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	$[4.0731,5.1921)$	7	0.01	0.70	7.00	0.70
2	$[5.1921,6.3111)$	19	0.02	1.90	26.00	2.60
3	$[6.3111,7.4301)$	78	0.08	7.80	104.00	10.40
4	$[7.4301,8.5491)$	159	0.16	15.90	263.00	26.30
5	$[8.5491,9.6681)$	173	0.17	17.30	436.00	43.60
6	$[9.6681,10.787)$	215	0.21	21.50	651.00	65.10
7	$[10.787,11.906)$	173	0.17	17.30	824.00	82.40
8	$[11.906,13.025)$	103	0.10	10.30	927.00	92.70
9	$[13.025,14.144)$	46	0.05	4.60	973.00	97.30
10	$[14.144,15.263)$	26	0.03	2.60	999.00	99.90
11	$[15.263,16.382)$	1	0.00	0.10	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(%)
[4.0731,5.1921)	7	0.01	0.70	7.00	0.70
[5.1921,6.3111)	19	0.02	1.90	26.00	2.60
[6.3111,7.4301)	78	0.08	7.80	104.00	10.40
[7.4301,8.5491)	159	0.16	15.90	263.00	26.30
[8.5491,9.6681)	173	0.17	17.30	436.00	43.60
[9.6681,10.787)	215	0.21	21.50	651.00	65.10
[10.787,11.906)	173	0.17	17.30	824.00	82.40
[11.906,13.025)	103	0.10	10.30	927.00	92.70
[13.025,14.144)	46	0.05	4.60	973.00	97.30
[14.144,15.263)	26	0.03	2.60	999.00	99.90
[15.263,16.382)	1	0.00	0.10	1000.00	100.00

It's very good!

Replacing mathematical symbols [and) by ⊣.

```
> 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(%)
4.0731⊣5.1921	7	0.01	0.70	7.00	0.70
5.1921⊣6.3111	19	0.02	1.90	26.00	2.60
6.3111⊣7.4301	78	0.08	7.80	104.00	10.40
7.4301⊣8.5491	159	0.16	15.90	263.00	26.30
8.5491⊣9.6681	173	0.17	17.30	436.00	43.60
9.6681⊣10.787	215	0.21	21.50	651.00	65.10
10.787⊣11.906	173	0.17	17.30	824.00	82.40
11.906⊣13.025	103	0.10	10.30	927.00	92.70
13.025⊣14.144	46	0.05	4.60	973.00	97.30
14.144⊣15.263	26	0.03	2.60	999.00	99.90
15.263⊣16.382	1	0.00	0.10	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(%)
[04.07,05.19)	7	0.01	0.70	7.00	0.70
[05.19,06.31)	19	0.02	1.90	26.00	2.60
[06.31,07.43)	78	0.08	7.80	104.00	10.40
[07.43,08.55)	159	0.16	15.90	263.00	26.30
[08.55,09.67)	173	0.17	17.30	436.00	43.60
[09.67,10.79)	215	0.21	21.50	651.00	65.10
[10.79,11.91)	173	0.17	17.30	824.00	82.40
[11.91,13.03)	103	0.10	10.30	927.00	92.70
[13.03,14.14)	46	0.05	4.60	973.00	97.30
[14.14,15.26)	26	0.03	2.60	999.00	99.90
[15.26,16.38)	1	0.00	0.10	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(%)
C	16	0.53	53.33	16	53.33
B	9	0.30	30.00	25	83.33
A	5	0.17	16.67	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(%)
C	6	0.60	60.00	6	60.00
A	3	0.30	30.00	9	90.00
B	1	0.10	10.00	10	100.00
e	6	0.60	60.00	6	60.00
d	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(%)
[4.0731, 5.1921)	7	0.01	0.70	7.00	0.70
[5.1921, 6.3111)	19	0.02	1.90	26.00	2.60
[6.3111, 7.4301)	78	0.08	7.80	104.00	10.40
[7.4301, 8.5491)	159	0.16	15.90	263.00	26.30
[8.5491, 9.6681)	173	0.17	17.30	436.00	43.60
[9.6681, 10.787)	215	0.21	21.50	651.00	65.10
[10.787, 11.906)	173	0.17	17.30	824.00	82.40
[11.906, 13.025)	103	0.10	10.30	927.00	92.70
[13.025, 14.144)	46	0.05	4.60	973.00	97.30
[14.144, 15.263)	26	0.03	2.60	999.00	99.90
[15.263, 16.382)	1	0.00	0.10	1000.00	100.00