, z))
23
24 def vtobj(obj):
25     """转化为对象数组"""
26     return win32com.client.VARIANT(pythoncom.VT_ARRAY | pythoncom.VT_DISPATCH, obj)
27
28 def vtfloat(lst):
29     """列表转化为浮点数"""
30     return win32com.client.VARIANT(pythoncom.VT_ARRAY | pythoncom.VT_R8, lst)
31
32 def vtint(lst):
33     """列表转化为整数"""
34     return win32com.client.VARIANT(pythoncom.VT_ARRAY | pythoncom.VT_I2, lst)
35
36 def vtvariant(lst):
37     """列表转化为变体"""
38     return win32com.client.VARIANT(pythoncom.VT_ARRAY | pythoncom.VT_VARIANT, lst)

```

## 七、绘图

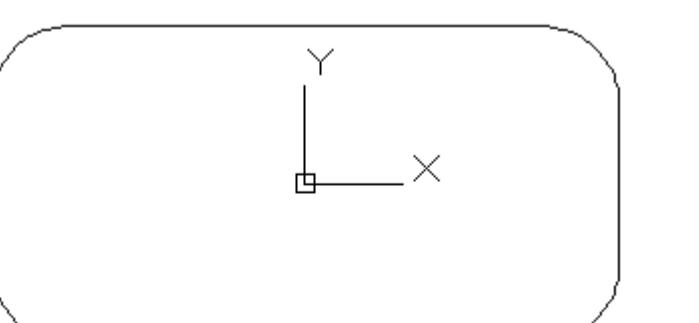
本部分仅介绍一些复杂图形的绘制，更多基础图形的绘制详见博客：Python AutoCAD 绘图。

## 7.1 倒角矩形

```

1 #!/usr/bin/env python
2 # -*- coding: utf-8 -*-
3
4 """
5 =====
6 Author: DalNur
7 Email: liyang@alu.hit.edu.cn
8 =====
9 """
10
11 from pyautocad import Autocad, APoint, aDouble
12 import math
13
14 pyacad = Autocad(create_if_not_exists=True)
15 pyacad.prompt("Hello! AutoCAD from pyautocad.")
16 print(pyacad.doc.Name)
17
18 [L, B, R] = [400, 200, 50] # L、B、R分别为矩形的长度、矩形的宽度及圆角半径。
19
20 x = [0.5 * (L - 2 * R), 0.5 * L] # 倒角矩形各关键点横坐标的绝对值;
21 y = [0.5 * (B - 2 * R), 0.5 * B] # 倒角矩形各关键点纵坐标的绝对值;
22
23 pnts = [APoint(x[0], -y[1]), APoint(x[1], -y[0]), APoint(x[1], y[0]),
24         APoint(x[0], y[1]), APoint(-x[0], y[1]), APoint(-x[1], y[0]),
25         APoint(-x[1], -y[0]), APoint(-x[0], -y[1])]
26
27 pnts = [j for i in pnts for j in i] # 将各点坐标顺序变换为行数据
28 pnts = aDouble(pnts) # 转化为双精度浮点数
29
30plineObj = pyacad.model.AddPolyLine(pnts)
31plineObj.Closed = True # 闭合多段线
32bulgeValue = math.tan(math.pi / 8) # 凸度，为四分之一倍圆弧所对圆心角的正切值。
33
34 [plineObj.SetBulge(2 * i, bulgeValue) for i in range(4)]
35 # 将多段线的第1、3、5、7部分设置为凸度为bulgevalue的圆弧。

```



https://blog.csdn.net/Hulunbuir

倒角矩形



奇幻画板



report



report

Hulunbuir focus on

170 341 600

Column list

Your browser is currently zoomed, and the page may be misaligned. It is recommended to display at 100% size.



[私信](#)
[关注](#)

搜博主文章



## 热门文章

- Python 二次开发 AutoCAD 简介 73795
- Python AutoCAD 绘图 28767
- Python AutoCAD 选择集 12894
- nCodeDL 疲劳分析 简明教程 12570
- HyperMesh 使用指南 12353

## 分类专栏

- Hydrodynamics 1篇
- AutoCAD 9篇
- MDB 1篇
- nCodeDL 4 articles
- Engineering Mathemat... 1

## latest comment

- Python AutoCAD selection set  
Homecoming: What should I do if this error occurs? I converted a circle to vtobj, bu' ...
- Python AutoCAD drawing  
weixin\_46670052: Thank you for your answer. Yesterday I saw an article which is ...
- Python AutoCAD drawing  
Hulunbuir: Then your CAD version is not 2014. The .19 means the 2014 version o ...
- Python AutoCAD drawing  
weixin\_46670052: Hello, blogger. I am very presumptuous. I would like to ask you w ...
- ANSYS finite element analysis contact a...  
Hulunbuir: Absolutely, just ask, it will definitely be resolved.

## Would you like to recommend "Blog"

Strongly not recomme Not so so recomme highly recomme

## latest articles

- Python language to create Abaqus inp file
- Python language to create ANSYS APDL command flow
- Python language to create HyerMesh Tcl command flow

6 articles in 2021 26 articles in 2020  
10 articles in 2019

## contents

7.3 Dynamic block

## 8. Color

Nine, important methods

9.1 SendCommad

9.2 GetEntity

9.3 SetXData/GetXData

## X. Documents

10.1 Save as .dwg/.dxf

10.2 Save as .pdf

10.3 Save as .jpg/.png  
 Hulunbuir 新无认证

124 Description 8493 26万+

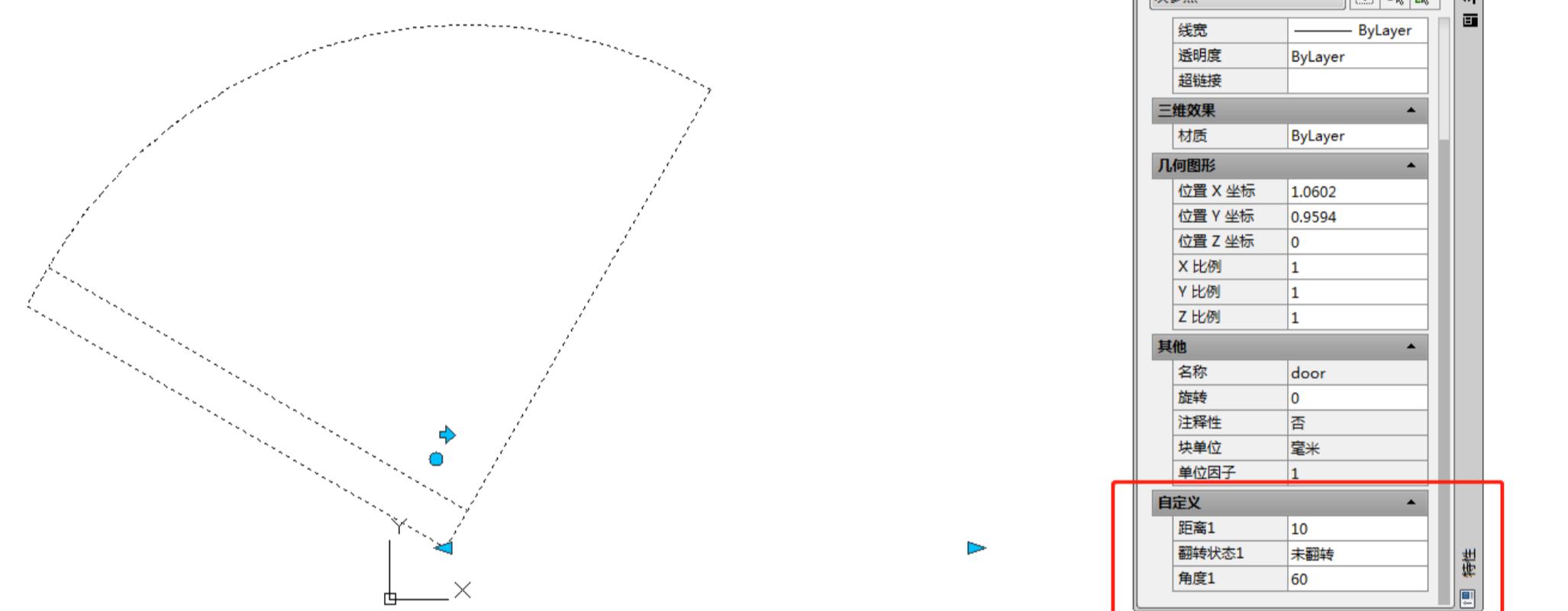
130 References 507 867 2000  
积分 粉丝 赞同 评论 收藏

Hulunbuir focus on

```

11 acad = win32com.client.Dispatch("AutoCAD.Application")
12
13 # iterate through all objects (entities) in the currently opened drawing
14 # and if its a BlockReference, display its attributes.
15
16 for entity in acad.ActiveDocument.ModelSpace:
17     name = entity.EntityName
18     print(name)
19     if name == 'AcDbBlockReference':
20         if entity.IsDynamicBlock:
21             print("Is dynamic block")
22
23         block_ = entity.GetDynamicBlockProperties()
24         print(block_)
25         print("print property")
26         for p in block_:
27             print("(")
28             print(p.AllowedValues)
29             print(p.Description)
30             print(p.PropertyName)
31             print(p.ReadOnly)
32             print(p.Show)
33             print(p.UnitsType)
34             print(p.Value)
35             print(")")
36             print("=====")
37             # 修改动态块的尺寸
38             if p.PropertyName == "距离1":
39                 p.Value = float(10)
40             if p.PropertyName == "角度1":
41                 p.Value = float(3.14159265/3)
42                 # 角度为弧度制
43             # if p.PropertyName == "翻转状态1":
44                 # p.Value = 1
45             # 此功能报错，原因待查明。

```



<https://blog.csdn.net/hulunbuir>

## 八、颜色

在 AutoCAD 中, 颜色设置是普遍存在的, 如设置图层的颜色, 指定标注文字的颜色等等。多数情况下可以通过设置 RGB 值来实现, 但有时需要直接指定一个数字来代表该颜色。在此, 把代表该颜色的数值变量称为 **颜色标识号** (可能有专门的术语, 管它呢, 我就这么叫, 爱谁谁), 用 **clr** 表示。某一颜色的 **clr** 值可由该颜色的 RGB 值计算得到, 计算公式如下:

$$clr = R + 256 \times G + 256 \times 256 \times B$$

例如: 对于白色 (R=255,G=255,B=255) , 其对应的颜色标识号 **clr** 为  $255 + 256 \times 255 + 256 \times 256 \times 255 = 16777215$ 。

根据上述公式, 几种常用的标准颜色的颜色标识号如下:



颜色	clr	颜色	clr
黑色	0	青色	6776960
红色	255	蓝色	16711680
黄色	65535	洋红	16711935
绿色	65280	白色	6777215

私信 关注

搜博主文章



## 热门文章

- Python 二次开发 AutoCAD 简介 73795
- Python AutoCAD 绘图 28767
- Python AutoCAD 选择集 12894
- nCodeDL 疲劳分析 简明教程 12570
- HyperMesh 使用指南 12353

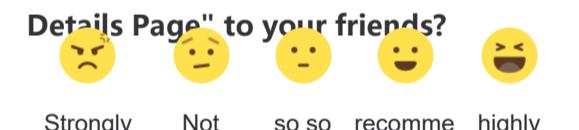
## 分类专栏

- Hydrodynamics 1篇
- AutoCAD 9篇
- MDB 1篇
- nCodeDL 4 articles
- Engineering Mathemat... 1

## latest comment

- Python AutoCAD selection set  
Homecoming: What should I do if this error occurs? I converted a circle to vtobj, bu' ...  
Python AutoCAD drawing  
weixin\_46670052: Thank you for your answer. Yesterday I saw an article which is ...  
Python AutoCAD drawing  
Hulunbuir: Then your CAD version is not 2014. The .19 means the 2014 version o ...  
Python AutoCAD drawing  
weixin\_46670052: Hello, blogger. I am very presumptuous. I would like to ask you w ...  
ANSYS finite element analysis contact a...  
Hulunbuir: Absolutely, just ask, it will definitely be resolved.

## Would you like to recommend "Blog"



Strongly not recomme... highly recomme...

## latest articles

- Python language to create Abaqus inp file
- Python language to create ANSYS APDL command flow
- Python language to create HyerMesh Tcl command flow
- 6 articles in 2021 26 articles in 2020
- 10 articles in 2019

## contents

- 7.3 Dynamic block
- 8. Color
- Nine, important methods
- 9.1 SendCommad
- 9.2 GetEntity
- 9.3 SetXData/GetXData

## X. Documents

- 10.1 Save as .dwg/.dxf
- 10.2 Save as .pdf
- 10.3 Save as jpg/png

 Hulunbuir VIP  
knowledge management 新无认证

 124 Description 8493 26万+  
 130 130 130

 130 References 507 867 2000  
 积分 粉丝 赞同 评论 收藏

## 示例

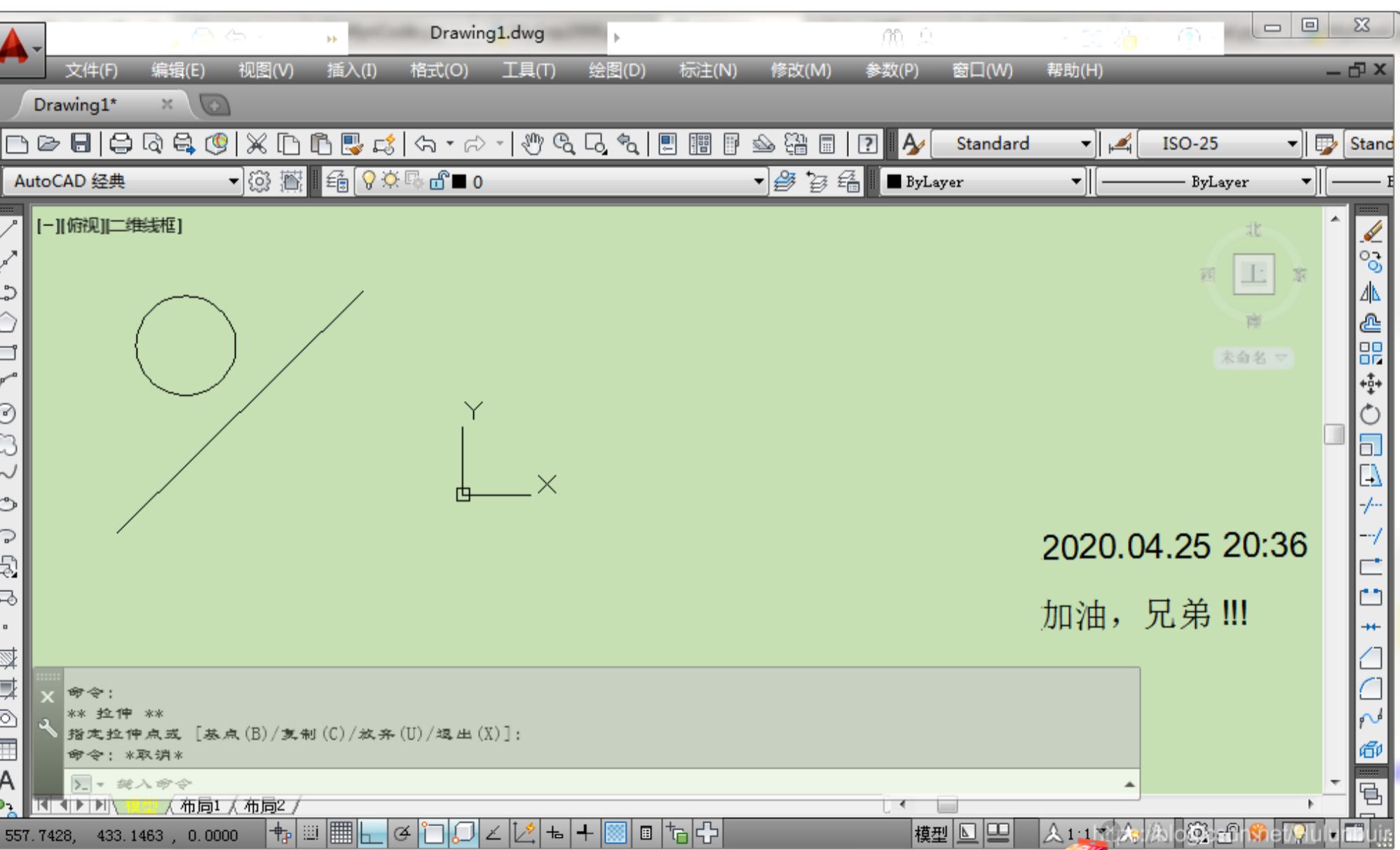
将 AutoCAD 程序的模型空间背景色设置成如下所示的淡绿色:



R=198 G=224 B=180

clr = 198 + 256 × 224 + 256 × 256 × 180 = 11854022

Your browser is currently zoomed, and the page may be misaligned. It is recommended to display at 100% size.



该功能的实现历经波折，卡顿了近三个月，终于，在那一天下班铃响后测试成功。

值得注意的是，不是所有的颜色指定都可以采用该种方式，如图案填充颜色的设置就是通过直接设置 RGB 方式实现的。

蓝色的定义: doc.Application.GetInterfaceObject("AutoCAD.AcCmColor.19").SetRGB(0, 0, 255)。

私信

关注

搜博主文章



## 热门文章

- Python 二次开发 AutoCAD 简介 73795
- Python AutoCAD 绘图 28767
- Python AutoCAD 选择集 12894
- nCodeDL 疲劳分析 简明教程 12570
- HyperMesh 使用指南 12353

## 分类专栏

- Hydrodynamics 1篇
- AutoCAD 9篇
- MDB 1篇
- nCodeDL 4 articles
- Engineering Mathematics ...

## latest comment

- Python AutoCAD selection set  
Homecoming: What should I do if this error occurs? I converted a circle to vtobj, bu' ...
- Python AutoCAD drawing  
weixin\_46670052: Thank you for your answer. Yesterday I saw an article which is ...
- Python AutoCAD drawing  
Hulunbuir: Then your CAD version is not 2 014. The .19 means the 2014 version o ...
- Python AutoCAD drawing  
weixin\_46670052: Hello, blogger. I am very presumptuous. I would like to ask you w ...
- ANSYS finite element analysis contact a...  
Hulunbuir: Absolutely, just ask, it will definitely be resolved.

## Would you like to recommend "Blog"

- Strongly not recomme
- Not so so recomme
- Recomme highly

## latest articles

- Python language to create Abaqus inp file
- Python language to create ANSYS APDL command flow
- Python language to create HyerMesh Tcl command flow

6 articles in 2021 26 articles in 2020  
10 articles in 2019

## contents

7.3 Dynamic block

## 8. Color

## Nine, important methods

9.1 SendCommad

9.2 GetEntity

9.3 SetXData/GetXData

## X. Documents

10.1 Save as .dwg/.dxf

10.2 Save as .pdf

10.3 Save as .jpg/.png  
 Hulunbuir VIP  
新无认证

124 Description 8493 26万+  
积分 133 评论 133  
Thirteen, the end

130 References 507 867 2000  
积分 130 粉丝 获赞 507 评论 867 收藏

## 九、重要方法

## 9.1 SendCommad



Sends a command string from a VB or VBA application to the document for processing.

## Signature

object.SendCommand Command

## Object

Document

The object this method applies to.

## Command

String; input-only  
The command to send to the document.<https://blog.csdn.net/Hulunbuir>

## SendCommand方法

极个别情况下，采用常规方式很难实现某一功能，如设置默认视图、定义永久标注样式等。此时，可尝试采用 SendCommand 方式来实现。  
具体方法为，先在 AutoCAD 软件界面操作一遍，然后查看在此过程中提示工具栏内的数据变化，最后，将这些变化稍加改动按照 CAD 二次开发的规则输入到 SendCommand 内，即可得到相应的 Python 代码。

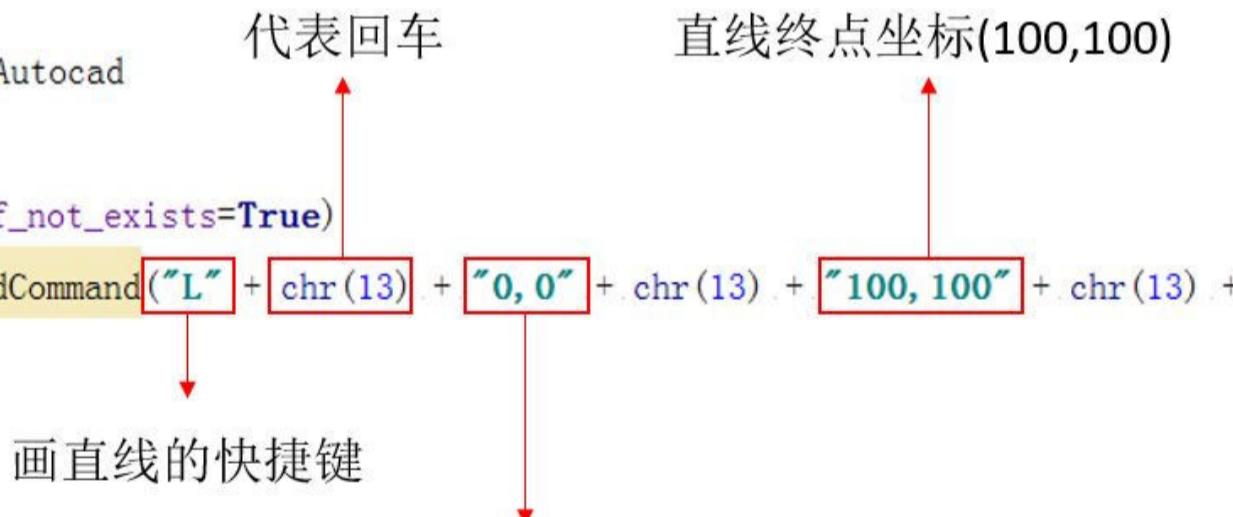
以直线的绘制为例，在 AutoCAD 软件中的操作步骤为：输入绘制直线的快捷命令 “L” > 回车 > 屏幕上点选第一个点 > 回车 > 屏幕上点选第二个点 > 回车，直觉告诉我们 SendCommand 括号内数据输入也应该是这一顺序，即

SendCommand ("L" + 回车 + 第一个点坐标 + 回车 + 第二个点坐标 + 回车)



直线绘制过程中命令栏内的显示情况

```
from pyautocad import Autocad
acad = Autocad(create_if_not_exists=True)
acad.ActiveDocument.SendCommand("L" + chr(13) + "0,0" + chr(13) + "100,100" + chr(13) + chr(13))
```

<https://blog.csdn.net/Hulunbuir>

## SendCommand方式绘制直线的Python代码

另一个典型的例子是将程序的预设视图由俯视变为西南等轴测，将视觉样式由二维线框变更为真实，在 CAD 界面操作后，命令栏将显示出如下数据：



Hulunbuir focus on

170 341 600



Your browser is currently zoomed, and the page may be misaligned. It is recommended to display at 100% size.

私信 关注

搜博主文章

热门文章

- Python 二次开发 AutoCAD 简介 73795
- Python AutoCAD 绘图 28767
- Python AutoCAD 选择集 12894
- nCodeDL 疲劳分析 简明教程 12570
- HyperMesh 使用指南 12353

分类专栏

- Hydrodynamics 1篇
- AutoCAD 9篇
- MDB 1篇
- nCodeDL 4 articles
- Engineering Mathem... 1篇

## latest comment

Python AutoCAD selection set  
Homecoming: What should I do if this error occurs? I converted a circle to vtobj, bu' ...  
Python AutoCAD drawing  
weixin\_46670052: Thank you for your answer. Yesterday I saw an article which is ...  
Python AutoCAD drawing  
Hulunbuir: Then your CAD version is not 2014. The .19 means the 2014 version o ...  
Python AutoCAD drawing  
weixin\_46670052: Hello, blogger. I am very presumptuous. I would like to ask you w ...  
ANSYS finite element analysis contact a...  
Hulunbuir: Absolutely, just ask, it will definitely be resolved.

## Would you like to recommend "Blog"

Details Page" to your friends?

Strongly not Not so so recommend highly recommend

## latest articles

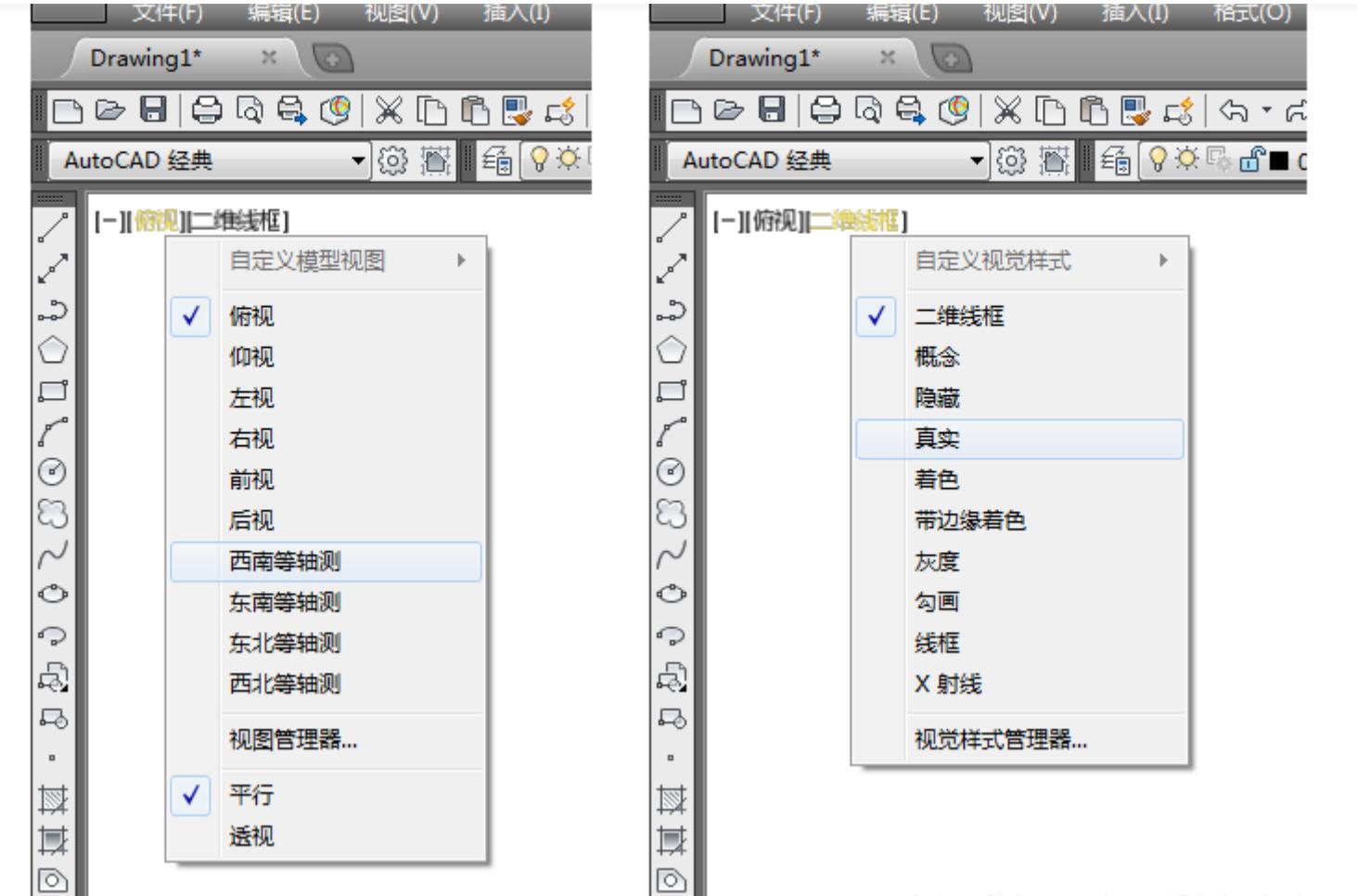
Python language to create Abaqus inp file  
Python language to create ANSYS APDL command flow  
Python language to create HyerMesh Tcl command flow

6 articles in 2021 26 articles in 2020  
10 articles in 2019

## contents

7.3 Dynamic block  
8. Color  
Nine, important methods  
9.1 SendCommand  
9.2 GetEntity  
9.3 SetXData/GetXData  
X. Documents  
10.1 Save as .dwg/.dxf  
10.2 Save as .pdf  
10.3 Save as .jpg/.png  
Hulunbuir VIP  
Knowledge Management 新无认证

124 Description 8493 26万+  
积分 130 参与讨论 507 赞同 867 收藏 2000  
Thirteen, the end  
130 References 507 867 2000  
积分 粉丝 赞同 评论 收藏



https://blog.csdn.net/Hulunbuir

预设视图及视觉样式的修改



预设视图及视觉样式修改过程中命令栏内的显示情况

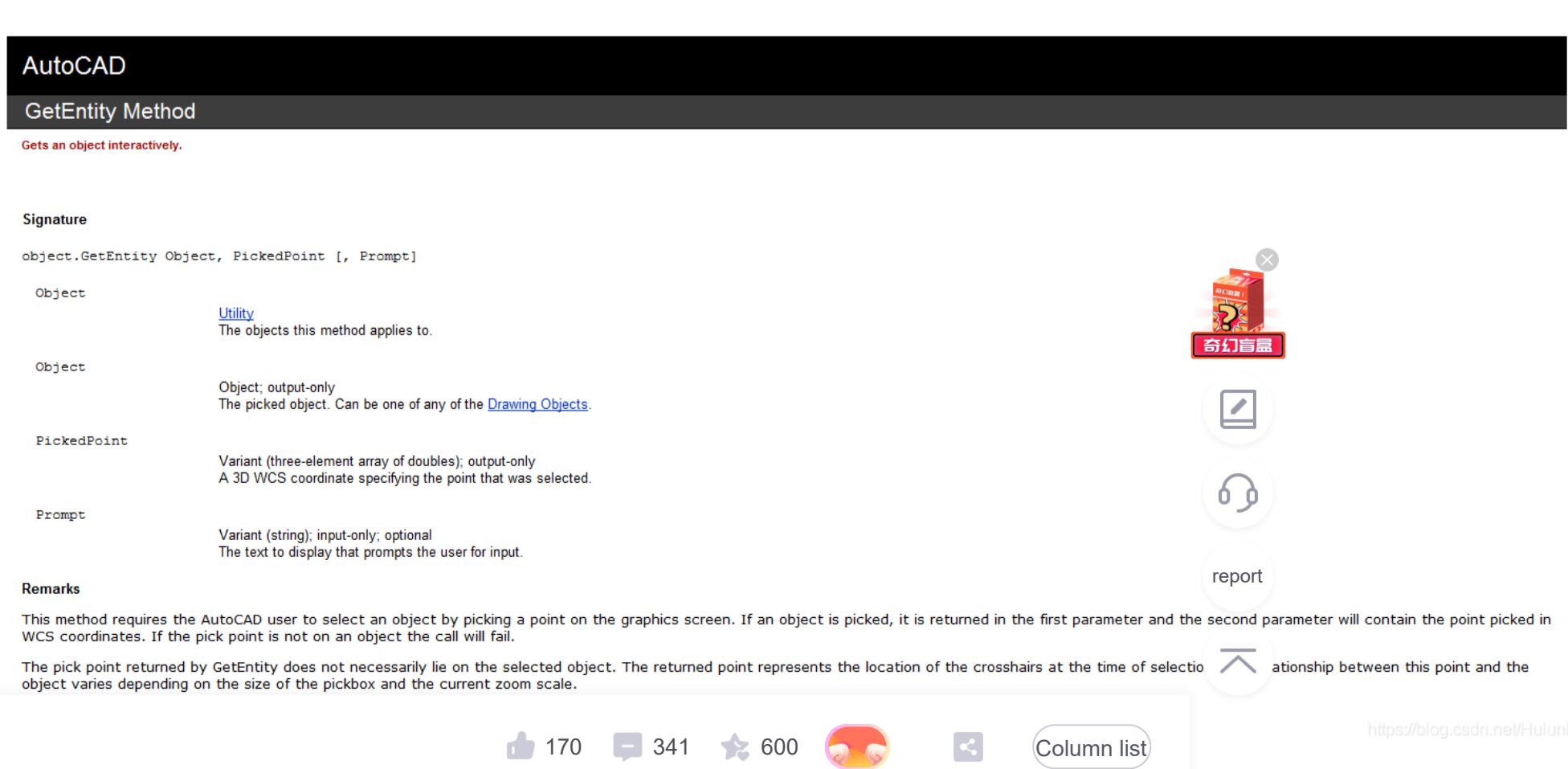
显然, 实现这两项功能的 Python 代码为:

```
1 #!/usr/bin/env python
2 # -*- coding: utf-8 -*-
3
4 """
5 =====
6 Author: DalNur
7 Email: liyang@alu.hit.edu.cn
8 =====
9 """
10 from pyautocad import Autocad
11
12 pyacad = Autocad(create_if_not_exists=True)
13 pyacad.prompt("Hello! AutoCAD from pyautocad.")
14 print(pyacad.doc.Name)
15
16 pyacad.ActiveDocument.SendCommand("_view" + chr(13) + "_swiso" + chr(13)) # 定义预设视图为西南等轴测。
17 pyacad.ActiveDocument.SendCommand("_vscurrent" + chr(13) + "_R" + chr(13)) # 视图样式设置为真实。
```

值得注意的是, 不是所有的功能均可由该方式实现, 极其个别的功能就实现不了, 但是这些功能通常也没必要采用二次开发的方式实现, 直接点下软件界面不好么。

## 9.2 GetEntity

更多图元选择即选择集功能的实现, 详见博客: Python AutoCAD 选择集。



私信 关注

搜博主文章



## 热门文章

- Python 二次开发 AutoCAD 简介 73795
- Python AutoCAD 绘图 28767
- Python AutoCAD 选择集 12894
- nCodeDL 疲劳分析 简明教程 12570
- HyperMesh 使用指南 12353

## 分类专栏

- Hydrodynamics 1篇
- AutoCAD 9篇
- MDB 1篇
- nCodeDL 4 articles
- Engineering Mathematics ...

## latest comment

- Python AutoCAD selection set  
Homecoming: What should I do if this error occurs? I converted a circle to vtobj, bu' ...
- Python AutoCAD drawing  
weixin\_46670052: Thank you for your answer. Yesterday I saw an article which is ...
- Python AutoCAD drawing  
Hulunbuir: Then your CAD version is not 2 014. The .19 means the 2014 version o ...
- Python AutoCAD drawing  
weixin\_46670052: Hello, blogger. I am very presumptuous. I would like to ask you w ...
- ANSYS finite element analysis contact a...  
Hulunbuir: Absolutely, just ask, it will definitely be resolved.

## Would you like to recommend "Blog"

Strongly not recomme Not so so recomme highly recomme

## latest articles

- Python language to create Abaqus inp file
- Python language to create ANSYS APDL command flow
- Python language to create HyerMesh Tcl command flow
- 6 articles in 2021 26 articles in 2020
- 10 articles in 2019

## contents

- 7.3 Dynamic block
  - 8. Color
  - Nine, important methods
    - 9.1 SendCommad
    - 9.2 GetEntity
    - 9.3 SetXData/GetXData
  - X. Documents
    - 10.1 Save as .dwg/.pdf
    - 10.2 Save as .pdf
    - 10.3 Save as .jpg/.png
- Hulunbuir VIP  
knowledge management 新无认证
- 124 Description 8493 26万+   
积分 8493 参与讨论 26万+   
Thirteen, the end
- 130 References 507 867 2000   
积分 507 粉丝 867 赞同 2000 收藏

```

1 #!/usr/bin/env python
2 # -*- coding: utf-8 -*-
3 """
4 =====
5 Author: DalNur
6 Email: liyang@alu.hit.edu.cn
7 =====
8 """
9 """
10
11 import pythoncom
12 import win32com.client
13 import math
14
15 wincad = win32com.client.Dispatch("AutoCAD.Application")
16 doc = wincad.ActiveDocument
17 doc.Utility.Prompt("Hello! Autocad from pywin32com.\n")
18 msp = doc.ModelSpace
19 print(doc.Name)
20
21 def vtpnt(x, y, z=0):
22     """坐标点转化为浮点数"""
23     return win32com.client.VARIANT(pythoncom.VT_ARRAY | pythoncom.VT_R8, (x, y, z))
24
25 pnt1, pnt2, pnt3 = vtpnt(-40, -40), vtpnt(500, 500), vtpnt(300, 200)
26 lineObj = msp.AddLine(pnt1, pnt2)
27 circleObj = msp.AddCircle(pnt3, 100)
28
29 print("请在CAD程序界面点选图元, 未选中则报错!") # try...except处理报错
30 rtnObj = doc.Utility.GetEntity() # 返回对象
31
32 print(rtnObj)
33 print("所选图元的ID: ", rtnObj[0].ObjectID)
34 print("鼠标单击处的坐标: ", rtnObj[1])
35
36 sltObject = doc.ObjectIdToObject(rtnObj[0].ObjectID) # 图元ID转化为对应的图元
37
38 clr = doc.Application.GetInterfaceObject("AutoCAD.AcCmColor.19")
39 clr.SetRGB(255, 0, 0) # 创建红色
40 sltObject.TrueColor = clr # 指定颜色
41
42 doc.Application.Update()

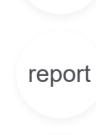
```

## 9.3 SetXData/GetXData

```

1 #!/usr/bin/env python
2 # -*- coding: utf-8 -*-
3 """
4 =====
5 Author: DalNur
6 Email: liyang@alu.hit.edu.cn
7 =====
8 """
9 """
10
11 # This example creates a line and attaches extended data to that line.
12
13 import pythoncom
14 import win32com.client
15
16 wincad = win32com.client.Dispatch("AutoCAD.Application")
17 doc = wincad.ActiveDocument
18 doc.Utility.Prompt("Hello! Autocad from pywin32com.\n")
19 msp = doc.ModelSpace
20 print(doc.Name)
21
22 def vtpnt(x, y, z=0):
23     return win32com.client.VARIANT(pythoncom.VT_ARRAY | pythoncom.VT_R8, (x, y, z))
24
25 def vtfloat(val):
26     return win32com.client.VARIANT(pythoncom.VT_ARRAY | pythoncom.VT_R8, val)
27
28 def vtint(val):
29     return win32com.client.VARIANT(pythoncom.VT_ARRAY | pythoncom.VT_I2, val)
30
31 def vtvariant(var):
32     return win32com.client.VARIANT(pythoncom.VT_ARRAY | pythoncom.VT_VARIANT, var)
33
34 # Create the line
35
36 startPntCoords = vtpnt(1, 1, 0)
37 startPoint = msp.AddPoint(startPntCoords)
38 endPntCoords = vtpnt(5, 5, 0)
39 endPoint = msp.AddPoint(endPntCoords)
40 lineObj = msp.AddLine(startPntCoords, endPntCoords)
41
42 # Initialize all the xdata values. Note that first data in the list should be
43 # application name and first datatype code should be 1001
44

```



Your browser is currently zoomed, and the page may be misaligned. It is recommended to display at 100% size.

[私信](#)
[关注](#)

搜博主文章



## 热门文章

- Python 二次开发 AutoCAD 简介 73795
- Python AutoCAD 绘图 28767
- Python AutoCAD 选择集 12894
- nCodeDL 疲劳分析 简明教程 12570
- HyperMesh 使用指南 12353

## 分类专栏

- Hydrodynamics 1篇
- AutoCAD 9篇
- MDB 1篇
- nCodeDL 4 articles
- Engineering Mathemat...  
▼

## latest comment

- Python AutoCAD selection set  
Homecoming: What should I do if this error occurs? I converted a circle to vtobj, bu' ...
- Python AutoCAD drawing  
weixin\_46670052: Thank you for your answer. Yesterday I saw an article which is ...
- Python AutoCAD drawing  
Hulunbuir: Then your CAD version is not 2014. The .19 means the 2014 version o ...
- Python AutoCAD drawing  
weixin\_46670052: Hello, blogger. I am very presumptuous. I would like to ask you w ...
- ANSYS finite element analysis contact a...  
Hulunbuir: Absolutely, just ask, it will definitely be resolved.

## Would you like to recommend "Blog"

Strongly not recomme Not so so recomme highly recomme

## latest articles

- Python language to create Abaqus inp file
- Python language to create ANSYS APDL command flow
- Python language to create HyerMesh Tcl command flow
- 6 articles in 2021 26 articles in 2020
- 10 articles in 2019

## contents

- 7.3 Dynamic block
- 8. Color
- Nine, important methods
  - 9.1 SendCommad
  - 9.2 GetEntity
  - 9.3 SetXData/GetXData
- X. Documents
  - 10.1 Save as .dwg/.dxf
  - 10.2 Save as .pdf
  - 10.3 Save as .jpg/.png

124 Description 8493 26万+  
积分 13  
Thirteen, the end

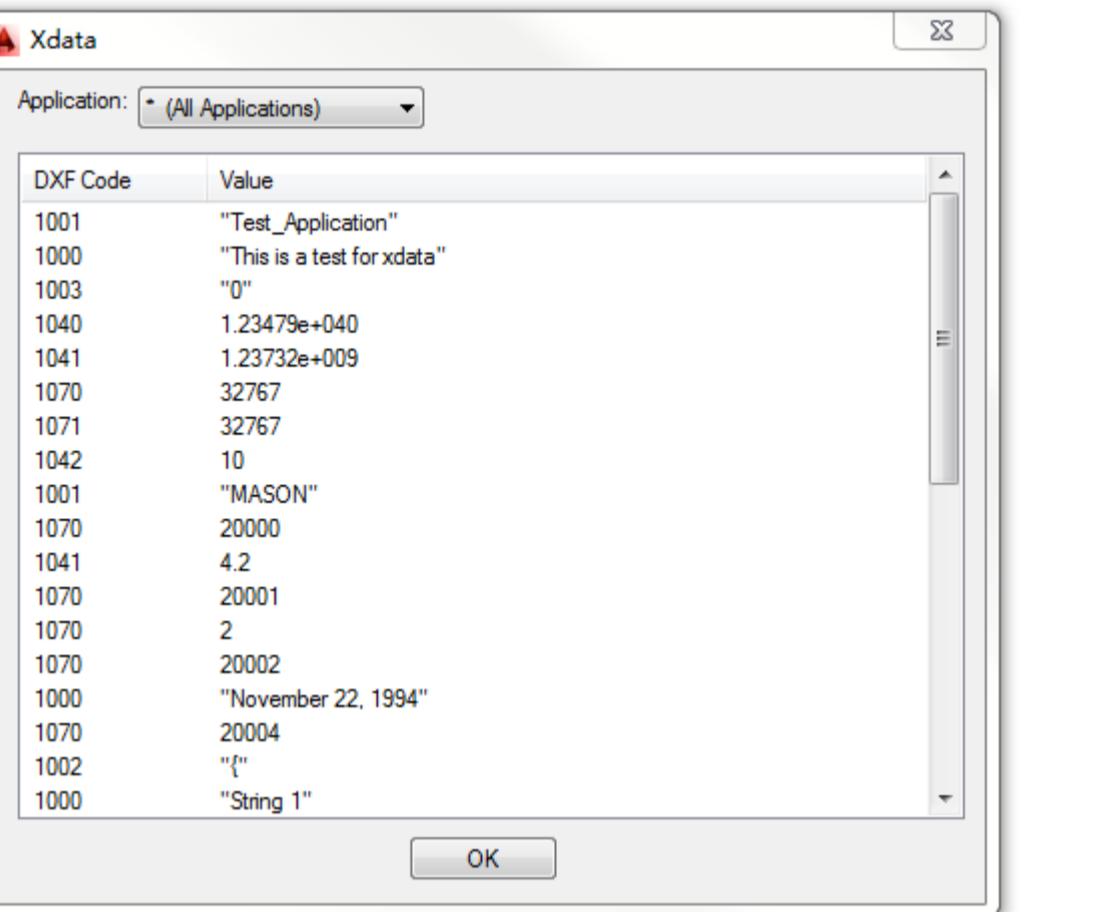
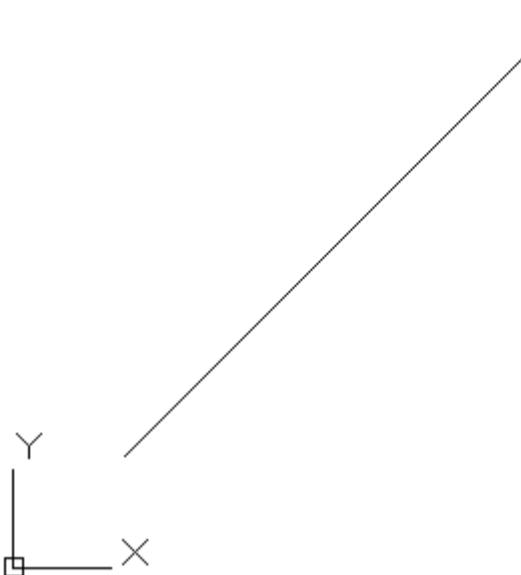
130 References 507 867 2000  
积分 粉丝 赞同 评论 收藏

```

49 | # DataType.append(1010)
50 | # Data.append(real3)
51 | # worldPos = [4, 400.9999999, 2.79898]
52 | # DataType.append(1011)
53 | # Data.append(worldPos)
54 |
55 | DataType = vtint(DataType)
56 | Data = vtvariant(Data)
57 | # Attach the xdata to the line
58 | lineObj.SetXData(DataType, Data)
59 |
60 | # Return the xdata for the line
61 | xtypeOut, xdataOut = lineObj.GetXData("Test_Application")
62 | print(xtypeOut)
63 | print(xdataOut)

```

所添加的拓展数据可按如下方式查看: [ObjectARX] ArxDbg介绍、自动加载及其下载。



<https://blog.csdn.net/Hulunbuir>

扩展数据的查看

## 十、文件

更多文件相关的操作, 详见博客: Python AutoCAD 文件。

## 10.1 另存为.dwg/.dxf

以下方法另存为的文件格式只能是 .dwg 和 .dxf, 这与在 CAD 软件中, 依次点击 文件 >> 另存为 是相对应的。

## 1. 当前文件另存为.dwg/.dxf

将当前文件另存为 TestSaveAs.dxf, 文件的版本是: AutoCAD 2013 DXF, 代码如下:

```
1 | pyacad.ActiveDocument.SaveAs("D:\\AutoCAD\\TestSaveAs", 61)
```

上一代码执行完毕后, 当前文件被程序关闭, TestSaveAs.dxf 文件被打开, 且设定为当前活跃文件。

Parameter 61 is AcSaveAsType enum, which means that the type of save as file is AutoCAD 2013 DXF, and other commonly used types are as follows:

Version	.dwg	.dxf
AutoCAD 2000	12	13
AutoCAD 2004	twenty four	25
AutoCAD 2007	36	37
AutoCAD 2010	48	49
AutoCAD 2013	60	61

AcSaveAsType enum can be viewed in the official secondary development help document [ActiveX Developer's Guide](#), and the viewing method is shown in the following figure:

report



Hulunbuir focus on

170 341 600 Column list

Your browser is currently zoomed, and the page may be misaligned. It is recommended to display at 100% size.



搜博主文章



热门文章

- Python 二次开发 AutoCAD 简介 73795
- Python AutoCAD 绘图 28767
- Python AutoCAD 选择集 12894
- nCodeDL 疲劳分析 简明教程 12570
- HyperMesh 使用指南 12353

分类专栏

- Hydrodynamics 1篇
- AutoCAD 9篇
- MDB 1篇
- nCodeDL 4 articles
- Engineering Mathemati...

latest comment

- Python AutoCAD selection set  
Homecoming: What should I do if this error occurs? I converted a circle to vtobj, bu' ...  
Python AutoCAD drawing  
weixin\_46670052: Thank you for your answer. Yesterday I saw an article which is ...  
Python AutoCAD drawing  
Hulunbuir: Then your CAD version is not 2014. The .19 means the 2014 version o ...  
Python AutoCAD drawing  
weixin\_46670052: Hello, blogger. I am very presumptuous. I would like to ask you w ...  
ANSYS finite element analysis contact a...  
Hulunbuir: Absolutely, just ask, it will definitely be resolved.

Would you like to recommend "Blog"  
  
 Strongly not recomme... Not so so recomme... highly recomme...

latest articles

- Python language to create Abaqus inp file
- Python language to create ANSYS APDL command flow
- Python language to create HyerMesh Tcl command flow
- 6 articles in 2021 26 articles in 2020
- 10 articles in 2019

contents

- 7.3 Dynamic block
  - 8. Color
  - Nine, important methods
    - 9.1 SendCommad
    - 9.2 GetEntity
    - 9.3 SetXData/GetXData
  - X. Documents
    - 10.1 Save as .dwg/.dxf
    - 10.2 Save as .pdf
    - 10.3 Save as .jpg/.png
- Hulunbuir
- 124 Description 8493 26万+
- Thirteen, the end
- 130 References 507 867 2000

Introduction > ActiveX API History >  
AutoCAD 2013

The following outlines the additions and changes

Enums

AcSaveAsType	(Changed)
ac2013_dwg	= 60 (New)
ac2013_dxf	= 61 (New)
ac2013_Template	= 62 (New)
acNative	= 60 (Changed)
AcPointCloudColorType	(Changed)
actrueColor	= 0 (New)

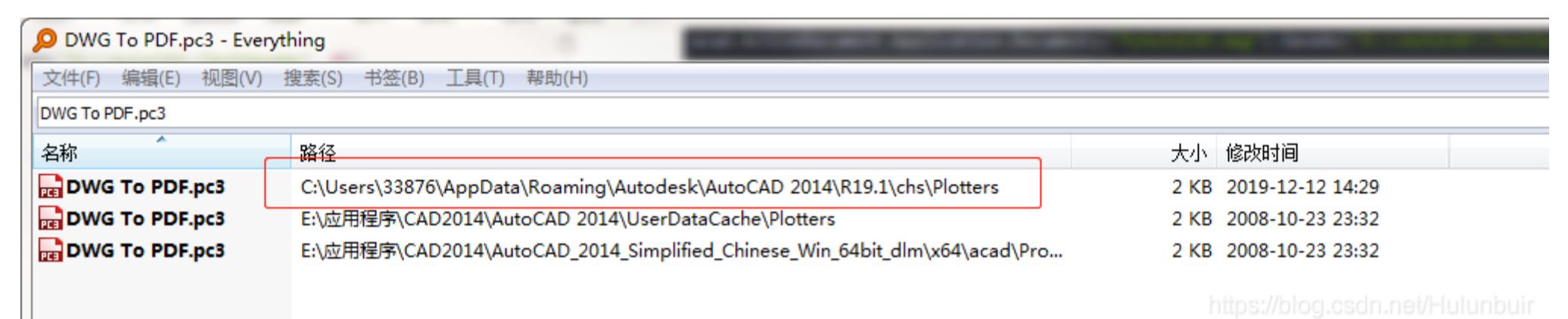
## 2. Save specific files as .dwg/.dxf

Save the specific file PyAutoCAD.dwg as TestSaveAs.dxf, the version of the file is: AutoCAD 2013 DXF, the code is as follows:

```
1 pyacad.ActiveDocument.Application.Documents("PyAutoCAD.dwg").SaveAs("D:\\AutoCAD\\TestSaveAs", 61)
```

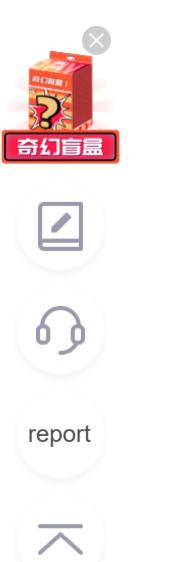
## 10.2 Save as .pdf

First, confirm the working directory of the plotter DWG To PDF.pc3 , enter DWG To PDF.pc3 in the search bar of the search artifact Everything , you can get the working directory of the plotter, as shown in the following figure:



The Python code to save as a .pdf file is as follows:

```
1#!/usr/bin/env python
2# -*- coding: utf-8 -*-
3
4"""
5=====
6Author: DalNur
7Email: liyang@alu.hit.edu.cn
8=====
9
10
11from pyautocad import Autocad
12
13pyacad = Autocad(create_if_not_exists=True)
14pyacad.prompt("Hello! AutoCAD from pyautocad.")
15print(pyacad.doc.Name)
16
17print(pyacad.ActiveDocument.ActiveLayout.ConfigName)
18
19# 设置绘图仪管理器的工作目录
20ACADPref = pyacad.ActiveDocument.Application.preferences.Files
21
22originalValue = ACADPref.PrinterConfigPath \
23    = r"C:\Users\33876\AppData\Roaming\Autodesk\AutoCAD 2014\R19.1\chs\Plotters"
24
25print(ACADPref)
26print(originalValue)
27
28oplot = pyacad.ActiveDocument.PlotConfigurations.Add("PDF", acad.ActiveDocument.ActiveLayout.ModelType)
29
30# acad.ActiveDocument.SetVariable("sdi", 0)
31pyacad.ActiveDocument.ActiveLayout.ConfigName = "DWG To PDF.pc3"
32pyacad.ActiveDocument.SetVariable("Fileidea", 0)
33
34# acad.ActiveDocument.SetVariable("RASTERPREVIEW", 1)
35pyacad.ActiveDocument.SetVariable("BACKGROUNDPLOT", 0)
36pyacad.ActiveDocument.Plot.QuietErrorMode = True
37
38# acad.ActiveDocument.PlotToFile("D:\\" + "123" + ".pdf", "Foxit Reader PDF Printer")
39pyacad.ActiveDocument.PlotToFile("D:\\" + "test" + ".pdf")
40
41oplot.Delete()
42oplot = None
43obj = pyacad.ActiveDocument.GetVariable("DBMOD")
```



Your browser is currently zoomed, and the page may be misaligned. It is recommended to display at 100% size.



私信 关注

搜博主文章



## 热门文章

- Python 二次开发 AutoCAD 简介 73795
- Python AutoCAD 绘图 28767
- Python AutoCAD 选择集 12894
- nCodeDL 疲劳分析 简明教程 12570
- HyperMesh 使用指南 12353

## 分类专栏

- Hydrodynamics 1篇
- AutoCAD 9篇
- MDB 1篇
- nCodeDL 4 articles
- Engineering Mathematics ...

## latest comment

- Python AutoCAD selection set  
Homecoming: What should I do if this error occurs? I converted a circle to vtobj, bu' ...
- Python AutoCAD drawing  
weixin\_46670052: Thank you for your answer. Yesterday I saw an article which is ...
- Python AutoCAD drawing  
Hulunbuir: Then your CAD version is not 2014. The .19 means the 2014 version o ...
- Python AutoCAD drawing  
weixin\_46670052: Hello, blogger. I am very presumptuous. I would like to ask you w ...
- ANSYS finite element analysis contact a...  
Hulunbuir: Absolutely, just ask, it will definitely be resolved.

## Would you like to recommend "Blog"

- Details Page" to your friends?
- 
- Strongly not recomme... highly recomme...

## latest articles

- Python language to create Abaqus inp file
  - Python language to create ANSYS APDL command flow
  - Python language to create HyerMesh Tcl command flow
- 6 articles in 2021 26 articles in 2020  
10 articles in 2019

## contents

- 7.3 Dynamic block
- 8. Color
- Nine, important methods
  - 9.1 SendCommad
  - 9.2 GetEntity
  - 9.3 SetXData/GetXData
- X. Documents
  - 10.1 Save as .dwg/.dxf
  - 10.2 Save as .pdf
  - 10.3 Save as .jpg/.png

124 Description 8493 26万+

积分 1000 粉丝 100 赞 100 收藏 100

Thirteen, the end

130 References 507 867 2000

积分 粉丝 赞 评论 收藏

```

41 oplot = None
42 obj = doc.GetVariable("DBMOD")
43 print(obj)

```

What should I do if the image is blurry after the CAD is converted to JPG ?

## 11. Acknowledgements

特别感谢 ke1078 同学提供的无私帮助，使得 Python 语言二次开发 AutoCAD 的许多高级功能得以顺利实现。

## 十二、说明

2018年12月13日，该系列博客仅仅以一篇名为【Python pyautocad库 使用简介】的博客形式出现在 CSDN 上。为了清晰直观，2019年7月20日左右，博主以博客【Python pyautocad库 使用简介】为基础，按部分将原文扩展成 9 篇博客，后续又陆续进行了修改和编辑，特此说明。这 9 篇博客以 AutoCAD 草图与注释 工作空间菜单栏内的功能区分为标准，较为详细地介绍了 Python 调用 AutoCAD 相关功能的实现。码字不易，转载请注明出处！



AutoCAD草图与注释

转载请注明出处！

转载请注明出处！

转载请注明出处！



原博客部分内容

这 9 篇博客分别是：

- Python 二次开发 AutoCAD 简介
- Python 二次开发 AutoCAD 系统设置
- Python 二次开发 AutoCAD 图层
- Python 二次开发 AutoCAD 绘图
- Python 二次开发 AutoCAD 修改
- Python 二次开发 AutoCAD 块组
- Python 二次开发 AutoCAD 注释
- Python 二次开发 AutoCAD 文件



私信 关注

搜博主文章



## Thirteen, the end

The above is a brief introduction to the **secondary development of AutoCAD in Python language**.

Due to limited space, some non-critical functions have not been introduced in detail. If you have any questions, please email us.

Email: liyang@alu.hit.edu.cn .

This article is just a summary of my work related to Python calling AutoCAD for more than a year.

At the same time, I also hope to provide a little more reference for beginners/people in need.

This article is only used for personal study, except for any other purpose.

Due to the limited personal level, there are inevitably some omissions in the article, and I also ask you to criticize and correct me.

The Tibetan writing is full of thoughts, and there are poems and books in the belly. I hope you can wander happily in the pāo of knowledge.

This article was first published on 2018-12-13 18:20:21 and last modified on 2020-4-25 22:02:07.

If there is no special reason, no longer update!

This article has clear logic, detailed content and rich citations.

**Welcome everyone to like, comment and reprint, please indicate the source!**

**Call me, it's better to call me money!**

**Remarks can be made to the mailbox, and I will give away all the Python source code of this series of blogs.**

Finally, I wish you all the siege lions, cherish life and protect the hairline!

热门文章

- Python 二次开发 AutoCAD 简介 73795
- Python AutoCAD 绘图 28767
- Python AutoCAD 选择集 12894
- nCodeDL 疲劳分析 简明教程 12570
- HyperMesh 使用指南 12353

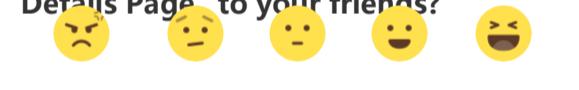
分类专栏

- Hydrodynamics 1篇
- AutoCAD 9篇
- MDB 1篇
- nCodeDL 4 articles
- Engineering Mathemat... 1篇

latest comment

- Python AutoCAD selection set  
Homecoming: What should I do if this error occurs? I converted a circle to vtobj, bu' ...
- Python AutoCAD drawing  
weixin\_46670052: Thank you for your answer. Yesterday I saw an article which is ...
- Python AutoCAD drawing  
Hulunbuir: Then your CAD version is not 2014. The .19 means the 2014 version o ...
- Python AutoCAD drawing  
weixin\_46670052: Hello, blogger. I am very presumptuous. I would like to ask you w ...
- ANSYS finite element analysis contact a...  
Hulunbuir: Absolutely, just ask, it will definitely be resolved.

Would you like to recommend "Blog"  
Details Page" to your friends?



Strongly not recomme Not so so recomme highly recomme

latest articles

- Python language to create Abaqus inp file
- Python language to create ANSYS APDL command flow
- Python language to create HyerMesh Tcl command flow

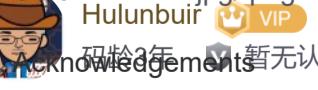
6 articles in 2021 26 articles in 2020  
10 articles in 2019

contents

- 7.3 Dynamic block
- 8. Color
- Nine, important methods

  - 9.1 SendCommad
  - 9.2 GetEntity
  - 9.3 SetXData/GetXData

- X. Documents

  - 10.1 Save as .dwg/.dxf
  - 10.2 Save as .pdf
  - 10.3 Save as .jpg/.png  
 Hulunbuir VIP  
knowledge management 新无认证

124 Description 8493 26万+   
积分 1000 粉丝 获赞 867 评论 2000




微信支付

<https://blog.csdn.net/Hulunbuir>

## 14. References

[1]. Use Python to read and write DXF and DWG files . Big column.

[2]. How to use VARIANT . xinzhizhounizhiyouni.

[3]. comtypes 1.1.3 documentation

Chinese version of pyautocad manual.pdf  
Chinese version of pyautocad manual.pdf

AutoCAD secondary development books

This is a very basic reference book for CAD **secondary development**, you can add CAD commands yourself, easy to understand.

High-quality reviews can help authors gain more weight

ClarkLeex: Owner, is there a way to modify the dynamic properties of the dynamic block inserted into cad?  

```
1 raku = msp.InsertBlock(PoB, "as", 1, 1, 1, 0)
2 Att = raku.GetDynamicBlockProperties
```

1 year ago reply ...

02-07 12-02

Comment 1 report

Column list

170 341 600   

Your browser is currently zoomed, and the page may be misaligned. It is recommended to display at 100% size.

Hulunbuir focus on

[私信](#)
[关注](#)

搜博主文章



## 热门文章

- Python 二次开发 AutoCAD 简介 73795
- Python AutoCAD 绘图 28767
- Python AutoCAD 选择集 12894
- nCodeDL 疲劳分析 简明教程 12570
- HyperMesh 使用指南 12353

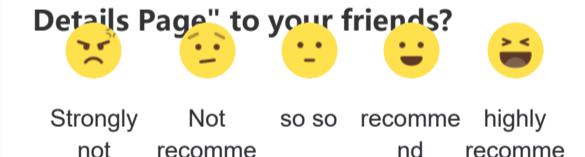
## 分类专栏

- Hydrodynamics 1篇
- AutoCAD 9篇
- MDB 1篇
- nCodeDL 4 articles
- Engineering Mathematics ...

## latest comment

- Python AutoCAD selection set  
Homecoming: What should I do if this error occurs? I converted a circle to vtobj, bu' ...
- Python AutoCAD drawing  
weixin\_46670052: Thank you for your answer. Yesterday I saw an article which is ...
- Python AutoCAD drawing  
Hulunbuir: Then your CAD version is not 2014. The .19 means the 2014 version o ...
- Python AutoCAD drawing  
weixin\_46670052: Hello, blogger. I am very presumptuous. I would like to ask you w ...
- ANSYS finite element analysis contact a...  
Hulunbuir: Absolutely, just ask, it will definitely be resolved.

## Would you like to recommend "Blog"



Strongly not recomme... Not so so recomme... Highly recomme...

## latest articles

- Python language to create Abaqus inp file
- Python language to create ANSYS APDL command flow
- Python language to create HyerMesh Tcl command flow
- 6 articles in 2021 26 articles in 2020
- 10 articles in 2019

## contents

- 7.3 Dynamic block
- 8. Color
- Nine, important methods
- 9.1 SendCommad
- 9.2 GetEntity
- 9.3 SetXData/GetXData
- X. Documents
- 10.1 Save as .dwg/.dxf
- 10.2 Save as .pdf
- 10.3 Save as .jpg/.png
- 11. Acknowledgements
- 12. Description
- Thirteen, the end
- 14. References

Hulunbuir 博主 Reply : It has been resolved, please refer to this article for details: VII. Drawing >> 7.3 Dynamic Block. 1 year ago reply ...

Hulunbuir 博主 Reply : Dynamic block modification is quite laborious and has not been successfully implemented. Some attributes are difficult to modify, especially those user-defined data. I will study more when I have time. 1 year ago reply ...

suke00121: I take a good look! Thanks! 1 year ago reply ...

weixin\_47936728: People who insist, give a thumbs up. 1 month ago reply ...

Hulunbuir 回复: Thank you for your support, and good luck! 1 month ago reply ...

登录 查看 341 条热评

Your browser is currently zoomed, and the page may be misaligned. It is recommended to display at 100% size.

- 利用python控制Autocad:pyautocad\_bsider的专栏  
发现pyautocad模块:可以用python控制autocad的包。今天把文档中的重点内容摘录出来,以后绘图、计算大工程量、或者识别施工图的时候时候也许可以用到。一... 8-16
- pyautocad-0.2.0.win32.exe\_pyautocad-Python工具类资源-CSDN文库  
利用python控制Autocad:pyautocad方式 839浏览 主要介绍了利用python控制Autocad:pyautocad方式,具有很好的参考价值,希望对大家有所帮助。一起跟随小编过... 9-15
- python操作cad-使用Python实现AutoCAD自动化 最新发布  
weixin\_39734987的博客 1400  
我对Python和AutoCAD还不太熟悉,所以请容忍我。我试图使用Python在AutoCAD中自动完成一个设计周期。到目前为止,我可以通过Python在AutoCAD中添加...  
转载, python操作Autocad的pyautocad库, 使用教程  
泥鳅也是鱼的博客 4146  
在网上找一篇关于pyautocad的,写的比较详细的教程,备份下 原文地址 首部必须 12 #!/usr/bin/env python # -\*- coding: utf-8 -\*- 导入pyautocad 1 import...
- pyautocad,tablib安装以及pyautocad的简单使用\_静雅、淡雅  
weixin\_42193179的博客 1万+  
待完善。此代码实现了,根据标注文本的属性,数值,位置,及容差,去判断设计和实测两图中的同一位置的尺寸。如果是同一位置的尺寸,则进行比较, ...  
2 pyautocad 如果已安装Anaconda,在Anaconda Prompt中输入pip install pyautocad即可自动完成库的导入。 3tablib 打开cmd,然后输入python -m pip install tablib...
- 转载,pyautocad安装及方法属性\_泥鳅也是鱼的博客  
pyautocad 通过调用autocad的com接口,具体可以参考AutoCAD ActiveX documentation。 acad\_aag.chm- ActiveX and VBA Developer's Guide acadauto.chm- Acti...
- python3读取autocad图形文件.py  
weixin\_30399797的博客 1061  
from pyautocad import Autocad # 自动连接上cad,只要cad是开着的,就创建了一个<pyautocad.api.Autocad>对象。这个对象连接最近打开的cad文件。# 如果此...
- python利用pyautocad绘制岩石体产状\_helixsky的博客  
#by helix 94430966@qq.com 从pyautocad import Autocad, APoint import pyautocad import openpyxl import sys import math wb=openpyxl.load\_workbook('D:\pyth...
- Python操作AutoCAD开发环境概述(Windows)  
未来之歌 2万+  
目录安装Python环境 pyautocad库安装三种安装方法 comtypes库安装 开发环境安装Python环境python官网下载: https://www.python.org/downloads/ 本人这边安...
- python下用pyautocad小试牛刀  
GIS骆驼的GIS博客 7645  
python下用pyautocad小试牛刀 画点,线,圆,文字等, 获取对象,插入点,查找特定文字等 # -\*- coding: UTF-8 -\*- from pyautocad import Autocad, APoint acad ...
- python CAD 二次开发 自动出图程序  
10-28  
使用Python结合AutoCAD程序,开发的一款自动出plt和pdf的小软件,拥有较为漂亮的界面,部分python连接CAD的源代码,以及CAD内部判断图框,自动确定纸...
- AutoCAD二次开发手册  
AutoCAD VBA编程  
08-11
- AUTOCAD C#二次开发  
06-12  
带目录,介绍很详细的Autocad二次开发技术。本书以实例形式介绍采用Visual C#语言对AutoCAD进行二次开发的技术。全书包括基础篇和应用篇两部分,其中...
- Python 二次开发 Excel 简介  
Hulunbuir 4973  
官方文档: Microsoft office 开发人员中心 Excel GitHub MicrosoftDocs/VBA-Docs 目录一、前沿二、示例代码二、参考文献三、尾声一、前沿 利用本代码可以...
- 深入浅出AutoCAD.NET二次开发  
08-14  
主要内容包括AutoCAD.NET API 介绍、使用AutoCAD.NET API 控制AutoCAD工作环境、创建及编辑AutoCAD实体、创建和编辑尺寸标注、3D 图形处理、定义打...
- AutoCAD.net二次开发环境配置  
11-12  
AutoCAD.net二次开发环境配置,有详细步骤说明。包含ObjectARX的安装包Autodesk\_ObjectARX\_2014\_Win\_64\_and\_32Bit.sfx,以及.net安装向导ObjectARXWi...
- AutoCAD二次开发\_从入门到放弃  
qdzhouyi的博客 2万+  
在建筑与设计行业中, CAD有着非常广泛的应用,而其中的很多基本操作无法满足实际需求,容易产生大量的重复性的操作,这种重复性的操作违背了程序设计的...
- 用 C 语言开发 AUTOCAD 应用程序  
01-20  
用C语言开发AUTOCAD应用程序教材,已转化为PDF格式,绝对打得起!
- 深居浅出AutoCAD二次开发  
08-27  
AutoCAD二次开发 C# 比较详细的教材
- 利用Python自动化操作AutoCAD的实现  
09-17  
主要介绍了利用Python自动化操作AutoCAD的实现,文中通过示例代码介绍的非常详细,对大家的学习或者工作具有一定的参考学习价值,需要的朋友们下面随着小...
- Python AutoCAD 绘图 热门推荐  
Hulunbuir 2万+  
创建点及直线..... 添加多段线及样条曲线..... 添加含圆弧多段线..... 设置多段线线宽..... 添加圆及圆弧..... 添加椭圆及椭圆弧..... 倒角矩形绘制..... 图案填充.....

©2020 CSDN 皮肤主题: 猿与汪的秘密 设计师:白松林 返回首页

关于我们 招贤纳士 广告服务 开发助手 400-660-0108 kefu@csdn.net 在线客服 工作时间 8:30-22:00  
公安备案号11010502030143 京ICP备19004658号 京网文〔2020〕1039-165号 经营性网站备案信息 北京互联网违法和不良信息举报中心  
网络110报警服务 中国互联网举报中心 家长监护 Chrome商店下载 ©1999-2021北京创新乐知网络技术有限公司 版权与免责声明 版权申诉  
出版物许可证 营业执照



report



收藏