1. Topic

SIPINA add-on for Open Office et Libre Office Calc.

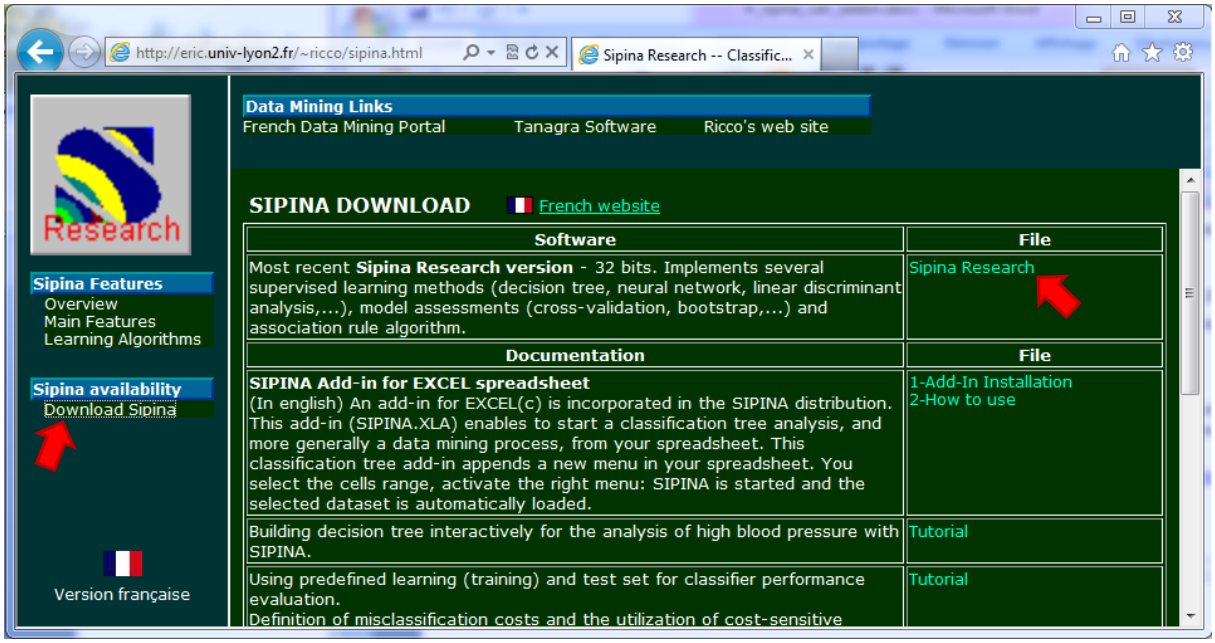
Combining a spreadsheet with the data mining tools is essential for the popularity of these last ones. Indeed, when we deal with a moderate sized dataset (thousands of rows and tens of variables), the spreadsheet is a practical tool for the data preparation. This is also a valuable tool for the preparation of the reports. It is thus not surprising that Excel, and generally speaking a spreadsheet, is one the most used tool by data miners[1].

Both Tanagra and Sipina provide an add-on for Excel[2]. The add-on enables to insert a data mining tool menu into the spreadsheet. The user can select and send the dataset to Tanagra (or Sipina), which is automatically launched. But, only Tanagra provides an add-on for Open Office Calc and Libre Office Calc. It is not available for Sipina.

This omission has been corrected for this new version of Sipina (**Sipina 3.9**). In this tutorial, we show how to install and use the "**SipinaLibrary.oxt**" add-on for Open Office Calc (OOCalc) 3.3.0. The process is the same for Libre Office 3.5.1.

2. Installing Sipina

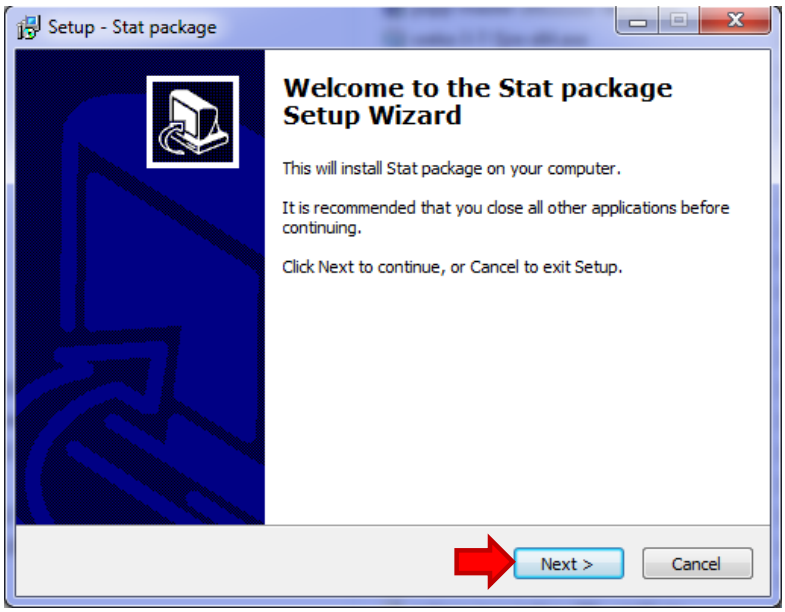
We can download the setup file here: http://eric.univ-lyon2.fr/~ricco/sipina.html



[1] Kdnuggets polls, « Data Mining/Analytic Tools Used », 2nd place in 2010, 3rd place in 2011.

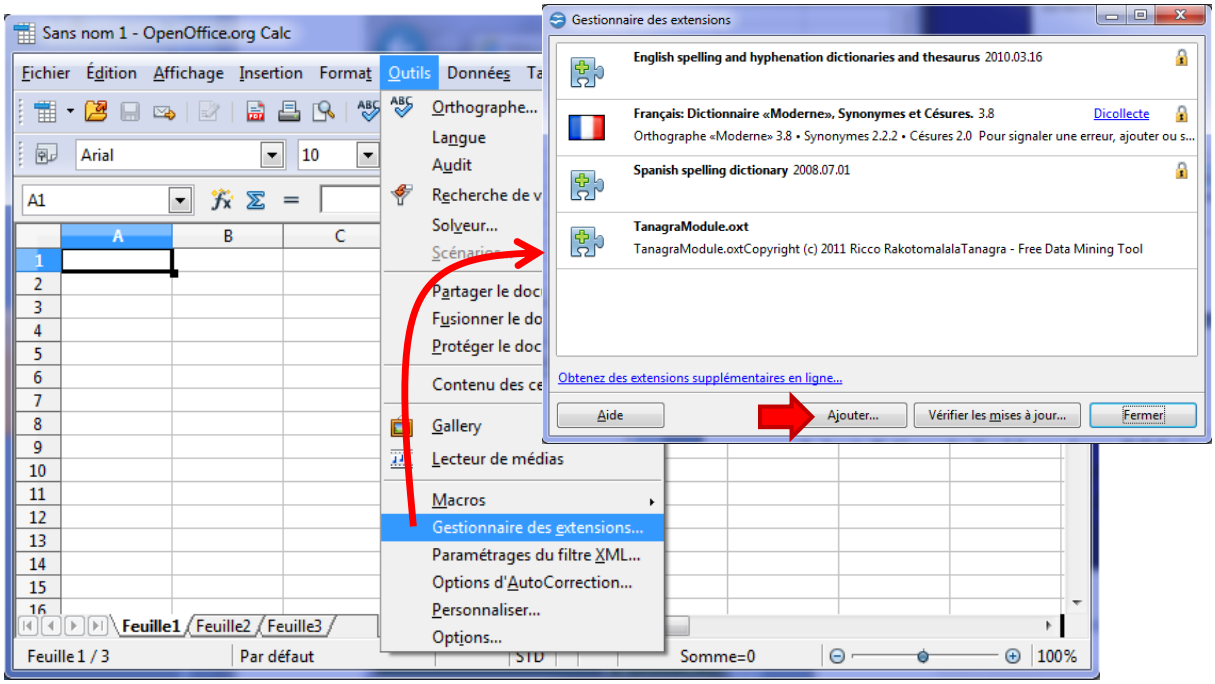
[2] http://data-mining-tutorials.blogspot.fr/2010/08/tanagra-add-in-for-office-2007-and.html (Tanagra, Excel 2007 and 2010); http://data-mining-tutorials.blogspot.fr/2010/08/sipina-add-in-for-excel.html (Sipina, Excel); http://data-mining-tutorials.blogspot.fr/2011/07/tanagra-add-on-for-openoffice-calc-33.html (Tanagra, OOCalc).

After we download the setup file, we start the installation process. We can simply click on the NEXT button throughout the process.



3. Installing the add-on for OOCalc

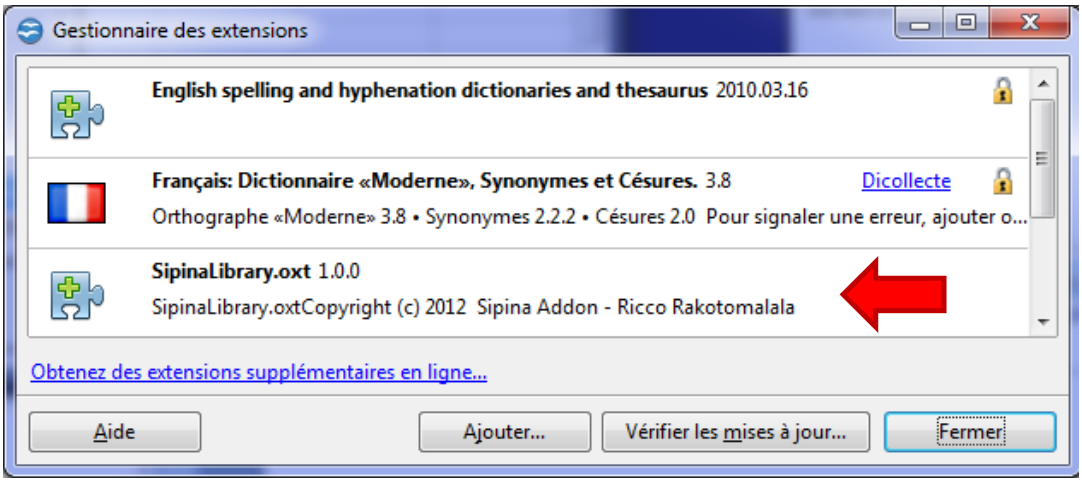
SIPINA being installed, we want to incorporate the add-on under OOCalc. We launch OOCalc. Into the Tools menu, we select the EXTENSIONS Manager menu.



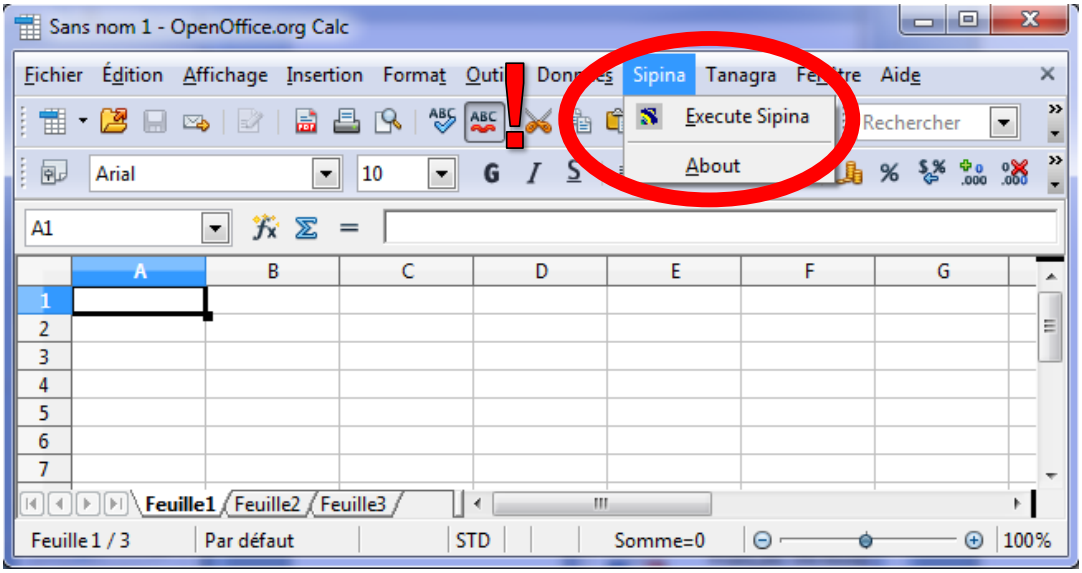
We pick the "**SipinaLibrary.oxt**" file. It is located into the Sipina installation directory i.e.

- « c:\Program Files\StatPackage » under 32 bit Windows ;
- « c:\Program Files (x86)\StatPackage » under 64 bit Windows.

Now, the add-on is incorporated into OOCalc.



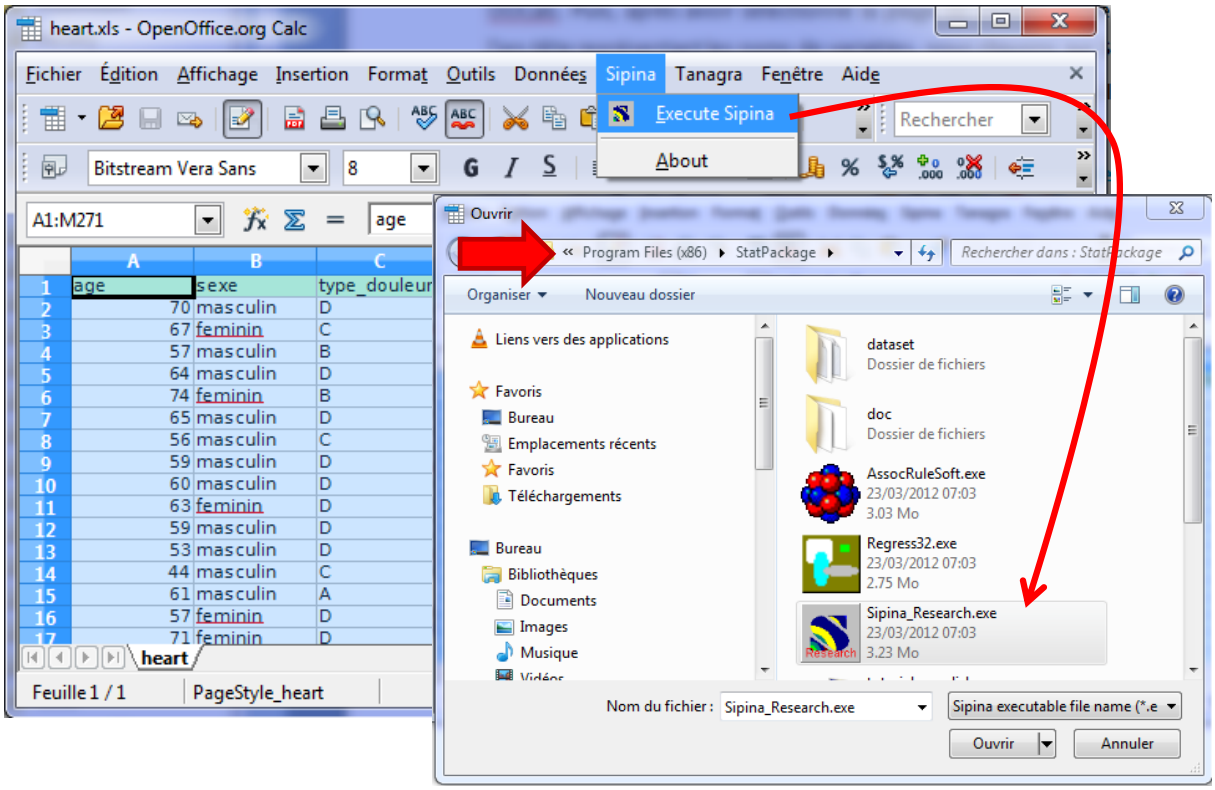
To activate the add-on, we must close and restart OOCalc. The SIPINA menu is now visible into the menu bar.



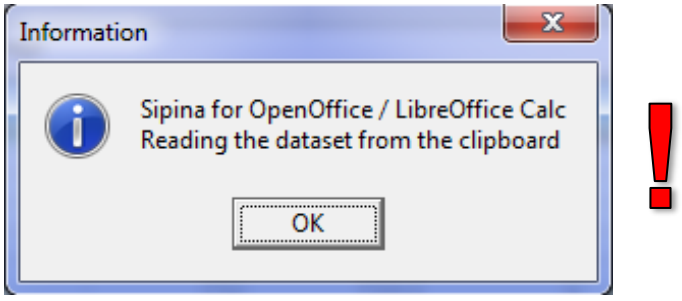
4. Using the add-on

To use the add-on, we must first load the data file (**heart.xls**). We select the data range, and we click on the SIPINA / EXECUTE SIPINA menu.

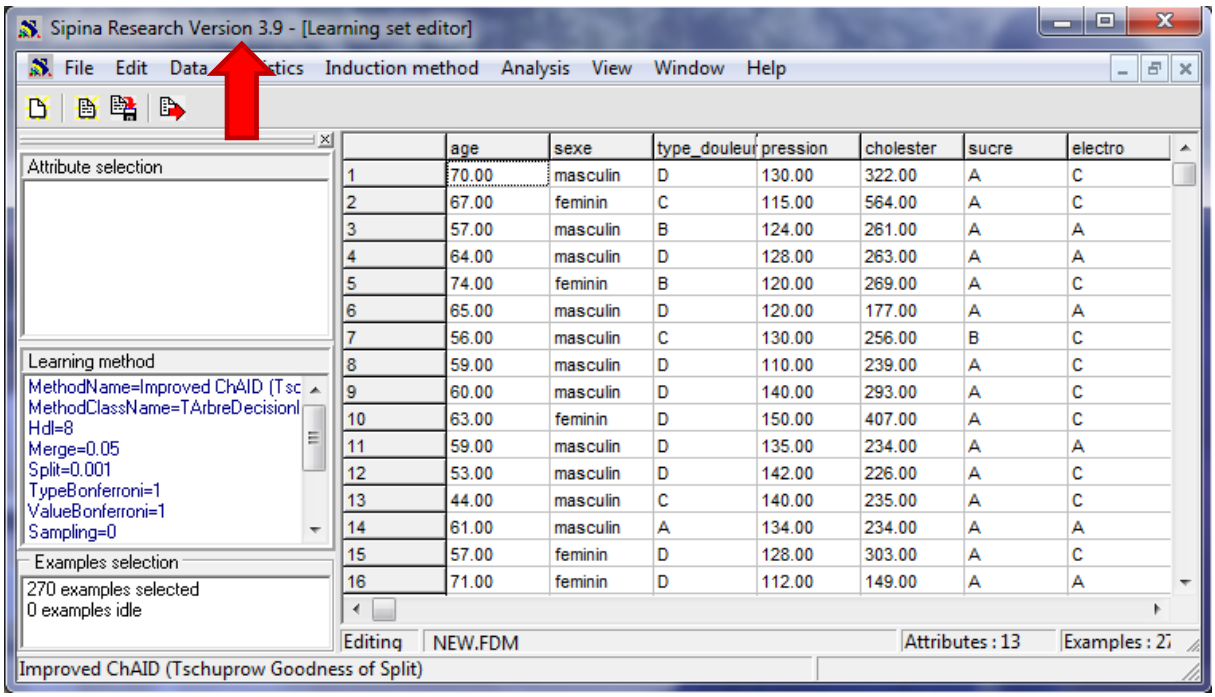
With the 32 bit version of Windows, SIPINA is started automatically. With the 64 bit version, a dialog box appears. We select the SIPINA executable file [**SIPINA_RESEARCH.EXE**] (Note: if we select another EXE file, we can launch the Regression tool [REGRESS32.EXE] or the Association Rule learner tool [ASSOCRULESOFT.EXE]).



A dialog box confirms the data transferring.

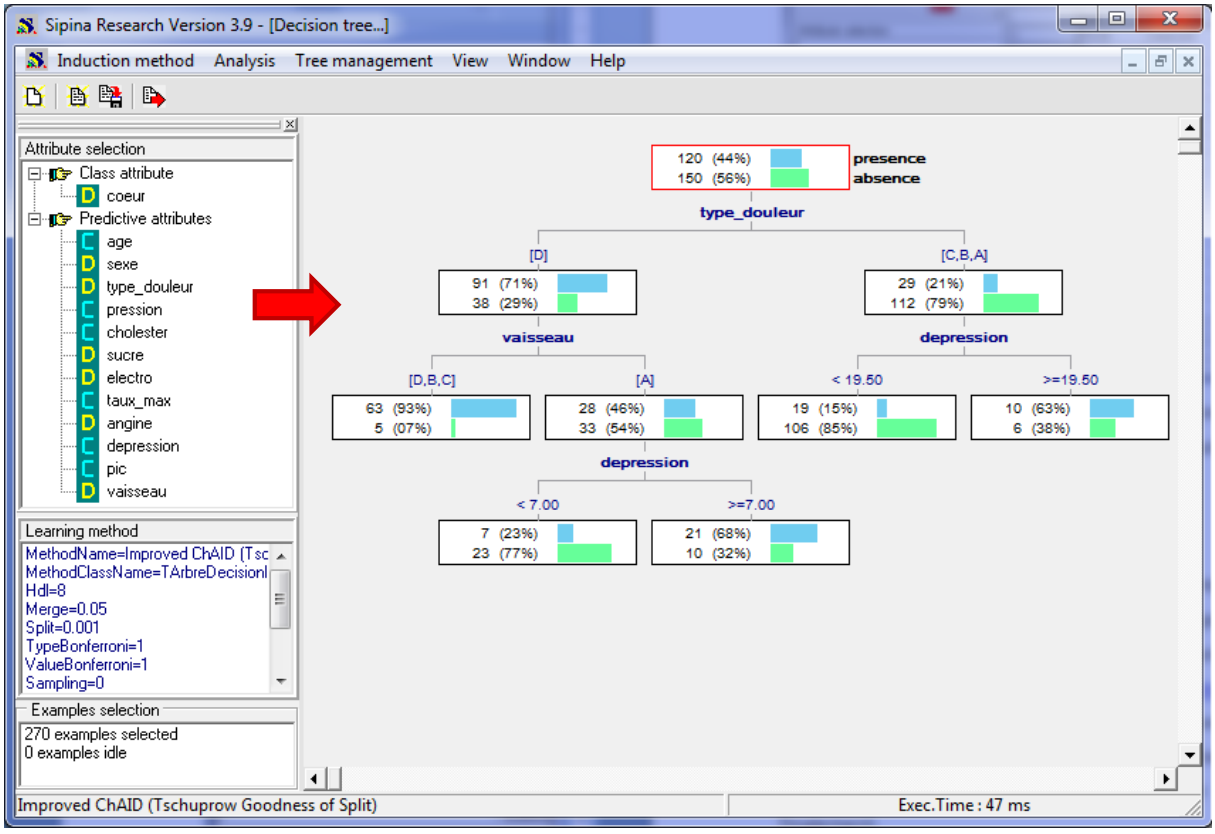


Last, SIPINA is visible. The dataset is loaded into the data grid.



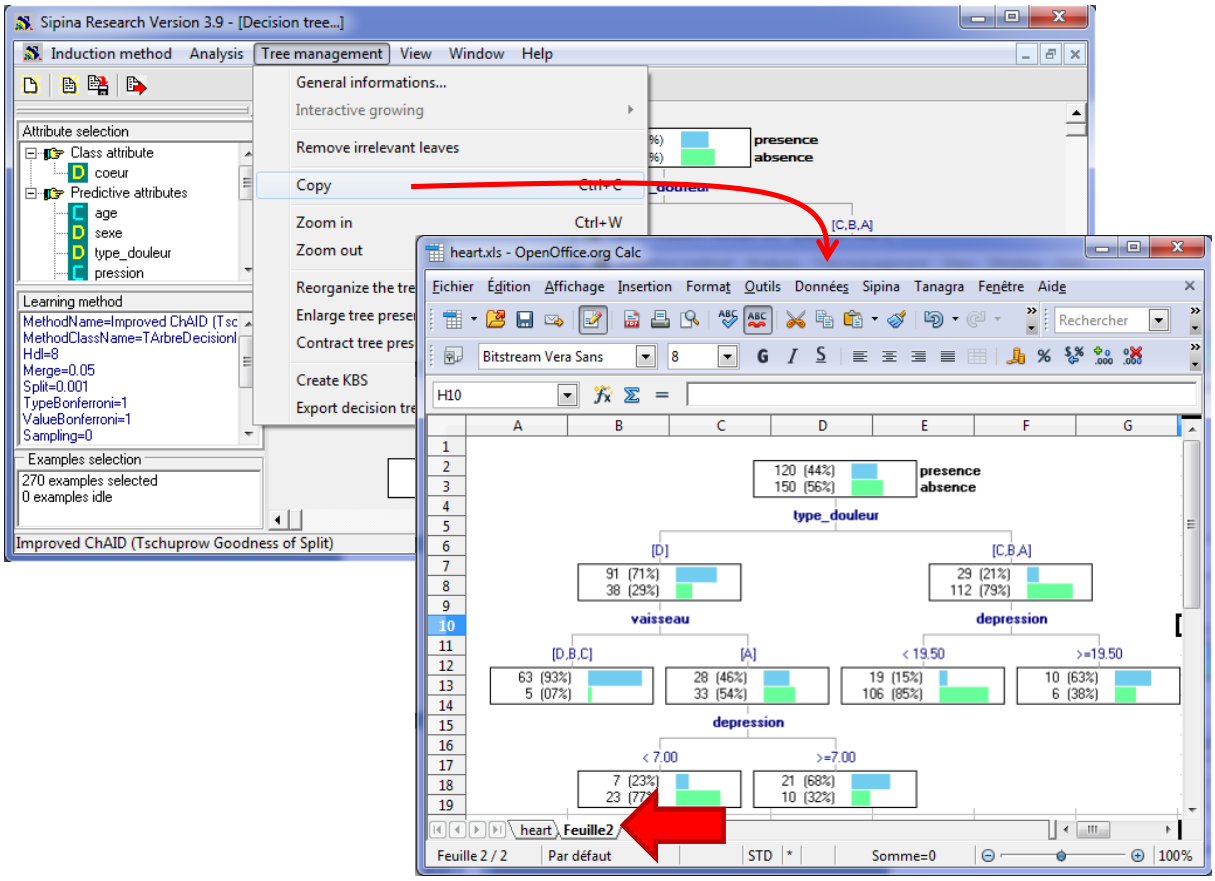
	age	sexe	type_douleur	pression	cholester	sucre	electro
1	70.00	masculin	D	130.00	322.00	A	C
2	67.00	feminin	C	115.00	564.00	A	C
3	57.00	masculin	B	124.00	261.00	A	A
4	64.00	masculin	D	128.00	263.00	A	A
5	74.00	feminin	B	120.00	269.00	A	C
6	65.00	masculin	D	120.00	177.00	A	A
7	56.00	masculin	C	130.00	256.00	B	C
8	59.00	masculin	D	110.00	239.00	A	C
9	60.00	masculin	D	140.00	293.00	A	C
10	63.00	feminin	D	150.00	407.00	A	C
11	59.00	masculin	D	135.00	234.00	A	A
12	53.00	masculin	D	142.00	226.00	A	C
13	44.00	masculin	C	140.00	235.00	A	C
14	61.00	masculin	A	134.00	234.00	A	A
15	57.00	feminin	D	128.00	303.00	A	C
16	71.00	feminin	D	112.00	149.00	A	A

The use of SIPINA is described in numerous tutorials[3]. We do not detail this in this tutorial. We note only that we obtain the following classification tree on our dataset.



[3] http://data-mining-tutorials.blogspot.fr/search/label/Sipina

We can copy the decision tree (TREE MANAGEMENT / COPY menu) and paste it into a new sheet of the workbook (or into a slide, into a word processor, etc.). This feature is very valuable when we want to write a report.



5. Conclusion

Adding advanced statistical features into a spreadsheet application is a good idea. We show how to install and use the Sipina add-on into OOCalc. A similar add-on is provided for Excel.

But Excel and OOCalc are not the only ones spreadsheets. Not so well known than OOCalc, GNUMERIC spreadsheet is an attractive alternative. It differs on two points: it is a specific project, non-integrated into an office suite; the statistical features are directly implemented into the tool and not as extensions. The list of available functions is available online (http://projects.gnome.org/gnumeric/doc/chapter-stat-analysis.shtml). I think it will be made more complete with time.