Python XLSXWriter Export to Excel

🌐 **ddas.tech**/python-xlsxwriter-export-to-excel/

In this post we will create sample code using python to create a sample data set and export the same to an excel using Python XLSXWriter Export to Excel,

In the below sample code we will do the following

- Create a sample sales data set (List of dictionaries)
- Export the sample data into an excel with header format and cell format
- Add extra columns to depict total sales and average monthly sales.
- The extra columns downloaded to excel will be created in excel based on excel formulas. Alternatively we could have modified the sales data model to create two new columns and could have just exported.

	REGION	COUNTRY	CAR	JAN	FEB	MAR	TOTAL	AVERAGE	
1	REGION	COUNTRY	CAR	JAN	FEB	MAR	TOTAL	AVERAGE	
2	AMR	USA	Audi	1773	1686	578	4037	1345.667	
3	AMR	USA	BMW	900	337	545	1782	594	
4	AMR	USA	Mercedes	1606	1789	458	3853	1284.333	
5	AMR	Canada	Audi	1765	434	1464	3663	1221	
6	AMR	Canada	BMW	1929	189	1009	3127	1042.333	
7	AMR	Canada	Mercedes	119	156	1918	2193	731	
8	EUROPE	Austria	Audi	587	588	1584	2759	919.6667	
9	EUROPE	Austria	BMW	1634	1106	517	3257	1085.667	
10	EUROPE	Austria	Mercedes	332	1680	1356	3368	1122.667	
11	EUROPE	Belgium	Audi	1448	623	1802	3873	1291	
12	EUROPE	Belgium	BMW	1653	1458	1639	4750	1583.333	
13	EUROPE	Belgium	Mercedes	1705	895	636	3236	1078.667	
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The downloaded excel with additional columns with formulas and cell formatting

```
import json
import random
import pandas as pd
import numpy as np
import xlsxwriter
from xlsxwriter.utility import xl_rowcol_to_cell, xl_col_to_name

# Lets create a sample data. We could have also imported from a csv.
regionCountry = {"AMR":["USA","Canada"],"EUROPE":["Austria","Belgium"]}
cars = ["Audi","BMW","Mercedes"]
months = ["Jan","Feb","Mar"]
salesData = []
for region,countries in regionCountry.items():
    for country in countries:
        for car in cars:
            salesRecord = {"region":region,"country":country,"car":car}
            for month in months:
                salesRecord[month] = random.randint(100,2000)

            salesData.append(salesRecord)
```

Now that we have created the data set let's view the data sample

```
df = pd.DataFrame(salesData)
display(df)
```

	region	country	car	Jan	Feb	Mar
0	AMR	USA	Audi	1792	1771	908
1	AMR	USA	BMW	267	1378	437
2	AMR	USA	Mercedes	422	1053	1528
3	AMR	Canada	Audi	769	396	743
4	AMR	Canada	BMW	1406	782	1365
5	AMR	Canada	Mercedes	745	1085	809
6	EUROPE	Austria	Audi	221	1608	244
7	EUROPE	Austria	BMW	219	728	1037
8	EUROPE	Austria	Mercedes	1052	725	490
9	EUROPE	Belgium	Audi	1343	688	782
10	EUROPE	Belgium	BMW	503	1507	1860
11	EUROPE	Belgium	Mercedes	1273	1967	200

Fig 1: A pandas data frame created from the
data set.

Export to Excel Sample Code

```python
#Export to Excel. We could have used Pandas Export to Excel functionality
#But in this post we are focussing on using xlsxwriter to export to excel.
workbook = xlsxwriter.Workbook('Car_Sales_Data.xlsx')
worksheet = workbook.add_worksheet("Sheet 1")

headers = list(salesData[0])

header_format = workbook.add_format({'bold':True,'font_color':'white','border':1,
'bg_color':'gray'})
bold_format = workbook.add_format({'bold':True,'font_color':'white','border':1,
'bg_color':'blue'})

for index, element in enumerate(headers):
    column = xl_col_to_name(index)
    worksheet.write(column+str(1),element.upper(),header_format)

# We will also download a total column and an average column into the excel without
having to modify the model.
# Will use the excel formulas functionality

totalColIndex = len(headers)
worksheet.write(xl_col_to_name(totalColIndex) + str(1),'TOTAL',header_format)
worksheet.write(xl_col_to_name(totalColIndex+1) + str(1),'AVERAGE',header_format)

# Now we will write the data itself

for rowIndex, record in enumerate(salesData):
    for colIndex, element in enumerate(headers):
        value = record[element]
        cell = xl_col_to_name(colIndex) + str(rowIndex+2)
        worksheet.write(cell,value)

    #Now lets apply the formula
    totalFormulaCell = xl_col_to_name(totalColIndex) + str(rowIndex+2)
    avgFormulaCell = xl_col_to_name(totalColIndex+1) + str(rowIndex+2)
    total_formula_str = '=SUM(D%d:F%d)'%((rowIndex+2),(rowIndex+2))
    average_formula_str = '=AVERAGE(D%d:F%d)'%((rowIndex+2),(rowIndex+2))

    worksheet.write_formula(totalFormulaCell,total_formula_str,bold_format)
    worksheet.write_formula(avgFormulaCell,average_formula_str,bold_format)

workbook.close()
```

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	A	B	C	D	E	F	G	H	I
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Fig 2: The downloaded excel with additional columns with formulas and cell formatting