S3 class `cr_group` and its `latex` method

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Contents

0 Excuses, excuses

This vignette is a mess...

1 Generation of data

```
nr <- 7; nc <- 5; m <- matrix(1:(nr*nc), nrow=nr, byrow=TRUE)
rownames(m) <- letters[1:nr]
colnames(m) <- LETTERS[1:nc]
rg <- rep(c("foo", "bar", "baz"), length.out=nr)
cg <- rep(c("Fuzzy", "Busy"), length.out=nc)
M <- cr_group(m, rg, cg)
rm(nr, nc)
```

2 Examples

Generate Table 1:

Table 1: Example 1: default settings

	Fuzzy			Busy	
	A	B	C	D	E
foo					
a	1	3	5	2	4
d	16	18	20	17	19
g	31	33	35	32	34
bar					
b	6	8	10	7	9
e	21	23	25	22	24
baz					
c	11	13	15	12	14
f	26	28	30	27	29

Table 2: Example 2: no 'rgroup' attribute

	Fuzzy			Busy	
	A	B	C	D	E
a	1	3	5	2	4
b	6	8	10	7	9
c	11	13	15	12	14
d	16	18	20	17	19
e	21	23	25	22	24
f	26	28	30	27	29
g	31	33	35	32	34

```
dummy <- latex(object=M, caption="Example 1: default settings", label="tab:1")
```

Generate Table 2:

```
M2 <- M; attr(M2, "rgroup") <- NULL
dummy <- latex(M2, caption="Example 2: no 'rgroup' attribute", label="tab:2")
```

Generate Table 3:

```
M2 <- M; attr(M2, "cgroup") <- NULL
dummy <- latex(M2, caption="Example 3: no 'cgroup' attribute", label="tab:3")
```

Generate Table 4:

Table 3: Example 3: no 'cgroup' attribute

	A	B	C	D	E
foo					
a	1	2	3	4	5
d	16	17	18	19	20
g	31	32	33	34	35
bar					
b	6	7	8	9	10
e	21	22	23	24	25
baz					
c	11	12	13	14	15
f	26	27	28	29	30

Table 4: Example 4: rgroup alphabetically

	Fuzzy			**Busy**	
	A	B	C	D	E
bar					
b	6	8	10	7	9
e	21	23	25	22	24
baz					
c	11	13	15	12	14
f	26	28	30	27	29
foo					
a	1	3	5	2	4
d	16	18	20	17	19
g	31	33	35	32	34

```
dummy <- latex(M, r.perm='alphabetical', caption="Example 4: rgroup alphabetically", label='
```

Generate Table 4:

```
dummy <- latex(M, r.perm=c(3,2,1), c.perm='alphabetical' , caption="Example 5: cgroup alphab
```

3 Using cr_groups to make cr_groups objects

Table 5: Example 5: cgroup alphabetically, rgroup permutated

	Busy		Fuzzy		
	A	B	C	D	E
foo					
a	2	4	1	3	5
d	17	19	16	18	20
g	32	34	31	33	35
baz					
c	12	14	11	13	15
f	27	29	26	28	30
bar					
b	7	9	6	8	10
e	22	24	21	23	25

```
n <- 7
DF <- data.frame(
   x.man=1:n,
   x.fem=n:1,
   y.man=-(1:n),
   y.fem=-(n:1)
)
rownames(DF) <- sprintf("Ind: %d", 1:n)
crDF <- cr_group(
   x=DF,
   rgroup=rep(LETTERS[1:3],len=7),
   cgroup=rep(c("gr-A", "gr-B"), each=2),
   colnames = gsub("[x|y]\\.", "", names(DF))
   )

str(crDF)

## An object of class 'cr_group' which contains:
## 'data.frame': 7 obs. of  4 variables:
##  $ x.man: int  1 2 3 4 5 6 7
##  $ x.fem: int  7 6 5 4 3 2 1
##  $ y.man: int  -1 -2 -3 -4 -5 -6 -7
##  $ y.fem: int  -7 -6 -5 -4 -3 -2 -1
##  - attr(*, "rgroup")= chr  "A" "B" "C" "A" ...
##  - attr(*, "cgroup")= chr  "gr-A" "gr-A" "gr-B" "gr-B"
##  - attr(*, "colnames")= chr  "man" "fem" "man" "fem"

str(crDF[7:1,c(1,3,2,4)])
```

```
## An object of class 'cr_group' which contains:
## 'data.frame': 7 obs. of  4 variables:
##  $ x.man: int  7 6 5 4 3 2 1
##  $ y.man: int  -7 -6 -5 -4 -3 -2 -1
##  $ x.fem: int  1 2 3 4 5 6 7
##  $ y.fem: int  -1 -2 -3 -4 -5 -6 -7
##  - attr(*, "rgroup")= chr  "A" "C" "B" "A" ...
##  - attr(*, "cgroup")= chr  "gr-A" "gr-B" "gr-A" "gr-B"
##  - attr(*, "colnames")= chr  "man" "man" "fem" "fem"

M <- matrix(1:12, nrow=4)
rownames(M) <- sprintf("Row %d", 1:4)
colnames(M) <- sprintf("Col %d", 1:3)
(crM <- cr_group(x=M, rgroup=LETTERS[1:4], cgroup=letters[1:3]))

##       Col 1 Col 2 Col 3
## Row 1     1     5     9
## Row 2     2     6    10
## Row 3     3     7    11
## Row 4     4     8    12
## attr(,"rgroup")
## [1] "A" "B" "C" "D"
## attr(,"cgroup")
## [1] "a" "b" "c"
## attr(,"class")
## [1] "cr_group" "matrix"

crM[4:1,c(3,1,2)]

##       Col 3 Col 1 Col 2
## Row 4    12     4     8
## Row 3    11     3     7
## Row 2    10     2     6
## Row 1     9     1     5
## attr(,"rgroup")
## [1] "D" "C" "B" "A"
## attr(,"cgroup")
## [1] "c" "a" "b"
## attr(,"class")
## [1] "cr_group" "matrix"
```

```
dummy <- latex(crDF, caption="'latex' on 'crDF'", label="tab:a1", colheads=TRUE)
```

Table 6: 'latex' on 'crDF'

	gr-A		gr-B	
	man	fem	man	fem
A				
Ind: 1	1	7	−1	−7
Ind: 4	4	4	−4	−4
Ind: 7	7	1	−7	−1
B				
Ind: 2	2	6	−2	−6
Ind: 5	5	3	−5	−3
C				
Ind: 3	3	5	−3	−5
Ind: 6	6	2	−6	−2

Table 7: 'latex' on 'crM'

	a	b	c
	Col 1	Col 2	Col 3
A			
Row 1	1	5	9
B			
Row 2	2	6	10
C			
Row 3	3	7	11
D			
Row 4	4	8	12

```
dummy <- latex(crM, caption="'latex' on 'crM'", label="tab:a2", colheads=TRUE)
```

4 Errors, warnings, and such

N.B. To pass the R CMD check, the code of a vignette must be able to run. Therefore, to illustrate errors, one must 'catch' them (see below).
Generate an error:

```
M2 <- crM; attr(M2, "cgroup") <- NULL; attr(M2, "rgroup") <- NULL
tryCatch(dummy <- latex(M2), error = function(e) print(e))
```

Generate an error:

```
M2 <- crM; class(M2) <- NULL
tryCatch(dummy <- latex.cr_group(M2), error = function(e) print(e))
```

Generate a message (output hidden):

```
dummy <- latex(crM, r.perm='as')

## [latex.cr_group] 'rperm' interpreted as 'as.is'
```