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# Python表格处理：CSV和Excel

- 最新版本: v1.0
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## 简介

整理如何用Python进行表格处理，尤其是csv和excel文件的相关操作。先概述csv和Excel操作的相关的库有哪些以及各自大概特点；再去详细介绍，用自带的csv库去读取和创建保存csv文件，以及封装出常用函数；以及处理Excel的，好用的openpyxl库，其常用的功能点、部分常用功能已封装成独立函数、通过具体例子来说明如何使用、以及常见的一些问题；介绍了xlutils的xlrd和xlwt的下载和安装，基本的操作，比如新建excel文件、追加和写入新的数据等，以及常见问题及解决办法；概述了pandas的操作csv和excel的相关函数；介绍了用win32com.client去处理Excel的图表。

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### Gitbook源码

- [crifan/python\\_process\\_csv\\_excel: Python表格处理：CSV和Excel](#)

### 如何使用此Gitbook源码去生成发布为电子书

详见：[crifan/gitbook\\_template: demo how to use crifan gitbook template and demo](#)

### 在线浏览

- [Python表格处理：CSV和Excel book.crifan.com](#)
- [Python表格处理：CSV和Excel crifan.github.io](#)

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- [Python表格处理：CSV和Excel ePub](#)
- [Python表格处理：CSV和Excel Mobi](#)

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## 鸣谢

感谢我的老婆陈雪的包容理解和悉心照料，才使得我 `crifan` 有更多精力去专注技术专研和整理归纳出这些电子书和技术教程，特此鸣谢。

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[crifan/crifan\\_ebook\\_readme: Crifan的电子书的使用说明](#)

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## 概述

- `csv`
- `Excel`

用Python处理 `csv` 和 `Excel` 的常见库有：

- `csv` 库
  - Python内置库: `csv`
  - `pandas`
    - 读: `pandas.read_csv`
    - 写: `pandas.DataFrame.to_csv`
- `Excel` 库
  - 读写文件的库
    - `openpyxl`
      - 功能强大, 支持设置背景色等样式的细节设置
      - 支持新的 (`Excel 2010` 之后的) 格式: `.xlsx`
    - `xlutils`:
      - 概述
        - 整合了 `xlrd` 和 `xlwt`, 额外加 `copy` 等辅助功能
        - 只支持Excel旧格式: `.xls`
      - 相关库
        - 读: `xlrd`
        - 写: `xlwt`
    - `pandas`
      - 读: `pandas.read_excel`
      - 写: `pandas.DataFrame.to_excel`
    - 其他
      - `xlsxwriter`
        - An alternative package for writing data, formatting information and, in particular, charts in the Excel 2010 format (ie: `.xlsx`)
      - `pyxlsb`
        - This package allows you to read Excel files in the `xlsb` format.
      - `pylightxl`
        - This package allows you to read `xlsx` and `xlsm` files and write `xlsx` files.
- 自动化操作的库
  - 说明: 对于Excel文件的自动化操作 =对标的旧的Excel (其实是 Microsoft 的 Office 的) VBA 脚本 = 英文称: `Excel add-ins`

- 注意：需要系统中已安装 Excel 软件
- 库
  - PyXLL
    - 概述
      - PyXLL is a commercial product that enables writing Excel add-ins in Python with no VBA. Python functions can be exposed as worksheet functions (UDFs), macros, menus and ribbon tool bars.
    - 主页
      - <https://www.pyxll.com/>
  - xlwings
    - 概述
      - xlwings is an open-source library to automate Excel with Python instead of VBA and works on Windows and macOS: you can call Python from Excel and vice versa and write UDFs in Python (Windows only). xlwings PRO is a commercial add-on with additional functionality.
    - 主页
      - <https://www.pyxll.com/>

## 如何选择

- 根据不同情况，选择合适的解析 csv 和 Excel 的Python库
  - 数据量不大的 + 简单的 csv文件：Python自带的 csv 库
  - 数据量不大的 + Excel旧文件 .xls + 操作不复杂： xlutils  
( xlrd + xlwt )
  - 数据量不大的 + Excel新格式 .xlsx + 操作复杂 + 能设置样式： openpyxl
  - 数据量较大的 csv 或 Excel ，主要用于数据处理和计算的： pandas

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## 处理csv

已把 csv 处理相关代码，整理成独立函数。

最新代码详见：

- <https://github.com/crifan/crifanLibPython/blob/master/python3/crifanLib/crifanCsv.py>
  - <https://github.com/crifan/crifanLibPython/blob/master/crifanLib/demo/crifanCsvDemo.py>

下面分别介绍：

### python读取 csv 文件

核心代码 `loadCsvFromFile` :

```
import codecs
import csv

with codecs.open(csvFilePath, "r", encoding="utf-8") as csvFp:
    csvReader = csv.reader(csvFp)
    csvHeaders = next(csvReader) # <class 'list'>: ['url',
        for eachRowList in csvReader:
            print("eachRowList=%s" % eachRowList)
            # eachRowList=['https://car.autohome.com.cn/pic/sei
```

已封装成函数：

```
def loadCsvFromFile(csvFilePath, fileEncoding="utf-8", isReturnDictList=False):
    """read data from csv file

    Args:
        csvFilePath (str): full csv file path
        fileEncoding (str): file encoding, default to 'utf-8'
        isReturnDictList (bool): return data is row dict list or not

    Returns:
        isReturnDictList=True -> csv row dict list
        isReturnDictList=False -> (csv header list, csv row list list)

    Raises:
        ...
    """
    csvDictList = []

    csvHeaderList = []
    csvRowListList = []

    with codecs.open(csvFilePath, "r", encoding=fileEncoding) as csvFp:
        csvReader = csv.reader(csvFp)
        csvHeaderList = next(csvReader)
        print("csvHeaderList=%s" % csvHeaderList)
        # <class 'list'>: ['url', '品牌', '子品牌', '车型', '...
        # ['appName', 'pkgName', 'authorName', 'categoryName']
        for eachRowList in csvReader:
            # print("eachRowList=%s" % eachRowList)
            # eachRowList=['https://car.autohome.com.cn/pic/...
            # eachRowList=['传奇世界手游', 'com.tencent.cqsj']
            csvRowListList.append(eachRowList)

    if isReturnDictList:
        for eachRowList in csvRowListList:
            curRowDict = {}
            for curIdx, curHeader in enumerate(csvHeaderList):
                curRowValue = eachRowList[curIdx]
                curRowDict[curHeader] = curRowValue

            csvDictList.append(curRowDict)

        return csvDictList
    else:
        return csvHeaderList, csvRowListList
```

调用：

```
resultRowDictList = loadCsvFromFile(InputYingYongBaoSearchFile)
```

## 新建=写入 csv文件

```
rowValueList = [mongoId, invalidReason.name, sentence]
with codecs.open(gCurInvalidSentenceFullFilename, "a", encoding='utf-8') as csvFp:
    csvListWriter = csv.writer(csvFp)
    csvListWriter.writerow(rowValueList)
```

或：用 dict 去保存值（需要指定 header）

```
gInvalidSentenceCsvHeaders = ['MongoID', 'Reason', 'Sentence']

rowDict = {
    "MongoID": mongoId,
    # "Reason": str(invalidReason),
    "Reason": invalidReason.name,
    "Sentence": sentence
}

with codecs.open(gCurInvalidSentenceFullFilename, "a", encoding='utf-8') as csvFp:
    csvDictWriter = csv.DictWriter(csvFp, fieldnames=gInvalidSentenceCsvHeaders)
    csvDictWriter.writerow(rowDict)
```

效果：



	MongoID	Reason	Sentence
1	Sae13bdbd8d4e8b57c4f57ed	TOO_MANY_INVALID_WORD	Where is Pasadena?
2	Sae13bdbd8d4e8b57c4f57ed	TOO_MANY_INVALID_WORD	Where is Pasadena?
3	Sae13bdbd8d4e8b57c4f57ed	TOO_MANY_INVALID_WORD	It's in California.
4	Sae13bdbd8d4e8b57c4f57ed	TOO_MANY_INVALID_WORD	Is it in northern California?
5	Sae13bdbd8d4e8b57c4f57ed	TOO_MANY_INVALID_WORD	No. It's in southern California.
6	Sae13bdbd8d4e8b57c4f57ed	TOO_MANY_INVALID_WORD	Is Pasadena a big city?
7	Sae13bdbd8d4e8b57c4f57ed	TOO_MANY_INVALID_WORD	It's pretty big.
8	Sae13bdbd8d4e8b57c4f57ed	TOO_MANY_INVALID_WORD	"How big is ""pretty big""?"
9			
10			

## saveToCsvByDictList 和 saveToCsvByHeaderAndList

后来已封装成独立函数

代码：

```
import codecs
import csv

def saveToCsvByDictList(csvDictList, outputPath):
    # generate csv headers from dict list
    firstItemDict = csvDictList[0]
    csvHeaders = list(firstItemDict.keys())
    with codecs.open(outputPath, "w", "UTF-8") as outCsvFp:
        csvDictWriter = csv.DictWriter(outCsvFp, fieldnames=csvHeaders)

        # write header by inner function from fieldnames
        csvDictWriter.writeheader()

        for eachRowDict in csvDictList:
            csvDictWriter.writerow(eachRowDict)

def saveToCsvByHeaderAndList(csvHeaderList, csvRowListList):
    with codecs.open(outputPath, "w", "UTF-8") as outCsvFp:
        csvWriter = csv.writer(outCsvFp)

        # write header from list
        csvWriter.writerow(csvHeaderList)

        # type1: write each row
        # for eachRowList in csvRowListList:
        #     csvWriter.writerow(eachRowList)

        # type2: write all rows
        csvWriter.writerows(csvRowListList)
```

## writeheader是后来新增的

writeheader() : 是 python 2.7 和 Python 3.2 之后才新增的

- 当然也可以自己写:

```
dw.writerow( dict((f,f) for f in dr.fieldnames) )
output.writerow(dict(zip(dr.fieldnames, dr.fieldnames)))
```

- 其实官方库的内部也是类似的实现

```
header = dict(zip(self.fieldnames, self.fieldnames))
self.writerow(header)
```

调用举例:

文件: crifanLib/demo/crifanCsvDemo.py

```

OutputFilenameByHeaderAndList = "OutputDemoData_ByHeaderAndList.csv"
OutputFilenameByDictList = "OutputDemoData_ByDictList.csv"

OutputCsvHeader = ["单词", "重复频率", "来源列表"]

curFile = os.path.abspath(__file__)
curFolder = os.path.dirname(curFile)

DemoRowListList = [
    ["a", 0.5, ['NewConcept', 'FamilyAndFriends']],
    ["about", 0.75, ['NewConcept', 'YLE', 'EverybodyUp']],
    ["above", 0.5, ['NewConcept', 'YLE']],
    ["abroad", 0.25, ['NewConcept']]
]

DemoDictList = [
    {
        "单词": "a",
        "重复频率": 0.5,
        "来源列表": ['NewConcept', 'FamilyAndFriends'],
    },
    {
        "单词": "about",
        "重复频率": 0.75,
        "来源列表": ['NewConcept', 'YLE', 'EverybodyUp'],
    },
    {
        "单词": "above",
        "重复频率": 0.5,
        "来源列表": ['NewConcept', 'YLE'],
    },
    {
        "单词": "abroad",
        "重复频率": 0.25,
        "来源列表": ['NewConcept'],
    },
]

def demoCsvOutput():
    # Demo1: save by list of each row item list
    fullPathByHeaderAndList = os.path.join(curFolder, OutputFilenameByHeaderAndList)
    saveToCsvByHeaderAndList(OutputCsvHeader, DemoRowListList, fullPathByHeaderAndList)

    # Demo1: save by list of dict, not need assign header
    fullPathByDictList = os.path.join(curFolder, OutputFilenameByDictList)
    saveToCsvByDictList(DemoDictList, fullPathByDictList)

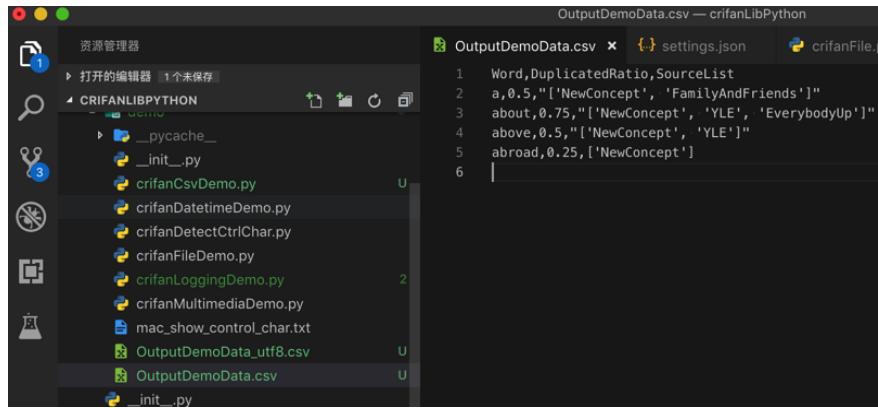
    .....
    单词,重复频率,来源列表
    a,0.5,['NewConcept', 'FamilyAndFriends']

```

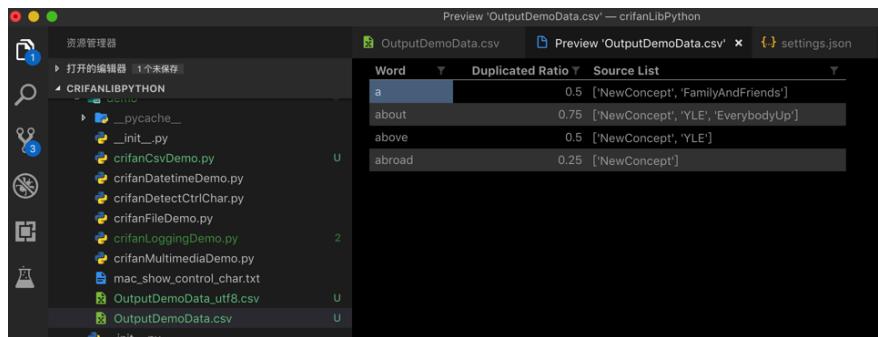
## 常用功能点

```
about,0.75,"['NewConcept', 'YLE', 'EverybodyUp']"  
above,0.5,"['NewConcept', 'YLE']"  
abroad,0.25,['NewConcept']  
.....
```

输出csv文件效果：



csv（作为表格文件的）预览效果：



Mac中自带的预览的csv的效果：



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## 处理excel

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## openpyxl

- `openpyxl`
  - 一句话描述: `read/write Excel 2010 xlsx/xlsm files`
- 文档
  - 首页
    - <https://openpyxl.readthedocs.io/en/stable/>
  - 入门
    - Manipulating a workbook in memory — openpyxl 2.5.3 documentation
    - <http://openpyxl.readthedocs.io/en/stable/tutorial.html>
  - API
    - 说明: 开发期间如果遇到一些 对象 , 需要查询其属性、函数等细节, 可以去参考这些API文档

### API Documentation

#### Key Classes

- `openpyxl.workbook.workbook.Workbook`
- `openpyxl.worksheet.worksheet.Worksheet`
- `openpyxl.cell.cell.Cell`

#### Full API

- `openpyxl package`
  - Subpackages

#### Indices and tables

- Index
- Module Index
- Search Page

- API入口
  - `openpyxl package` — openpyxl 3.0.7 documentation
    - <http://openpyxl.readthedocs.io/en/stable/api/openpyxl.html>
- 核心的类(API)
  - 最顶层的:  
`openpyxl.workbook.workbook.Workbook` = 对应 excel文件

- <https://openpyxl.readthedocs.io/en/stable/api/openpyxl.workbook.workbook.html#openpyxl.workbook.Workbook>
- 第二层  
的：`openpyxl.worksheet.worksheet.Worksheet` =  
对应excel内单个的tab页
  - <https://openpyxl.readthedocs.io/en/stable/api/openpyxl.worksheet.worksheet.html#openpyxl.worksheet.worksheet.Worksheet>
  - 最底层的：`openpyxl.cell.cell.Cell` = 对应 单元格
    - <https://openpyxl.readthedocs.io/en/stable/api/openpyxl.cell.cell.html#openpyxl.cell.cell.Cell>
- 相关的：样式styles ( 颜色 , 对齐方式 等等)
  - openpyxl.styles package — openpyxl 3.0.7 documentation
    - <http://openpyxl.readthedocs.io/en/stable/api/openpyxl.styles.html>

## 安装

```
pip3 install openpyxl
```

## 确认已安装成功

去python的shell中导入，没问题，且能输出版本信息，即说明安装没问题

```
→ ~ python3
Python 3.6.1 (default, May 6 2017, 14:32:57)
[GCC 4.2.1 Compatible Apple LLVM 8.1.0 (clang-802.0.38)] on
Type "help", "copyright", "credits" or "license" for more :
>>> import openpyxl
>>> openpyxl.__version__
'2.4.7'
>>>
```

## 附带：安装日志

```
→ ~ pip3 install openpyxl
Collecting openpyxl
  Downloading openpyxl-2.4.7.tar.gz (156kB)
    100% |████████████████████████████████| 163kB 64kB/s
Collecting jdcal (from openpyxl)
  Downloading jdcal-1.3.tar.gz
Collecting et_xmlfile (from openpyxl)
  Downloading et_xmlfile-1.0.1.tar.gz
Building wheels for collected packages: openpyxl, jdcal, et-xmlfile
  Running setup.py bdist_wheel for openpyxl ... done
  Stored in directory: /Users/crifan/Library/Caches/pip/wheels/...
  Running setup.py bdist_wheel for jdcal ... done
  Stored in directory: /Users/crifan/Library/Caches/pip/wheels/...
  Running setup.py bdist_wheel for et-xmlfile ... done
  Stored in directory: /Users/crifan/Library/Caches/pip/wheels/...
Successfully built openpyxl jdcal et-xmlfile
Installing collected packages: jdcal, et-xmlfile, openpyxl
Successfully installed et-xmlfile-1.0.1 jdcal-1.3 openpyxl-2.4.7
```

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## 常用功能点

此处整理出 `openpyxl` 中常用的功能点。

### 基本操作

#### 读取excel文件

```
from openpyxl import Workbook, load_workbook  
  
wb = load_workbook(ExcelFullFilename) # work book
```

#### 获取 `workbook` 的 `sheet`

- 获取sheet列表

```
sheetNameList = wb.get_sheet_names()
```

- 获取某个sheet

```
ws = wb["yourSheetName"] # work sheet
```

#### 获取 `sheet` 中的 `cell`

```
curCell = ws.cell(row=rowIdx, column=columnIdx)  
curCellValue = curCell.value
```

### 常见操作

#### 对每个row循环处理

之前去循环rows是用

```
ws.iter_rows("A1:L2")
```

这种写法现在已废弃，建议换成：

```
ws["A1:L2"]
```

且看了官网：

[Manipulating a workbook in memory — openpyxl 2.5.3 documentation](#)

发现其实两种写法都可以：

- range string 的写法：["XM:YN"]，其中 X，Y 是字母，M，N 是数字

```
cell_range = ws['A1':'C2']
```

- ws 调用 iter\_rows 时，传递 row 和 col 的参数

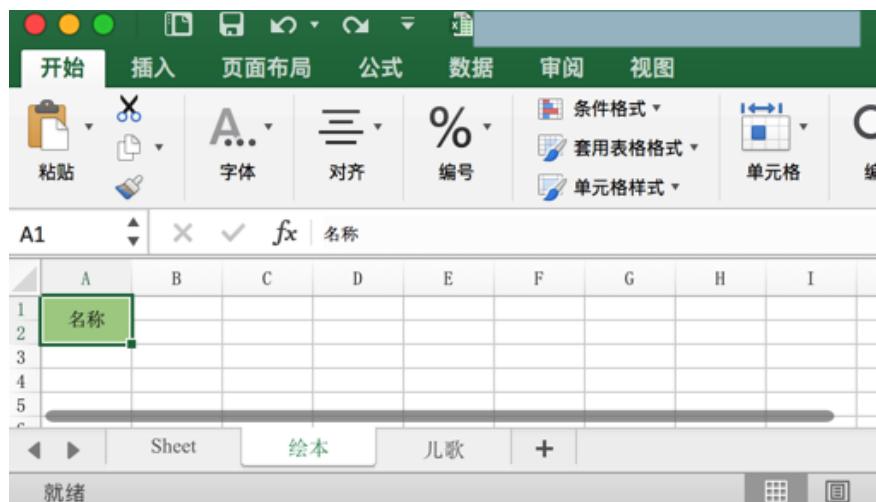
```
for row in ws.iter_rows(min_row=1, max_col=3, max_row=1):
    for cell in row:
        print(cell)
```

## 设置背景色

用openpyxl设置背景色，用 start\_color + end\_color：

```
nameCell.fill = PatternFill(start_color="AACF91", end_color="AACF91", fill_type="solid")
```

效果：

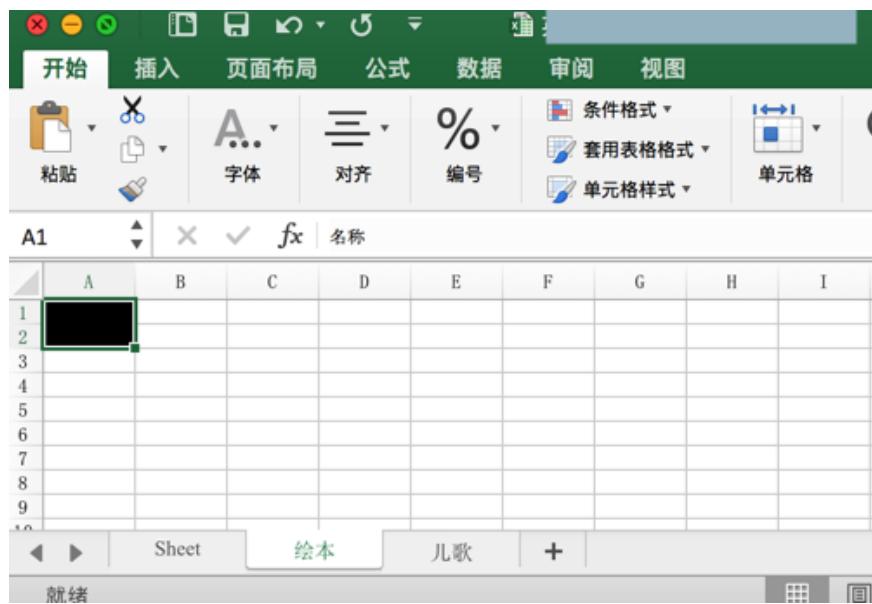


## 不要用PatternFill的bgColor

如果用（看起来以为可以工作的）PatternFill 的 bgColor：

```
```python
nameCell.fill = PatternFill(bgColor=Color("AACF91"), fill_type="solid")
```
```

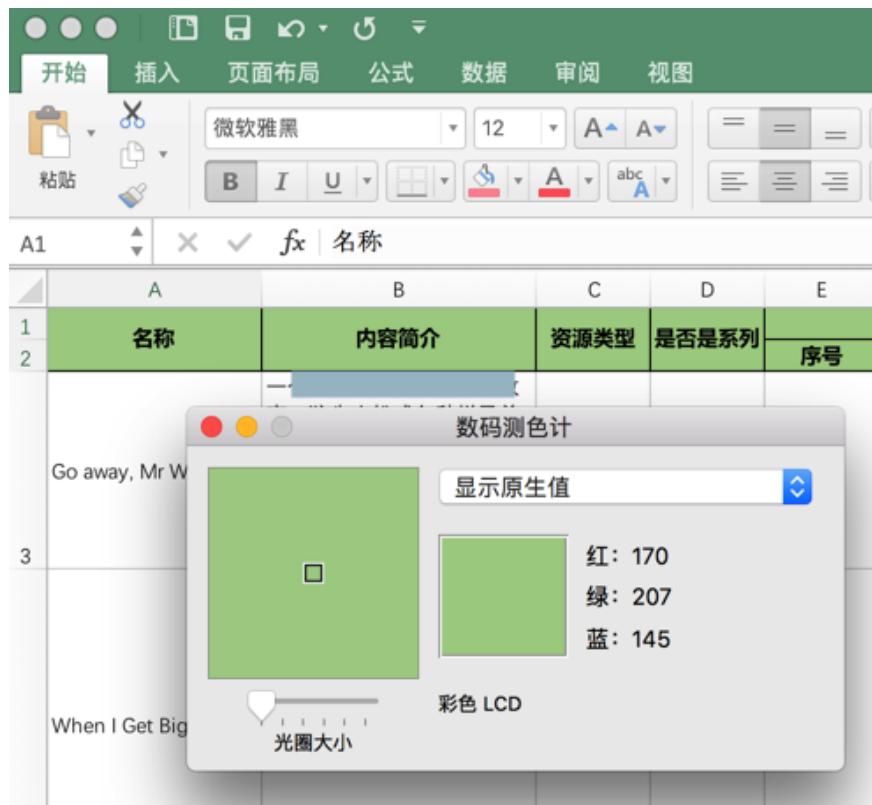
结果会导致黑色背景



## 如何查看颜色和RGB转换HEX值

对于上述颜色设置的值 AACF91 是如何得到的?

先去查看本身excel的背景色的RGB值:



此处背景色绿色的RGB值是: 170, 207, 145

去把RGB转成HEX值:

### hex color

The screenshot shows a web application titled "www.sioe.cn 应用工具" (Application Tools). The URL in the address bar is "www.sioe.cn/yinyong/yanse-rgb-16/". The page content includes a navigation bar with links like "操作Excel文...", "Openpyxl tut...", "Manipulating...", "cell backgro...", and "python - Add...". Below the navigation is a breadcrumb trail: "当前位置: 首页 > 应用工具 > RGB颜色值与十六进制颜色码转换工具". The main area contains two conversion sections. The first section is titled "RGB颜色值转换成十六进制颜色码:" and shows input fields for RGB values (170, 207, 145) and a resulting hex code "#AACF91". The second section is titled "十六进制颜色码转换成RGB颜色值:" and shows an input field for hex code "#CC00FF" and a "转换" (Convert) button.

即可得到HEX值：

- RGB: 170, 207, 145 -> HEX: #AACF91

## 批量设置样式（背景色、对齐方式等）

**背景：**想要针对表头的所有的cell单元格（包括合并后的），批量去设置其样式

The screenshot shows a Microsoft Excel spreadsheet with a table. The table has 14 columns labeled A through M. The first two rows (row 1 and row 2) serve as headers. Row 1 contains column titles: 名称 (Name), 内容简介 (Content Summary), 资源类型 (Resource Type), 是否是系列 (Is it a series), 系列序号 (Series Number), 名称 (Name), 来自名称 (From Name), 来自内容 (From Content), 其他 (Other), 主角 (Main Character), 适用年龄段 (Age Group), and 作者 (Author). Row 2 contains additional header information. The background color of both row 1 and row 2 is green. The rest of the table rows (rows 3, 4, 5, etc.) have white backgrounds. The Excel ribbon at the top shows the "开始" tab is selected. The status bar at the bottom indicates there are 14 cells selected.

- 背景色：绿色
- 对齐方式
  - 左右：水平居中对齐

## 常用功能点

- 上下：垂直居中对齐

代码：

每个单元格循环去设置

```
alignmentCenter = Alignment(horizontal='center', vertical='center')
commonBackgroundColorHex = "#AACF91"
commonFill = PatternFill(start_color=commonBackgroundColorHex)
for eachCommonRow in ws.iter_rows("A1:L2"):
    logging.info("eachCommonRow=%s", eachCommonRow)
    for eachCellInRow in eachCommonRow:
        logging.info("eachCellInRow=%s", eachCellInRow)
        eachCellInRow.alignment = alignmentCenter
        eachCellInRow.fill = commonFill
```

效果

| 名称 | 内容简介 | 资源类型 | 是否是系列 | 序号 | 系列 | 关键词 | 主题 | 主角 |
|----|------|------|-------|----|----|-----|----|----|
|    |      |      |       |    |    |     |    |    |
|    |      |      |       |    |    |     |    |    |
|    |      |      |       |    |    |     |    |    |
|    |      |      |       |    |    |     |    |    |

## 设置自适应列宽

背景： openpyxl 可以新建excel，但是表头内容显示不全：

| 名称 | 内容简介 | 资源类型 | 是否是系列 | 序号 | 系列 | 关键词 | 主题 | 主角 | 适用年龄层(年) |
|----|------|------|-------|----|----|-----|----|----|----------|
|    |      |      |       |    |    |     |    |    |          |
|    |      |      |       |    |    |     |    |    |          |
|    |      |      |       |    |    |     |    |    |          |
|    |      |      |       |    |    |     |    |    |          |

希望表头的宽度，像另外一个手动创建并设置后的，去自动适应宽度：

| 名称 | 内容简介                       | 资源类型      | 是否是系列 | 序号 | 系列 | 关键词  | 主题           | 主角                         | 适用年龄层(年)      |
|----|----------------------------|-----------|-------|----|----|--|--------------|----------------------------|---------------|
| G  | 故<br>事<br>书<br>籍<br>上<br>册 | storybook | 否     |    |    | knock! go away, Mr Wolf quickly shut the door. | Wisdom, Anim | three little pigs, Mr Wolf | 3-4           |
|    |                            |           |       |    |    |  | Is, Villain  |                            | Atsuko, Moroz |

### 解决办法：

由于 openpyxl 的 sheet 中  
的 column\_dimensions 的 auto\_size , bestFit , collapsed ,  
都无法启到此处想要的效果：自动设置列宽

最后只能单独设置宽度：

```
nameCell = ws["A1"]
nameCell.value = "名称"
ws.merge_cells('A1:A2')
ws.column_dimensions["A"].width = 15

isSeriesCell = ws["D1"]
isSeriesCell.value = "是否是系列"
ws.merge_cells('D1:D2')
# ws.column_dimensions["D"].auto_size = True
# ws.column_dimensions["D"].bestFit = False
# ws.column_dimensions["D"].collapsed = True
ws.column_dimensions["D"].width = 10

fitAgeRangeCell = ws["L1"]
fitAgeRangeCell.value = "适用年龄层(年)"
ws.merge_cells('L1:L2')
# ws.column_dimensions["L"].auto_size = True
# ws.column_dimensions["L"].bestFit = True
# ws.column_dimensions["L"].collapsed = False
ws.column_dimensions["L"].width = 14
# ws["L3"].value = "很长的值很长的值很长的值测试列宽"
```

间接实现自动设置列宽的效果：

| 名称 | 内容简介 | 资源类型 | 是否是系列 | 系列 | 关键词 | 主题 | 主角 | 适用年龄层(年) |
|----|------|------|-------|----|-----|----|----|----------|
| 序号 | 名称   | 来自名称 | 来自内容  | 其他 |     |    |    |          |
| 1  |      |      |       |    |     |    |    |          |
| 2  |      |      |       |    |     |    |    |          |
|    |      |      |       |    |     |    |    |          |

## 设置行高

背景：表头的部分内容由于行高太低而不显示了

|                  |                |       |       |    |     |      |      |          |
|------------------|----------------|-------|-------|----|-----|------|------|----------|
| 适龄年龄层(年)         |                |       |       |    |     |      |      |          |
| 名称               | 内容简介           | 资源类型  | 是否是系列 | 系列 | 关键词 | 主题   | 主角   | 适用年龄层(年) |
| Go away, Mr Wolf | 一个教小朋友害怕坏人的故事。 | story | 否     | 序号 | 名称  | 来自名称 | 来自内容 | 其他       |

解决办法：增加行高

代码：

```
ws.row_dimensions[1].height = 30  
ws.row_dimensions[2].height = 20
```

效果：增加了行高，内容完全显示

| A | B  | C    | D    | E     | F  | G   | H | I  | J  | K        | L  | M |
|---|----|------|------|-------|----|-----|---|----|----|----------|----|---|
| 1 | 名称 | 内容简介 | 资源类型 | 是否是系列 | 系列 | 关键词 |   | 主题 | 主角 | 适用年龄层(年) | 作者 |   |
| 2 |    |      |      |       |    |     |   |    |    |          |    |   |
| 3 |    |      |      |       |    |     |   |    |    |          |    |   |
| 4 |    |      |      |       |    |     |   |    |    |          |    |   |

## 设置单元格自动换行

背景：之前已设置了列表宽度（间接实现宽度自适应）+ 行高，导致现在显示效果很不好，有些内容没法完全显示

| A | B          | C    | D    | E     | F  | G   | H | I  | J  | K        | L  | M    | N   | O    | P |
|---|------------|------|------|-------|----|-----|---|----|----|----------|----|------|-----|------|---|
| 1 | 名称         | 内容简介 | 资源类型 | 是否是系列 | 系列 | 关键词 |   | 主题 | 主角 | 适用年龄层(年) | 作者 | 是否虚构 | 出版社 | 进口国别 |   |
| 2 | away, wolf |      |      |       |    |     |   |    |    |          |    |      |     |      |   |
| 3 |            |      |      |       |    |     |   |    |    |          |    |      |     |      |   |
| 4 |            |      |      |       |    |     |   |    |    |          |    |      |     |      |   |
| 5 |            |      |      |       |    |     |   |    |    |          |    |      |     |      |   |
| 6 |            |      |      |       |    |     |   |    |    |          |    |      |     |      |   |

希望cell单元格的内容的自动换行。

希望效果：想要实现，类似于手动设置的： 设置单元格格式 -> 对齐 -

> 文本控制 ->勾选： 自动对齐

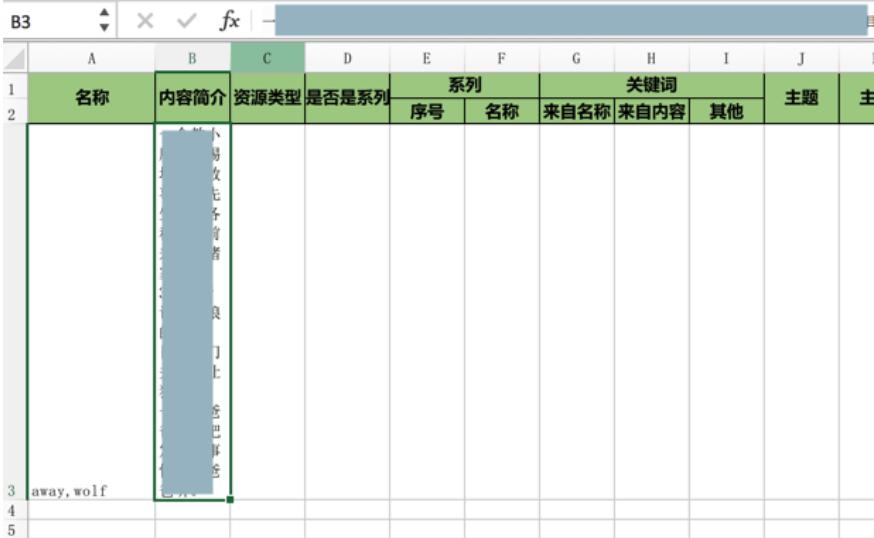
## 常用功能点

The screenshot shows a spreadsheet interface with a context menu open over a cell in column B. The menu includes options like Cut (⌘X), Copy (⌘C), Paste (⌘V), Select Paste..., Find..., and Insert... among others. The 'Format Cells...' option is highlighted in blue.

Below the context menu, a 'Format Cells' dialog box is displayed. The 'Alignment' tab is selected. In the 'Horizontal Alignment' section, '常规' (General) is chosen and '缩进' (Indent) is set to 0. The 'Vertical Alignment' section shows '底端对齐' (Bottom-align). The 'Text Control' section contains three checkboxes: '自动换行' (Wrap Text) is checked and highlighted with a red box; '缩小字体填充' (Shrink-to-fit) and '合并单元格' (Merge Cells) are unchecked. At the bottom right of the dialog are '取消' (Cancel) and '确定' (OK) buttons.

## 常用功能点

的效果：内容可以完全显示

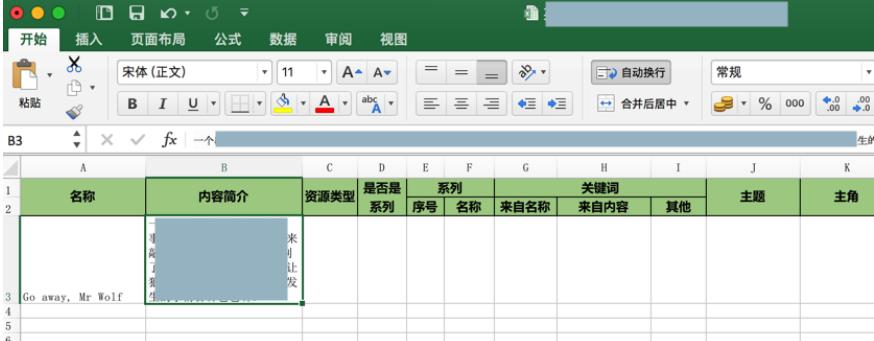


| A  | B          | C    | D     | E  | F    | G    | H  | I | J | K |
|----|------------|------|-------|----|------|------|----|---|---|---|
| 名称 | 内容简介       | 资源类型 | 是否是系列 | 系列 | 关键词  | 主题   | 主角 |   |   |   |
|    |            |      | 序号    | 名称 | 来自名称 | 来自内容 | 其他 |   |   |   |
|    |            |      |       |    |      |      |    |   |   |   |
| 3  | away, wolf |      |       |    |      |      |    |   |   |   |
| 4  |            |      |       |    |      |      |    |   |   |   |
| 5  |            |      |       |    |      |      |    |   |   |   |

代码：

```
# curCell.style.alignment.wrap_text = True #AttributeError  
curCell.alignment = Alignment(wrapText=True)
```

效果：很长的多行内容，可以根据宽度，自动换行，内容得以完全显示



| A  | B                | C    | D     | E  | F    | G    | H  | I | J | K |
|----|------------------|------|-------|----|------|------|----|---|---|---|
| 名称 | 内容简介             | 资源类型 | 是否是系列 | 系列 | 关键词  | 主题   | 主角 |   |   |   |
|    |                  |      | 序号    | 名称 | 来自名称 | 来自内容 | 其他 |   |   |   |
|    |                  |      |       |    |      |      |    |   |   |   |
| 3  | Go away, Mr Wolf |      |       |    |      |      |    |   |   |   |
| 4  |                  |      |       |    |      |      |    |   |   |   |
| 5  |                  |      |       |    |      |      |    |   |   |   |
| 6  |                  |      |       |    |      |      |    |   |   |   |

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## 封装成函数

目前已把 `openpyxl` 常用的功能，封装成独立函数了。

最新完整代码详见：

<https://github.com/crifan/crifanLibPython/blob/master/python3/crifanLib/threadParty/crifanOpenpyxl.py>

下面贴出部分代码供参考：

**获取合并后单元格的原始值： `isInCellRange + getCellRangeValue + getRealCellValue`**

背景：

用代码自动去判断，对于合并后的单元格中的内容：



| 14  | 15       | 16   | 17            | 18      | 19                               |
|-----|----------|--|---------------|---------|----------------------------------|
| 1   | 作者       | 内容简介   | 出版社           | 进口<br>别 | 获得奖项                             |
| 168 |          |  |               |         |                                  |
| 169 | Dr Seuss |  | HarperCollins | 美国      |                                  |
| 170 | Dr Seuss |  | HarperCollins | 美国      |                                  |
| 171 | Dr Seuss |  | HarperCollins | 美国      |                                  |
| 172 | Dr Seuss |  | HarperCollins | 美国      |                                  |
| 173 | Dr Seuss |  | HarperCollins | 美国      |                                  |
| 174 | Dr Seuss |  | HarperCollins | 美国      |                                  |
| 175 | Dr Seuss |  | HarperCollins | 美国      |                                  |
| 176 | Dr Seuss |  | HarperCollins | 美国      |                                  |
| 177 | Dr Seuss | 苏斯博士入门书，让孩子们首先了解字母，<br>苏斯博士经典故事。Sam想让我吃绿鸡蛋和火腿，我拒绝了无数次后决定试一下，没想到非常美味。 | HarperCollins | 美国      |                                  |
| 178 | Dr Seuss |  | HarperCollins | 美国      |                                  |
| 179 | Dr Seuss |  | HarperCollins | 美国      |                                  |
| 180 | Dr Seuss |  | HarperCollins | 美国      |                                  |
| 181 | Dr Seuss |  | HarperCollins | 美国      |                                  |
| 182 | Dr Seuss |  | HarperCollins | 美国      |                                  |
| 183 | Dr Seuss |  | HarperCollins | 美国      |                                  |
| 184 | Dr Seuss |  | HarperCollins | 美国      |                                  |
| 185 | Dr Seuss |  | HarperCollins | 美国      |                                  |
| 186 | Dr Seuss |  | HarperCollins | 美国      |                                  |
| 187 | Dr Seuss |  | HarperCollins | 美国      |                                  |
| 188 | Dr Seuss |  | HarperCollins | 美国      |                                  |
| 189 | Dr Seuss |  | HarperCollins | 美国      |                                  |
| 190 | Dr Seuss |  | HarperCollins | 美国      |                                  |
| 191 | Dr Seuss |  | HarperCollins | 美国      |                                  |
| 192 | Dr Seuss |  | HarperCollins | 美国      |                                  |
| 193 | Dr Seuss |  | HarperCollins | 美国      | 凯迪克奖和普利策特别贡献奖，美国教育部指定的儿童重要阅读辅助读物 |
| 194 | Dr Seuss |  | HarperCollins | 美国      |                                  |
| 195 | Dr Seuss |  | HarperCollins | 美国      |                                  |
| 196 | Dr Seuss |  | HarperCollins | 美国      |                                  |
| 197 | Dr Seuss |  | HarperCollins | 美国      |                                  |
| 198 | Dr Seuss |  | HarperCollins | 美国      |                                  |
| 199 | Dr Seuss |  | HarperCollins | 美国      |                                  |
| 200 | Dr Seuss |  | HarperCollins | 美国      |                                  |
| 201 | Dr Seuss |  | HarperCollins | 美国      |                                  |
| 202 | Dr Seuss |  | HarperCollins | 美国      |                                  |
| 203 | Dr Seuss |  | HarperCollins | 美国      |                                  |
| 204 | Dr Seuss |  | HarperCollins | 美国      |                                  |
| 205 | Dr Seuss |  | HarperCollins | 美国      |                                  |
| 206 | Dr Seuss |  | HarperCollins | 美国      |                                  |
| 207 | Dr Seuss |  | HarperCollins | 美国      |                                  |
| 208 | Dr Seuss |  | HarperCollins | 美国      |                                  |
| 209 | Dr Seuss |  | HarperCollins | 美国      |                                  |

(之前调试时发现的) 自动检测出来后，对于后续的，单元格值是空：

## 常用功能点

| 14  | 15   | 16            | 17      | 18                               | 19   |
|-----|--|---------------|---------|----------------------------------|------|
| 作者  | 内容简介   | 出版社           | 进口<br>别 | 获得奖项                             | 兰斯指数 |
| 1   |  |               |         |                                  |      |
| 2   |  |               |         |                                  |      |
| 168 |  |               |         |                                  |      |
| 169 |  |               |         |                                  |      |
| 170 | Dr Seuss   | HarperCollins | 美国      |                                  |      |
| 171 | Dr Seuss   | HarperCollins | 美国      |                                  |      |
| 172 | Dr Seuss   | HarperCollins | 美国      |                                  |      |
| 173 | Dr Seuss   | HarperCollins | 美国      |                                  |      |
| 174 | Dr Seuss   | HarperCollins | 美国      |                                  |      |
| 175 | Dr Seuss   | HarperCollins | 美国      |                                  |      |
| 176 | Dr Seuss   | HarperCollins | 美国      |                                  |      |
| 177 | Dr Seuss 苏斯博士入门书，让孩子们首先了解字母。苏斯博士的典故，Sam想让我吃绿鸡蛋和火腿，我拒绝了无数次后决定试一下，没想到非常美味。 | HarperCollins | 美国      |                                  |      |
| 178 | Dr Seuss   | HarperCollins | 美国      |                                  |      |
| 179 | Dr Seuss   | HarperCollins | 美国      |                                  |      |
| 180 | Dr Seuss   | HarperCollins | 美国      |                                  |      |
| 181 | Dr Seuss   | HarperCollins | 美国      |                                  |      |
| 182 | Dr Seuss   | HarperCollins | 美国      |                                  |      |
| 183 | Dr Seuss   | HarperCollins | 美国      |                                  |      |
| 184 | Dr Seuss   | HarperCollins | 美国      |                                  |      |
| 185 | Dr Seuss   | HarperCollins | 美国      |                                  |      |
| 186 | Dr Seuss   | HarperCollins | 美国      |                                  |      |
| 187 | Dr Seuss   | HarperCollins | 美国      |                                  |      |
| 188 | Dr Seuss   | HarperCollins | 美国      |                                  |      |
| 189 | Dr Seuss   | HarperCollins | 美国      |                                  |      |
| 190 | Dr Seuss   | HarperCollins | 美国      |                                  |      |
| 191 | Dr Seuss   | HarperCollins | 美国      |                                  |      |
| 192 | Dr Seuss   | HarperCollins | 美国      |                                  |      |
| 193 | Dr Seuss   | HarperCollins | 美国      | 凯迪克奖和普利策特别贡献奖，美国教育部指定的儿童重要阅读辅助读物 |      |
| 194 | Dr Seuss   | HarperCollins | 美国      |                                  |      |
| 195 | Dr Seuss   | HarperCollins | 美国      |                                  |      |
| 196 | Dr Seuss   | HarperCollins | 美国      |                                  |      |
| 197 | Dr Seuss   | HarperCollins | 美国      |                                  |      |
| 198 | Dr Seuss   | HarperCollins | 美国      |                                  |      |
| 199 | Dr Seuss   | HarperCollins | 美国      |                                  |      |
| 200 | Dr Seuss   | HarperCollins | 美国      |                                  |      |
| 201 | Dr Seuss   | HarperCollins | 美国      |                                  |      |
| 202 | Dr Seuss   | HarperCollins | 美国      |                                  |      |
| 203 | Dr Seuss   | HarperCollins | 美国      |                                  |      |
| 204 | Dr Seuss   | HarperCollins | 美国      |                                  |      |
| 205 | Dr Seuss   | HarperCollins | 美国      |                                  |      |
| 206 | Dr Seuss   | HarperCollins | 美国      |                                  |      |
| 207 | Dr Seuss   | HarperCollins | 美国      |                                  |      |
| 208 | Dr Seuss   | HarperCollins | 美国      |                                  |      |
| 209 | Dr Seuss   | HarperCollins | 美国      |                                  |      |

但是属于同一系列的话：

| 1     | 2  | 3   | 4                                    | 5                  | 6                                    | 7     | 8                 | 9      | 10 |
|-------|--|---|--------------------------------------|--------------------|--------------------------------------|-------|-------------------|--------|----|
| 绘本序列号 | 绘本系列名  | 3绘本名称关键词                                      | 4主角                                  | 5主题                | 6内容关键词简述                             | 适合年龄段 | Is Fiction or not | 是否精读材料 |    |
| 1     | 186本系列   | 2绘本名称   |                                      |                    |                                      |       |                   |        |    |
| 2     | 3 Dr Seuss The Big Orange Book of Hooper Humperdink, NOT! HMM! | Hooper Humperdink, NOT! HMM!                  |                                      |                    |                                      |       |                   |        |    |
| 3     | 4 Dr Seuss The Big Orange Book of the (in a people house)      | (in a people house)                           |                                      |                    |                                      |       |                   |        |    |
| 4     | 5 Dr Seuss The Cat in the Hat                                  | Cat in the Hat                                | Cat                                  | Animals,           |                                      |       | Yes               | 是      |    |
| 5     | 6 Dr Seuss Hop on Pop  | Hop on Pop                                    | Hop, pop                             |                    | The Cat in the Hat                   |       | Yes               | 否      |    |
| 6     | 7 Dr Seuss Oh say can you say?                                 | Oh say can you say?                           |                                      |                    |                                      |       | Yes               | 否      |    |
| 7     | 8 Dr Seuss Oh, the thinks you can think!                       | Oh, the thinks you can think!                 |                                      |                    |                                      |       | Yes               | 否      |    |
| 8     | 9 Dr Seuss One Fish Two Fish Red Fish Blue Fish                | One Fish Two Fish Red Fish Blue Fish          |                                      |                    | Fish and other animals               |       | Yes               | 否      |    |
| 9     | 10 Dr Seuss There's a Wocket in my pocket                      | There's a Wocket in my pocket                 |                                      |                    |                                      |       | Yes               | 否      |    |
| 10    | 11 Dr Seuss ABC  | ABC   | ABC                                  | Alphabet,          | Alphabet, Alphabet,                  |       | Yes               | 是      |    |
| 11    | 12 Dr Seuss Green Eggs and Ham                                 | Green Eggs and Ham                            | green, eggs, ham                     | Sam and I          | Kindhearted                          |       | Yes               | 否      |    |
| 12    | 13 Dr Seuss The Cat in the Hat                                 | The cat in the hat                            | cat in the hat                       | The cat in the hat | The cat in the hat                   |       | Yes               | 否      |    |
| 13    | 14 Dr Seuss One Fish Two Fish Red Fish Blue Fish               | One Fish Two Fish Red Fish Blue Fish          | One Fish Two Fish Red Fish Blue Fish | Mr. Brown          | One Fish Two Fish Red Fish Blue Fish |       | Yes               | 否      |    |
| 14    | 15 Dr Seuss How the Grinch Stole Christmas                     | How the Grinch Stole Christmas                |                                      | Grinch             | Grinch                               |       | Yes               | 否      |    |
| 15    | 16 Dr Seuss The Lorax  | The Lorax                                     |                                      | The Lorax          | The Lorax                            |       | Yes               | 否      |    |
| 16    | 17 Dr Seuss The Foot Book                                      | The Foot Book                                 |                                      | Horton             | Horton                               |       | Yes               | 否      |    |
| 17    | 18 Dr Seuss Horton Hears a Who!                                | Horton Hears a Who!                           |                                      | Bear and rabbit    | Bear and rabbit                      |       | Yes               | 否      |    |
| 18    | 19 Dr Seuss The Big Brag                                       | The Big Brag                                  |                                      |                    |                                      |       | Yes               | 否      |    |
| 19    | 20 Dr Seuss The Zax  | The Zax                                       |                                      |                    |                                      |       | Yes               | 否      |    |
| 20    | 21 Dr Seuss Gertrude McFuzz                                    | Gertrude McFuzz                               |                                      | Gertude McFuzz     | Gertude McFuzz                       |       | Yes               | 否      |    |
| 21    | 22 Dr Seuss Yertle the Turtle                                  | Yertle the Turtle                             |                                      | Yertle the Turtle  | Yertle the Turtle                    |       | Yes               | 否      |    |
| 22    | 23 Dr Seuss The Cat in the Hat Knows a Lot About That!         | The Cat in the Hat Knows a Lot About That!    |                                      | Henry McHinde      | Henry McHinde                        |       | Yes               | 否      |    |
| 23    | 24 Dr Seuss Gossie the Goddess                                 | Gossie the Goddess                            |                                      | Goddess            | Goddess                              |       | Yes               | 否      |    |
| 24    | 25 Dr Seuss King Koala Kart                                    | King Koala Kart                               |                                      | King Koala Kart    | King Koala Kart                      |       | Yes               | 否      |    |
| 25    | 26 Dr Seuss The Rabbit, the Bear, and the Zinnia-zinnia        | The Rabbit, the Bear, and the Zinnia-zinnia   |                                      |                    |                                      |       | Yes               | 否      |    |
| 26    | 27 Dr Seuss Great big saggy sack                               | Great big saggy sack                          |                                      |                    |                                      |       | Yes               | 否      |    |
| 27    | 28 Dr Seuss The strange shirt spot                             | The strange shirt spot                        |                                      |                    |                                      |       | Yes               | 否      |    |
| 28    | 29 Dr Seuss Todd and Todd                                      | Todd and Todd                                 |                                      |                    |                                      |       | Yes               | 否      |    |
| 29    | 30 Dr Seuss The Zax  | The Zax                                       |                                      |                    |                                      |       | Yes               | 否      |    |
| 30    | 31 Dr Seuss What was I scared off?                             | What was I scared off?                        |                                      |                    |                                      |       | Yes               | 否      |    |
| 31    | 32 Dr Seuss The Zinnia-zinnia                                  | The Zinnia-zinnia                             |                                      |                    |                                      |       | Yes               | 否      |    |
| 32    | 33 Dr Seuss And to think that I saw it on Mulberry street      | And to think that I saw it on Mulberry street |                                      |                    |                                      |       | Yes               | 否      |    |
| 33    | 34 Dr Seuss The Butter Battle Book                             | The Butter Battle Book                        |                                      |                    |                                      |       | Yes               | 否      |    |
| 34    | 35 Dr Seuss The Cat-head Mayor                                 | The Cat-head Mayor                            |                                      |                    |                                      |       | Yes               | 否      |    |
| 35    | 36 Dr Seuss Leprechaun's Luck                                  | Leprechaun's Luck                             |                                      |                    |                                      |       | Yes               | 否      |    |
| 36    | 37 Dr Seuss Dr. Seuss's Sleep Book                             | Dr. Seuss's Sleep Book                        |                                      |                    |                                      |       | Yes               | 否      |    |
| 37    | 38 Dr Seuss The Cat in the Hat Knows a Lot About That!         | The Cat in the Hat Knows a Lot About That!    |                                      |                    |                                      |       | Yes               | 否      |    |
| 38    | 39 Dr Seuss Happy birthday to you!                             | Happy birthday to you!                        |                                      |                    |                                      |       | Yes               | 否      |    |
| 39    | 40 Dr Seuss Horton hatches the egg                             | Horton hatches the egg                        |                                      |                    |                                      |       | Yes               | 否      |    |

那么后续单元格的值，在代码赋值时，也使用前面的值。

换句话说：

被合并后的单元的值，默认是空的

但是希望获取到被合并之前的值，即此处的合并后的左上角的第一个单元格的值

看看openpyxl是否能检测出来excel的单元格，是否是被合并的，且知道，具体合并了多少行（多少列）

这样才有利于后续单元格值为空时，使用前面的同系列的值

代码：

```

from openpyxl import Workbook, load_workbook

def isInCellRange(cellToCheck, cellRange):
    """
    to check a cell whether in a cell range
    :param cellToCheck:
    :param cellRange:
    :return:
        True : if cell in range
        False: if cell not in range
    """
    # logging.debug("cellToCheck=[%d:%d]", cellToCheck.row,
    # logging.debug("cellRange: row=[%d:%d] col=[%d:%d]",
    #                 cellRange.min_row, cellRange.max_row, ce
    if (cellToCheck.row >= cellRange.min_row) and \
        (cellToCheck.row <= cellRange.max_row) and \
        (cellToCheck.col_idx >= cellRange.min_col) and \
        (cellToCheck.col_idx <= cellRange.max_col):
        logging.info("cell[%d:%d] with in cell range: row=%d, column=%d", cellToCheck.row, cellToCheck.col_idx, cellRange.min_row, cellRange.max_row)
        return True
    else:
        return False

def getCellRangeValue(cellRange):
    """
    get cell range value -&gt; the top left cell value
    :param cellRange:
    :return:
    """
    topLeftCell = ws.cell(row=cellRange.min_row, column=cellRange.min_col)
    topLeftCellValue = topLeftCell.value
    return topLeftCellValue

def getRealCellValue(ws, curCell):
    """
    for openpyxl, to get real value from row and column
    especially for merged cell, will get its (same) value
    :param row:
    :param column:
    :return:
    """

    realCellValue = curCell.value

    mergedCellsRangesList = ws.merged_cells.ranges
    # logging.info("mergedCellsRangesList=%s", mergedCellsR

```

```
# Note:  
# to efficiency , we only check cell in range or not w  
# for all merged cell value is None  
if not realCellValue:  
    for eachCellRange in mergedCellsRangesList:  
        if isInCellRange(curCell, eachCellRange):  
            cellRangeValue = getCellRangeValue(eachCel  
            realCellValue = cellRangeValue  
            break  
  
    return realCellValue  
  
# parse excel file  
wb = load_workbook(ExcelFullFilename)  
logging.info("wb=%s", wb)  
# sheetNameList = wb.get_sheet_names()  
# logging.info("sheetNameList=%s", sheetNameList)  
ws = wb[StorybookSheetTitle]  
logging.info("ws=%s", ws)  
  
# process each row in excel  
# for curRowNum in range(realContentRowStartNum, ws.max_row+1):  
for curRowNum, eachRow in enumerate(ws.iter_rows(min_row=realContentRowStartNum, max_row=ws.max_row+1)):  
    curRowNum += realContentRowStartNum  
    logging.info("%s*30 + " "row[%d]" " + "%s*30", curRowNum)  
  
    ...  
    # authorColNumCellValue = ws.cell(row=curRowNum, column=AuthorColNum)  
    authorColNumCellValue = getRealCellValue(ws, eachRow[AuthorColNum])  
    logging.info("col[%d] authorColNumCellValue=%s", AuthorColNum, authorColNumCellValue)  
    # contentAbstractColNumCellValue = ws.cell(row=curRowNum, column=ContentAbstractColNum)  
    contentAbstractColNumCellValue = getRealCellValue(ws, eachRow[ContentAbstractColNum])  
    logging.info("col[%d] contentAbstractColNumCellValue=%s", ContentAbstractColNum, contentAbstractColNumCellValue)  
    # publisherColNumCellValue = ws.cell(row=curRowNum, column=PublisherColNum)  
    publisherColNumCellValue = getRealCellValue(ws, eachRow[PublisherColNum])  
    logging.info("col[%d] publisherColNumCellValue=%s", PublisherColNum, publisherColNumCellValue)  
    ...
```

可以检测到后续的，值是None的，处于被合并区域内的Cell单元格：

```
2018/04/04 02:50:22 LINE 246 INFO cell[147:14] with in
```

## 常用功能点

The screenshot shows the PyCharm IDE interface. The code editor displays a Python script named `saveDataToMongodb.py`. A red circle highlights line 247, which contains the code `return True`. Below the code editor is the debugger window, titled "pymongoTest". It shows a log of events from 2018/04/04 at 02:50:22, with several entries related to MongoDB operations.

```
2018/04/04 02:50:22 LINE 375 INFO col[1] storybookSeriesNumCellCellValue=2
2018/04/04 02:50:22 LINE 376 INFO col[2] keywordStorybookSeriesCellValue=0r, Seuss The Big Red Book of Beginner Books
2018/04/04 02:50:22 LINE 381 INFO col[3] keywordStorybookNameColNumCellValue=02 Sam and the Firefly
2018/04/04 02:50:22 LINE 384 INFO col[4] keywordStorybookNameCellValue=sam,firefly
2018/04/04 02:50:22 LINE 387 INFO col[5] keywordMainActorColNumCellValue=None
2018/04/04 02:50:22 LINE 390 INFO col[6] keywordTopicColNumCellValue=None
2018/04/04 02:50:22 LINE 393 INFO col[7] keywordContentKeywordColNumCellValue=None
2018/04/04 02:50:22 LINE 396 INFO col[8] fitAgeRangeColNumCellValue=None
2018/04/04 02:50:22 LINE 399 INFO col[9] isFictionColNumCellValue=None
2018/04/04 02:50:22 LINE 246 INFO cell[[47:10]] with in cell range: row=[146:163] col=[14:14]
```

对应着147行，14列的：

The screenshot shows a Microsoft Excel spreadsheet titled "英语绘本资源2018.4.2". The table has columns labeled "作者", "内容简介", "出版社", and "进口图书". There are many rows of data, mostly from Dr. Seuss books. Some cells are merged horizontally or vertically. For example, the first few rows have merged "作者" and "内容简介" columns. The "出版社" column contains "HarperCollins" repeated multiple times. The "进口图书" column is mostly empty, with only one entry in row 144.

| 1. 音频文件地址 | 作者   | 内容简介 | 出版社           | 进口图书 |
|-----------|--|------|---------------|------|
| 122       |  |      | HarperCollins |      |
| 123       |  |      | HarperCollins |      |
| 124       |  |      | HarperCollins |      |
| 125       | 凯迪克奖得主Seuss! 吻兜兜 Wins a Prize.mp3  |      | HarperCollins |      |
| 126       | 凯迪克奖得主Seuss! 吻兜兜 Visits the Big City.mp3   |      | HarperCollins |      |
| 127       | 凯迪克奖得主Seuss! 吻兜兜's Day at the Farm.mp3   |      | HarperCollins |      |
| 128       | 凯迪克奖得主Seuss! 吻兜兜's First Day at School.mp3   |      | HarperCollins |      |
| 129       | 凯迪克奖得主Seuss! 吻兜兜 Takes a Walk.mp3  |      | HarperCollins |      |
| 130       | 凯迪克奖得主Seuss! 吻兜兜 Meets the Glass Pet Shop.mp3  |      | HarperCollins |      |
| 131       | 凯迪克奖得主Seuss! 吻兜兜 Plays Ball.mp3  |      | HarperCollins |      |
| 132       | 凯迪克奖得主Seuss! 吻兜兜 in the Garden.mp3   |      | HarperCollins |      |
| 133       | 凯迪克奖得主Seuss! 吻兜兜 Leaves the Library.mp3  |      | HarperCollins |      |
| 134       |  |      | HarperCollins |      |
| 135       |  |      | HarperCollins |      |
| 136       |  |      | HarperCollins |      |
| 137       |  |      | HarperCollins |      |
| 138       | 凯迪克奖得主Seuss! 吻兜兜 Goes to School.mp3  |      | HarperCollins |      |
| 139       | 凯迪克奖得主Seuss! 吻兜兜 Finds a Friend.mp3  |      | HarperCollins |      |
| 140       | 凯迪克奖得主Seuss! 吻兜兜's First Day at School.mp3   |      | HarperCollins |      |
| 141       | 凯迪克奖得主Seuss! 吻兜兜's Big Friend.mp3  |      | HarperCollins |      |
| 142       | 凯迪克奖得主Seuss! 吻兜兜's New Trick.mp3   |      | HarperCollins |      |
| 143       | 凯迪克奖得主Seuss! 吻兜兜 Wants to Play.mp3   |      | HarperCollins |      |
| 144       | 凯迪克奖得主Seuss! The Big Red Book of Beginner Books\音频13.1.1 Ready to Be Somebody.mp3          |      | HarperCollins |      |
| 145       | 凯迪克奖得主Seuss! The Big Red Book of Beginner Books\音频14.1.1 See and the Firefly.mp3           |      |               |      |
| 146       | 凯迪克奖得主Seuss! The Big Red Book of Beginner Books\音频15.1.1 I Want to Be Somebody.mp3         |      |               |      |
| 147       | 凯迪克奖得主Seuss! The Big Red Book of Beginner Books\音频16.1.1 The Big Cat and the Small Dog.mp3 |      |               |      |
| 148       | 凯迪克奖得主Seuss! The Big Red Book of Beginner Books\音频17.1.1 Hickory, the Big Horse.mp3        |      |               |      |
| 149       | 凯迪克奖得主Seuss! The Big Red Book of Beginner Books\音频18.1.1 The Big Cat and the Small Dog.mp3 |      |               |      |
| 150       | 凯迪克奖得主Seuss! The Big Red Book of Beginner Books\音频19.1.1 Put Me in the Zoo.mp3             |      |               |      |
| 151       | 凯迪克奖得主Seuss! The Big Blue Book of Beginner Books\音频20.1.1 A Fish for Lent.mp3              |      |               |      |
| 152       | 凯迪克奖得主Seuss! The Big Blue Book of Beginner Books\音频21.1.1 The Cat in the Hat.mp3           |      |               |      |
| 153       | 凯迪克奖得主Seuss! The Big Blue Book of Beginner Books\音频22.1.1 A Fish for Lent.mp3              |      |               |      |
| 154       | 凯迪克奖得主Seuss! The Big Blue Book of Beginner Books\音频23.1.1 The Cat in the Hat.mp3           |      |               |      |
| 155       | 凯迪克奖得主Seuss! The Big Blue Book of Beginner Books\音频24.1.1 It's Not Easy Being a Bunny.mp3  |      |               |      |
| 156       | 凯迪克奖得主Seuss! The Big Blue Book of Beginner Books\音频25.1.1 The Cat in the Hat.mp3           |      |               |      |
| 157       | 凯迪克奖得主Seuss! The Big Blue Book of Beginner Books\音频26.1.1 It's Not Easy Being a Bunny.mp3  |      |               |      |
| 158       | 凯迪克奖得主Seuss! The Big Purple Book of Beginner Books\音频27.1.1 A Fish Out of Water.mp3        |      |               |      |
| 159       | 凯迪克奖得主Seuss! The Big Purple Book of Beginner Books\音频28.1.1 I Teach My Dog 100 Words.mp3   |      |               |      |
| 160       | 凯迪克奖得主Seuss! The Big Purple Book of Beginner Books\音频29.1.1 See and the Firefly.mp3        |      |               |      |
| 161       | 凯迪克奖得主Seuss! The Big Purple Book of Beginner Books\音频30.1.1 Fred and Ted Go Camping.mp3    |      |               |      |
| 162       |  |      |               |      |
| 163       |  |      |               |      |
| 164       |  |      |               |      |
| 165       |  |      |               |      |
| 166       |  |      |               |      |
| 167       | 凯迪克奖得主Seuss! Bill/Tom Apples Up Top.mp3  |      |               |      |

然后就可以通过：

`getCellRangeValue` 去得到合并区域的值==合并区域的最左上角 (top left) 的那个单元格的值：

## 常用功能点

The screenshot shows a debugger interface with the following details:

- Code View:** The code is in Python, showing a function named `getRealCellValue`. A red box highlights the assignment statement `realCellValue = cellRangeValue`, which is currently being executed.
- Variables View:** A sidebar titled "Variables" lists the current state of variables:
  - `cellRangeValue = {unicode} u'Dr Seuss'`
  - `curCell = {Cell} <Cell u'\u7ed8\u672c:N14'`
  - `eachCellRange = {CellRange} N146:N163`
  - `mergedCellsRangesList = [list] <type 'list': [<CellRange A1:A2>, <CellRange M1:M2>, <CellRange K1:K2>, <CellRange S1:S2>, <Cell ...]`
  - `realCellValue = {NoneType} None`
  - `ws = {Worksheet} <Worksheet "\u7ed8\u672c"`

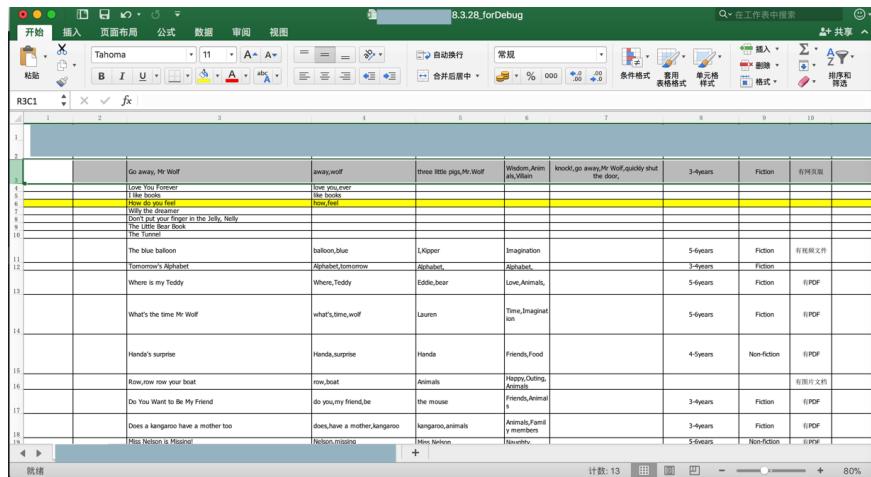
crifan.com, 使用署名4.0国际(CC BY 4.0)协议发布 all right reserved,  
powered by Gitbook最后更新: 2021-04-13 20:39:34

## 举例

此处列出一些用 `openpyxl` 操作 `excel` 的实际的例子，供参考。

### 用`openpyxl`读取`excel`文件

对于`excel`文件：



The screenshot shows a Microsoft Excel spreadsheet titled "8.3.28.forDebug". The table contains 19 rows of data, each representing a song or rhyme. The columns are labeled 1 through 10. The data includes song titles, lyrics, categories like "Wisdom,Animals,Villain", and age groups like "3-years" and "Fiction". Some rows have yellow backgrounds.

| 1.  |   |                             |                           |                        |   |          |             |       |  |
|-----|---|-----------------------------|---------------------------|------------------------|---|----------|-------------|-------|--|
| 2.  |   |                             |                           |                        |   |          |             |       |  |
| 3.  |   |                             |                           |                        |   |          |             |       |  |
| 4.  | Go away, Mr Wolf                          | away,wolf                   | three little pigs,Mr,Wolf | Wisdom,Animals,Villain | knock! go away,Mr,Wolf,quickly shut the door, | 3-years  | Fiction     | 有封面图  |  |
| 5.  | Love You Forever                          | love,you,ever               | the three little pigs     |                        |   |          |             |       |  |
| 6.  | I like books                              | like,books                  | the three little pigs     |                        |   |          |             |       |  |
| 7.  | Willy the dreamer                         | willy,dreamer               |                           |                        |   |          |             |       |  |
| 8.  | Don't put your finger in the Jelby, Nelly |                             |                           |                        |   |          |             |       |  |
| 9.  | The Three Little Pigs                     |                             |                           |                        |   |          |             |       |  |
| 10. | The Tunnel                                |                             |                           |                        |   |          |             |       |  |
| 11. | The blue balloon                          | balloon,blue                | L,Kipper                  | Imagination            |   | 5-years  | Fiction     | 有视频文件 |  |
| 12. | Tomorrow's Alphabet                       | Alphabet,tomorrow           | Alphabet,                 | Alphabet,              |   | 3-years  | Fiction     |       |  |
| 13. | Where is my Teddy                         | Where,Teddy                 | Eddie,bear                | Love,Animals,          |   | 5-years  | Fiction     | 有PDF  |  |
| 14. | What's the time Mr Wolf                   | what's,time,wolf            | Ursula                    | Time,Imagination       |   | 5-years  | Fiction     | 有PDF  |  |
| 15. | Honda's surprise                          | Honda,surprise              | Honda                     | Friends,Food           |   | 4-5years | Non-Fiction | 有PDF  |  |
| 16. | Row,now row your boat                     | row,boat                    | Animals                   | Happy/Outdoors,Animals |   |          |             | 有图片文件 |  |
| 17. | Do You Want to Be My Friend               | do,you,my friend,be         | the mouse                 | Friends,Animals        |   | 3-4years | Fiction     | 有PDF  |  |
| 18. | Does a kangaroo have a mother too         | does,have,a,mother,kangaroo | kangaroo,animals          | Animals,Family members |   | 3-years  | Fiction     | 有PDF  |  |
| 19. | Mrs Nelson is Missing                     | Nelson,missing              | Mrs Nelson                | Nursery,               |   | 5-years  | Non-Fiction | 有PDF  |  |

代码：

```
from openpyxl import Workbook, load_workbook

StorybookSheetTitle = u"绘本"
EnglishStorybookRootPath = "/Users/crifan/dev/dev_root/xxx"
ExcelFilename = "xxx资源2018.3.28_forDebug.xlsx"
ExcelFullFilename = os.path.join(EnglishStorybookRootPath,
AudioFilePathPrefix = EnglishStorybookRootPath

# parse excel file
wb = load_workbook(ExcelFullFilename) # work book
logging.info("wb=%s", wb)
# sheetNameList = wb.get_sheet_names()
# logging.info("sheetNameList=%s", sheetNameList)
ws = wb[StorybookSheetTitle] # work sheet
logging.info("ws=%s", ws)

# process each row in excel
for curRowNum in range(realContentRowStartNum, ws.max_row + 1):
    logging.info("-" * 30 + " row[%d]" % curRowNum)

    hasAudioFileColNumCellValue = ws.cell(row=curRowNum, column=12).value
    logging.info("col[12] hasAudioFileColNumCellValue=%s",
    audioFilePathColNumCellValue = ws.cell(row=curRowNum, column=13).value
    logging.info("col[13] audioFilePathColNumCellValue=%s")
```

输出：

```
2018/03/30 02:55:02 LINE 104 INFO wb=<openpyxl.workbook.Workbook object at 0x101e050>
2018/03/30 02:55:02 LINE 108 INFO ws=<Worksheet '\u7edf\u6587\u8005'\>
2018/03/30 02:55:02 LINE 113 INFO mongoClient=MongoClient('127.0.0.1', 27017)
2018/03/30 02:55:02 LINE 117 INFO gridfsDb=Database(MongoClient('127.0.0.1', 27017))
2018/03/30 02:55:02 LINE 125 INFO fsCollection=<gridfs.GridFSCollection object at 0x101e050>

2018/03/30 02:55:02 LINE 129 INFO _____ row[3] ____
2018/03/30 02:55:02 LINE 132 INFO col[12] hasAudioFileColNumCellValue=None
2018/03/30 02:55:02 LINE 134 INFO col[13] audioFilePathColNumCellValue=None
```

(用PyCharm) 调试输出的效果：

```

Project : pymongoTest.py
File : cifanLib.py
LocalMongo/gridsfs/files

saveLocalData ~/dev/dev
121     # fsCollection = gridfsDb.fs
122     # fsCollection = gridfsDb["fs"]
123     # Collection("GridFS", gridfsDb) fsCollection: <gridfs.GridFS object at 0x107864b50>
124     logging.info("fsCollection=%s", fsCollection)
125
126     # process each row in excel
127     for curRowNum in range(realContentRowStartNum, ws.max_row + 1): curRowNum: 4
128         logging.info("->%d " * curRowNum)
129         hasAudioFileColNumCellValue = ws.cell(curRowNum, column=HasAudioFileColNum).value hasAudioFileColNumCellValue: u'有'
130         logging.info("col[%d] hasAudioFileColNumCellValue=%s", HasAudioFileColNum, hasAudioFileColNumCellValue)
131         audioFilePathColNumCellValue = ws.cell(curRowNum, column=AudioFilePathColNum).value audioFilePathColNumCellValue: None
132         logging.info("col[%d] audioFilePathColNumCellValue=%s", AudioFilePathColNum, audioFilePathColNumCellValue)
133
134         if (hasAudioFileColNumCellValue == "是") and (audioFilePathColNumCellValue and (audioFilePathColNumCellValue != "")):
135             logging.info("Found audio file to save")
136
137             # extract all column value
138             storybookSeriesNumCellValue = ws.cell(row=curRowNum, column=StorybookSeriesNumCol).value
139             logging.info("col[%d] storybookSeriesNumCellValue=%s", StorybookSeriesNumCol, storybookSeriesNumCellValue)
140             keywordStorybookSeriesCellValue = ws.cell(row=curRowNum, column=KeywordStorybookSeriesCol).value
141
142
143     for curRowNum in range(realCont...

```

Execution output:

```

2018/03/30 02:55:02 LINE 104 INFO wb=<openpyxl.workbook.workbook.Workbook object at 0x107855c50>
2018/03/30 02:55:02 LINE 108 INFO ws=<worksheet "U:\Desktop\U672C">
2018/03/30 02:55:02 LINE 113 INFO mongoClient=MongoClient(host='[localhost:27017]', document_class=dict, tz_aware=False, connect=True)
2018/03/30 02:55:02 LINE 117 INFO gridfsDB=Database(MongoClient(host='[localhost:27017]'), document_class=dict, tz_aware=False, connect=True, u'gridfs')
2018/03/30 02:55:02 LINE 120 INFO fsCollection=gridfs.GridFS object at 0x107864b50>
2018/03/30 02:55:02 LINE 129 INFO col[12] hasAudioFileColNumCellValue有
2018/03/30 02:55:02 LINE 132 INFO col[13] audioFilePathColNumCellValue=None
2018/03/30 02:55:02 LINE 133 INFO /Users/zhengzhen/Desktop/PycharmProjects/mongoDB/saveLocalData/pymongoTest.py:136: UnicodeWarning: Unicode equal comparison failed to convert
both arguments to Unicode: interpreting them as unequal
  if (hasAudioFileColNumCellValue == "是") and audioFilePathColNumCellValue and (audioFilePathColNumCellValue != ""):
2018/03/30 02:56:08 LINE 129 INFO row[4]

```

## 新建excel文件并保存数据和设置单元格样式

背景：希望新建这种效果的excel

| 基本信息                   |   |           |                 |      |                                     |                     |   |      |                   |                        |                           |          |                 |
|------------------------|---|-----------|-----------------|------|-------------------------------------|---------------------|---|------|-------------------|------------------------|---------------------------|----------|-----------------|
| 名称                     | 内容简介  | 资源类型      | 是否系列            | 序号   | 系列                                  | 名称                  | 来自名称  | 来自内容 | 其他                | 主题                     | 主角                        | 适用年龄层(年) | 作者              |
| Go away, Mr Wolf       | 从前有只狼，它在花园里吃人。有一天，三只小猪决定去造房子。它们造了三座坚固的房子。狼非常生气，它开始敲门，但房子很坚固，狼无法进去。最后，狼决定用木柴烧房子，但房子还是没被烧毁。三只小猪跑出来，把狼赶走了。 | storybook | 否               |      |                                     | away.wolf           | knock! go away, Mr Wolf, quickly shut the door, |      |                   | Wisdom,Animals,Villain | three little pigs,Mr.Wolf | 3-4      | Atsuko Morozumi |
| When I Get Bigger      |   | storybook | 是               | 22   | Little Critter                      | get bigger          |   |      |                   | Little Critter         | Mercer Mayer              | 3-6      |                 |
| Baa, Baa, Black Sheep  |   | song      | 是               | 8    | Wee Sing -Animals, Animals, Animals | baa.baabla ck sheep |   |      | Fingerplay,Action | Mr. Chinny-chin-knock  | 2-6                       |          |                 |
|                        |   |           |                 |      |                                     |                     |   |      |                   |                        |                           |          |                 |
| 综合相关                   |   |           |                 |      |                                     |                     |   |      |                   |                        |                           |          |                 |
| 主题                     | 主角  | 适用年龄层(年)  | 作者              | 是否虚构 | 出版社                                 | 进口国别                | 获得奖项  | 兰斯指数 | 儿歌相关              | 歌手                     | 文本类                       | 音频类      |                 |
| Wisdom,Animals,Villain | three little pigs,Mr.Wolf   | 3-4       | Atsuko Morozumi | 是    | Mathew Price                        | 英国                  |   |      |                   |                        |                           |          |                 |
|                        | Little Critter  | 3-6       | Mercer Mayer    | 是    | Harper Trophy                       | 美国                  |   |      |                   |                        |                           |          |                 |
|                        |   |           |                 |      |                                     |                     |   |      |                   |                        |                           |          |                 |
|                        |   |           |                 |      |                                     |                     |   |      |                   |                        |                           |          |                 |

并且创建对应的第一行和第二行的表头，且部分单元格是合并的

然后再一点点把之前已有的excel中的内容：

|    |  |  |  |  |  |  | 适合年龄段 |  |
|----|--|--|--|--|--|--|-------|--|
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| 64 |  |  |  |  |  |  |       |  |

| 音频文件地址  | 主题                               | 主角   | 其他关键词   |
|---|----------------------------------|--|---|
| 1 Animals, Animals.wma                          | Fingerplay/Animal/Weather        | Spider                                     | Sun, Rain, water, sput                            |
| 2 Old McDonald Had a Farm.wma                   | Fingerplay/Family/Others         | mother, baby                               | knives, forks, mirror, table, bowl, glass, cradle |
| 3 Hickory Dickory Dock.wma                      | Fingerplay/Body                  | Grandma, Grandpa, Glasses                  | bed, mouse, hands, fingers                        |
| 4 Six Little Ducks.wma                          | Fingerplay/Family                | mouse, clock, Jack, Jill                   |   |
| 5 Little Peter Rabbit.wma                       | Fingerplay/Animals               | two little blackbirds, Jack, Jill          |   |
| 6 Five Little Monkeys.jmp                       | Fingerplay/Action                | Mr. Chirry-chirr-chirr, knock              |   |
| 7 Five Little Chickens.wma                      | Fingerplay/Personal              | Uncle, frog                                |   |
| 8 Baa, Baa, Black Sheep.wma                     | Fingerplay/Animal                | Jack, Jill                                 |   |
| 9 I Know an Old Lady Who Swallowed a Donkey.wma | Fingerplay/Person                | Bumblebee                                  |   |
| 10 Tingleyo.wma                                 | Fingerplay/Animal                | Thimble                                    |   |
| 11 1 The Old Gray Hare.wma                      | Fingerplay/Person                | pointer, tall man, ring man, baby, fingers |   |
| 12 2 Little Miss Muffet.wma                     | Fingerplay/Place                 | church                                     |   |
| 13 3 Bill Grogan's Goat.wma                     | Fingerplay/Action                | little mouse                               |   |
| 14 4 Three Little Piggies.wma                   | Fingerplay/Place                 | church                                     |   |
| 15 5 Little Speckled Frogs.wma                  | Fingerplay/Person                | old woman                                  |   |
| 16 6 I Love Little Ktby.wma                     | Fingerplay/Person                | this old man                               |   |
| 17 7 Bought Me a Cat.wma                        | Fingerplay/Animals/Person        | Little Peter Rabbit, fly                   |   |
| 18 8 Five Little Ducks.wma                      | Fingerplay/Transportation/Plane  | Finger band                                |   |
| 19 9 I Caught a Fish.wma                        | Fingerplay/Transportation/Person | Train, station                             |   |
| 20 0 Five Little Fishes.wma                     | Fingerplay/Transportation/Person | Train, Engineer                            |   |
| 21 1 The Swan.wma                               | Fingerplay/Person/Animal         | Farmer, son                                |   |
| 22 2 The Turle.wma                              | Fingerplay/Place                 | John, John, Jingleheimer                   |   |
| 23 3 The Snake.wma                              | Fingerplay/Place/Animal          | Schmidt                                    |   |
| 24 4 The Ant.wma                                | Fingerplay/Person/Place/Action   | little rabbit, little man                  |   |
| 25 5 Little Green Frog.wma                      | all/sound                        | Old McDonald                               |   |
| 26 6 The Mosquito.wma                           | Fingerplay/Person/Action         | I, me, You                                 |   |
| 27 7 Mister Rabbit.wma                          | Fingerplay/Person/Action         | Sally                                      |   |
| 28 8 Ladybug.wma                                | Fingerplay/Body                  | I, me                                      |   |
| 29 9 Baby Beehive.wma                           | Fingerplay/Hero                  | rickety, rickety, fingers                  |   |
| 30 10 I Went to the Beehive.wma                 | Fingerplay/Person                | me, my                                     |   |
| 31 11 Nobody Likes Me.wma                       | Fingerplay/Body                  | I, me                                      |   |
| 32 12 Grasshopper.wma                           | Fingerplay/Body                  | A-B-C                                      |   |
| 33 13 I'm a Little Teapot.wma                   | Fingerplay/Body                  |  |   |
| 34 14 Enty, Wewerty Spider.wma                  | Fingerplay/Weather               | I, Rain                                    |   |

保存进来。

代码：

```

from openpyxl import Workbook, load_workbook
from openpyxl.styles import Alignment
from openpyxl.styles import PatternFill, colors, Color
from openpyxl.styles import NamedStyle, Font, Border, Side

# create new output unified format excel file
wbOut = Workbook()
logging.info("wbOut=%s", wbOut)
# wsStorybook = wbOut.create_sheet(StorybookSheetTitle)
wsStorybook = wbOut.active
wsStorybook.title = StorybookSheetTitle
wsSong = wbOut.create_sheet(SongSheetTitle)
logging.info("wsStorybook=%s, wsSong=%s", wsStorybook, wsSong)

# common style
alignmentCenter = Alignment(horizontal='center', vertical='center')
fontYahei12 = Font(name=u'微软雅黑', bold=True, size=12)
thinSide = Side(style='thin', color=colors.BLACK)
allBlackThinBorder = Border(left=thinSide, top=thinSide, right=thinSide, bottom=thinSide)

# several type of headers style
NamedStyleCommonHeader      = "CommonHeader"
NamedStyleStorybookHeader   = "StorybookHeader"
NamedStyleSongHeader        = "SongHeader"
NamedStyleFileHeader        = "FileHeader"

commonBkgColorHex = "#AACF91"
commonFill = PatternFill(start_color=commonBkgColorHex, end_color=commonBkgColorHex, fill_type='solid')

"""

commonStyleHeader = NamedStyle(name=NamedStyleCommonHeader)
commonStyleHeader.font = fontYahei12
commonStyleHeader.border = allBlackThinBorder
commonStyleHeader.alignment = alignmentCenter
commonStyleHeader.fill = commonFill
wbOut.add_named_style(commonStyleHeader)

"""

# init headers
def initOutputExcelHeaders(ws):
    logging.info("ws=%s", ws)

    nameCell = ws["A1"]
    nameCell.value = "名称"
    ws.merge_cells('A1:A2')

    contentAbstractCell = ws["B1"]
    contentAbstractCell.value = "内容简介"

```

```
ws.merge_cells('B1:B2')

resTypeCell = ws['C1']
resTypeCell.value = "资源类型"
ws.merge_cells('C1:C2')

isSeriesCell = ws['D1']
isSeriesCell.value = "是否是系列"
ws.merge_cells('D1:D2')

seriesCell = ws['E1']
seriesCell.value = "系列"
ws.merge_cells('E1:F1')

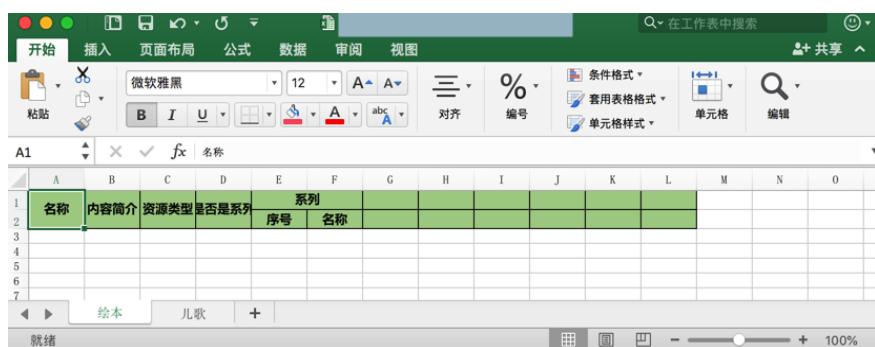
seriesNumCell = ws['E2']
seriesNumCell.value = "序号"

seriesNameCell = ws['F2']
seriesNameCell.value = "名称"

for eachCommonRow in ws.iter_rows("A1:L2"):
    logging.info("eachCommonRow=%s", eachCommonRow)
    for eachCellInRow in eachCommonRow:
        logging.info("eachCellInRow=%s", eachCellInRow)
        eachCellInRow.style = NamedStyleCommonHeader

initOutputExcelHeaders(wsStorybook)
initOutputExcelHeaders(wsSong)
wbOut.save(OutputUnifiedFormatExcelFilename)
```

效果：



## 确保指定的字体系统中是存在的

设置的 `Font` 确保是系统中存在的字体才可以

此处用的是 `Python2`，系统中当前的字体名是 `微软雅黑`

对应设置字体为雅黑的代码是

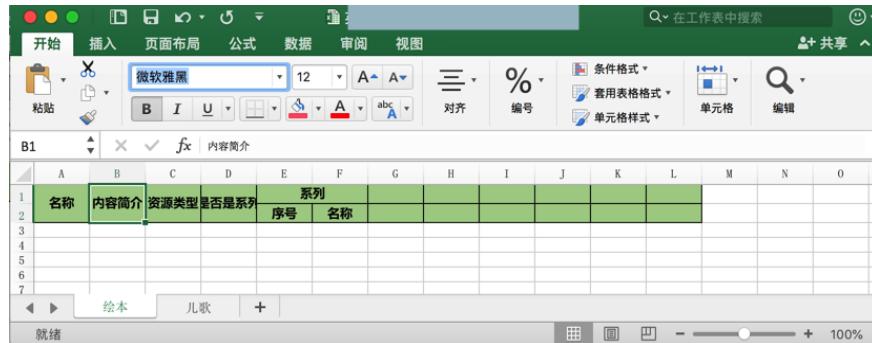
```
fontYahei12 = Font(name=u'微软雅黑', bold=True, size=12)
```

## 常用功能点

其中重点是： font 的 name 是 unicode 才可以

估计内容原因是：如果name不是unicode，则name找不到，所以会报错，会导致excel打不开

此处 微软雅黑 字体的效果是：



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powered by Gitbook最后更新：2021-04-13 20:39:15

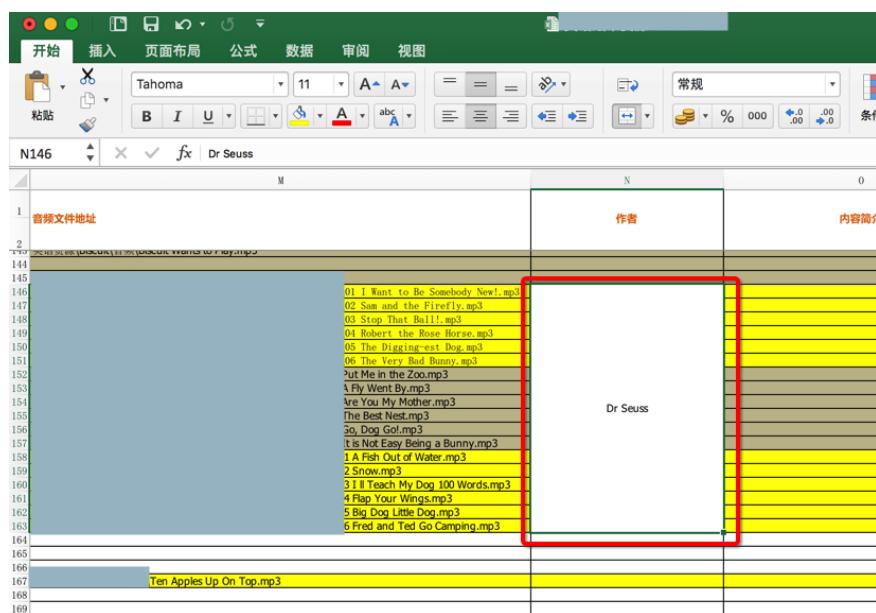
## 常见问题

**警告：发现xlsx中的部分内容有问题。是否让我们尽量尝试恢复？如果信任此工作簿的源，请单击“是”**

背景：

用openpyxl去创建新excel文件，并从某原有excel中拷贝数据到新excel中

其中包括保留原先的合并后的单元格，比如：



A screenshot of Microsoft Excel showing a table with merged cells. The table has columns labeled '音频文件地址' (Address), '作者' (Author), and '内容简介' (Content Summary). A red box highlights a merged cell in the '作者' column (N146) which contains the name 'Dr Seuss'. The '音频文件地址' column (M) contains a list of mp3 file names, many of which are highlighted in yellow.

| 音频文件地址                            | 作者       | 内容简介 |
|-----------------------------------|----------|------|
| 01 I Want to Be Somebody New!.mp3 | Dr Seuss |      |
| 02 Sam and the Firefly.mp3        |          |      |
| 03 Stop That Ball!.mp3            |          |      |
| 04 Robert the Rose Horse.mp3      |          |      |
| 05 The Digging-eat Dog.mp3        |          |      |
| 06 The Very Big Bunny.mp3         |          |      |
| Put Me in the Zoo.mp3             | Dr Seuss |      |
| A Fly Went By.mp3                 |          |      |
| Are You My Mother.mp3             |          |      |
| The Best Nest.mp3                 |          |      |
| Go, Dog Go!.mp3                   |          |      |
| t is Not Easy Being a Bunny.mp3   |          |      |
| 1 A Fish Out of Water.mp3         |          |      |
| 2 Snow.mp3                        |          |      |
| 3 If I Teach My Dog 100 Words.mp3 |          |      |
| 4 Flap Your Wings.mp3             |          |      |
| 5 Big Dog Little Dog.mp3          |          |      |
| 6 Fred and Ted Go Camping.mp3     |          |      |
| Ten Apples Up On Top.mp3          |          |      |

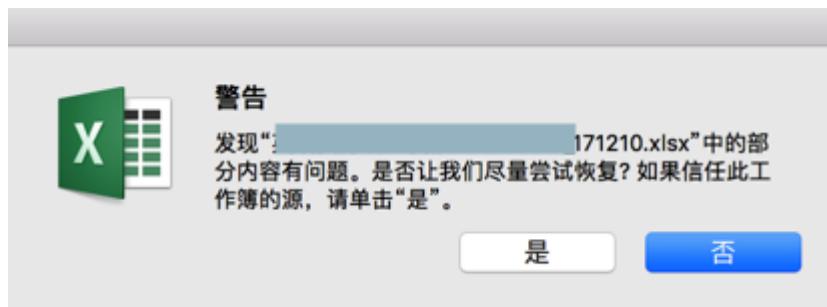
相关代码是：

```
def keepPrevMergedCells(wsIn, wsInCurCellRange, wsInCurRowNum):
    """
        keep original excel's merged cells
    """
    logging.info("keepPrevMergedCells: wsIn=%s, wsInCurCellRange=%s, wsInCurRowNum=%s", wsIn, wsInCurCellRange, wsInCurRowNum)

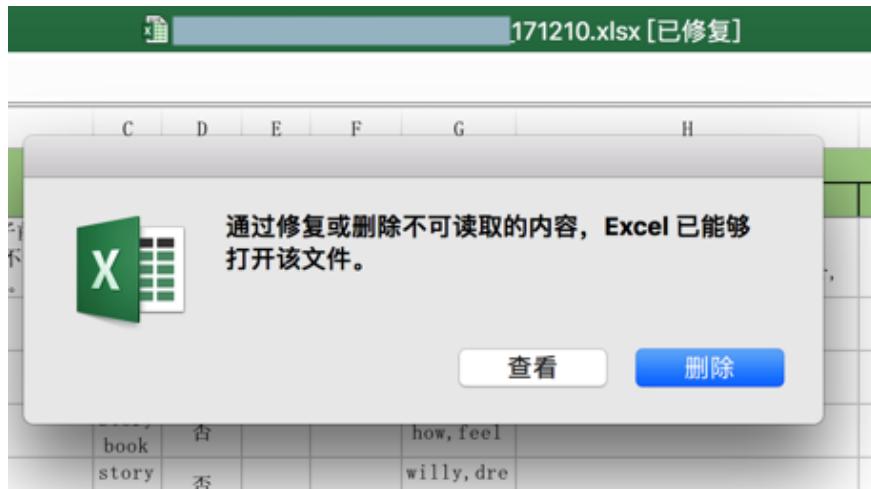
    cellRangeValue = crifanLib.getCellRangeValue(wsIn, wsInCurCellRange)
    rangeMinRow = wsInCurCellRange.min_row
    rangeMinCol = wsInCurCellRange.min_col
    rangeMaxRow = wsInCurCellRange.max_row
    rangeMaxCol = wsInCurCellRange.max_col
    logging.info("curCellRange: min_row=%s, min_col=%s, max_row=%s, max_col=%s", rangeMinRow, rangeMinCol, rangeMaxRow, rangeMaxCol)
    rowNumDiff = wsInCurRowNum - rangeMinRow
    logging.info("rowNumDiff=%s", rowNumDiff)
    curStartCol = wsOutColNum
    curEndCol = wsOutColNum + (rangeMaxCol - rangeMinCol)
    logging.info("curStartCol=%s, curEndCol=%s", curStartCol, curEndCol)
    if rowNumDiff > 1:
        wsOut.unmerge_cells(start_row=rangeMinRow,
                            start_column=curStartCol,
                            end_row=wsInCurRowNum,
                            end_column=curEndCol)
    wsOut.merge_cells(start_row=rangeMinRow,
                      start_column=curStartCol,
                      end_row=wsInCurRowNum,
                      end_column=curEndCol)
```

打开保存后的excel文件后报错：

发现.xlsx 中的部分内容有问题。是否让我们尽量尝试恢复？如果信任此工作簿的源，请单击“是”。



点击 是，然后再点击 删除：



是可以打开的，且貌似数据也是对的：

A screenshot of Microsoft Excel showing a spreadsheet titled '09.171210.xlsx [已修复]'. The table has columns A through H. The first row is a header with columns '名称' (Name), '内容简介' (Content Description), '资源类型' (Resource Type), '是否是系列' (Is it a series), '序号' (Index), '名称' (Name), '来自名称' (From name), and '来自内容' (From content). The second row has 'Go away, Mr Wolf' and '小' (small) in columns A and B respectively. The third row has 'Love You Forever' in column A. The fourth row has '来敲' (Knock) and '狼进' (Wolf enter) in columns C and D respectively. The fifth row has 'story' and 'book' in columns C and D respectively. The sixth row has '否' (No) in column E. The seventh row has 'away, wolf' and 'knock!, go away, Mr Wolf, quickly shut the door' in columns F and G respectively. The eighth row has 'story' and 'knock' in columns C and D respectively. The ninth row has '否' (No) in column E. The tenth row has 'love' and 'you forever' in columns F and G respectively.

调试过程：

点击 查看，是打开了 xml 文件：

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<recoveryLog xmlns="http://schemas.openxmlformats.org/spreadsheetml/2006/main"><logFileName>修复结果到 171210.xlsx </logFileName><summary>在文件“171210.xlsx”中检测到错误</summary><removedRecords summary="以下是已删除记录的列表:"><removedRecord>已删除的记录：/xl/worksheets/sheet1.xml 部分的 合并单元格</removedRecord></removedRecords></recoveryLog>
```

A screenshot of Xcode showing a terminal window with the title '修复结果到 171210.xlsx'. The window shows the XML recovery log. The log starts with '<?xml version="1.0" encoding="UTF-8" standalone="yes"?>' and '<recoveryLog xmlns="http://schemas.openxmlformats.org/spreadsheetml/2006/main">'. It then shows '<logFileName>修复结果到 171210.xlsx </logFileName>'. The log continues with '<summary>在文件“171210.xlsx”中检测到错误</summary>'. It then shows '<removedRecords summary="以下是已删除记录的列表:">'. Inside this block, it says '<removedRecord>已删除的记录：/xl/worksheets/sheet1.xml 部分的 合并单元格</removedRecord>'. Finally, it ends with '</removedRecords></recoveryLog>'. The number '3' is at the bottom left of the terminal window.

最终调试到的现象是：

- 720行没问题
- 但是750行出问题

然后去原先文件看看是否有什么异常的情况：

最后找到了是原先的excel中的 702 – 727 行 R 列中：

是合并的单元格，但是内容却是空= None

The screenshot shows a portion of an Excel spreadsheet. The columns are labeled O, P, Q, R, S, and T. Row 1 contains headers: '内容简介' (Content Summary), '出版社' (Publisher), '进口国别' (Import Country), '获得奖项' (Awards Won), and '兰斯指数' (Lans Index). Rows 2 through 705 are yellow, representing merged cells. Row 706 contains the text '重情'. Rows 707 through 713 are also yellow. Row 714 contains the text '鬼' (ghost). Rows 715 through 720 are yellow. Row 721 contains the text '的'. Rows 722 through 727 are yellow. Row 728 contains the text '灰'. Row 729 contains the text '况不'. Rows 730 through 734 are yellow. Row 735 contains the text '一'. Rows 736 through 738 are yellow. Row 739 contains the text '报'. Rows 740 through 741 are yellow. Row 742 contains the text '马'. A red rectangular box highlights the cell at row 728, column R, which is empty. The cell at row 728, column P, contains 'Disney'. The cell at row 728, column Q, contains '美国'. The cell at row 728, column R, is empty. The cell at row 728, column S, is also empty.

**根本原因：**代码生成的excel中，某些单元格的值是无效的 None，无法被Excel软件所识别

### 解决办法

- (不太推荐) 办法1：忽略之
  - 根据提示，正常打开excel，点击删除，会删除对应无效的值
    - 后续即可正常使用excel文件
- (推荐) 方法2：代码生成时，不要设置（Excel软件不支持的）None 等值
  - 即可彻底规避掉，不会产生此问题
  - 修复后的相关代码是

```
def keepPrevMergedCells(wsIn, wsInCurCellRange, wsI
.....
    keep original excel's merged cells
    if merged cell range itself value is None,
    otherwise will cause generated excel file c
.....
    logging.info("keepPrevMergedCells: wsIn=%s, wsI
        wsIn, wsInCurCellRange, wsInCurRowN

    cellRangeValue = crifanLib.getCellRangeValue(ws
    if not cellRangeValue:
        logging.warning("Not keep previous None or
            return
    # then wsOut.unmerge_cells and wsOut.merge_cell
```

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## **xlrd和xlwt**

### **下载和安装**

#### **xlrd**

从

<http://pypi.python.org/pypi/xlrd>

下载，最新版本的

[xlrd-0.8.0.tar.gz](#)

得到 130KB 的 `xlrd-0.8.0.tar.gz`

解压后，打开cmd切换到对应目录，去执行

```
setup.py install
```

#### **xlwt**

从主页：

<http://pypi.python.org/pypi/xlwt>

下载 `xlwt-0.7.4.tar.gz` 后，解压

切换到对应目录后，去安装：

```
setup.py install
```

#### **xlutils**

从主页：

<http://pypi.python.org/pypi/xlutils>

下载

[xlutils-1.5.2.tar.gz](#)

得到47KB的 `xlutils-1.5.2.tar.gz`

解压后，切换到对应目录后，去安装：

```
setup.py install
```

## 基本操作

概述：



**EXCEL自动化常用库速查表**  
《用 PYTHON 自动办公，做职场高手》课程配套资料

扫码查看课程

|                             |  |
|-----------------------------|--|
| <b>xlrd: 用来读Excel的库</b>     | font.name = '字体名' 设置字体名<br>font.bold = True/False 设置是否加粗<br>font.height = 字号 设置字号<br>style.font = font 将字体样式添加进样式中<br>borders = xlwt.Borders() 新建边框样式<br>borders.top = xlwt.Borders.边框样式<br>borders.bottom = xlwt.Borders.边框样式<br>borders.left = xlwt.Borders.边框样式<br>borders.right = xlwt.Borders.边框样式<br>style.borders = borders 将边框样式添加进样式中<br>alignment = xlwt.Alignment() 新建对齐样式<br>alignment.horz = xlwt.Alignment.水平对齐样式<br>alignment.vert = xlwt.Alignment.垂直对齐样式<br>style.alignment = alignment 将对齐样式添加进样式中<br>sheet.write(行, 列, 内容, style) 以特定格式写入内容 |
| <b>xlwt: 用来写 Excel 的库</b>   | font.name = '字体名' 设置字体名<br>font.bold = True/False 设置是否加粗<br>font.height = 字号 设置字号<br>style.font = font 将字体样式添加进样式中<br>borders = xlwt.Borders() 新建边框样式<br>borders.top = xlwt.Borders.边框样式<br>borders.bottom = xlwt.Borders.边框样式<br>borders.left = xlwt.Borders.边框样式<br>borders.right = xlwt.Borders.边框样式<br>style.borders = borders 将边框样式添加进样式中<br>alignment = xlwt.Alignment() 新建对齐样式<br>alignment.horz = xlwt.Alignment.水平对齐样式<br>alignment.vert = xlwt.Alignment.垂直对齐样式<br>style.alignment = alignment 将对齐样式添加进样式中<br>sheet.write(行, 列, 内容, style) 以特定格式写入内容 |
| <b>xlutils: 用来复制Excel的库</b> | font.name = '字体名' 设置字体名<br>font.bold = True/False 设置是否加粗<br>font.height = 字号 设置字号<br>style.font = font 将字体样式添加进样式中<br>borders = xlwt.Borders() 新建边框样式<br>borders.top = xlwt.Borders.边框样式<br>borders.bottom = xlwt.Borders.边框样式<br>borders.left = xlwt.Borders.边框样式<br>borders.right = xlwt.Borders.边框样式<br>style.borders = borders 将边框样式添加进样式中<br>alignment = xlwt.Alignment() 新建对齐样式<br>alignment.horz = xlwt.Alignment.水平对齐样式<br>alignment.vert = xlwt.Alignment.垂直对齐样式<br>style.alignment = alignment 将对齐样式添加进样式中<br>sheet.write(行, 列, 内容, style) 以特定格式写入内容 |

## 新建excel文件

代码

```
import xlwt
from datetime import datetime

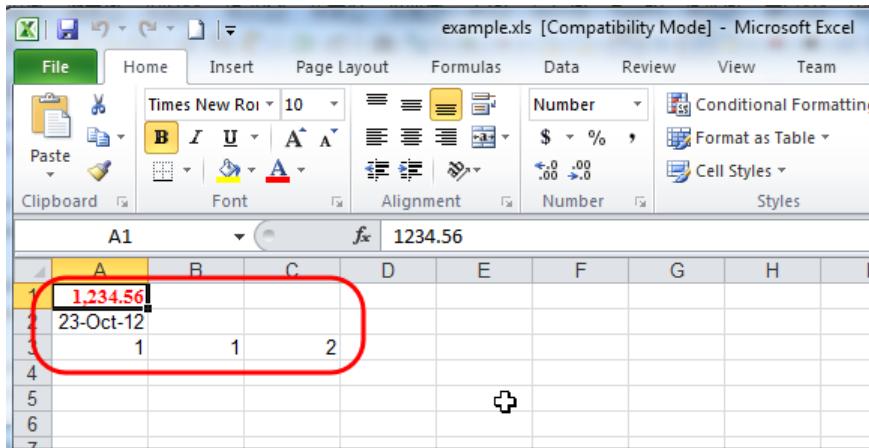
style0 = xlwt.easyxf('font: name Times New Roman, color-index black, bold on')
style1 = xlwt.easyxf(num_format_str='D-MMM-YY')

wb = xlwt.Workbook()
ws = wb.add_sheet('A Test Sheet')

ws.write(0, 0, 1234.56, style0)
ws.write(1, 0, datetime.now(), style1)
ws.write(2, 0, 1)
ws.write(2, 1, 1)
ws.write(2, 2, xlwt.Formula("A3+B3"))

wb.save('example.xls')
```

## 效果



## 追加写入新数据

背景：想要添加写入数据到已经存在的 Excel 的 xls 文件，即打开 excel文件，写入新数据

### 解决办法

想要往已经存在的xls文件中，写入新的行，新的数据，对应的逻辑为：

1. 用 `xlrd.open_workbook` 打开已有的xsl文件
  - 注意：添加参数 `formatting_info=True`，得以保存之前数据的格式
2. 然后用 `from xlutils.copy import copy` 拷贝出原有数据
  - `copy` 去从打开的 `xlrd` 的 `Book` 变量中，拷贝出一份，成为新的 `xlwt` 的 `Workbook` 变量
3. 对`xlwt`的`Workbook`变量的正常的操作
  - i. 通过`get_sheet`去获得对应的sheet
  - ii. 拿到sheet变量后，就可以往sheet中，写入新的数据
  - iii. 写完新数据后，最终`save`保存

### 代码

```
import xlwt
import xlrd
# import xlutils
from xlutils.copy import copy

styleBoldRed = xlwt.easyxf('font: color-index red, bold on')
headerStyle = styleBoldRed
wb = xlwt.Workbook()
ws = wb.add_sheet(gConst['xls']['sheetName'])
ws.write(0, 0, "Header", headerStyle)
ws.write(0, 1, "CatalogNumber", headerStyle)
ws.write(0, 2, "PartNumber", headerStyle)
wb.save(gConst['xls']['fileName'])

#open existed xls file
#newWb = xlutils.copy(gConst['xls']['fileName'])
#newWb = copy(gConst['xls']['fileName'])
oldWb = xlrd.open_workbook(gConst['xls']['fileName'], format='Excel 2007')
print oldWb #<xlrd.book.Book object at 0x00000000315C940>
newWb = copy(oldWb)
print newWb #<xlwt.Workbook.Workbook object at 0x0000000000000000>
newWs = newWb.get_sheet(0)
newWs.write(1, 0, "value1")
newWs.write(1, 1, "value2")
newWs.write(1, 2, "value3")
print "write new values ok"
newWb.save(gConst['xls']['fileName'])
print "save with same name ok"
```

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## 常见问题

**AttributeError: 'module' object has no attribute 'copy'**

背景

代码:

```
import xlutils  
  
newWb = xlutils.copy(gConst['xls']['fileName'])
```

报错:

**AttributeError: 'module' object has no attribute 'copy'**

原因: 未知。可能是库本身的bug。

解决办法

改为:

```
from xlutils.copy import copy  
  
newWb = copy(gConst['xls']['fileName'])
```

即可 (规避此问题)

**AttributeError: 'str' object has no attribute 'datemode'**

背景

代码:

```
from xlutils.copy import copy;  
  
newWb = copy(gConst['xls']['fileName'])
```

出错:

```
newWb = copy(gConst['xls']['fileName']);
File "D:\tmp\dev_install_root\Python27_x64\lib\site-packages\xlutils\_file.py", line 10, in <module>
    from xlrd import open_workbook
File "D:\tmp\dev_install_root\Python27_x64\lib\site-packages\xlrd\__init__.py", line 1, in <module>
    from .book import Book
File "D:\tmp\dev_install_root\Python27_x64\lib\site-packages\xlrd\book.py", line 1, in <module>
    from .cell import Cell
File "D:\tmp\dev_install_root\Python27_x64\lib\site-packages\xlrd\cell.py", line 1, in <module>
    from .reader import Reader
File "D:\tmp\dev_install_root\Python27_x64\lib\site-packages\xlrd\reader.py", line 1, in <module>
    from .filter import Filter
File "D:\tmp\dev_install_root\Python27_x64\lib\site-packages\xlrd\filter.py", line 1, in <module>
    from .workbook import Workbook
File "D:\tmp\dev_install_root\Python27_x64\lib\site-packages\xlrd\workbook.py", line 1, in <module>
    from .datemode import DateMode
AttributeError: 'str' object has no attribute 'datemode'
```

原因：参考官网的资料 [xlutils copy](#)，才知道 `copy` 的参数，是对应的 `workbook`，而不是 `xls` 的 `filename`

解决办法：先从excel文件中（通过 `xlrd`）读取得到 `workbook`，再去用 `copy`

代码

```
import xlwt
import xlrd
#import xlutils
from xlutils.copy import copy

oldWb = xlrd.open_workbook(gConst['xls']['fileName'])
print oldWb; #<xlrd.book.Book object at 0x00000000315C940>
newWb = copy(oldWb)
print newWb; #<xlwt.Workbook.Workbook object at 0x0000000000000000>
```

才真正可以正常打开旧的xls，拷贝出一份新的xls

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## pandas

Python的科学计算方面的库，主要用于数据处理的 `pandas`，也可以操作 `excel` 和 `csv`

- `pandas`
  - 官网API文档
    - Excel
      - 读: `pandas.read_excel`
      - `pandas.read_excel` — pandas 1.2.4 documentation
        - [https://pandas.pydata.org/pandas-docs/stable/reference/api/pandas.read\\_excel.html](https://pandas.pydata.org/pandas-docs/stable/reference/api/pandas.read_excel.html)
      - 语法
        - `pandas.read_excel(io, sheet_name=0, header=0, names=None, index_col=None, usecols=None, squeeze=False, dtype=None, engine=None, converters=None, true_values=None, false_values=None, skiprows=None, nrows=None, na_values=None, keep_default_na=True, na_filter=True, verbose=False, parse_dates=False, date_parser=None, thousands=None, comment=None, skipfooter=0, convert_float=True, mangle_dupe_cols=True, storage_options=None)`
      - 写: `pandas.DataFrame.to_excel`
      - `pandas.DataFrame.to_excel` — pandas 1.2.4 documentation
        - [https://pandas.pydata.org/docs/reference/api/pandas.DataFrame.to\\_excel.html](https://pandas.pydata.org/docs/reference/api/pandas.DataFrame.to_excel.html)
      - 语法
        - `DataFrame.to_excel(excel_writer, sheet_name='Sheet1', na_rep='', float_format=None,`

```
columns=None, header=True,
index=True, index_label=None,
startrow=0, startcol=0,
engine=None, merge_cells=True,
encoding=None, inf_rep='inf',
verbose=True,
freeze_panes=None,
storage_options=None) [source]
```

- CSV

- 读: `pandas.read_csv`

- `pandas.read_csv` — pandas 1.2.4 documentation

- [https://pandas.pydata.org/pandas-docs/stable/reference/api/pandas.read\\_csv.html](https://pandas.pydata.org/pandas-docs/stable/reference/api/pandas.read_csv.html)

- 语法

- `pandas.read_csv(filepath_or_buffer, sep=<object object>, delimiter=None,`
      - `header='infer', names=None, index_col=None, usecols=None,`
      - `squeeze=False, prefix=None, mangle_dupe_cols=True,`
      - `dtype=None, engine=None, converters=None,`
      - `true_values=None, false_values=None,`
      - `skipinitialspace=False, skiprows=None, skipfooter=0,`
      - `nrows=None, na_values=None, keep_default_na=True,`
      - `na_filter=True, verbose=False, skip_blank_lines=True,`
      - `parse_dates=False, infer_datetime_format=False,`
      - `keep_date_col=False, date_parser=None,`
      - `dayfirst=False, cache_dates=True,`
      - `iterator=False, chunksize=None,`
      - `compression='infer', thousands=None, decimal='.'`
      - `lineterminator=None, quotechar='''', quoting=0,`

```
        doublequote=True,
        escapechar=None, comment=None,
        encoding=None, dialect=None,
        error_bad_lines=True,
        warn_bad_lines=True,
        delim_whitespace=False,
        low_memory=True,
        memory_map=False,
        float_precision=None,
        storage_options=None) [source]
```

- 写: `pandas.DataFrame.to_csv`
  - `pandas.DataFrame.to_csv` — pandas 1.2.4 documentation
    - [https://pandas.pydata.org/docs/reference/api/pandas.DataFrame.to\\_csv.html](https://pandas.pydata.org/docs/reference/api/pandas.DataFrame.to_csv.html)
    - 语法
      - `DataFrame.to_csv(path_or_buf=None, sep=',', na_rep='', float_format=None, columns=None, header=True, index=True, index_label=None, mode='w', encoding=None, compression='infer', quoting=None, quotechar='''', line_terminator=None, chunksize=None, date_format=None, doublequote=True, escapechar=None, decimal='.', errors='strict', storage_options=None)`

## win32com.client

此处用 `win32com.client` 去处理 Excel 中的图表，比如 `Chart`、`Graph` 等。

### 处理Excel的图表

在当前文件夹中新建一个空的 `xls` 文件: `chart_demo.xls`

用（Python 2 的）代码：

```
#!/usr/bin/python
# -*- coding: utf-8 -*-
"""
Function:
    【已解决】Python中处理操作Excel中的图表 (Chart, Graph)
    https://www.crifan.com/python_process_excel_chart_graph

Author:      Crifan Li
Version:     2012-12-25
Contact:     admin at crifan dot com
"""

import os
from win32com.client import Dispatch
#from win32com.client import *

def excelChart():
    xl = Dispatch("Excel.Application")
    #xl = win32com.client.Dispatch("Excel.Application")
    print "xl=", xl

    #[1] Fail
    # xlsPath = "chart_demo.xls"
    # wb = xl.Workbooks.open(xlsPath) #pywintypes.com_error

    #[2] Fail
    # xlsPath = "D:\tmp\temp_dev_root\python\excel_chart\chart_demo.xls"
    # absPath = os.path.abspath(xlsPath)
    # print "absPath=",absPath #absPath= D:\tmp\temp_dev_root\python\excel_chart\chart_demo.xls
    # wb = xl.Workbooks.open(absPath) #pywintypes.com_error

    #[3] Fail
    # xlsPath = "D:\tmp\temp_dev_root\python\excel_chart\chart_demo.xls"
    # normalPath = os.path.normpath(xlsPath)
    # print "normalPath=",normalPath #normalPath= D:\tmp\temp_dev_root\python\excel_chart\chart_demo.xls
    # wb = xl.Workbooks.open(normalPath) #pywintypes.com_error

    #[4] Fail
    # rawPath = r"chart_demo.xls"
    # wb = xl.Workbooks.open(rawPath) #pywintypes.com_error

    #[5] OK
    xlsPath = "chart_demo.xls"
    absPath = os.path.abspath(xlsPath)
    print "absPath=",absPath #absPath= D:\tmp\temp_dev_root\python\excel_chart\chart_demo.xls
    wb = xl.Workbooks.open(absPath) #OK

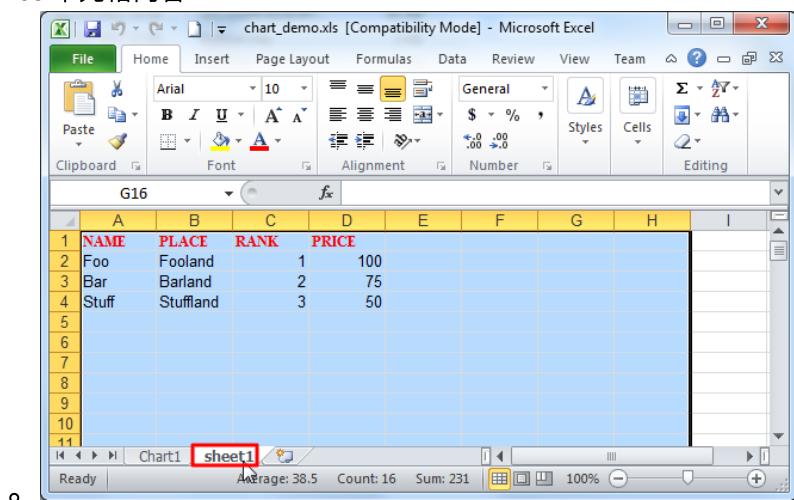
    #[6] OK
    # rawPath = r"D:\tmp\temp_dev_root\python\excel_chart\chart_demo.xls"
    # wb = xl.Workbooks.open(rawPath) # OK
```

```
xl.Visible = 1
ws = wb.Worksheets(1)
ws.Range('$A1:$D1').Value = ['NAME', 'PLACE', 'RANK',
ws.Range('$A2:$D2').Value = ['Foo', 'Fooland', 1, 100]
ws.Range('$A3:$D3').Value = ['Bar', 'Barland', 2, 75]
ws.Range('$A4:$D4').Value = ['Stuff', 'Stuffland', 3, 50]
wb.Save()
wb.Charts.Add()
wc1 = wb.Charts(1)

if __name__ == "__main__":
    excelChart()
```

效果：

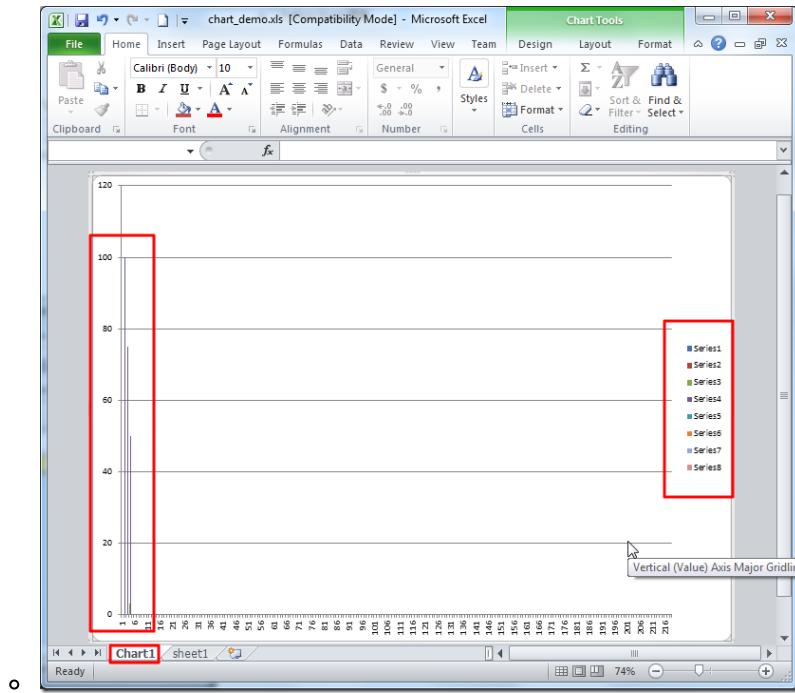
- Excel单元格内容



A screenshot of Microsoft Excel showing a table of data. The table has four columns: NAME, PLACE, RANK, and PRICE. The data is as follows:

|    | NAME  | PLACE     | RANK | PRICE |
|----|-------|-----------|------|-------|
| 2  | Foo   | Fooland   | 1    | 100   |
| 3  | Bar   | Barland   | 2    | 75    |
| 4  | Stuff | Stuffland | 3    | 50    |
| 5  |       |           |      |       |
| 6  |       |           |      |       |
| 7  |       |           |      |       |
| 8  |       |           |      |       |
| 9  |       |           |      |       |
| 10 |       |           |      |       |
| 11 |       |           |      |       |

- Excel对应图表效果



## 常见问题

**ImportError: No module named win32com.client**

代码:

```
from win32com.client import Dispatch
```

会报错:

```
D:\tmp\tmp_dev_root\python\excel_chart>excel_chart.py
Traceback (most recent call last):
  File "D:\tmp\tmp_dev_root\python\excel_chart\excel_chart.py", line 1, in <module>
    from win32com.client import Dispatch
ImportError: No module named win32com.client
```

解决办法: 下载和安装 pywin32

具体步骤

去

<http://sourceforge.net/projects/pywin32/files/pywin32/>

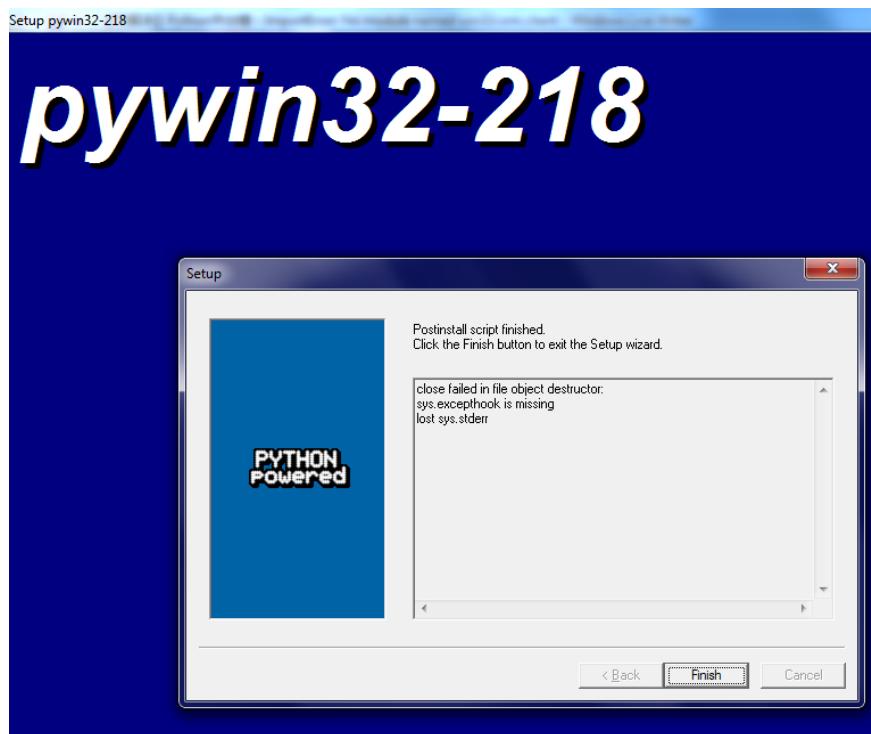
下载

<http://sourceforge.net/projects/pywin32/files/pywin32/Build%202018/>

此处 Win7 64位 + Python 2.7.3 对应的版本：

[pywin32-218.win-amd64-py2.7.exe](#)

然后去双击安装，一路默认设置：



即可。

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## 附录

下面列出相关参考资料。

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## 参考资料

- 【已解决】Python中如何读取csv文件中每一行的数据
- 【整理】用Python把列表或字典数据输出写入csv文件
- 【已解决】python的输出列表数据到csv但没有表头
- 
- 【已解决】Python中创建和保存数据到csv文件中
- 【已解决】python解析excel文件并读取其中的sheet和row和column的值
- 【已解决】openpyxl中给单元格设置背景色
- 【部分解决】openpyxl的excel设置列宽自适应+设置行高 – 在路上
- 【已解决】openpyxl中设置单元格自动换行
- 【已解决】openpyxl中给一个范围内的单元格批量设置样式：居中对齐和背景色
- 【已解决】用openpyxl去新建excel文件并保存数据和设置单元格样式
- 【已解决】openpyxl代码警告：Using a range string with iter\_rows is deprecated. Use ws[range\_string]
- 【已解决】openpyxl生成excel文件打开提示：发现xlsx中的部分内容有问题 是否让我们尽量尝试恢复
- 【已解决】Python中openpyxl处理excel去判断单元格是合并后的以及合并的范围
- 【整理】Python中，添加写入数据到已经存在的Excel的xls文件，即打开excel文件，写入新数据 – 在路上
- 【记录】Python中生成（写入数据到）Excel文件中
- 【记录】Python中安装xlrd模块
- 【记录】Python中安装可以读写excel的xls文件的xlutils模块（需依赖于xlrd和xlwt）
- 【已解决】Python中处理操作Excel中的图表（Chart, Graph） – 在路上
- 【已解决】Python中出错：ImportError: No module named win32com.client – 在路上
- 【记录】Mac中用Python去解析excel文件 – 在路上
- 【已解决】Mac中安装Python的第三方库：openpyxl
- 【整理】python中处理excel的库xlrd和xlwt的python 3.x版本是：xlrd3和xlwt3 – 在路上
- 【已解决】Python中使用xlutils.copy出错：AttributeError: 'module' object has no attribute 'copy' – 在路上
- 【已解决】Python中使用xlutils的copy出错：AttributeError: 'str' object has no attribute 'datemode' – 在路上
- 
- 第 6 章 Python 中的 CSV, Excel

- [【python】pandas库pd.read\\_excel操作读取excel文件参数整理与实例\\_brucewong0516的博客-CSDN博客](#)
- [最新Pandas.read\\_excel\(\)全参数详解（案例实操，如何利用python导入excel） - 知乎](#)
- [pandas.read\\_excel 详细介绍 | Pandas 中文教程 - 盖若](#)
- [Python Resources for working with Excel - Working with Excel Files in Python](#)
- [请教下 Python 高手，如何用 Python 自动化操作 Excel？ - 知乎](#)
- [python - How to write header row with csv.DictWriter? - Stack Overflow](#)
- [Openpyxl tutorial - read, write Excel xlsx files in Python](#)
- 

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