```python
import pandas as pd
from docx import Document
from docx.enum.table import WD_TABLE_ALIGNMENT
from docx.enum.text import WD_PARAGRAPH_ALIGNMENT
from docx.oxml.ns import qn
from docx.shared import Pt
from openpyxl import load_workbook

# 处理日期
# 打开文件


workbook = load_workbook(filename='日化.xlsx', data_only=True)
# 选择工作表
ws = workbook['销售订单表']
nrows = ws.max_row
# 遍历第二列单元格
for i in range(2, nrows + 1):
    # 处理单元格数据
    if isinstance(ws.cell(i, 2).value, str):
        print(ws.cell(i, 2).value)
        ws.cell(i, 2).value = ws.cell(i, 2).value.replace("#", "/")

# 保存文件
workbook.save(filename='日化_1.xlsx')
# 关闭文件
workbook.close()

# 读取"销售订单表"到DataFrame
df_dd = pd.read_excel('日化_1.xlsx', sheet_name='销售订单表')
print(df_dd.head(20))

# 读取"商品信息表"到DataFrame
df_xx = pd.read_excel('日化_1.xlsx', sheet_name='商品信息表')
print(df_xx.head(20))

# 处理缺失值
print(df_dd)
df_dd.dropna(inplace=True)
print(df_dd)

# 根据商品编号，增加商品小类列
dict_xx = dict()
for index, row in df_xx.iterrows():
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45      print(row['商品编号'], row['商品小类'])
46      dict_xx[row['商品编号']] = row['商品小类']
47  print(dict_xx)
48  df_dd['商品小类'] = df_dd['商品编号'].replace(dict_xx)
49  print(df_dd.head(20))
50
51  # 排序，按商品小类排序也可以
52  df_dd.sort_values(by=['所在地市', '商品编号'], inplace=True)
53  pd.set_option('display.max_columns', None)
54  pd.set_option('display.max_rows', None)
55  print(df_dd.head(200))
56
57  # 查看分组后的信息，此操作是为了便于同学们理解，
    可以直接遍历df_dd输出到word
58  print(df_dd.groupby(['所在地市', '商品编号']).sum())
59  print((df_dd.groupby(['所在地市', '商品编号']).sum()).describe())
60  # 保存到文件，此操作是为了便于同学们理解，
    可以直接遍历df_dd输出到word
61  df_dd.to_excel('日化_2.xlsx', index=False)
62
63  # 创建word文档
64  doc = Document()
65  # 设置正文字体
66  doc.styles['Normal'].font.name = '宋体'
67  doc.styles['Normal']._element.rPr.rFonts.set(qn('w:eastAsia'), '宋体')
68
69
70  # 定义段落样式设置函数
71  def set_paragraph_style(paragraph):
72      # 设置段落对齐方式
73      paragraph.alignment = WD_PARAGRAPH_ALIGNMENT.LEFT
74      # 设置段落中第一个运行(run) 字号为12
75      paragraph.runs[0].font.size = Pt(12)
76      # 设置字体
77      paragraph.runs[0].name = '宋体'
78      # 设置首行缩进为2个字符，每个字符字号为12
79      paragraph.paragraph_format.first_line_indent = Pt(24)
80      # 设置段落的段前间距
81      paragraph.paragraph_format.space_before = Pt(18)
82      # 设置段落的段后间距
83      paragraph.paragraph_format.space_after = Pt(18)
84
85
86  row1 = None
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 87  list_rows = []
 88  total_price = 0
 89  for i, (index, row2) in enumerate(df_dd.iterrows()):
 90      index, row2 = (index, row2)
 91      print(i)
 92      if (row1 is None):
 93          row1 = row2
 94          list_rows.append(row1)
 95          total_price += row1['金额']
 96
 97      else:
 98          if row2['商品小类'] == row1['商品小类']:
 99              list_rows.append(row2)
100              total_price += row2['金额']
101          if row2['商品小类'] != row1['商品小类']:
102
103              # 添加标题
104              heading = doc.add_heading(row1['所在地市'] + row1['商品小类'
    ] + '销售表', level=0)
105              # 标题居中显示
106              heading.alignment = WD_PARAGRAPH_ALIGNMENT.CENTER
107
108              table = doc.add_table(rows=len(list_rows) + 1, cols=4)
109              table.style = 'Table Grid'
110
111              # 设置表头行
112              table_header = table.rows[0]
113              table_header.cells[0].text = '订单日期'
114              table_header.cells[1].text = '商品编号'
115              table_header.cells[2].text = '订购数量'
116              table_header.cells[3].text = '订购单价'
117
118              # 设置表头行单元格内文本样式
119              for cell in table_header.cells:
120                  paragraph = cell.paragraphs[0]
121                  paragraph_format = paragraph.paragraph_format
122                  paragraph_format.alignment = WD_TABLE_ALIGNMENT.
    CENTER
123                  run = paragraph.runs[0]
124                  run.bold = True
125
126              num_row = 1
127
128              for row_samecity in list_rows:
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129                 table.rows[num_row].cells[0].text = row_samecity['订单日期'].
    strftime('%Y%m%d')
130                 table.rows[num_row].cells[1].text = row_samecity['商品编号']
131                 table.rows[num_row].cells[2].text = str(row_samecity['
    订购数量'])
132                 table.rows[num_row].cells[3].text = str(row_samecity['
    订购单价'])
133                 num_row = num_row + 1
134             print(total_price)
135             paragraph = doc.add_paragraph("合计：{0}元".format(
    total_price))
136             set_paragraph_style(paragraph)
137             if row2['所在地市'] != row1['所在地市']:
138                 doc.add_page_break()
139 
140             row1 = row2
141             list_rows.clear()
142             total_price = 0
143             list_rows.append(row1)
144             total_price += row1['金额']
145     if i == 1000:
146         break
147 doc.save("销售表.docx")
148 
```