
L^AT_EX table for fdt objects

Authors:

José C. FARIA
e Ivan B. ALLAMAN

Customization in L^AT_EX:

José C. FARIA

To elaborate a simple table.

```
> library(fdth)
> library(xtable)
> t1 <- fdt(rnorm(n=1e3,
+           mean=10,
+           sd=2),
+           x.round=3)
> t1x <- xtable(t1)
> t1x
```

	Class limits	f	rf	rf(\%)	cf	cf(\%)
1	\$[4.361,5.383)\$	7	0.01	0.70	7.00	0.70
2	\$[5.383,6.405)\$	26	0.03	2.60	33.00	3.30
3	\$[6.405,7.427)\$	74	0.07	7.40	107.00	10.70
4	\$[7.427,8.449)\$	114	0.11	11.40	221.00	22.10
5	\$[8.449,9.471)\$	164	0.16	16.40	385.00	38.50
6	\$[9.471,10.49)\$	221	0.22	22.10	606.00	60.60
7	\$[10.49,11.51)\$	167	0.17	16.70	773.00	77.30
8	\$[11.51,12.54)\$	133	0.13	13.30	906.00	90.60
9	\$[12.54,13.56)\$	52	0.05	5.20	958.00	95.80
10	\$[13.56,14.58)\$	31	0.03	3.10	989.00	98.90
11	\$[14.58,15.6)\$	11	0.01	1.10	1000.00	100.00

The default is not good. Let's use the print function.

```
> print(t1x,
+       include.rownames=FALSE,
+       sanitize.text.function = function(x){x})
```

	Class limits	f	rf	rf(%)	cf	cf(%)
	[4.361,5.383)	7	0.01	0.70	7.00	0.70
	[5.383,6.405)	26	0.03	2.60	33.00	3.30
	[6.405,7.427)	74	0.07	7.40	107.00	10.70
	[7.427,8.449)	114	0.11	11.40	221.00	22.10
	[8.449,9.471)	164	0.16	16.40	385.00	38.50
	[9.471,10.49)	221	0.22	22.10	606.00	60.60
	[10.49,11.51)	167	0.17	16.70	773.00	77.30
	[11.51,12.54)	133	0.13	13.30	906.00	90.60
	[12.54,13.56)	52	0.05	5.20	958.00	95.80
	[13.56,14.58)	31	0.03	3.10	989.00	98.90
	[14.58,15.6)	11	0.01	1.10	1000.00	100.00

It's very good!

Substitute [and) by \lrcorner .

```
> newclass <- gsub("[\$\lrcorner\\[\lrcorner\\)]$", "", t1x[,1], perl=TRUE)
> t3x <- t1x
> t3x[,1] <- newclass
> print(t3x,
+       include.rownames=FALSE,
+       sanitize.text.function = function(x)gsub(" ", "\$\\lrcornerdashv$",
+       x),
+       table.placement='H')
```

Class limits	f	rf	rf(%)	cf	cf(%)
4.361-5.383	7	0.01	0.70	7.00	0.70
5.383-6.405	26	0.03	2.60	33.00	3.30
6.405-7.427	74	0.07	7.40	107.00	10.70
7.427-8.449	114	0.11	11.40	221.00	22.10
8.449-9.471	164	0.16	16.40	385.00	38.50
9.471-10.49	221	0.22	22.10	606.00	60.60
10.49-11.51	167	0.17	16.70	773.00	77.30
11.51-12.54	133	0.13	13.30	906.00	90.60
12.54-13.56	52	0.05	5.20	958.00	95.80
13.56-14.58	31	0.03	3.10	989.00	98.90
14.58-15.6	11	0.01	1.10	1000.00	100.00

Standardizing the class limits to two decimal places.

```

> clim <- t1$table[1]
> clim1 <- sapply(clim,
+               as.character)
> right <- t1$breaks[4]
> pattern='%05.2f'
> clim2 <- make.fdt.format.classes(clim1,
+                                right,
+                                pattern)
> clim3 <- sapply(clim2,function(x)paste0("$",x,"$"))
> t4x <- t1x
> t4x[,1] <- clim3
> print(t4x,
+       include.rownames=FALSE,
+       sanitize.text.function = function(x){x})

```

Class limits	f	rf	rf(%)	cf	cf(%)
[04.36,05.38)	7	0.01	0.70	7.00	0.70
[05.38,06.41)	26	0.03	2.60	33.00	3.30
[06.41,07.43)	74	0.07	7.40	107.00	10.70
[07.43,08.45)	114	0.11	11.40	221.00	22.10
[08.45,09.47)	164	0.16	16.40	385.00	38.50
[09.47,10.49)	221	0.22	22.10	606.00	60.60
[10.49,11.51)	167	0.17	16.70	773.00	77.30
[11.51,12.54)	133	0.13	13.30	906.00	90.60
[12.54,13.56)	52	0.05	5.20	958.00	95.80
[13.56,14.58)	31	0.03	3.10	989.00	98.90
[14.58,15.60)	11	0.01	1.10	1000.00	100.00

To objects of the "fdt.multiple" class.

```

> t5 <- fdt(iris,
+         by='Species')
> attr(t5, "subheadings") <- paste0("Variable = ",
+                                names(t5))
> print(xtable(t5),
+       table.placement='H')

```

	Class limits	f	rf	rf(\%)	cf	cf(\%)
Variable = setosa.Sepal.Length						
1	\$(4.257,4.486)\$	4	0.08	8.00	4.00	8.00
2	\$(4.486,4.714)\$	7	0.14	14.00	11.00	22.00
3	\$(4.714,4.943)\$	9	0.18	18.00	20.00	40.00
4	\$(4.943,5.172)\$	16	0.32	32.00	36.00	72.00
5	\$(5.172,5.401)\$	9	0.18	18.00	45.00	90.00
6	\$(5.401,5.629)\$	2	0.04	4.00	47.00	94.00
7	\$(5.629,5.858)\$	3	0.06	6.00	50.00	100.00
Variable = setosa.Sepal.Width						
8	\$(2.277,2.587)\$	1	0.02	2.00	1.00	2.00
9	\$(2.587,2.896)\$	0	0.00	0.00	1.00	2.00
10	\$(2.896,3.206)\$	16	0.32	32.00	17.00	34.00
11	\$(3.206,3.515)\$	17	0.34	34.00	34.00	68.00
12	\$(3.515,3.825)\$	10	0.20	20.00	44.00	88.00
13	\$(3.825,4.134)\$	4	0.08	8.00	48.00	96.00
14	\$(4.134,4.444)\$	2	0.04	4.00	50.00	100.00
Variable = setosa.Petal.Length						
15	\$(0.99,1.123)\$	2	0.04	4.00	2.00	4.00
16	\$(1.123,1.255)\$	2	0.04	4.00	4.00	8.00
17	\$(1.255,1.388)\$	7	0.14	14.00	11.00	22.00
18	\$(1.388,1.521)\$	26	0.52	52.00	37.00	74.00
19	\$(1.521,1.654)\$	7	0.14	14.00	44.00	88.00
20	\$(1.654,1.786)\$	4	0.08	8.00	48.00	96.00
21	\$(1.786,1.919)\$	2	0.04	4.00	50.00	100.00
Variable = setosa.Petal.Width						
22	\$(0.099,0.1714)\$	5	0.10	10.00	5.00	10.00
23	\$(0.1714,0.2439)\$	29	0.58	58.00	34.00	68.00
24	\$(0.2439,0.3163)\$	7	0.14	14.00	41.00	82.00
25	\$(0.3163,0.3887)\$	0	0.00	0.00	41.00	82.00
26	\$(0.3887,0.4611)\$	7	0.14	14.00	48.00	96.00
27	\$(0.4611,0.5336)\$	1	0.02	2.00	49.00	98.00
28	\$(0.5336,0.606)\$	1	0.02	2.00	50.00	100.00
Variable = versicolor.Sepal.Length						
29	\$(4.851,5.168)\$	4	0.08	8.00	4.00	8.00
30	\$(5.168,5.485)\$	2	0.04	4.00	6.00	12.00
31	\$(5.485,5.802)\$	18	0.36	36.00	24.00	48.00
32	\$(5.802,6.119)\$	10	0.20	20.00	34.00	68.00
33	\$(6.119,6.436)\$	7	0.14	14.00	41.00	82.00
34	\$(6.436,6.753)\$	6	0.12	12.00	47.00	94.00
35	\$(6.753,7.07)\$	3	0.06	6.00	50.00	100.00
Variable = versicolor.Sepal.Width						
36	\$(1.98,2.188)\$	1	0.02	2.00	1.00	2.00
37	\$(2.188,2.395)\$	5	0.10	10.00	6.00	12.00
38	\$(2.395,2.603)\$	10	0.20	20.00	16.00	32.00
39	\$(2.603,2.811)\$	11	0.22	22.00	27.00	54.00
40	\$(2.811,3.019)\$	15	0.30	30.00	42.00	84.00
41	\$(3.019,3.226)\$	6	0.12	12.00	48.00	96.00
42	\$(3.226,3.434)\$	2	0.04	4.00	50.00	100.00
Variable = versicolor.Petal.Length						
43	\$(2.97,3.282)\$	1	0.02	2.00	1.00	2.00
44	\$(3.282,3.593)\$	4	0.08	8.00	5.00	10.00
45	\$(3.593,3.905)\$	6	0.12	12.00	11.00	22.00
46	\$(3.905,4.216)\$	12	0.24	24.00	23.00	46.00
47	\$(4.216,4.528)\$	13	0.26	26.00	36.00	72.00
48	\$(4.528,4.839)\$	10	0.20	20.00	46.00	92.00
49	\$(4.839,5.151)\$	4	0.08	8.00	50.00	100.00
Variable = versicolor.Petal.Width						
50	\$(0.99,1.108)\$	10	0.20	20.00	10.00	20.00
51	\$(1.108,1.227)\$	5	0.10	10.00	15.00	30.00
52	\$(1.227,1.345)\$	13	0.26	26.00	28.00	56.00
53	\$(1.345,1.463)\$	7	0.14	14.00	35.00	70.00
54	\$(1.463,1.581)\$	10	0.20	20.00	45.00	90.00
55	\$(1.581,1.7)\$	3	0.06	6.00	48.00	96.00

Is not good! It's necessary to use the longtable begin.

```
> t51 <- xtable(t5)
> print(t51,
+       table.placement='H',
+       include.rownames=FALSE,
+       sanitize.text.function = function(x){x},
+       tabular.environment='longtable',
+       floating=FALSE)
```

Class limits	f	rf	rf(%)	cf	cf(%)
Variable = setosa.Sepal.Length					
[4.257,4.486)	4	0.08	8.00	4.00	8.00
[4.486,4.714)	7	0.14	14.00	11.00	22.00
[4.714,4.943)	9	0.18	18.00	20.00	40.00
[4.943,5.172)	16	0.32	32.00	36.00	72.00
[5.172,5.401)	9	0.18	18.00	45.00	90.00
[5.401,5.629)	2	0.04	4.00	47.00	94.00
[5.629,5.858)	3	0.06	6.00	50.00	100.00
Variable = setosa.Sepal.Width					
[2.277,2.587)	1	0.02	2.00	1.00	2.00
[2.587,2.896)	0	0.00	0.00	1.00	2.00
[2.896,3.206)	16	0.32	32.00	17.00	34.00
[3.206,3.515)	17	0.34	34.00	34.00	68.00
[3.515,3.825)	10	0.20	20.00	44.00	88.00
[3.825,4.134)	4	0.08	8.00	48.00	96.00
[4.134,4.444)	2	0.04	4.00	50.00	100.00
Variable = setosa.Petal.Length					
[0.99,1.123)	2	0.04	4.00	2.00	4.00
[1.123,1.255)	2	0.04	4.00	4.00	8.00
[1.255,1.388)	7	0.14	14.00	11.00	22.00
[1.388,1.521)	26	0.52	52.00	37.00	74.00
[1.521,1.654)	7	0.14	14.00	44.00	88.00
[1.654,1.786)	4	0.08	8.00	48.00	96.00
[1.786,1.919)	2	0.04	4.00	50.00	100.00
Variable = setosa.Petal.Width					
[0.099,0.1714)	5	0.10	10.00	5.00	10.00
[0.1714,0.2439)	29	0.58	58.00	34.00	68.00
[0.2439,0.3163)	7	0.14	14.00	41.00	82.00
[0.3163,0.3887)	0	0.00	0.00	41.00	82.00
[0.3887,0.4611)	7	0.14	14.00	48.00	96.00
[0.4611,0.5336)	1	0.02	2.00	49.00	98.00
[0.5336,0.606)	1	0.02	2.00	50.00	100.00
Variable = versicolor.Sepal.Length					
[4.851,5.168)	4	0.08	8.00	4.00	8.00
[5.168,5.485)	2	0.04	4.00	6.00	12.00
[5.485,5.802)	18	0.36	36.00	24.00	48.00
[5.802,6.119)	10	0.20	20.00	34.00	68.00
[6.119,6.436)	7	0.14	14.00	41.00	82.00
[6.436,6.753)	6	0.12	12.00	47.00	94.00
[6.753,7.07)	3	0.06	6.00	50.00	100.00
Variable = versicolor.Sepal.Width					
[1.98,2.188)	1	0.02	2.00	1.00	2.00
[2.188,2.395)	5	0.10	10.00	6.00	12.00
[2.395,2.603)	10	0.20	20.00	16.00	32.00
[2.603,2.811)	11	0.22	22.00	27.00	54.00
[2.811,3.019)	15	0.30	30.00	42.00	84.00
[3.019,3.226)	6	0.12	12.00	48.00	96.00
[3.226,3.434)	2	0.04	4.00	50.00	100.00

Variable = versicolor.Petal.Length					
[2.97, 3.282)	1	0.02	2.00	1.00	2.00
[3.282, 3.593)	4	0.08	8.00	5.00	10.00
[3.593, 3.905)	6	0.12	12.00	11.00	22.00
[3.905, 4.216)	12	0.24	24.00	23.00	46.00
[4.216, 4.528)	13	0.26	26.00	36.00	72.00
[4.528, 4.839)	10	0.20	20.00	46.00	92.00
[4.839, 5.151)	4	0.08	8.00	50.00	100.00
Variable = versicolor.Petal.Width					
[0.99, 1.108)	10	0.20	20.00	10.00	20.00
[1.108, 1.227)	5	0.10	10.00	15.00	30.00
[1.227, 1.345)	13	0.26	26.00	28.00	56.00
[1.345, 1.463)	7	0.14	14.00	35.00	70.00
[1.463, 1.581)	10	0.20	20.00	45.00	90.00
[1.581, 1.7)	3	0.06	6.00	48.00	96.00
[1.7, 1.818)	2	0.04	4.00	50.00	100.00
Variable = virginica.Sepal.Length					
[4.851, 5.298)	1	0.02	2.00	1.00	2.00
[5.298, 5.745)	2	0.04	4.00	3.00	6.00
[5.745, 6.192)	8	0.16	16.00	11.00	22.00
[6.192, 6.638)	17	0.34	34.00	28.00	56.00
[6.638, 7.085)	10	0.20	20.00	38.00	76.00
[7.085, 7.532)	6	0.12	12.00	44.00	88.00
[7.532, 7.979)	6	0.12	12.00	50.00	100.00
Variable = virginica.Sepal.Width					
[2.178, 2.415)	1	0.02	2.00	1.00	2.00
[2.415, 2.652)	6	0.12	12.00	7.00	14.00
[2.652, 2.889)	12	0.24	24.00	19.00	38.00
[2.889, 3.127)	18	0.36	36.00	37.00	74.00
[3.127, 3.364)	8	0.16	16.00	45.00	90.00
[3.364, 3.601)	3	0.06	6.00	48.00	96.00
[3.601, 3.838)	2	0.04	4.00	50.00	100.00
Variable = virginica.Petal.Length					
[4.455, 4.814)	3	0.06	6.00	3.00	6.00
[4.814, 5.173)	13	0.26	26.00	16.00	32.00
[5.173, 5.532)	9	0.18	18.00	25.00	50.00
[5.532, 5.892)	12	0.24	24.00	37.00	74.00
[5.892, 6.251)	7	0.14	14.00	44.00	88.00
[6.251, 6.61)	3	0.06	6.00	47.00	94.00
[6.61, 6.969)	3	0.06	6.00	50.00	100.00
Variable = virginica.Petal.Width					
[1.386, 1.549)	3	0.06	6.00	3.00	6.00
[1.549, 1.711)	2	0.04	4.00	5.00	10.00
[1.711, 1.874)	11	0.22	22.00	16.00	32.00
[1.874, 2.037)	11	0.22	22.00	27.00	54.00
[2.037, 2.2)	6	0.12	12.00	33.00	66.00
[2.2, 2.362)	11	0.22	22.00	44.00	88.00
[2.362, 2.525)	6	0.12	12.00	50.00	100.00

To objects of the "fdt_cat" class.

```
> t6 <- fdt_cat(sample(LETTERS[1:3],
+                     replace=TRUE,
+                     size=30))
> t6x <- xtable(t6)
> print(t6x,
```

```
+ table.placement='H',
+ include.rownames = FALSE)
```

Category	f	rf	rf(%)	cf	cf(%)
A	12	0.40	40.00	12	40.00
B	10	0.33	33.33	22	73.33
C	8	0.27	26.67	30	100.00

```
> t61 <- fdt_cat(data.frame(c1=sample(LETTERS[1:3],
+                                 replace=TRUE,
+                                 size=10),
+                           c2=sample(letters[4:5],
+                                 replace=TRUE,
+                                 size=10),
+                           stringsAsFactors=TRUE))
> t61x <- xtable(t61)
> print(t61x,
+       table.placement='H',
+       include.rownames = FALSE)
```

Category	f	rf	rf(%)	cf	cf(%)
B	4	0.40	40.00	4	40.00
A	3	0.30	30.00	7	70.00
C	3	0.30	30.00	10	100.00
d	5	0.50	50.00	5	50.00
e	5	0.50	50.00	10	100.00

>

Title of the table in portuguese.

```
> portugueseT <- c("Intervalo de classes", "f", "fr", "fr(%)", "fa", "fa(%)")
> t7 <- t1$table
> names(t7) <- portugueseT
> t71 <- list(table=t7, breaks=t1$breaks)
> class(t71) <- "fdt"
> t7x <- xtable(t71)
> print(t7x,
+       table.placement='H',
+       include.rownames=FALSE,
+       sanitize.text.function = function(x){x})
```

Intervalo de classes	f	fr	fr(%)	fa	fa(%)
[4.361, 5.383)	7	0.01	0.70	7.00	0.70
[5.383, 6.405)	26	0.03	2.60	33.00	3.30
[6.405, 7.427)	74	0.07	7.40	107.00	10.70
[7.427, 8.449)	114	0.11	11.40	221.00	22.10
[8.449, 9.471)	164	0.16	16.40	385.00	38.50
[9.471, 10.49)	221	0.22	22.10	606.00	60.60
[10.49, 11.51)	167	0.17	16.70	773.00	77.30
[11.51, 12.54)	133	0.13	13.30	906.00	90.60
[12.54, 13.56)	52	0.05	5.20	958.00	95.80
[13.56, 14.58)	31	0.03	3.10	989.00	98.90
[14.58, 15.6)	11	0.01	1.10	1000.00	100.00