ascii

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WRITTEN BY	David Hajage	July 20, 2009				

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ascii

ascii is a R package for writing asciidoc or txt2tags document with embeded R commands.

1 news

1.1 2009/07/16

- version 0.2
- digit and format accept matrix, (each cell can have its own number of digits a nd format)
- new arguments (cgroup, rgroup, ...) to define major column and row heading s like in Hmisc::latex() (only for asciidoc output)
- · column style and alignment use cell specifiers
- remove SweaveSyntaxAscii (bug when] is used inside Sexpr:[])

1.2 2009/05/11

- \SweaveOpts{} now works
- add SweaveSyntaxAscii (SweaveOpts:[], Sexpr:[])
- add a simple wrapper for Sweave() (SweaveAscii()) that use RweaveAsciidoc and SweaveSyntaxAscii as default

1.3 2009/04/27

- add a caption.level argument
- improve ascii.describe output (package Hmisc)

1.4 2009/04/08

- update DESCRIPTION (with homepage)
- support for describe function in package Hmisc

2 short example

gives:

1.00	3.00
2.00	4.00

Table 1: A simple matrix

3 what ascii provides

ascii provided:

- a generic method for common R objects: ascii(). Default argument depends of R object,
- two Sweave drivers: Sweave ("yourfile.Rnw", RweaveAsciidoc()) or Sweave ("yourfile.Rnw", RweaveT2t()),
- a simple wrapper for Sweave() names SweaveAscii() that uses RweaveAsciidoc() as default.

4 ascii manual

5 ascii examples

ascii provides methods for:

```
> methods(ascii)
 [1] ascii.anova*
                                           ascii.aov*
                                                                                  ascii.aovlist*
[4] ascii.cast_df* ascii.character* ascii.coxph*
[7] ascii.data.frame* ascii.default* ascii.density
[10] ascii.describe* ascii.describe.single* ascii.factor*
                                                                                 ascii.density*
[13] ascii.glm*
                                           ascii.htest*
                                                                     ascii.integer*
                                           ascii.lm*
[16] ascii.list*
                                                                                  ascii.matrix*
[19] ascii.numeric*
[19] ascii.numeric* ascii.prcomp* ascii.simple.list*
[22] ascii.smooth.spline* ascii.summary.aov* ascii.summary.aovlist*
[25] ascii.summary.glm* ascii.summary.lm* ascii.summary.prcomp*
[28] ascii.summary.table* ascii.survdiff* ascii.table*
[31] ascii.ts*
                                             ascii.zoo*
    Non-visible functions are asterisked
```

5.1 vector

1.00	2.00	3.00	4.00

5.2 matrix

```
> ascii(VADeaths, include.rownames = T, include.colnames = T, caption = "VADeaths",
     header = T, col.width = c(1, 2, 2, 2, 2, 2), valign = "middle",
     align = "lrrrr", frame = "topbot")
.VADeaths
[frame="topbot", valign="middle", options="header", cols="1,2,2,2,2"]
          >.^{|} Rural Male >.^{|} Rural Female >.^{|} Urban Male >.^{|} Urban Female
<.^|
<.^| 50-54 >.^| 11.70
                      >.^| 8.70
                                            >.^| 15.40
                                            >.^| 24.30
                         >.^| 11.70
<.^| 55-59 >.^| 18.10
                                                            >.^| 13.60
<.^| 60-64 >.^| 26.90
                          >.^| 20.30
                                            >.^| 37.00
                                                            >.^| 19.30
                                                        >.^| 35.10
<.^| 65-69 >.^| 41.00 >.^| 30.90
                                        >.^| 54.60
```

x	An R object of class found among methods (ascii).
include.ro- wnames	logical. If TRUE the rows names are printed. Default value depends of class of x .
include.co-	logical. If TRUE the columns names are printed. Default value depends of class of $\boldsymbol{x}.$
format	Character vector of length equal to the number of columns of the resulting table (otherwise it will be replicated or truncated as necessary) indicating the format for the corresponding columns. These values are passed to the formatC function. Use "d" (for integers), "f", "e", "E", "g", "G", "fg" (for reals), or "s" (for strings). "f" gives numbers in the usual xxx.xxx format; "e" and "E" give n.ddde+nn or n.dddE+nn (scientific format); "g" and "G" put x[i] into scientific format only if it saves space to do so. "fg" uses fixed format as "f", but digits as number of significant digits. Note that this can lead to quite long result strings. Default depends on the class of x.
digits	Numeric vector of length equal to the number of columns of the resulting table (otherwise it will be replicated or truncated as necessary) indicating the number of digits to display in the corresponding columns. Default is 2. decimal.mark: The character to be used to indicate the numeric decimal point. Default is ".".
na.print	The character string specifying how NA should be formatted specially. Default is "".
caption	Character vector of length 1 containing the table+s caption or title. Set to "" to suppress the caption. Default value is "".
caption.le-	Character or numeric vector of length 1 containing the $\cde{"."}$ (block titles in asciidoc markup), $\cde{"s"}$ (strong), $\cde{"e"}$ (emphasis), $\cde{"m"}$ (monospaced) or $\cde{""}$ (no markup). Default is $\cde{"."}$.
width	Numeric vector of length one containing the table width relative to the available width (expressed as a percentage value, 199). Default is 0 (all available width).
frame	Character vector of length one. Defines the table border, and can take the following values: "topbot" (top and bottom), "all" (all sides), "none" and "sides" (left and right). The default value is "".
grid	Character vector of length one. Defines which ruler lines are drawn between table rows and columns, and can take the following values: "all", "rows", "cols" and "none". Default is "".
valign	Character vector of length one indicating vertical alignment of all cells in table. Can take the following values: "top", "bottom" and "middle". Default is "".
header	logical. If TRUE the first line of the table is emphasized. The default value depends of class of x .
footer	logical. If TRUE the last line of the table is emphasized. The default value depends of class of x .
align	Character vector of length one indicating the alignment of the corresponding columns. Can be composed with "r" (right), "l" (left) and "c" (center). Default value is "".
col.width	Numeric vector of length equal to the number of columns of the resulting table (otherwise it will be replicated or truncated as necessary) indicating width of the corresponding columns (integer proportional values). Default is 1.
style	Character vector of length one indicating the style of the corresponding columns. Can be composed with "d" (default), "e" (emphasis), "m" (monospaced), "a" (cells can contain any of the AsciiDoc elements that are allowed inside document), "l" (literal), "v" (verse; all line breaks are retained). Default is "".
cgroup	Character vector defining major column headings. The default is to have none (NULL).
	A numeric vector containing the number of columns for which each element in cgroup is a heading.
n.cgroup	For example, specify cgroup=c("Major 1", "Major 2")', 'n.cgroup=c(3,3) if "Major 1" is to span columns 1-3 and "Major 2" is to span columns 4-6. Row names count in the column numbers if include rownsman = TRUE

```
An object of class "ascii"

Type of syntax produce. Possible values for type are "asciidoc", "t2t" or "textile".

type

Default value produce AsciiDoc syntax.

Additional arguments. (Currently ignored.)
```

Table 3: print.ascii

	Rural Male	Rural Female	Urban Male	Urban Female
50-54	11.70	8.70	15.40	8.40
55-59	18.10	11.70	24.30	13.60
60-64	26.90	20.30	37.00	19.30
65-69	41.00	30.90	54.60	35.10
70-74	66.00	54.30	71.10	50.00

Table 4: VADeaths

5.3 data.frame

```
> ascii(iris[1:10, ], include.rownames = F, caption = "iris", width = 75,
    align = "c", valign = "bottom", frame = "topbot", grid = "none")
.iris
[frame="topbot",grid="none",valign="bottom",options="header",width="75%"]
^.>| Sepal.Length ^.>| Sepal.Width ^.>| Petal.Length ^.>| Petal.Width ^.>| Species
^.>| 3.00
                           ^.>| 1.40
                                         ^.>| 0.20
^.>| 4.90
                                                      ^.>| setosa
^.>| 4.70
             ^.>| 3.20
                           ^.>| 1.30
                                         ^.>| 0.20
                                                       ^.>| setosa
^.>| 4.60
                                         ^.>| 0.20
             ^.>| 3.10
                           ^.>| 1.50
                                                       ^.>| setosa
^.>| 5.00
                           ^.>| 1.40
                                         ^.>| 0.20
              ^.>| 3.60
                                                       ^.>| setosa
^.>| 5.40
              ^.>| 3.90
                           ^.>| 1.70
                                         ^.>| 0.40
                                                       ^.>| setosa
^.>| 4.60
              ^.>| 3.40
                           ^.>| 1.40
                                         ^.>| 0.30
                                                       ^.>| setosa
^.>| 5.00
              ^.>| 3.40
                           ^.>| 1.50
                                         ^.>| 0.20
                                                       ^.>| setosa
^.>| 4.40
              ^.>| 2.90
                           ^.>| 1.40
                                         ^.>| 0.20
                                                       ^.>| setosa
^.>| 4.90
             ^.>| 3.10
                           ^.>| 1.50
                                         ^.>| 0.10
                                                       ^.>| setosa
```

5.4 row (and col) headings

Sepal.Length	Sepal.Width	Petal.Length	Petal.Width	Species
5.10	3.50	1.40	0.20	setosa
4.90	3.00	1.40	0.20	setosa
4.70	3.20	1.30	0.20	setosa
4.60	3.10	1.50	0.20	setosa
5.00	3.60	1.40	0.20	setosa
5.40	3.90	1.70	0.40	setosa
4.60	3.40	1.40	0.30	setosa
5.00	3.40	1.50	0.20	setosa
4.40	2.90	1.40	0.20	setosa
4.90	3.10	1.50	0.10	setosa

Table 5: iris

15	3.36 0.	·	3.26		
16	6.50 3.3		1.23		
	9.38 3.		2.77		
	8.84 0.		3.21		
	10.68 2.		1.96		
	5.06 0.	31 0.88 4.29	2.65		
63	6.78 0.	0.00 6.05	3.85		
78	3.62 0.	73 0.54 1.50	3.49		
79	8.06 0.3		0.00		
86	4.18 1.	77 0.81 5.49	4.11		
(all)	6.89 1.	78 0.65 4.07	2.58		
13+.^s	Treatment: 2	3 6.74 0.59	0.11	3.14 2.48	
10	9.99 6.	98 0.47 2.15	0.82		
15	4.41 1.	31 0.34 2.29	2.06		
16	6.45 3.	37 1.05 3.40	0.46		
19	8.64 2.	45 1.14 5.41	4.16		
31	8.03 0.	62 0.16 6.05	5.06		
51	9.98 3.	79 1.57 4.67	2.25		
52	5.51 1.	02 1.18 4.22	2.19		
63	8.41 0.	10 0.01 5.09	4.36		
78	3.78 0.3	29 0.76 1.55	2.73		
79	7.94 0.	69 0.26 1.03	0.00		
86	3.99 2.	06 0.78 4.52	2.84		
(all)	7.00 1.	97 0.66 3.62	2.46		
13+.^s	<pre>Treatment: 3 </pre>	3 5.29 0.77	0.09	2.86 2.87	
10	10.03 6.	45 0.14 3.11	0.69		
15	3.96 0.	99 0.44 2.55	2.37		
16	6.86 2.	70 1.12 3.20	0.56		
19	8.74 1.	73 2.07 7.24	3.90		
31	9.03 0.	65 0.17 6.58	5.13		
51	10.22 3.	13 1.35 4.92	2.54		
52	5.47 0.	36 0.77 3.16	2.66		
63	8.06 0.	0.12 6.18	3.10		
78	4.00 0.	70 0.67 1.19	3.52		
79	7.73 0.	57 0.12 1.18	0.03		
	3.87 1.		3.03		
(all)			2.53		
	reatment NA				

Treatment	subject	potato	buttery	grassy	rancid	painty
	3	6.22	0.37	0.19	2.11	3.11
	10	9.96	6.75	0.58	4.02	1.38
	15	3.36	0.72	0.42	3.96	3.26

Treatment	subject	potato	buttery	grassy	rancid	painty
	16	6.50	3.26	0.76	4.12	1.23
	19	9.38	3.06	2.02	5.36	2.77
	31	8.84	0.44	0.09	5.94	3.21
	51	10.68	2.64	1.05	5.15	1.96
	52	5.06	0.81	0.88	4.29	2.65
	63	6.78	0.03	0.00	6.05	3.85
	78	3.62	0.73	0.54	1.50	3.49
	79	8.06	0.28	0.34	0.57	0.00
	86	4.18	1.77	0.81	5.49	4.11
	(all)	6.89	1.78	0.65	4.07	2.58
	3	6.74	0.59	0.11	3.14	2.48
	10	9.99	6.98	0.47	2.15	0.82
	15	4.41	1.31	0.34	2.29	2.06
	16	6.45	3.37	1.05	3.40	0.46
	19	8.64	2.45	1.14	5.41	4.16
	31	8.03	0.62	0.16	6.05	5.06
Treatment: 2	51	9.98	3.79	1.57	4.67	2.25
	52	5.51	1.02	1.18	4.22	2.19
	63	8.41	0.10	0.01	5.09	4.36
	78	3.78	0.29	0.76	1.55	2.73
	79	7.94	0.69	0.26	1.03	0.00
	86	3.99	2.06	0.78	4.52	2.84
	(all)	7.00	1.97	0.66	3.62	2.46
	3	5.29	0.77	0.09	2.86	2.87
	10	10.03	6.45	0.14	3.11	0.69
	15	3.96	0.99	0.44	2.55	2.37
	16	6.86	2.70	1.12	3.20	0.56
	19	8.74	1.73	2.07	7.24	3.90
	31	9.03	0.65	0.17	6.58	5.13
Treatment: 3	51	10.22	3.13	1.35	4.92	2.54
	52	5.47	0.86	0.77	3.16	2.66
	63	8.06	0.07	0.12	6.18	3.10
	78	4.00	0.70	0.67	1.19	3.52
	79	7.73	0.57	0.12	1.18	0.03
	86	3.87	1.63	0.94	4.11	3.03
	(all)	6.97	1.72	0.68	3.87	2.53

5.5 summary.table

```
> ascii(summary(table(1:4, 1:4)))
```

• Number of cases in table: 4

• Number of factors: 2

• Test for independence of all factors:

- Chisq =
$$12$$
, df = 9 , p-value = 0.2133

- Chi-squared approximation may be incorrect

 $[\]star$ Number of cases in table: 4

^{*} Number of factors: 2

^{*} Test for independence of all factors:

^{**} Chisq = 12, df = 9, p-value = 0.2133

 $[\]star\star$ Chi-squared approximation may be incorrect

ascii

5.6 labeled list

```
> ascii(version)
platform::
  i486-pc-linux-gnu
arch::
 i486
os::
 linux-gnu
system::
 i486, linux-gnu
status::
major::
 2
minor::
 9.1
year::
 2009
month::
 06
day::
 26
svn rev::
 48839
language::
R
version.string::
 R version 2.9.1 (2009-06-26)
```

```
platform i486-pc-linux-gnu
arch i486
os linux-gnu
system i486, linux-gnu
status, major 2
minor 9.1
year 2009
month 06
day 26
svn rev 48839
language R
version.string R version 2.9.1 (2009-06-26)
```

5.7 glm

```
> counts <- c(18, 17, 15, 20, 10, 20, 25, 13, 12)
> outcome <- gl(3, 1, 9)
> treatment <- gl(3, 3)
> d.AD <- data.frame(treatment, outcome, counts)
> glm.D93 <- glm(counts ~ outcome + treatment, family = poisson())
> glm.D93
```

```
Call: glm(formula = counts ~ outcome + treatment, family = poisson())
Coefficients:
 Intercept) outcome2 outcome3 treatment2 treatment3 3.045e+00 -4.543e-01 -2.930e-01 8.717e-16 4.557e-16
(Intercept)
                               8.717e-16 4.557e-16
Degrees of Freedom: 8 Total (i.e. Null); 4 Residual
Null Deviance: 10.58
Residual Deviance: 5.129
                        AIC: 56.76
> ascii(glm.D93, caption = "glm.D93")
.glm.D93
[options="header"]
|-----
          | Estimate | Std. Error | z value | Pr(>\|z\|)
| (Intercept) | 3.04 | 0.17 | 17.81 | 0.00 | outcome2 | -0.45 | 0.20 | -2.25 | 0.02 | outcome3 | -0.29 | 0.19 | -1.52 | 0.13
|-----
> ascii(anova(glm.D93), caption = "anova glm.D93", include.rownames = T)
.anova glm.D93
[options="header"]
|-----
        | Df | Deviance | Resid. Df | Resid. Dev
| treatment | 2.00 | 0.00 | 4.00 | 5.13
|-----
```

	Estimate	Std. Error	z value	Pr (> z)
(Intercept)	3.04	0.17	17.81	0.00
outcome2	-0.45	0.20	-2.25	0.02
outcome3	-0.29	0.19	-1.52	0.13
treatment2	0.00	0.20	0.00	1.00
treatment3	0.00	0.20	0.00	1.00

Table 6: glm.D93

	Df	Deviance	Resid. Df	Resid. Dev
NULL			8.00	10.58
outcome	2.00	5.45	6.00	5.13
treatment	2.00	0.00	4.00	5.13

Table 7: anova glm.D93

5.8 describe

```
> library(Hmisc)
> label(esoph$agegp) <- "Age group"
> label(esoph$alcgp) <- "Alcohol group"
> label(esoph$tobgp) <- "Tobacco group"
> label(esoph$ncontrols) <- "Number of control"
> label(esoph$age) <- "Age"
> units(esoph$age) <- "Years"
> ascii(describe(esoph))
```

```
.esoph
* 6 Variable
* 88 Observations
*agegp : Age group*
|==========
| n | missing | unique
| 88 | 0 | 6
|-----
|-----
       | 25-34 | 35-44 | 45-54 | 55-64 | 65-74 | 75+
| Frequency | 15 | 15 | 16 | 16 | 15 | 11
| % | 17 | 17 | 18 | 18 | 17
|-----
*alcgp : Alcohol group*
|-----
| n | missing | unique
| 88 | 0 | 4
0-39g/day (23, 26%), 40-79 (23, 26%), 80-119 (21, 24%), 120+ (21, 24%)
*tobgp : Tobacco group*
|-----
| n | missing | unique
| 88 | 0 | 4
|-----
0-9g/day (24, 27%), 10-19 (24, 27%), 20-29 (20, 23%), 30+ (20, 23%)
*ncases*
|-----
| n | missing | unique | Mean | .05 | .10 | .25 | .50 | .75 | .90 | .95
| 88 | 0 | | 10 | | 2.273 | 0.0 | 0.0 | 0.0 | 1.0 | 4.0 | 5.3 | 6.0
|-----
  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 8 | 9 | 17
|
| Frequency | 29 | 16 | 11 | 9 | 8 | 6 | 5 | 1 | 2 | 1
       | 33 | 18 | 12 | 10 | 9 | 7 | 6 | 1 | 2 | 1
|-----
*ncontrols : Number of control*
|-----
| n | missing | unique | Mean | .05 | .10 | .25 | .50 | .75 | .90 | .95
| 88 | 0 | | 30 | | 11.08 | 1.0 | 1.0 | 3.0 | 6.0 | 14.0 | 29.1 | 40.0
lowest: 1 2 3 4 5, highest: 40 46 48 49 60
*age : Age [Years] *
|-----
| n | missing | unique
| 88 | 0 | 6
```

-		 															
1	=======	 															
i		25-	-34	1	35	-44	1	45-	-54	1	55-	-64	-	65-	-74	1	75+
-1	Frequency	15			15			16		-	16			15		-	11
-1	용	17			17		-	18		\perp	18			17		1	12
-1		 					-=-		-==-			-==					

ESOPH

- 6 Variable
- 88 Observations

agegp: Age group

n	missing	unique
88	0	6

		25-34	35-44	45-54	55-64	65-74	75+
Ī	Frequency	15	15	16	16	15	11
Ī	%	17	17	18	18	17	12

alcgp: Alcohol group

n	missing	unique
88	0	4

0-39g/day (23, 26%), 40-79 (23, 26%), 80-119 (21, 24%), 120+ (21, 24%)

tobgp: Tobacco group

n	missing	unique
88	0	4

0-9g/day (24, 27%), 10-19 (24, 27%), 20-29 (20, 23%), 30+ (20, 23%)

ncases

n	missing	unique	Mean	.05	.10	.25	.50	.75	.90	.95
88	0	10	2.273	0.0	0.0	0.0	1.0	4.0	5.3	6.0

	0	1	2	3	4	5	6	8	9	17
Frequency	7 29	16	11	9	8	6	5	1	2	1
%	33	18	12	10	9	7	6	1	2	1

ncontrols: Number of control

n	missing	unique	Mean	.05	.10	.25	.50	.75	.90	.95
88	0	30	11.08	1.0	1.0	3.0	6.0	14.0	29.1	40.0

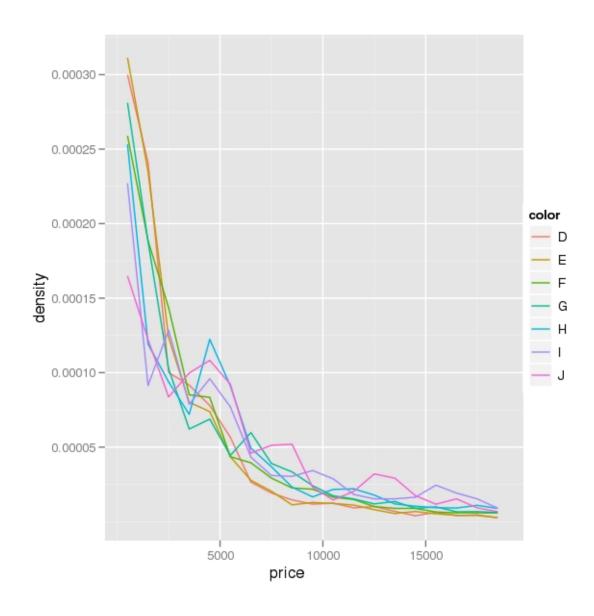
lowest: 1 2 3 4 5, highest: 40 46 48 49 60

age: Age [Years]

n	missing	unique
88	0	6

	25-34	35-44	45-54	55-64	65-74	75+
Frequency	15	15	16	16	15	11
%	17	17	18	18	17	12

5.9 plot



5.10 txt2tags

```
> library(reshape)
> names(airquality) <- tolower(names(airquality))</pre>
> aqm <- melt(airquality, id = c("month", "day"), na.rm = TRUE)</pre>
> res <- cast(aqm, month ~ variable, mean, margins = "grand_row")
> res
 month
          ozone solar.r
                               wind
                                        temp
  5 23.61538 181.2963 11.622581 65.54839
1
      6 29.44444 190.1667 10.266667 79.10000
2.
3
      7 59.11538 216.4839
                          8.941935 83.90323
      8 59.96154 171.8571 8.793548 83.96774
5
      9 31.44828 167.4333 10.180000 76.90000
6 (all) 42.12931 185.9315
                          9.957516 77.88235
> print(ascii(res), "t2t")
|| month | ozone | solar.r | wind | temp
       | 23.62 | 181.30 | 11.62 | 65.55 |
| 5
        | 29.44 | 190.17
                         | 10.27 | 79.10
| 6
| 7
        | 59.12 | 216.48 | 8.94
                                 | 83.90
| 8
        | 59.96 | 171.86 | 8.79 | 83.97 |
        | 31.45 | 167.43 | 10.18 | 76.90 |
 (all) | 42.13 | 185.93 | 9.96 | 77.88 |
```

6 convert

Sweave process creates a yourdocument.txt file from yourdocument.Rnw.

```
Sweave("youdocument.Rnw", RweaveXxx)
```

You can convert it to html format with the following command:

```
asciidoc yourdocument.txt
or
txt2tags -t html yourdocument.t2t
```

or to xhtml, docbook, man, tex...

For example, you can see the source of this documentation, the file generated by Sweave, the same file in docbook format, the same file converted to pdf with dblatex, and the same file converted to odt with docbook2odf.

7 more informations

- · asciidoc: http://www.methods.co.nz/asciidoc
- txt2tags: http://txt2tags.sourceforge.net

8 ascii for real

• Derek H. Ogle has written some vignettes for the book 'Analysis and Interpretation of Freshwater Fisheries Data' using ascii.