LaTeX table for fdt objects

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Customization in LaTeX:
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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	$[3.9248,5.1378)$	6	0.01	0.60	6.00	0.60
2	$[5.1378,6.3509)$	20	0.02	2.00	26.00	2.60
3	$[6.3509,7.564)$	90	0.09	9.00	116.00	11.60
4	$[7.564,8.777)$	172	0.17	17.20	288.00	28.80
5	$[8.777,9.9901)$	218	0.22	21.80	506.00	50.60
6	$[9.9901,11.203)$	221	0.22	22.10	727.00	72.70
7	$[11.203,12.416)$	145	0.14	14.50	872.00	87.20
8	$[12.416,13.629)$	81	0.08	8.10	953.00	95.30
9	$[13.629,14.842)$	34	0.03	3.40	987.00	98.70
10	$[14.842,16.055)$	10	0.01	1.00	997.00	99.70
11	$[16.055,17.268)$	3	0.00	0.30	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(%)
[3.9248, 5.1378)	6	0.01	0.60	6.00	0.60
[5.1378, 6.3509)	20	0.02	2.00	26.00	2.60
[6.3509, 7.564)	90	0.09	9.00	116.00	11.60
[7.564, 8.777)	172	0.17	17.20	288.00	28.80
[8.777, 9.9901)	218	0.22	21.80	506.00	50.60
[9.9901, 11.203)	221	0.22	22.10	727.00	72.70
[11.203, 12.416)	145	0.14	14.50	872.00	87.20
[12.416, 13.629)	81	0.08	8.10	953.00	95.30
[13.629, 14.842)	34	0.03	3.40	987.00	98.70
[14.842, 16.055)	10	0.01	1.00	997.00	99.70
[16.055, 17.268)	3	0.00	0.30	1000.00	100.00

It's very good!

Replacing mathematical symbols [and) by $\dashv$.

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

Class limits	f	rf	rf(%)	cf	cf(%)
3.9248⊣5.1378	6	0.01	0.60	6.00	0.60
5.1378⊣6.3509	20	0.02	2.00	26.00	2.60
6.3509⊣7.564	90	0.09	9.00	116.00	11.60
7.564⊣8.777	172	0.17	17.20	288.00	28.80
8.777⊣9.9901	218	0.22	21.80	506.00	50.60
9.9901⊣11.203	221	0.22	22.10	727.00	72.70
11.203⊣12.416	145	0.14	14.50	872.00	87.20
12.416⊣13.629	81	0.08	8.10	953.00	95.30
13.629⊣14.842	34	0.03	3.40	987.00	98.70
14.842⊣16.055	10	0.01	1.00	997.00	99.70
16.055⊣17.268	3	0.00	0.30	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(%)
[03.92, 05.14)	6	0.01	0.60	6.00	0.60
[05.14, 06.35)	20	0.02	2.00	26.00	2.60
[06.35, 07.56)	90	0.09	9.00	116.00	11.60
[07.56, 08.78)	172	0.17	17.20	288.00	28.80
[08.78, 09.99)	218	0.22	21.80	506.00	50.60
[09.99, 11.20)	221	0.22	22.10	727.00	72.70
[11.20, 12.42)	145	0.14	14.50	872.00	87.20
[12.42, 13.63)	81	0.08	8.10	953.00	95.30
[13.63, 14.84)	34	0.03	3.40	987.00	98.70
[14.84, 16.05)	10	0.01	1.00	997.00	99.70
[16.05, 17.27)	3	0.00	0.30	1000.00	100.00

To objects of the ”fdt.multiple”class.

```
> t5 <- fdt(iris[, c(1:2, 5)],
+           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 = versicolor.Sepal.Length						
15	$[4.851,5.168)$	4	0.08	8.00	4.00	8.00
16	$[5.168,5.485)$	2	0.04	4.00	6.00	12.00
17	$[5.485,5.802)$	18	0.36	36.00	24.00	48.00
18	$[5.802,6.119)$	10	0.20	20.00	34.00	68.00
19	$[6.119,6.436)$	7	0.14	14.00	41.00	82.00
20	$[6.436,6.753)$	6	0.12	12.00	47.00	94.00
21	$[6.753,7.07)$	3	0.06	6.00	50.00	100.00
Variable = versicolor.Sepal.Width						
22	$[1.98,2.188)$	1	0.02	2.00	1.00	2.00
23	$[2.188,2.395)$	5	0.10	10.00	6.00	12.00
24	$[2.395,2.603)$	10	0.20	20.00	16.00	32.00
25	$[2.603,2.811)$	11	0.22	22.00	27.00	54.00
26	$[2.811,3.019)$	15	0.30	30.00	42.00	84.00
27	$[3.019,3.226)$	6	0.12	12.00	48.00	96.00
28	$[3.226,3.434)$	2	0.04	4.00	50.00	100.00
Variable = virginica.Sepal.Length						
29	$[4.851,5.298)$	1	0.02	2.00	1.00	2.00
30	$[5.298,5.745)$	2	0.04	4.00	3.00	6.00
31	$[5.745,6.192)$	8	0.16	16.00	11.00	22.00
32	$[6.192,6.638)$	17	0.34	34.00	28.00	56.00
33	$[6.638,7.085)$	10	0.20	20.00	38.00	76.00
34	$[7.085,7.532)$	6	0.12	12.00	44.00	88.00
35	$[7.532,7.979)$	6	0.12	12.00	50.00	100.00
Variable = virginica.Sepal.Width						
36	$[2.178,2.415)$	1	0.02	2.00	1.00	2.00
37	$[2.415,2.652)$	6	0.12	12.00	7.00	14.00
38	$[2.652,2.889)$	12	0.24	24.00	19.00	38.00
39	$[2.889,3.127)$	18	0.36	36.00	37.00	74.00
40	$[3.127,3.364)$	8	0.16	16.00	45.00	90.00
41	$[3.364,3.601)$	3	0.06	6.00	48.00	96.00
42	$[3.601,3.838)$	2	0.04	4.00	50.00	100.00

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 = 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 = 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

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(%)
B	11	0.37	36.67	11	36.67
C	11	0.37	36.67	22	73.33
A	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(%)
A	6	0.60	60.00	6	60.00
C	3	0.30	30.00	9	90.00
B	1	0.10	10.00	10	100.00
d	6	0.60	60.00	6	60.00
e	4	0.40	40.00	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(%)
$[3.9248, 5.1378)$	6	0.01	0.60	6.00	0.60
$[5.1378, 6.3509)$	20	0.02	2.00	26.00	2.60
$[6.3509, 7.564)$	90	0.09	9.00	116.00	11.60
$[7.564, 8.777)$	172	0.17	17.20	288.00	28.80
$[8.777, 9.9901)$	218	0.22	21.80	506.00	50.60
$[9.9901, 11.203)$	221	0.22	22.10	727.00	72.70
$[11.203, 12.416)$	145	0.14	14.50	872.00	87.20
$[12.416, 13.629)$	81	0.08	8.10	953.00	95.30
$[13.629, 14.842)$	34	0.03	3.40	987.00	98.70
$[14.842, 16.055)$	10	0.01	1.00	997.00	99.70
$[16.055, 17.268)$	3	0.00	0.30	1000.00	100.00