# vtree cheatsheet

For more information, type: vignette("vtree")

## Basics

**Draw a basic variable tree**

```
vtree(FakeData,"Severity Sex")
```
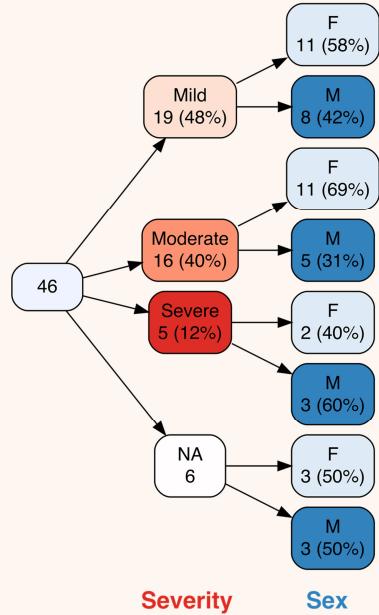


| Parameter setting | Effect |
|---|---|
| vp=FALSE | Use full denominator for % |
| horiz=FALSE | Vertical variable tree |
| sameline=TRUE | Node labels on same line as |
| splitwidth=50 | Split text after 50 chars |
| getscript=TRUE | Get DOT script |
| plain=TRUE | Nodes in shades of blue |
| digits=1 | 1 decimal place in % |
| cdigits=2 | 2 dec. places in summary |
| showpct=FALSE | Do not show % |
| showcount=FALSE | Do not show counts |

## Labels

| Parameter setting | Effect |
|---|---|
| labelvar=c(Ind1="Indicator1") | Relabel Ind1 |
| labelnode=list(MyVar=c(New="Old",New2="Old2")) | Change node labels |
| tlabelnode=list(c(Group="A",Sex="F",label="girl")) | Change the label of a specific node |
| varnamepointsize=15 | Set font size (points) for variable names |
| shownodelabels=FALSE | Do not show node labels |
| showvarnames=FALSE | Do not show variable names |
| showlegend=TRUE | Show a legend |
| title="All businesses" | Show a title for the root node |

## Pruning

**Prune single and double and their descendants**

```
vtree(FakeData,"Category Group",sameline=TRUE,
    prune=list(Category=c("single","double")))
```
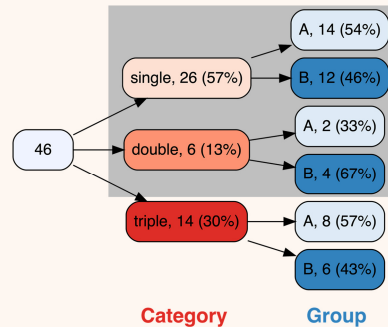


**Only keep single and double and their descendants**

```
vtree(FakeData,"Category Group",sameline=TRUE,
    keep=list(Category=c("single","double")))
```
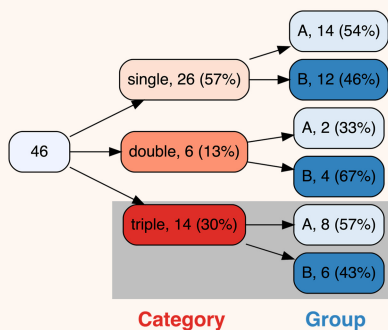


| Other ways to prune | Effect |
|---|---|
| prunebelow | Prune below nodes |
| follow | Only follow specified nodes |
| prunesmaller | Prune smaller nodes |

## Text

**Add text to nodes**

```
vtree(FakeData,"Group Category",sameline=TRUE,
    text=list(Category=c(triple="\n*not verified*")))
```

| Code | Effect |
|---|---|
| \n | Line break |
| *...* | Italics |
| **...** | Bold |
| ^...^ | Superscript |
| ~...~ | Subscript |
| %%red ...%% | Make text red (or another color) |

## R Markdown

| Inline | Output |
|---|---|
| `` `r vtree(FakeData,"Group Category")` `` | PNG |
| `` `r vtree(FakeData,"Severity Sex",pngknit=FALSE)` `` | htmlwidget |

| Chunk | Output |
|---|---|
| ````{r, results="asis"}```<br>`vtree(FakeData,"Sex Severity",asis=TRUE)`<br>```` ``` ```` | PNG |
| ````{r}```<br>`vtree(FakeData,"Severity Sex",pngknit=FALSE)`<br>```` ``` ```` | htmlwidget |

| Parameter setting | Effect |
|---|---|
| imagewidth="3in" | Image 3 inches wide |
| imageheight="4in" | Image 4 inches tall |
| pxwidth=800 | Image 800 pixels wide |
| pxheight=2000 | Image 200 pixels high |

## Variable specification

| Prefix | Effect |
|---|---|
| is.na: | is.na(variable) |
| stem: | all REDCap variables starting with stem |
| rc: | flag variable as a REDCap checkbox variable |
| tri: | trichotomize in each node of variable |

| Suffix | Effect |
|---|---|
| this* | variable names starting with *this* |
| this# | variable names ending with numeric digits |

| Dichotomize | Effect |
|---|---|
| variable=x | x vs. all other values |
| variable<x | below x vs. all other values |
| variable>x | above x vs. all other values |

## Additional functions

| Function | Purpose |
|---|---|
| VennTable | Format pattern table |
| crosstabToCases | Convert a crosstab array to cases |
| grVizToPNG | Generate a PNG file |
| build.data.frame | Generate data frame from specified counts |

## summary parameter

**Syntax:** summary=" `varspec` `format` "

`varspec` variable specification     `format` text and codes

| Variable specification | Effect |
|---|---|
| variable=x | x vs. all other values |
| variable>x | below x vs. all other values |
| variable<x | above x vs. all other values |

| Code | Produces |
|---|---|
| %mean% | mean |
| %SD% | standard deviation |
| %sum% | sum |
| %min% | minimum |
| %max% | maximum |
| %pX% | Xth percentile |
| %median% | median, i.e. p50 |
| %IQR% | IQR, i.e. p25, p75 |
| %npct% | frequency and percentage |
| %pct% | just percentage |
| %list% | comma-separated list of values |
| %listlines% | individual values on separate lines |
| %mv% | the number of missing values |
| %nonmv% | the number of non-missing values |

| Code | Restricts summary information to: |
|---|---|
| %noroot% | all nodes *except* the root |
| %leafonly% | leaf nodes |
| %var=v% | nodes of variable v |
| %node=n% | nodes named n |

## Pattern trees and tables



```
 n pct Severity Sex
 2   4   Severe   F
 3   7     <NA>   F
 3   7     <NA>   M
 3   7   Severe   M
 5  11 Moderate   M
 8  17     Mild   M
11  24     Mild   F
11  24 Moderate   F
```
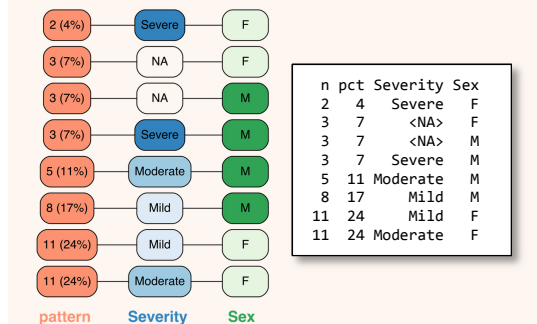
| Parameter setting | Effect |
|---|---|
| pattern=TRUE | Generate a pattern tree |
| Venn=TRUE | Use Venn settings for indicator variables |
| ptable=TRUE | Generate a pattern table |
| check.is.na=TRUE | Generate pattern table for missing values |

**Format a pattern table for markdown**

```
VennTable(vtree(FakeData,"Ind1Ind2",ptable=T),markdown=T)
```