Mastering Python

ألدرس #10_2

مكتبات اكسيل Excel Xlsxwriter,XLwr&XLrd

By:

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Agenda

- What is XlsxWriter, XLwt & XLrd?
- XlsxWriter Examples
- XLwt Examples
- XLrd Examples

What is XlsxWriter, XLwt & XLrd

XlsxWriter: is a Python module for creating Excel XLSX files.

Xlwt : Library to create spreadsheet files compatible with MS Excel 97/2000/XP/2003 XLS files

Xlrd :Library for developers to extract data from Microsoft Excel (tm) spreadsheet files Extract data from Excel spreadsheets

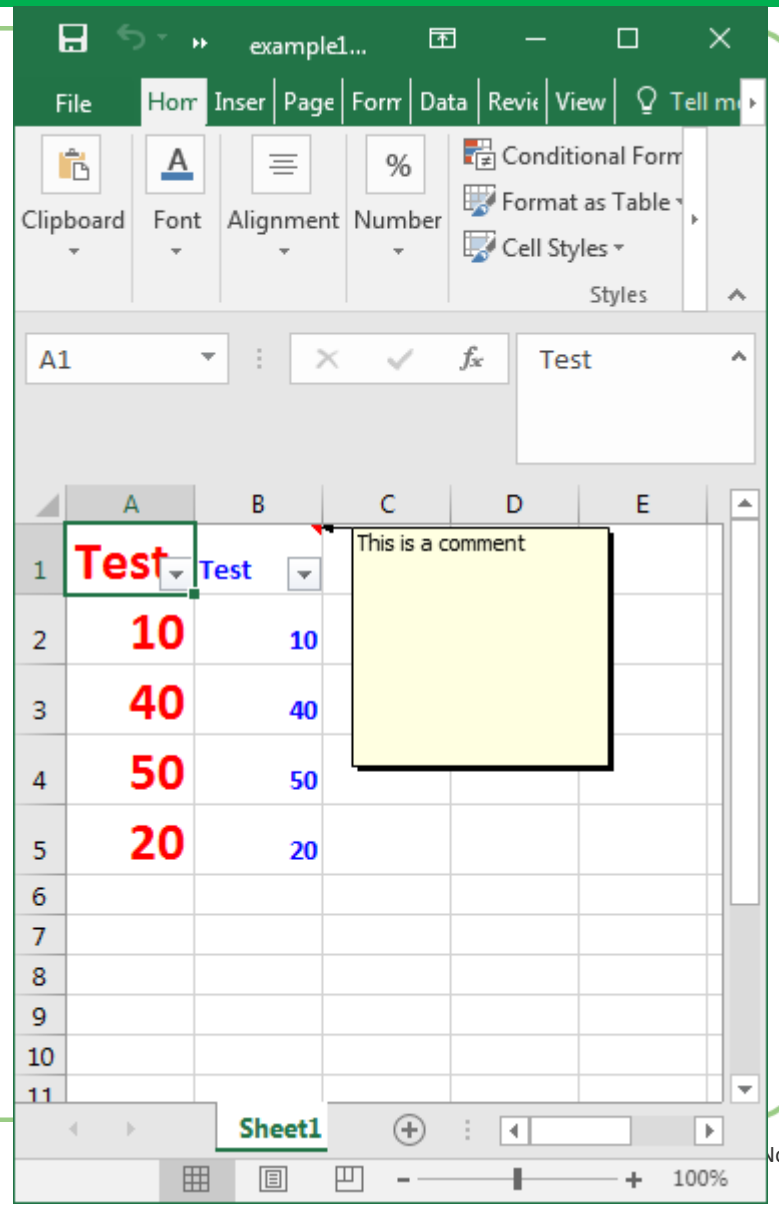
To install : pip install --upgrade XlsxWriter xlwt xlrd

https://github.com/python-excel

Xlsxwriter: formats , comments & filter

```python
import xlsxwriter

workbook = xlsxwriter.Workbook('example10.xlsx')
worksheet = workbook.add_worksheet()

worksheet.autofilter('A1:B4')

data = ["Test",10, 40, 50, 20]

format = workbook.add_format()
format.set_bold()
format.set_font_color('red')
format.set_font_size(20)

worksheet.write_column('A1', data,format)

worksheet.write_comment('B1', 'This is a comment')

format2 = workbook.add_format({'bold': True, 'font_color': 'blue'})
worksheet.write_column('B1', data,format2)

workbook.close()
```

output

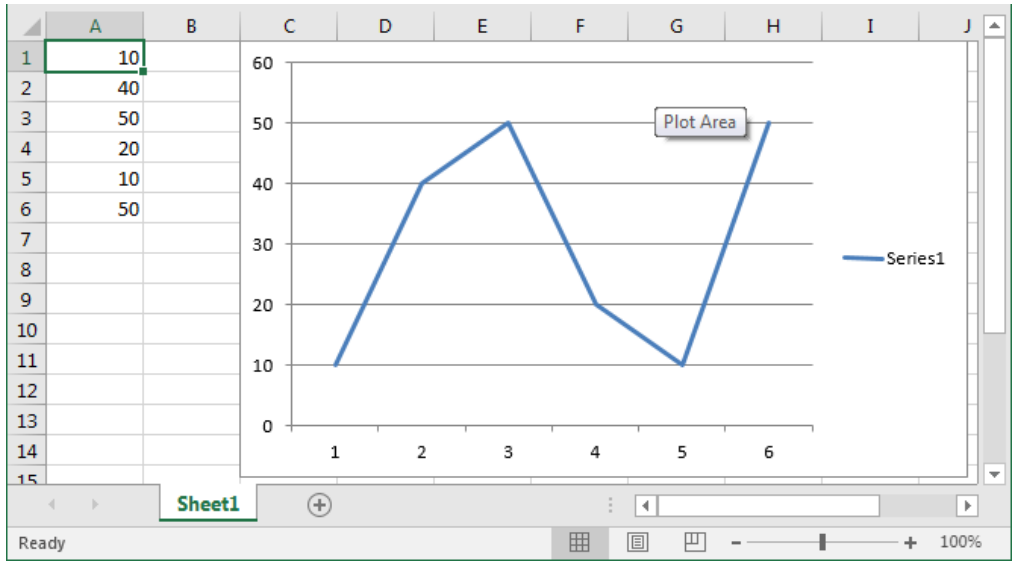


https://xlsxwriter.readthedocs.io/format.html

Xlsxwriter: Charts

```python
import xlsxwriter

workbook = xlsxwriter.Workbook('chart_line.xlsx')
worksheet = workbook.add_worksheet()

# Add the worksheet data to be plotted.
data = [10, 40, 50, 20, 10, 50]
worksheet.write_column('A1', data)

# Create a new chart object.
chart = workbook.add_chart({'type': 'line'})

# Add a series to the chart.
chart.add_series({'values': '=Sheet1!$A$1:$A$6'})

# Insert the chart into the worksheet.
worksheet.insert_chart('C1', chart)

workbook.close()
```

output



XLwt: Formulas

Spyder (Python 3.6)

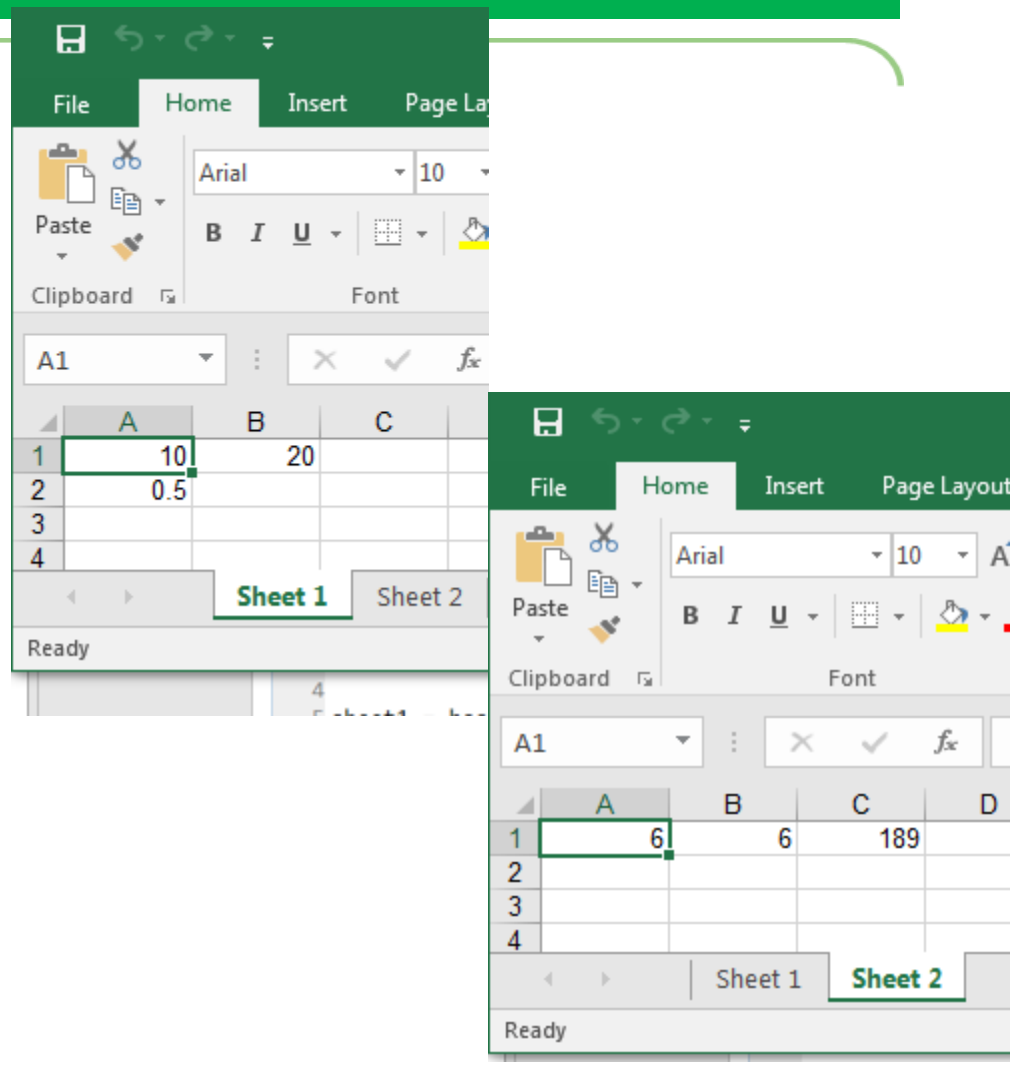
File Edit Search Source Run Debug Consoles Projects Tools View Help

Editor - C:\Python\My Stuff\xlwt4.py

ed89.py | NN8_AND_Hussam1.py | Scipy_fft_0.py | Scipy_fft_4.py | PanadExcel.py

```
1  from xlwt import Workbook, Formula
2
3  book = Workbook()
4
5  sheet1 = book.add_sheet('Sheet 1')
6  sheet1.write(0,0,10)
7  sheet1.write(0,1,20)
8  sheet1.write(1,0,Formula('A1/B1'))
9
10 sheet2 = book.add_sheet('Sheet 2')
11 row = sheet2.row(0)
12 row.write(0,Formula('sum(1,2,3)'))
13 row.write(1,Formula('SuM(1;2;3)'))
14 row.write(2,Formula("$A$1+$B$1*SUM('ShEEt 1'!$A$1:$b$2)"))
15
16 book.save('example4.xls')
```

output

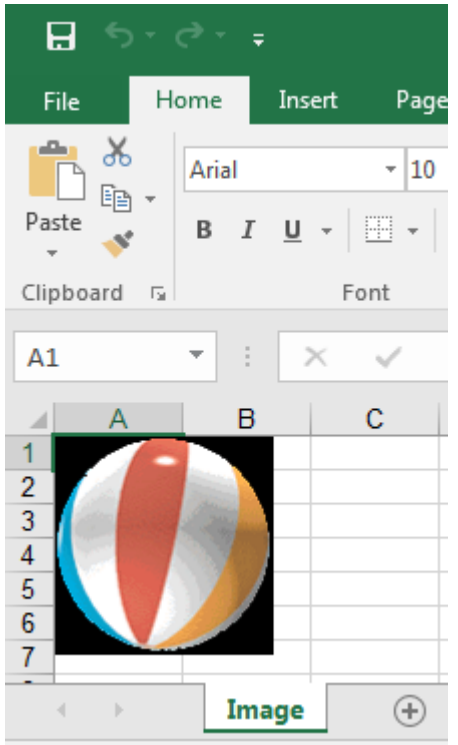


https://github.com/python-excel/tutorial/blob/master/students/xlwt/borders.py

XLwt: Image & Merge

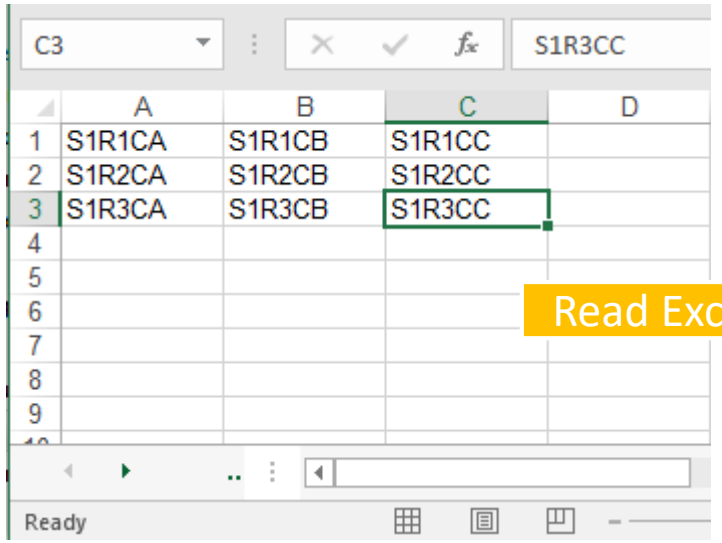
```
1 from xlwt import Workbook
2 w = Workbook()
3 ws = w.add_sheet('Image')
4 ws.insert_bitmap('ball.bmp', 0, 0)
5 w.save('example6.xls')
```

output



https://github.com/python-excel/tutorial/blob/master/students/xlwt/borders.py

XLrd: Read Excel file



Read Excel

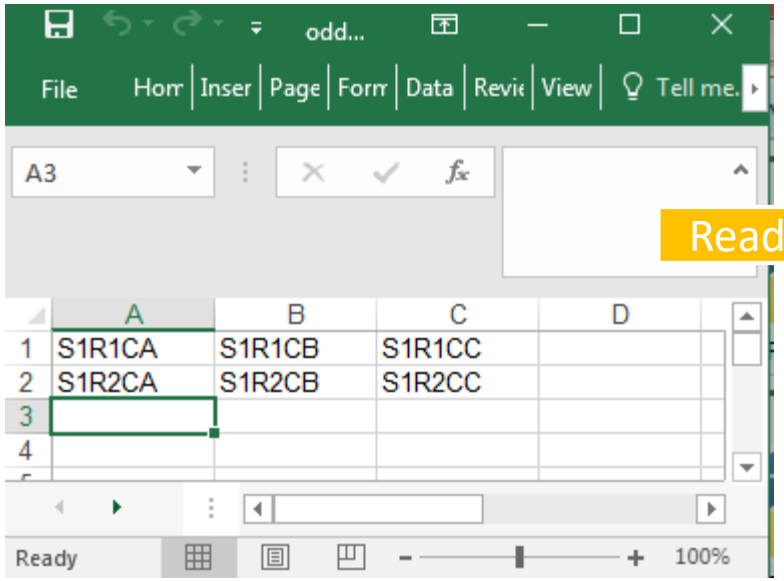
```python
from xlrd import open_workbook

wb = open_workbook('simple.xls')

for s in wb.sheets():
    print ('Sheet:',s.name)
    for row in range(s.nrows):
        values = []
        for col in range(s.ncols):
            values.append(s.cell(row,col).value)
        print (','.join(values))
```

output

```
In [168]: runfile('C:
Sheet: Sheet1
S1R1CA,S1R1CB,S1R1CC
S1R2CA,S1R2CB,S1R2CC
S1R3CA,S1R3CB,S1R3CC

Sheet: Sheet2
S2R1CA,S2R1CB,S2R1CC
S2R2CA,S2R2CB,S2R2CC
S2R3CA,S2R3CB,S2R3CC
```

https://github.com/python-excel/tutorial/blob/master/students/xlrd/simple.py

XLrd: Read Excel file



Read Excel

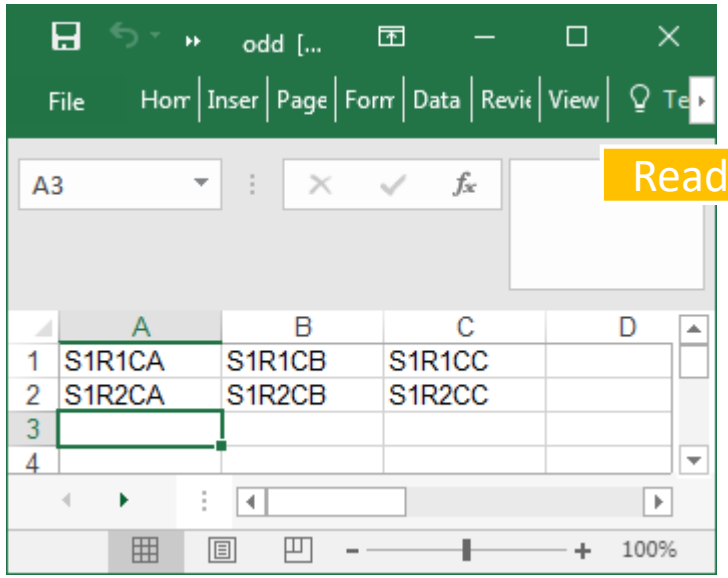
```
1 from xlrd import open_workbook,XL_CELL_TEXT
2
3 book = open_workbook('odd.xls')
4 sheet = book.sheet_by_index(1)
5
6 cell = sheet.cell(0,0)
7 print (cell)
8 print (cell.value)
9 print (cell.ctype==XL_CELL_TEXT)
10
11 for i in range(sheet.ncols):
12     print (sheet.cell_type(1,i),sheet.cell_value(1,i))
```

output

```
text:'S2R1CA'
S2R1CA
True
1 S2R2CA
1 S2R2CB

In [170]:
```

https://github.com/python-excel/tutorial/blob/master/students/xlrd/simple.py

XLrd: Read Excel file



Read Excel

```
1 from xlrd import open_workbook
2
3 book = open_workbook('odd.xls')
4 sheet0 = book.sheet_by_index(0)
5 sheet1 = book.sheet_by_index(1)
6
7 print (sheet0.row(0))
8 print (sheet0.col(0))
9 print
10 print (sheet0.row_slice(0,1))
11 print (sheet0.row_slice(0,1,2))
12 print (sheet0.row_values(0,1))
13 print (sheet0.row_values(0,1,2))
14 print (sheet0.row_types(0,1))
15 print (sheet0.row_types(0,1,2))
16 print
17 print (sheet1.col_slice(0,1))
18 print (sheet0.col_slice(0,1,2))
19 print (sheet1.col_values(0,1))
20 print (sheet0.col_values(0,1,2))
21 print (sheet1.col_types(0,1))
22 print (sheet0.col_types(0,1,2))
```

output

```
[text:'S1R1CA', text:'S1R1CB', text:'S1R1CC']
[text:'S1R1CA', text:'S1R2CA']
[text:'S1R1CB', text:'S1R1CC']
[text:'S1R1CB']
['S1R1CB', 'S1R1CC']
['S1R1CB']
array('B', [1, 1])
array('B', [1])
[text:'S2R2CA', text:'S2R3CA']
[text:'S1R2CA']
['S2R2CA', 'S2R3CA']
['S1R2CA']
[1, 1]
[1]

In [178]:
```

https://github.com/python-excel/tutorial/blob/master/students/xlrd/sheet_iteration.py

Master in Software Engineering

Hussam Hourani has over 25 years of Organizations Transformation, VROs, PMO, Large Scale and Enterprise Programs Global Delivery, Leadership, Business Development and Management Consulting. His client experience is wide ranging across many sectors but focuses on Performance Enhancement, Transformation, Enterprise Program Management, Artificial Intelligence and Data Science.