LaTeX for bpca objects

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1 de abril de 2020

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1 The simplest possible: biplot from iris

```
> library(xtable)
> ## Example: the simplest possible
> bp1 <- bpca(iris[-5],
+             d=1:3)
> xtable(bp1)
```

	PC1	PC2	PC3
Eigenvectors_Sepal.Length	0.52	-0.38	0.72
Eigenvectors_Sepal.Width	-0.27	-0.92	-0.24
Eigenvectors_Petal.Length	0.58	-0.02	-0.14
Eigenvectors_Petal.Width	0.56	-0.07	-0.63
Eigenvalues	20.85	11.67	4.68
Variance retained	0.73	0.23	0.04
Variance accumulated	0.73	0.96	0.99

2 Adding caption and cross-referencing

Table 1 using caption and label to cross-referencing. See also Tables 2 and 3.

```
> ## Example: with caption and label
> bp2 <- bpca(gabriel1971)
> xtable(bp2,
+        caption='Biplot of gabriel1971 data.',
+        label='tbl_bp2')
```

	PC1	PC2
Eigenvectors_CRISTIAN	-0.34	0.15
Eigenvectors_ARMENIAN	-0.34	0.17
Eigenvectors_JEWISH	-0.34	0.28
Eigenvectors_MOSLEM	-0.34	0.21
Eigenvectors_MODERN.1	-0.32	-0.58
Eigenvectors_MODERN.2	-0.31	-0.60
Eigenvectors_OTHER.1	-0.35	-0.11
Eigenvectors_OTHER.2	-0.34	0.07
Eigenvectors_RUR	-0.32	0.34
Eigenvalues	7.63	1.77
Variance retained	0.92	0.05
Variance accumulated	0.92	0.97

Tabela 1: Biplot of gabriel1971 data.

3 Latin characters

```
> ## Example: principal labels in portuguese
> tbl <- xtable(bp2)
> rownames(tbl) <- gsub('Eigenvectors',
+                       'Autovetores',
+                       rownames(tbl))
> rownames(tbl) <- c(rownames(tbl)[1:9],
+                    'Autovalores',
+                    'Variância retida',
+                    'Variância acumulada')
> dimnames(tbl)[[2]] <- c('CP1','CP2')
> print(tbl)
```

	CP1	CP2
Autovetores_CRISTIAN	-0.34	0.15
Autovetores_ARMENIAN	-0.34	0.17
Autovetores_JEWISH	-0.34	0.28
Autovetores_MOSLEM	-0.34	0.21
Autovetores_MODERN.1	-0.32	-0.58
Autovetores_MODERN.2	-0.31	-0.60
Autovetores_OTHER.1	-0.35	-0.11
Autovetores_OTHER.2	-0.34	0.07
Autovetores_RUR	-0.32	0.34
Autovalores	7.63	1.77
Variância retida	0.92	0.05
Variância acumulada	0.92	0.97

4 Other cross-referencing

```
> ## Example: with caption and label
> xtable(bpca(ontario,
+             d=1:3),
+        caption='Biplot of ontario data.',
+        label='tbl_ontario')
```

	PC1	PC2	PC3
Eigenvectors_E1	-0.35	-0.13	0.54
Eigenvectors_E2	-0.39	-0.14	-0.22
Eigenvectors_E3	-0.35	-0.01	-0.39
Eigenvectors_E4	-0.39	0.04	0.30
Eigenvectors_E5	-0.30	-0.46	0.34
Eigenvectors_E6	-0.34	0.31	-0.03
Eigenvectors_E7	-0.22	-0.52	-0.52
Eigenvectors_E8	-0.23	0.55	-0.08
Eigenvectors_E9	-0.38	0.28	-0.11
Eigenvalues	9.43	5.56	3.37
Variance retained	0.58	0.20	0.07
Variance accumulated	0.58	0.78	0.86

Tabela 2: Biplot of ontario data.

5 Bold in the column

```
> ## Example: with bold in the column
> tbl1 <- xtable(bp2,
+                caption='Biplot of gabriel1971 data.',
+                label='tbl_gabriel1971')
> bold <- function(x){
+   paste('\\textbf{',
+         x,
+         '}')
+ }
> print(tbl1,
+       sanitize.colnames.function = bold)
```

	PC1	PC2
Eigenvectors_CRISTIAN	-0.34	0.15
Eigenvectors_ARMENIAN	-0.34	0.17
Eigenvectors_JEWISH	-0.34	0.28
Eigenvectors_MOSLEM	-0.34	0.21
Eigenvectors_MODERN.1	-0.32	-0.58
Eigenvectors_MODERN.2	-0.31	-0.60
Eigenvectors_OTHER.1	-0.35	-0.11
Eigenvectors_OTHER.2	-0.34	0.07
Eigenvectors_RUR	-0.32	0.34
Eigenvalues	7.63	1.77
Variance retained	0.92	0.05
Variance accumulated	0.92	0.97

Tabela 3: Biplot of gabriel1971 data.

6 Italic in the rows

```
> # Example: with italic in the rows
> tbl2 <- xtable(bp2)
> italic <- function(x)
+ {
+   paste('\\textit{',
+         x,
+         '}')
+ } # It is necessary the character "&" to adapt the number of column of the table!
> print(tbl2,
+       sanitize.rownames.function = italic)
```

	PC1	PC2
Eigenvectors_CRISTIAN	-0.34	0.15
Eigenvectors_ARMENIAN	-0.34	0.17
Eigenvectors_JEWISH	-0.34	0.28
Eigenvectors_MOSLEM	-0.34	0.21
Eigenvectors_MODERN.1	-0.32	-0.58
Eigenvectors_MODERN.2	-0.31	-0.60
Eigenvectors_OTHER.1	-0.35	-0.11
Eigenvectors_OTHER.2	-0.34	0.07
Eigenvectors_RUR	-0.32	0.34
Eigenvalues	7.63	1.77
Variance retained	0.92	0.05
Variance accumulated	0.92	0.97

7 Call directly the print.xtable function

```
> ##Example: I don't want this formatations (print.xtable.bpca)! Then you can to call directaly the p
> italic1 <- function(x)
+ {
+   paste('\\textit{',
+         x,
+         '}')
+ }
> print.xtable(tbl,
+              sanitize.colnames.function=bold,
+              sanitize.rownames.function=italic1)

>
> ## To others formatations see ?xtable and/or ?print.xtable!
```

	CP1	**CP2**
Autovetores_CRISTIAN	-0.34	0.15
Autovetores_ARMENIAN	-0.34	0.17
Autovetores_JEWISH	-0.34	0.28
Autovetores_MOSLEM	-0.34	0.21
Autovetores_MODERN.1	-0.32	-0.58
Autovetores_MODERN.2	-0.31	-0.60
Autovetores_OTHER.1	-0.35	-0.11
Autovetores_OTHER.2	-0.34	0.07
Autovetores_RUR	-0.32	0.34
Autovalores	7.63	1.77
Variância retida	0.92	0.05
Variância acumulada	0.92	0.97