vtree cheatsheet

Basics

Draw a basic variable tree

vtree(FakeData, "Severity Sex")

Tree: 46 → Mild 19 (48%), Moderate 16 (40%), Severe 5 (12%), NA 6
- Mild → F 11 (58%), M 8 (42%)
- Moderate → F 11 (69%), M 5 (31%)
- Severe → F 2 (40%), M 3 (60%)
- NA → F 3 (50%), M 3 (50%)
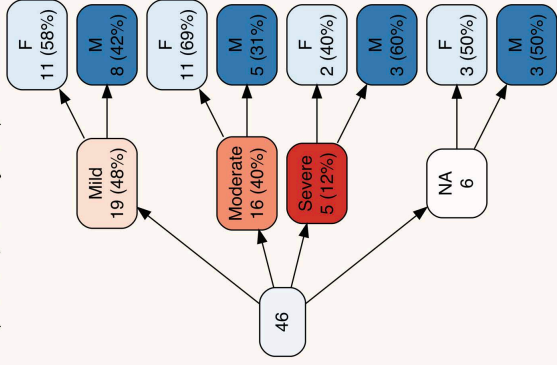
Severity   Sex

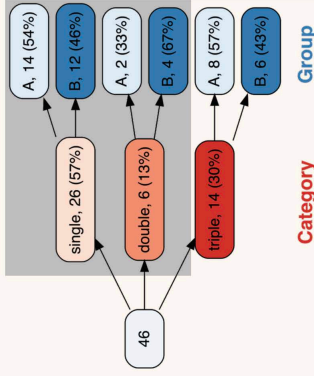| Parameter setting	Effect
vp=FALSE	Use full denominator for %
horiz=FALSE	Vertical variable tree
sameline=TRUE	Node labels on same line as
splitwidth=50	Split text after 50 chars
getscript=TRUE	Get DOT script
plain=TRUE	Nodes in shades of blue
digits=1	1 decimal place in %
cdigits=2	2 dec. places in 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, "Group Category", sameline=TRUE,
prune=list(Category=c("single", "double")))

Tree: 46 → single, 26 (57%); double, 6 (13%); triple, 14 (30%)
- single → A, 14 (54%); B, 12 (46%)
- double → A, 2 (33%); B, 4 (67%)
- triple → A, 8 (57%); B, 6 (43%)

Category   Group

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

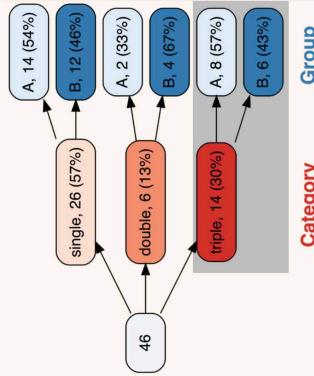**Only keep single and double and their descendants**

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

Tree: 46 → single, 26 (57%); double, 6 (13%); triple, 14 (30%)
- single → A, 14 (54%); B, 12 (46%)
- double → A, 2 (33%); B, 4 (67%)
- triple → A, 8 (57%); B, 6 (43%)

Category   Group

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*)

Targeted text (text in a specific node)

ttext=list(Group="A", Severity="Mild", text="hi")

R Markdown

`r vtree(FakeData, "Group Category")`

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
pngknit=FALSE	Use htmlwidgets instead of PNG

Variable specification

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

Suffix	Effect
this*	variable names starting with *this*
this#	variable names starting with *this* and 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 a data frame from specified counts

summary parameter
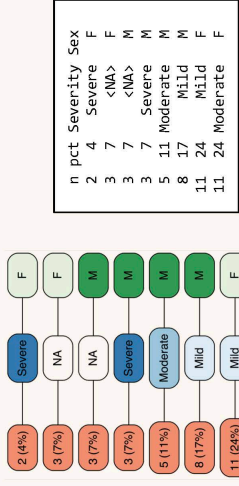
Syntax: summary=" [varspec] [format] "

[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

Pattern tree (pattern   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 a pattern table for missing values

Format a pattern table for markdown

VennTable(vtree(FakeData,"Ind1 Ind2",ptable=T),markdown=T)