

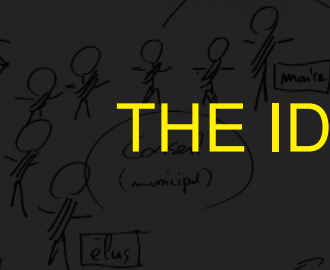
Making your researcher's life easier. How to prepare transparent and dynamic research reports with L^AT_EX

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THE IDEA

- Encourager projets communs.
- Actions / réalisations
- projets thématiques
- réunions régulières.

atons
Cantons
de quartier
(Relais)

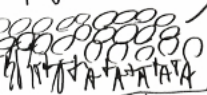


(municipal)

président
de communauté
de communes

commune > canton

France
Régions plus
grandes et plus
indépendantes



citoyens = Acteurs
de la vie publique.

acteurs
participatifs

Budget
de fonctionnement.

éducation

- faire éducation
la citoyenneté

ensuite
démocratie plus
directe



• déb
• disc
• etc.

Prepare **dynamic** and **transparent** research report in \LaTeX .

- **dynamic**—i.e. change its content dynamically with respect to the underlying raw data;
- **transparent**—i.e. contain enough information to allow for a reproduction of the data analysis and make it easier to understand the results for collaborators, reviewers, students, and the author.

The kappa value for the sample is 0.65 for 2 raters with agreement 72% over 100 cases.

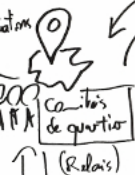
Below we present table with the annotations summary.

	A	B
1	DP :32	CR :30
2	CR :31	DP :25
3	MOTIV :11	MOTIV :12
4	NO : 8	NO :12
5	IGNORE : 6	IGNORE : 9
6	FORM : 5	QA : 7
7	(Other): 7	(Other): 5

And here we have a figure summarising number of NCFs

SWEAVE+R

- Encourager projets communs.
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acteurs participatifs

Budget de fonctionnement.

citoyens = Acteurs de la vie publique.

président de communauté de commune

mairie

(municipal)

élus

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ensuite de manière plus directe



deb
disc
etc.

- **R**—popular software environment for statistical computing and graphics.
- Sweave allows for embedding whole chunks of **R** code into a \LaTeX file.

exécutifs

7

Exécutif unique

finances

législatifs

*.CSV



LaTeX
syntax
R code
chunks



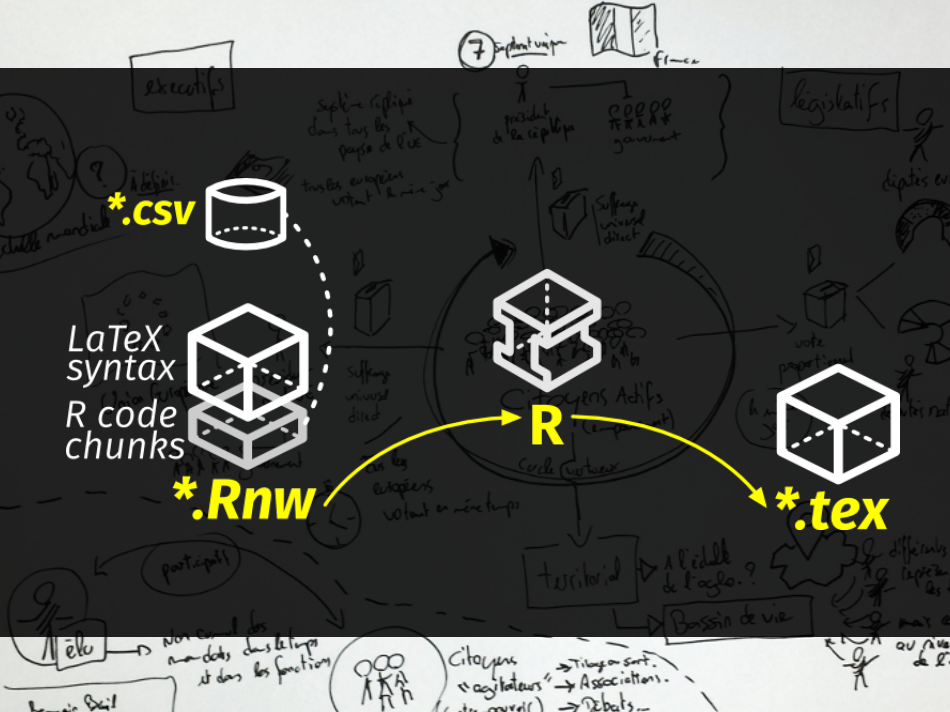
*.Rnw



R



*.tex



```

report.Rnw x pl_vs_mu x
6
7 <<==
8 #simple math
9 2+2
10 2^5
11 7/6
12 @
13
14
15 <<echo=FALSE>>=
16 # read the data
17 data <- read.csv("./pl_vs_mu.csv")
18 # load irr library
19 library(irr)
20 # count kappa and round it
21 result <- round(kappa2(data)$value, 2)
22 # count the raters
23 annot <- kappa2(data)$raters
24 # count the agreement
25 agreement <- round(agree(data)$value, 2)
26 # count the cases
27 cases <- nrow(data)
28 @
29
30 \noindent
31 The kappa value for the sample is \Sexpr{result} for \Sexpr{annot} raters with agreement \Sexpr{agreement}% over \Sexpr{cases} cases.
32
11:4 Chunk 1 SWEAVE

```

Console Compile PDF x

.../03SWEAVE/report.Rnw View Log

Writing to file report.tex
Processing code chunks with options ...
1 : echo keep.source term verbatim (report.Rnw:7)
2 : keep.source term verbatim (report.Rnw:15)
Loading required package: lpSolve
3 : echo keep.source term verbatim (label = sessionInfo, report.Rnw:39)

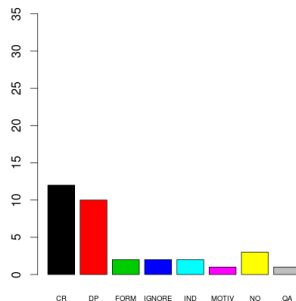
You can now run (pdf)latex on 'report.tex'
Running pdflatex on report.tex...completed

Created PDF: ~/Dropbox/latex_tricks/latex_wyklad_IP/wyklad/przyklady/03SWEAVE/report.pdf

Environment	History
Global Environment	
Data	
pl_vs_mu	33 obs. of 2 variables
testdata	33 obs. of 1 variables
testowa	33 obs. of 2 variables
xtab	7 obs. of 2 variables
Values	
annot	2L
myTable	'table' chr [1:7, 1:2] "CR :12 " "DP :10 " "N...
przypadki	33L
wynik	0.65
zgoda	72.73

Files Plots Packages Help Viewer

Zoom Export Clear All



Q-Qesp categories


```

report.Rnw x pl_vs_mu x
6
7 <<==
8 #simple math
9 2+2
10 2*5
11 7/6
12 @
13
14
15 <<echo=FALSE>>=
16 # read the data
17 data <- read.csv("./pl_vs_mu.csv")
18 # load irr library
19 library(irr)
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24 # count the agreement
25 agreement <- round(agree(data)$value, 2)
26 # count the cases
27 cases <- nrow(data)
28 @
29
30 \noindent
31 The kappa value for the sample is \Sexpr{result} for \Sexpr{annot} raters with agreement \Sexpr{agreement} over \Sexpr{cases} cases.
32
11:4 Chunk 1 R Sweave

```

Console Compile PDF x

Writing to file report.tex

Processing code chunks with options ...

```

1 : echo keep.source term verbatim (report.Rnw:7)
2 : keep.source term verbatim (report.Rnw:15)
Loading required package: lpSolve
3 : echo keep.source term verbatim (label = sessionInfo, report.Rnw:39)

```

You can now run (pdf)latex on 'report.tex'

Running pdflatex on report.tex...completed

Created PDF: ~/Dropbox/latex_tricks/latex_wyklad_IP/wyklad/przyklady/03SWEAVE/report.pdf

Environment History

Global Environment

Data

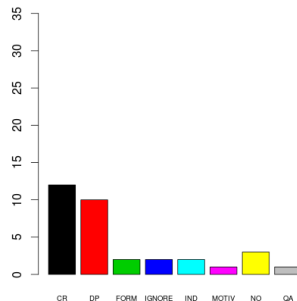
pl_vs_mu	33 obs. of 2 variables
testdata	33 obs. of 1 variables
testowa	33 obs. of 2 variables
xtab	7 obs. of 2 variables

Values

annot	2L
myTable	'table' chr [1:7, 1:2] "CR :12 " "DP :10 " "N...
przypadki	33L
wynik	0.65
zgoda	72.73

Files Plots Packages Help Viewer

Zoom Export Clear All



Q-Qres categories

<<>>=

R code

comments

@

R code chunk

executifs

7 Supplément unique



legislatifs

```
<<>>=
```

```
R code
```

```
# comments
```

```
@
```

R code chunk

```
<<echo=FALSE>>=
```

executifs

7

Septième unique



finca

législatifs

<<>>=

#simple math

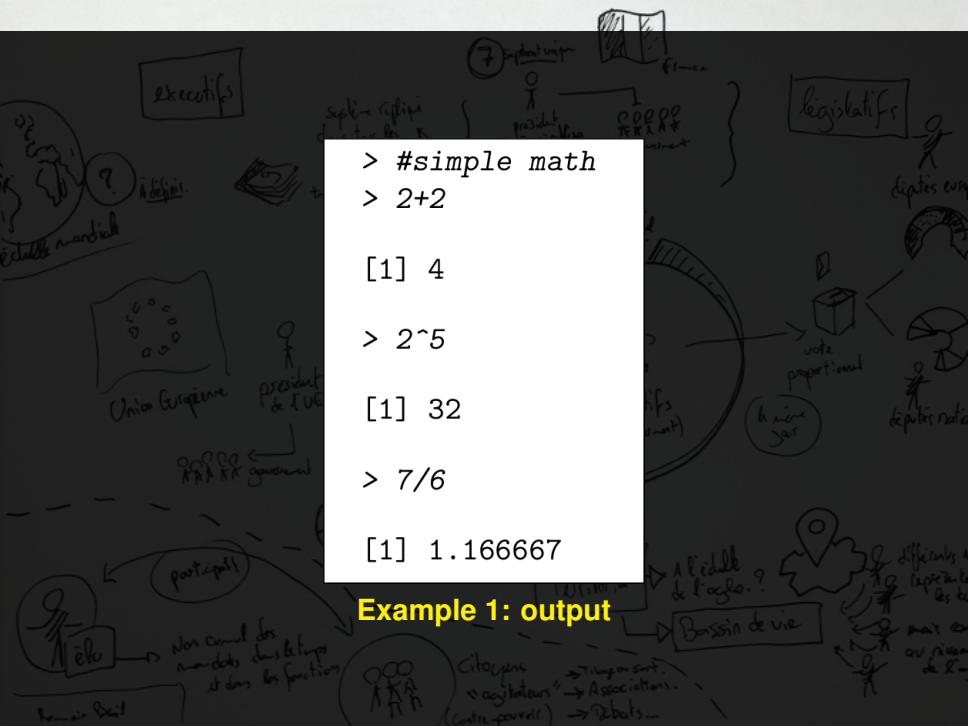
2+2

2^5

7/6

@

Example 1

The background is a complex hand-drawn diagram in French, illustrating various political concepts. It includes boxes for 'exécutifs' (executives) and 'législatifs' (legislative), a map of Africa with a question mark, the European Union flag labeled 'Union Européenne', a 'vote proportionnel' (proportional vote) diagram, a 'Bassin de vie' (watershed) map, and various other terms like 'président de l'UE', 'citoyens', 'associations', and 'députés nationaux'.

```
> #simple math
```

```
> 2+2
```

```
[1] 4
```

```
> 2^5
```

```
[1] 32
```

```
> 7/6
```

```
[1] 1.166667
```

Example 1: output

```
<<>>=  
#simple math  
first <- 2^5  
second <- 7/6  
@  
$2^{5}$ is \Sexpr{first},  
while 7 divided by 6  
gives us \Sexpr{second}.
```

\Sexpr{ } referrals

```
> #simple math  
> first <- 2^5  
> second <- 7/6
```

2^5 is 32, while 7 divided
by 6 gives us 1.166666666666667.

Output

```
<<sessionInfo>>=  
sessionInfo();  
@
```

Information about the R session

R version 3.1.1 (2014-07-10)

Platform: i686-pc-linux-gnu (32-bit)

locale:

[1] LC_CTYPE=pl_PL.UTF-8	LC_NUMERIC=C
[3] LC_TIME=pl_PL.UTF-8	LC_COLLATE=pl_PL.UTF-8
[5] LC_MONETARY=pl_PL.UTF-8	LC_MESSAGES=pl_PL.UTF-8
[7] LC_PAPER=pl_PL.UTF-8	LC_NAME=C
[9] LC_ADDRESS=C	LC_TELEPHONE=C
[11] LC_MEASUREMENT=pl_PL.UTF-8	LC_IDENTIFICATION=C

attached base packages:

[1] stats graphics grDevices utils datasets methods base

other attached packages:

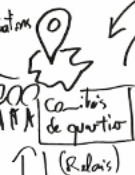
[1] irr_0.84 lpSolve_5.6.10

loaded via a namespace (and not attached):

[1] tools_3.1.1

COMPILATION

- Encourager projets communs.
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citoyens = Acteurs de la vie publique.

acteurs participatifs

Budget de fonctionnement.

président de communauté de communes

mairie

(municipal)

élus

commune > canton

éducation

- faire éducation à la citoyenneté

ensuite démocratie plus directe



France
Régions plus grandes et plus indépendantes

-
- First, in R environment, you should run `Sweave("yourfile.Rnw")`
 - The successful compilation ends with the message:
You can now run (pdf)latex on 'yourfile.tex'
 - As a result you will obtain `yourfile.tex` which might now be compiled with `latex` or `pdflatex` compiler.

Executifs

⑦ Sapientia



```
\documentclass{article}
\begin{document}
<<>>=
#simple math
first <- 2^5
second <- 7/6
@
$2^{5}$ is \Sexpr{first},
while 7 divided by
6 gives us \Sexpr{second}.
\end{document}
```

```
\documentclass{article}
\usepackage{Sweave}
\begin{document}
\input{report-concordance}
\begin{Schunk}
\begin{Sinput}
> #simple math
> first <- 2^5
> second <- 7/6
\end{Sinput}
\end{Schunk}
$2^{5}$ is 32,
  while 7 divided\\
by 6 gives us 1.1666666666666667.
\end{document}
```

Rnw & tex files

Bassin de vie

Citoyens
« agitateurs »
(sans-pouvoir)

- Tilings or Sort.
- Associations.
- Debates.

OKA

Non carrel des
mandats, des letups
et des les fonctions

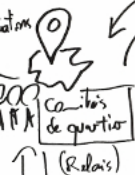
Remain Still

différents
représentant
des te
qu'au niveau
de l-

du niveau
de l-

EXAMPLE

- Encourager projets communs.
- Actions / réalisations
- projets thématiques
- réunions régulières.



citoyens = Acteurs de la vie publique.



commune > canton

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• déb
• disc
• etc.

exécutifs

7

Exécutif unique

finances

législatifs

*.CSV



LaTeX
syntax
R code
chunks



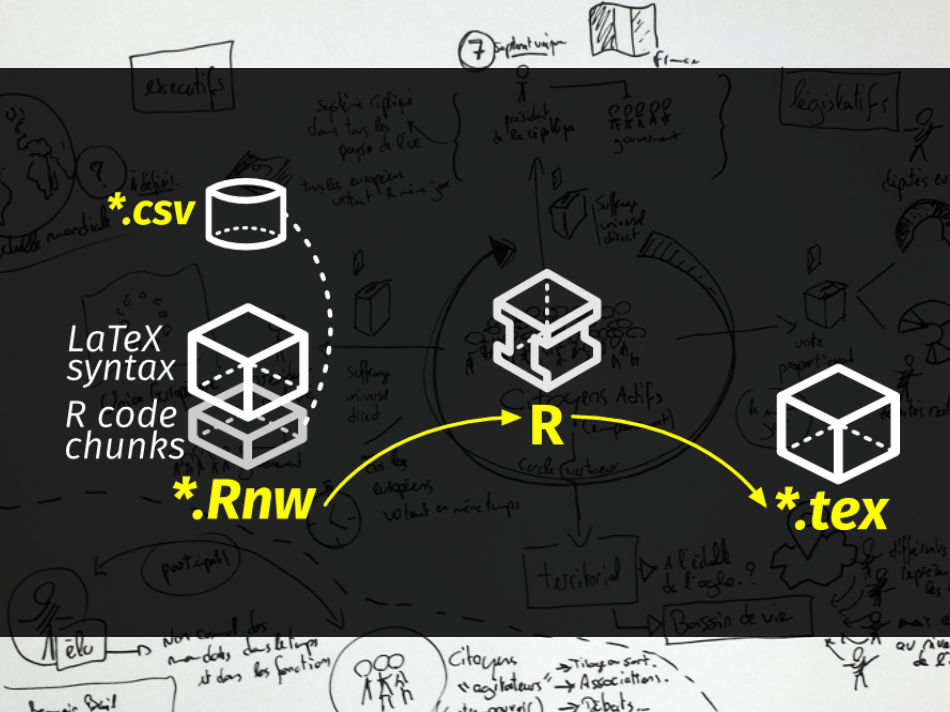
*.Rnw



R



*.tex



A , B

IGNORE , IGNORE

CR , CR

DP , DP

CR , MOTIV

DP , IGNORE

CR , CR

IGNORE , IGNORE

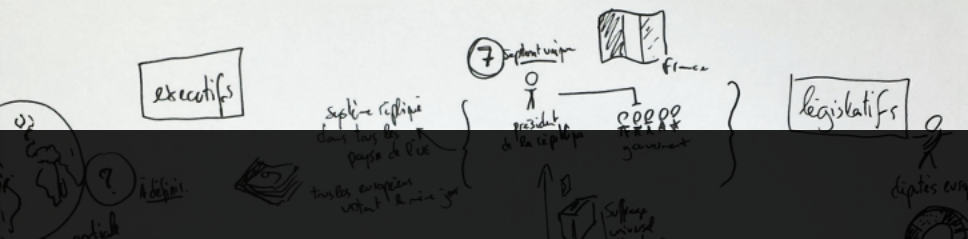
NO , FORM

FORM , DP

Raw data

```
data <- read.csv("./pl_vs_mu.csv")
# load irr library
library(irr)
# count kappa and round it
result <- round(kappa2(data)$value, 2)
# count the raters
annot <- kappa2(data)$raters
# count the agreement
agreement <- round(agree(data)$value, 2)
# count the cases
cases <- nrow(data)
```

Loading the data and calculations



The kappa value for the sample is \Sexpr{result} for \Sexpr{annot} raters with agreement \Sexpr{agreement}\% over \Sexpr{cases} cases.

Reporting values

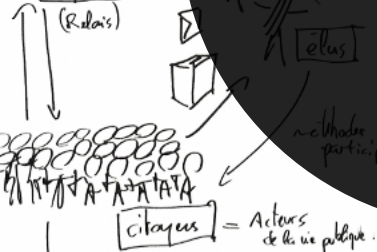
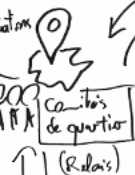


The kappa value for the sample is 0.65 for 2 raters with agreement 72.73% over 33 cases.

Values

OTHER TOOLS

- Encourager projets communs.
- Actions / réalisations
- projets thématiques
- réunions régulières.



acteurs participatifs

Budget de fonctionnement.

président de communauté de communes

mairie

(municipal)

élus

commune > canton

éducation

- faire éducation à la citoyenneté

ensuite de manière plus directe



• déb
• disc
• etc.

France
Régions plus
grandes et plus
indépendantes

• Encourager projets communs.

• Actions / réalisations

• projets thématiques

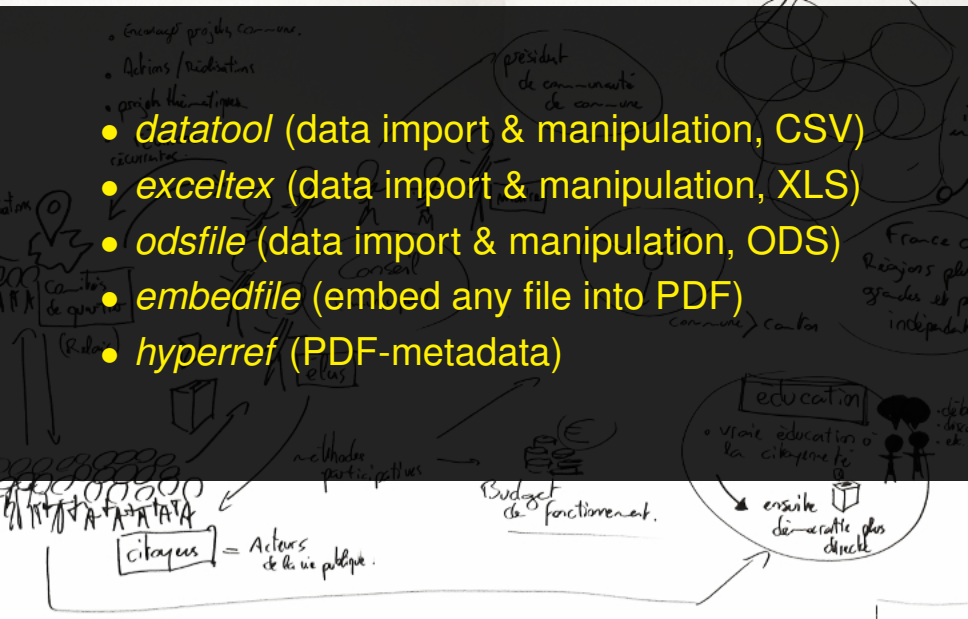
• **datatool** (data import & manipulation, CSV)

• **exceltex** (data import & manipulation, XLS)

• **odsfile** (data import & manipulation, ODS)

• **embedfile** (embed any file into PDF)

• **hyperref** (PDF-metadata)





QUESTIONS

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(Relais)



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• disc
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France
Régions plus
grandes et plus
indépendantes

Régional > National > Européen (même fonctionnement) Exécutif

SOURCES



flickr/Armel Le Coz

flickr/Armel Le Coz

flickr/Armel Le Coz

Local

