

ascii

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

1 short example

```
<<>>=
x <- matrix(1:4, 2, 2)
x
@
```

gives :

```
> x <- matrix(1:4, 2, 2)
> x
      [,1] [,2]
[1,]     1     3
[2,]     2     4
```

```
<<results=ascii,echo=FALSE>>=
ascii(x, caption = "A simple matrix", width = 30)
@
```

gives :

A simple matrix

1.00	3.00
2.00	4.00

2 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())`.

3 ascii manual

4 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
[13] ascii.glm            ascii.htest           ascii.integer
[16] ascii.list           ascii.lm              ascii.matrix
[19] ascii.numeric        ascii.prcomp          ascii.smooth.spline
[22] ascii.summary.aov    ascii.summary.aovlist ascii.summary.glm
```

<code>x</code>	An R object of class found among <code>methods(ascii)</code> .
<code>include.rownames</code>	logical. If <code>TRUE</code> the rows names are printed. Default value depends of class of <code>x</code> .
<code>include.colnames</code>	logical. If <code>TRUE</code> the columns names are printed. Default value depends of class of <code>x</code> .
<code>format</code>	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 <code>formatC</code> function. Use <code>"d"</code> (for integers), <code>"f"</code> , <code>"e"</code> , <code>"E"</code> , <code>"g"</code> , <code>"G"</code> , <code>"fg"</code> (for reals), or <code>"s"</code> (for strings). <code>"f"</code> gives numbers in the usual <code>xxx.xxx</code> format; <code>"e"</code> and <code>"E"</code> give <code>n.ddde+nn</code> or <code>n.dddE+nn</code> (scientific format); <code>"g"</code> and <code>"G"</code> put <code>x[i]</code> into scientific format only if it saves space to do so. <code>"fg"</code> uses fixed format as <code>"f"</code> , but <code>digits</code> as number of <i>significant</i> digits. Note that this can lead to quite long result strings. Default depends on the class of <code>x</code> .
<code>digits</code>	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. <code>decimal.mark</code> : The character to be used to indicate the numeric decimal point. Default is <code>"."</code> .
<code>na.print</code>	The character string specifying how NA should be formatted specially. Default is <code>""</code> .
<code>caption</code>	Character vector of length 1 containing the table+s caption or title. Set to <code>" "</code> to suppress the caption. Default value is <code>" "</code> .
<code>width</code>	Numeric vector of length one containing the table width relative to the available width (expressed as a percentage value, 1... 99). Default is 0 (all available width).
<code>frame</code>	Character vector of length one. Defines the table border, and can take the following values: <code>"topbot"</code> (top and bottom), <code>"all"</code> (all sides), <code>"none"</code> and <code>"sides"</code> (left and right). The default value is <code>" "</code> .
<code>grid</code>	Character vector of length one. Defines which ruler lines are drawn between table rows and columns, and can take the following values: <code>"all"</code> , <code>"rows"</code> , <code>"cols"</code> and <code>"none"</code> . Default is <code>" "</code> .
<code>valign</code>	Character vector of length one indicating vertical alignment of all cells in table. Can take the following values: <code>"top"</code> , <code>"bottom"</code> and <code>"middle"</code> . Default is <code>" "</code> .
<code>header</code>	logical. If <code>TRUE</code> the first line of the table is emphasized. The default value depends of class of <code>x</code> .
<code>footer</code>	logical. If <code>TRUE</code> the last line of the table is emphasized. The default value depends of class of <code>x</code> .
<code>align</code>	Character vector of length one indicating the alignment of the corresponding columns. Can be composed with <code>"r"</code> (right), <code>"l"</code> (left) and <code>"c"</code> (center). Default value is <code>" "</code> .
<code>col.width</code>	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.
<code>style</code>	Character vector of length one indicating the style of the corresponding columns. Can be composed with <code>"d"</code> (default), <code>"e"</code> (emphasis), <code>"m"</code> (monospaced), <code>"a"</code> (cells can contain any of the AsciiDoc elements that are allowed inside document), <code>"l"</code> (literal), <code>"v"</code> (verse; all line breaks are retained). Default is <code>" "</code> .
<code>...</code>	Additional arguments. (Currently ignored.)

Table 1: ascii

`x` An object of class "ascii"
 Type of syntax produce. Possible values for `type` are "asciidoc", "t2t" or "textile".
 Default value produce AsciiDoc syntax.

`type`

Character vector of length one indicating the list type ("bullet", "number" or "none").
 Default is "bullet".

`list.type`

Additional arguments. (Currently ignored.)

...

Table 2: print.ascii

```
[25] ascii.summary.lm      ascii.summary.prcomp  ascii.summary.table
[28] ascii.survdiff        ascii.tab1            ascii.table
[31] ascii.ts              ascii.zoo
```

4.1 vector

```
> ascii(1:4)
|=====
|1.00|2.00|3.00|4.00
|=====
```

1.00	2.00	3.00	4.00
------	------	------	------

4.2 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     |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
|=====
```

VADeaths

	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

4.3 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",cols="^,^,^,^,^",width="75%"]
|=====
```

```
|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
```

```
| 4.90      | 3.10      | 1.50      | 0.10      | setosa
|=====
```

iris

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

4.4 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
```

- 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

4.5 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

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
| treatment2  | 0.00      | 0.20      | 0.00      | 1.00
| treatment3  | 0.00      | 0.20      | 0.00      | 1.00
|=====
> ascii(anova(glm.D93), caption = "anova glm.D93", include.rownames = T)
anova glm.D93
[options="header"]
|=====
|           | 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
|=====
```

glm.D93

	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

anova 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

4.6 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    | 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|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
|=====

```

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	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	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

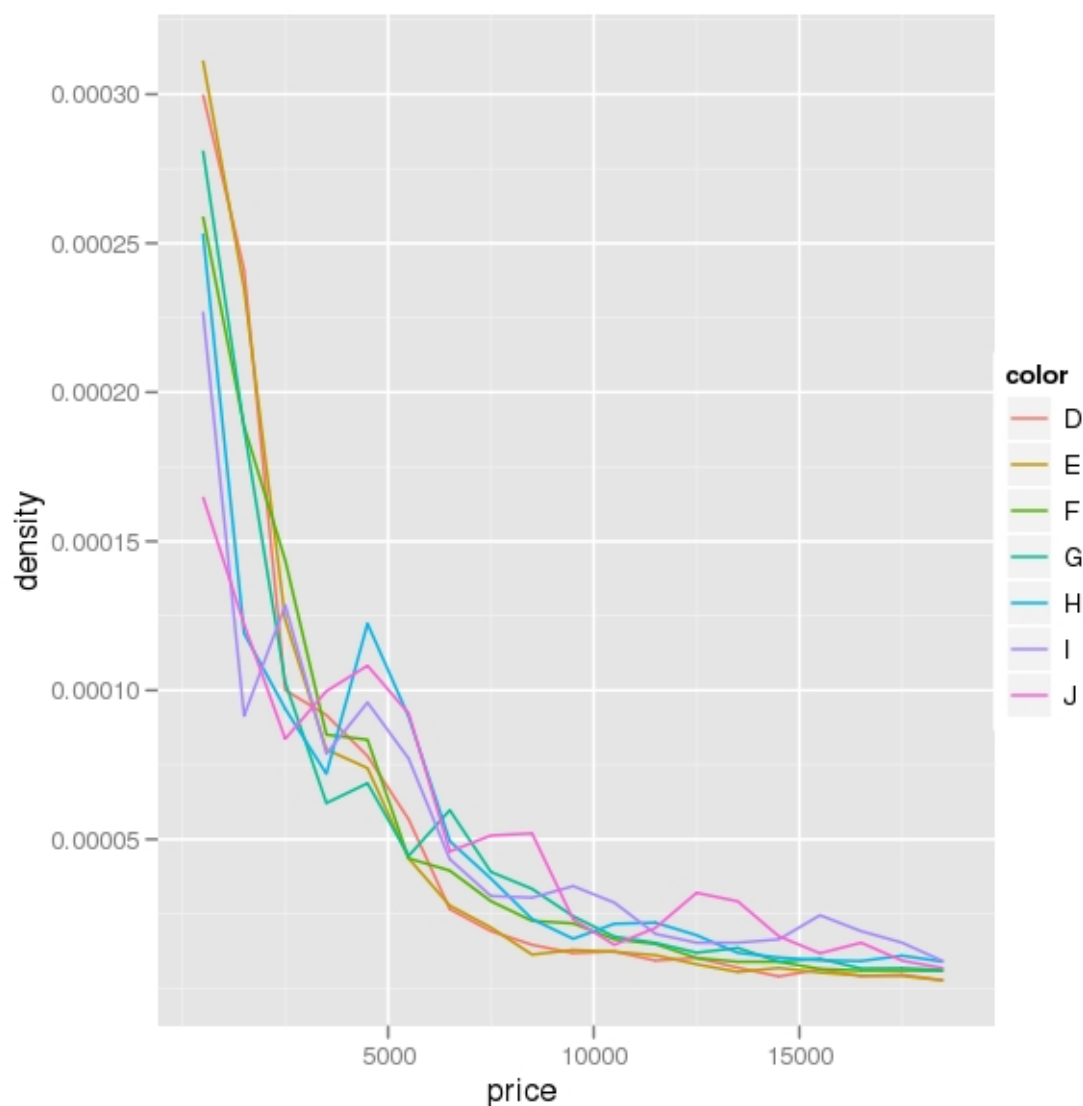
age : Age \[Years\]

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

4.7 plot

```
> library(ggplot2)
> p <- qplot(price, ..density.., data = diamonds, geom = "freqpoly",
+   binwidth = 1000, colour = color)
> print(p)
```



4.8 txt2tags

```
> library(reshape)
> names(airquality) <- tolower(names(airquality))
> aqm <- melt(airquality, id = c("month", "day"), na.rm = TRUE)
> res <- cast(aqm, month ~ variable, mean, margins = "grand_row")
> res
  month  ozone  solar.r    wind    temp
1     5 23.61538 181.2963 11.622581 65.54839
2     6 29.44444 190.1667 10.266667 79.10000
3     7 59.11538 216.4839  8.941935 83.90323
4     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 |
| 5      | 23.62 | 181.30  | 11.62 | 65.55 |
| 6      | 29.44 | 190.17  | 10.27 | 79.10 |
| 7      | 59.12 | 216.48  | 8.94  | 83.90 |
| 8      | 59.96 | 171.86  | 8.79  | 83.97 |
| 9      | 31.45 | 167.43  | 10.18 | 76.90 |
```

```
| (all) | 42.13 | 185.93 | 9.96 | 77.88 |
```

5 convert

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

```
Sweave("yourdocument.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.

6 more informations

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