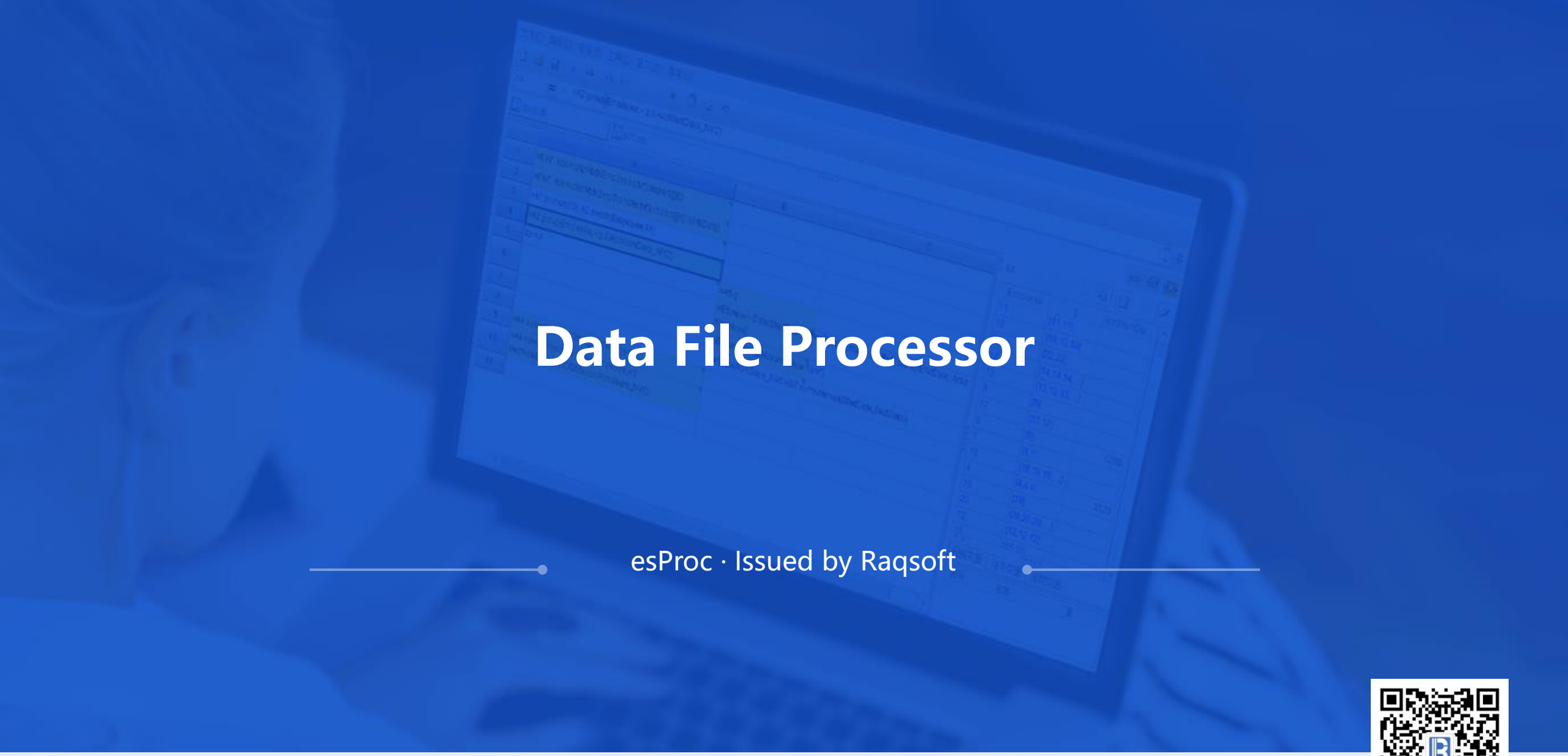
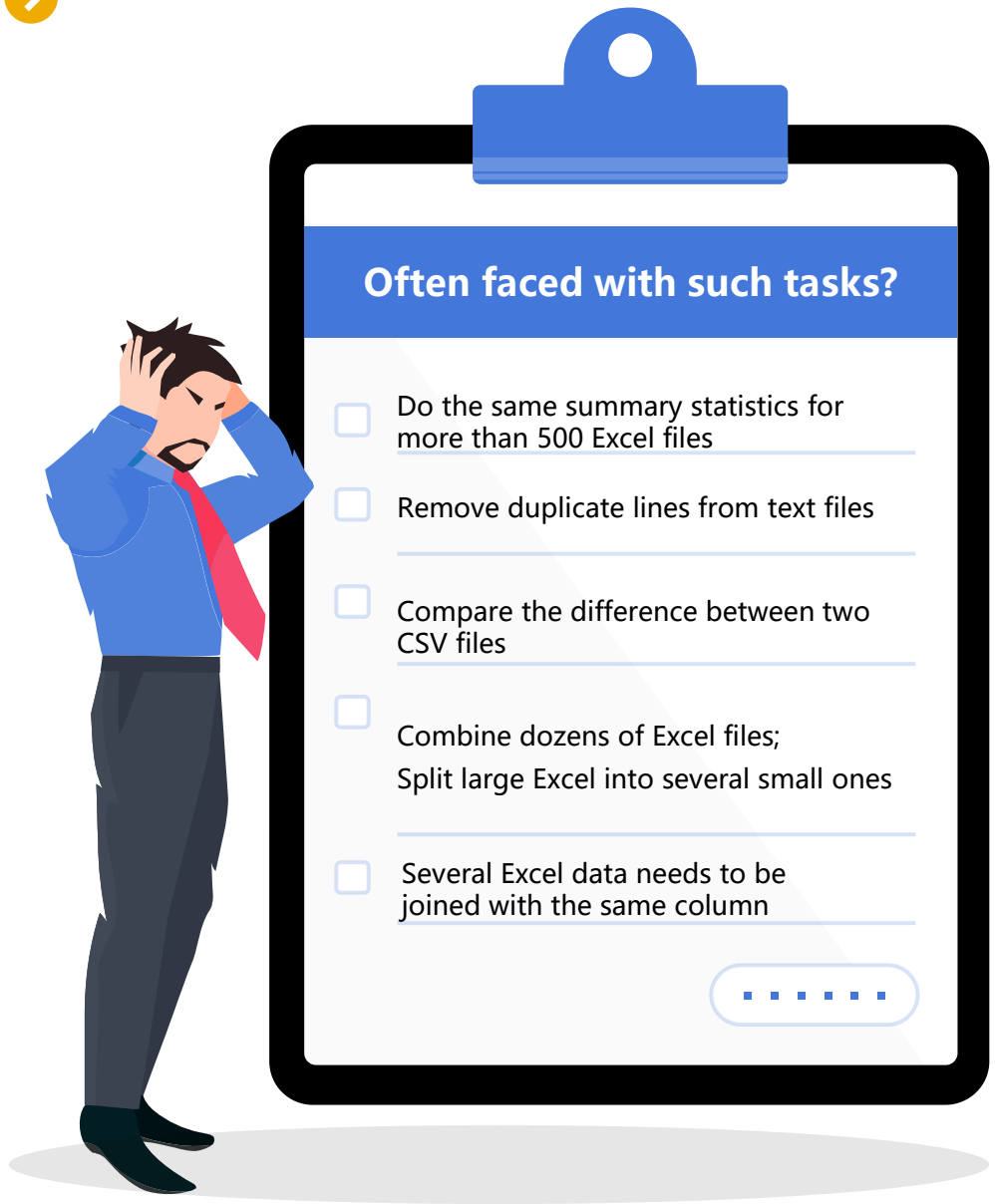


Data File Processor

esProc · Issued by Raqsoft

www.raqsoft.com



Obsessed with these problems?

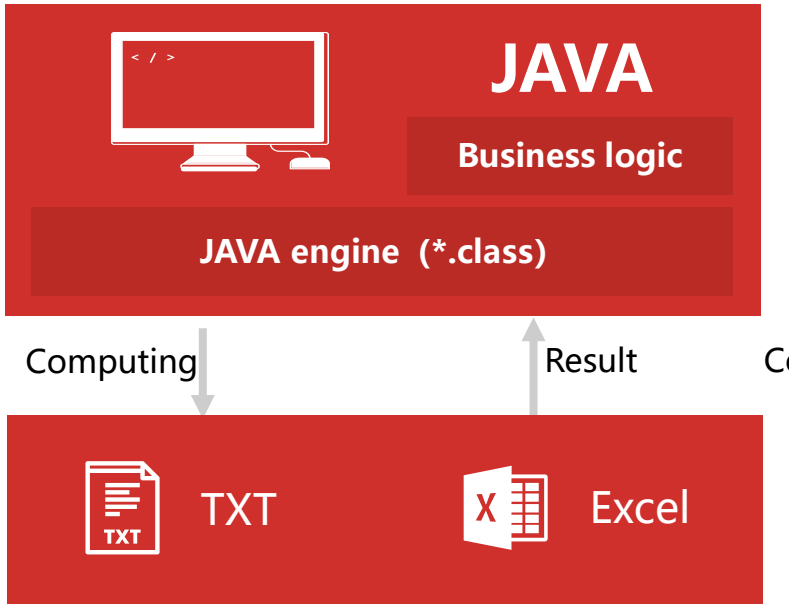
File can be handled if loaded into MySQL, but it is too troublesome to install and import

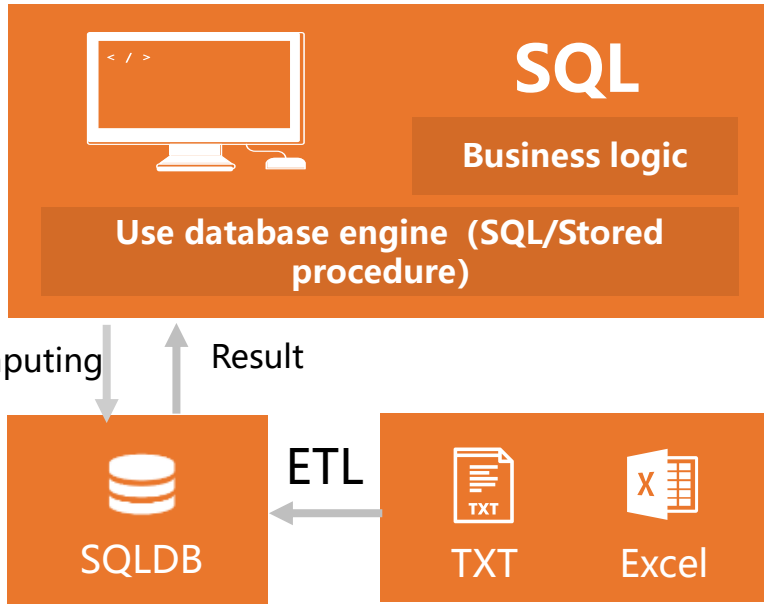
Python installed，but version is not right. It can read Excel2017 , but can not recognize Excel2003

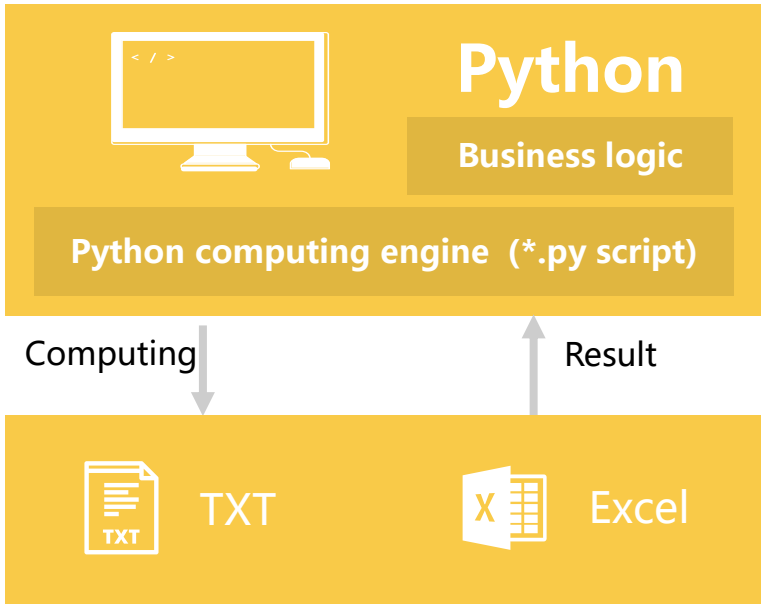
Java is too hard to learn and use;
Have to do manually every time.

The file is too large, memory overflowed after reading

The trouble of data file calculation







JAVA

- Need professional programmers, high technical requirements
- Computing class libraries are few and the code is tedious
- Complex configuration of development environment

SQL

- File needs to be loaded into database before calculation, very troublesome
- Complex deployment, configuration and algorithm
- IDE is unfriendly, debugging is difficult

Python

- Syntax is not designed specifically for structured data computing
- Complex computing is not easy to develop
- Incompatible between versions
- Troublesome installation and configuration of peripheral open source package

Data file calculation using esProc

esProc IDE

Develop and execute SPL script

Read

Write

Local data source

TXT

Excel

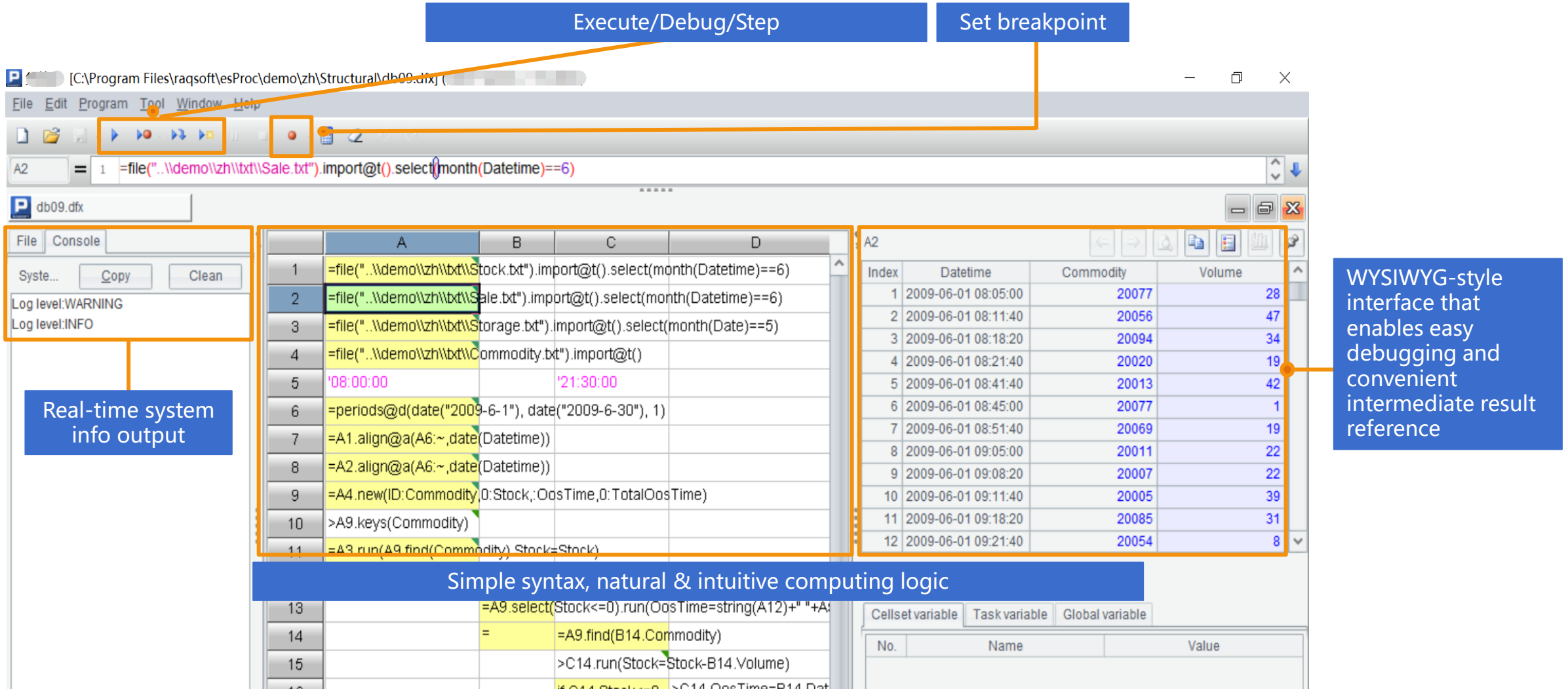
Other files

With basic programming knowledge, you can calculate files freely, self-service and quickly

Desktop level tool, ready to use, simple environment configuration!

Convenient development environment

Install and use immediately, with perfect debugging function



Agile syntax

Count the longest consecutively rising trading days for a stock.

```
1  import pandas as pd
2  def iterate(col):
3  prev = 0;
4  res = 0;
5  val = 0;
6  for curr in col:
7  if curr – prev > 0:
8  res += 1;
9  else:
10 res = 0;
11 prev = curr;
12 if val < res:
13 val = res;
14 return val;
15 data = pd.read_excel( 'D:/Stock.xlsx' ,sheet_name=0).
   sort_values( 'Date' ).groupby( 'Company' )[ 'Price' ].apply(iterate);
```

Python

	A
1	=file("D:/Stock.xlsx").xlsimport@t().sort(Date).group(Company)
2	=0
3	=A1.max(A2=if(Price>Price[-1],A2+1,0))

SPL

Professional syntax in the field of set operation, code is more concise for the same process!

Direct SQL syntax

Use SQL directly for files，and there is no need to import data into database.

	A
1	$SELECT * FROM D:/Stock.xlsx WHERE Company=‘0001’ ORDER BY date
2	$SELECT Company,max(price),min(price) from D:/Stock.xls WHERE month(date)=1 GROUP BY Company
3	$SELECT Company.Name,Stock.date,Stock.price FROM D:/Stock.xls Stock LEFT JOIN D:/Company.txt Company ON Stock.company=Company.ID

Simple SQL in SPL

Procedure-oriented computing

Reliable loop branch control

	A	B	C	D	E	F
1	=esProc.query("SELECT orderID as contract, orderDate as date, customer, amount, empID as salesman FROM sales where year(orderDate)=? OR year(orderDate)					
2	=esProc.query(select * from employeeInfo")					
3	>A1.run(salesman=A2.select@1(ID:A1.salesman))		/field value is record			
4	>A1.group(salesman)					
5	=create(salesman, thisyearAmount, lastyearAmount, growthRate, custNumber, bigCustNumber,bigCustProportion)					
6	for A4	=A6(1).salesman.name				
7		=A6.select(year(date)==year).sum(amount)				
8		=A6.select(year(date)==year-1).sum(amount)				
9		=B8/B7-1	/growth rate			
10		=A6.group(customer).(~.sum(amount))				
11		=B10.count()	/number of customer			
12		=B10.count(~>=10000)	/number of big customer			
13						
14		=A5.insert(0,B6,B7,B8,B9,B11,B12,B13)				
15	result A5					

Natural & clean step-by-step computation, direct reference of cell name **without specifically defining a variable**

Multiple file formats

- ✓ Txt, csv, log, ini
- ✓ Xls, xlsx
- ✓ Excel versions 2003…2013…2019
- ✓ Xml, json

Example: Differences between texts

Algorithm Relative to old.csv, find the new records in new.csv, where username and date jointly determine a record.

File

	Old.csv	New.csv
	userName,date,saleValue,saleCount	userName,date,saleValue,saleCount
1	Rachel,2015-03-01,4500,9	Rachel,2015-03-01,4500,9
2	Rachel,2015-03-03,8700,4	Rachel,2015-03-02,5000,5
3	Tom,2015-03-02,3000,8	Ashley,2015-03-01,6000,5
4	Tom,2015-03-03,5000,7	Rachel,2015-03-03,11700,4
5	Tom,2015-03-04,6000,12	Tom,2015-03-03,5000,7
6		John,2015-03-04,4800,4

Code

	A	B	C
1	=file("d:\\old.csv").import@ct()	=file("d:\\new.csv").import@ct()	/Comma separated text
2	=new=[B1,A1].merge@od()		/Difference set

Example: Group aggregation of multiple excel and multiple sheets

Algorithm

There are multiple excel files in the same directory, and each excel file has multiple sheets. The format of the sheets is the same. Merge all the sheets of all excel files, group by month and calculate the sum and average of amount.

File

Customer ID	Customer Name	Invoice Number	Amount	Purchase Date
1234	John Smith	100-0002	$1,200.00	2013/1/1
2345	Mary Harrison	100-0003	$1,425.00	2013/1/6
3456	Lucy Gomez	100-0004	$1,390.00	2013/1/11
4567	Rupert Jones	100-0005	$1,257.00	2013/1/18
5678	Jenny Walters	100-0006	$1,725.00	2013/1/24
6789	Samantha Donaldson	100-0007	$1,995.00	2013/1/31

Code

	A	B	C
1	for directory@p(" d:/excel/*.xlsx ")	=file(A1).xlsopen()	/Loop every excel in the directory
2		=B1.conj(B1.xlsimport@t(;~.stname))	/Loop every sheet
3		=@|B2	/Merge sheets in turn
4	=A4.groups (month('Purchase Date'):Month;sum(Amount):Total,avg(Amount):Average)		/Group aggregation

Resource link

- SPL codes of common calculation http://doc.raqsoft.com/
- Structured Text Computing http://c.raqsoft.com/article/1571711703952
- SPL parsing and exporting Excel http://c.raqsoft.com/article/1571712027010
- JSON data calculation and importing into database http://c.raqsoft.com/article/1576466956518
- Installation and free authorization http://c.raqsoft.com/article/1573787506233