Package ‘tangram.pipe’

October 14, 2022

Title  Row-by-Row Table Building
Version  1.1.2
Description  Builds tables with customizable rows. Users can specify the type of data to use for each row, as well as how to handle missing data and the types of comparison tests to run on the table columns.
License  MIT + file LICENSE
Encoding  UTF-8
RoxygenNote  7.2.1
Depends  dplyr
Suggests  knitr, kableExtra, rmarkdown
VignetteBuilder  knitr
URL  https://github.com/thomasgstewart/tangram.pipe
BugReports  https://github.com/thomasgstewart/tangram.pipe/issues
NeedsCompilation  no
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Repository  CRAN
Date/Publication  2022-08-17 17:10:02 UTC

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**binary_count**

**Description**

Summarizes a binary row using counts.

**Usage**

```
binary_count(dt, ...)
```

**Arguments**

- `dt` the name of the dataframe object.
- `...` Additional arguments supplied within the package row functions.

**Details**

This is an internal function of `tangram.pipe`. Additional arguments should be supplied for this function to work properly.

- `reference`: the name of the row category to use as the reference. Default will use alphabetical first category.
- `ref.label`: choice of whether you want the reference label to be in the table. Default is `on` and includes reference label; `off` switches it off.
binary_default

rowlabel : the label for the table row name, if different from row_var.
compact : if TRUE, data displayed in one row.
missing : if TRUE, missing data is considered; FALSE only uses complete cases.
digits : significant digits to use.

Value

A dataframe with summary statistics for a binary variable.

See Also

Possible summary functions for binary data: binary_default, binary_pct, binary_jama

---

| binary_default | Default summary for a Binary Row |

---

Description

Summarizes a binary row using counts and column proportions.

Usage

binary_default(dt, ...)

Arguments

dt the name of the dataframe object.
... Additional arguments supplied within the package row functions.

Details

This is an internal function of tangram.pipe. Additional arguments should be supplied for this function to work properly.

reference : the name of the row category to use as the reference. Default will use alphabetical first category
ref.label : choice of whether you want the reference label to be in the table. Default is on and includes reference label; off switches it off.
rowlabel : the label for the table row name, if different from row_var.
compact : if TRUE, data displayed in one row.
missing : if TRUE, missing data is considered; FALSE only uses complete cases.
digits : significant digits to use.

Value

A dataframe with summary statistics for a binary variable.
See Also

Additional prewritten summary functions for binary data: binary_pct, binary_count, binary_jama

---

**binary_diff**

*BINARY DIFFERENCE IN PROPORTIONS*

**Description**

Default comparison function for binary data.

**Usage**

`binary_diff(dt, num_col, reference, digits)`

**Arguments**

- `dt`: the name of the dataframe object.
- `num_col`: the number of categorical columns in the data.
- `reference`: the name of the reference row category to use.
- `digits`: significant digits to use.

**Value**

A dataframe with difference in proportions test results between pairs of columns for binary data, as well as an overall chi-squared test across all groups.

---

**binary_jama**

*JAMA-STYLE SUMMARY FOR A BINARY ROW*

**Description**

Summarizes a binary row using column percentages and the total number in each cell divided by the column total. This is the style used by the Journal of the American Medical Association.

**Usage**

`binary_jama(dt, ...)`

**Arguments**

- `dt`: the name of the dataframe object.
- `...`: Additional arguments supplied within the package row functions.
Details

This is an internal function of tangram.pipe. Additional arguments should be supplied for this function to work properly.

- `reference`: the name of the row category to use as the reference. Default will use alphabetical first category.
- `ref.label`: choice of whether you want the reference label to be in the table. Default is on and includes reference label; off switches it off.
- `row.label`: the label for the table row name, if different from row_var.
- `compact`: if TRUE, data displayed in one row.
- `missing`: if TRUE, missing data is considered; FALSE only uses complete cases.
- `digits`: significant digits to use.

Value

A dataframe with summary statistics for a binary variable.

See Also

Possible summary functions for binary data: `binary_default`, `binary_pct`, `binary_count`
binary_pct  Percentage summary for a Binary Row

Description

Summarizes a binary row using counts and column percentages.

Usage

binary_pct(dt, ...)

Arguments

dt               the name of the dataframe object.
...

Additional arguments supplied within the package row functions.

Details

This is an internal function of tangram.pipe. Additional arguments should be supplied for this function to work properly.

reference : the name of the row category to use as the reference. Default will use alphabetical first category
ref.label : choice of whether you want the reference label to be in the table. Default is on and includes reference label; off switches it off.
rowlabel : the label for the table row name, if different from row_var.
compact : if TRUE, data displayed in one row.
missing : if TRUE, missing data is considered; FALSE only uses complete cases.
digits : significant digits to use.

Value

A dataframe with summary statistics for a binary variable.

See Also

Possible summary functions for binary data:

binary_default, binary_count, binary_jama
**binary_row**

---

**Binary Row**

---

**Description**

Adds in a binary row to a *tangram.pipe* table.

**Usage**

```r
binary_row(
  list_obj,  # the name of the tbl_start object previously initialized.
  row_var,  # the name of the variable to be used in the rows.
  col_var = NULL,  # the variable to be used in the table columns. Default is from initialized tbl_start object.
  newdata = FALSE,  # enter new dataset name if different from that initialized in tbl_start.
  ref.label = "on",  # toggles the reference label in the table. Default is on, which displays the reference; off switches it off. Only relevant if a compact row is used.
  rowlabel = NULL,  # the label for the table row name, if different from row_var.
  summary = NULL,  # summary function for the data, if different from the one supplied in tbl_start.
  reference = NULL,  # the name of the row category to use as the reference. Default will use alphabetical first category.
  compact = TRUE,  # logical: if TRUE, data displayed in one row.
  missing = NULL,  # logical: if TRUE, missing data is considered; FALSE only uses complete cases.
  overall = NULL,  # logical: if TRUE, an overall column is included.
  comparison = NULL,  # the name of the comparison test to use, if different from that initialized in tbl_start.
  digits = NULL,
  indent = 5
)
```

**Arguments**

- **list_obj**: the name of the tbl_start object previously initialized.
- **row_var**: the name of the variable to be used in the rows.
- **col_var**: the variable to be used in the table columns. Default is from initialized tbl_start object.
- **newdata**: enter new dataset name if different from that initialized in tbl_start.
- **ref.label**: toggles the reference label in the table. Default is on, which displays the reference; off switches it off. Only relevant if a compact row is used.
- **rowlabel**: the label for the table row name, if different from row_var.
- **summary**: summary function for the data, if different from the one supplied in tbl_start.
- **reference**: the name of the row category to use as the reference. Default will use alphabetical first category.
- **compact**: logical: if TRUE, data displayed in one row.
- **missing**: logical: if TRUE, missing data is considered; FALSE only uses complete cases.
- **overall**: logical: if TRUE, an overall column is included.
- **comparison**: the name of the comparison test to use, if different from that initialized in tbl_start.
Description
Calculates risk ratio across categories for binary data.

Usage
binary_rr(dt, num_col, reference, digits)

Arguments
- dt: the name of the dataframe object.
- num_col: the number of categorical columns in the data.
- reference: the name of the reference row category to use.
- digits: significant digits to use.

Value
A dataframe with computed risk ratios between pairs of columns for binary data, as well as an overall chi-squared test across all groups.
**cat_comp_default**

**Chi-Squared Test for Categorical Variables**

**Description**

Default comparison function for categorical data.

**Usage**

```r
cat_comp_default(dt, digits)
```

**Arguments**

- `dt` the name of the dataframe object.
- `digits` significant digits to use.

**Value**

A dataframe calculating relative entropy between column pairs, as well as an overall chi-squared test across all groups.

---

**cat_count**

**Count summary for a Categorical Row**

**Description**

Summarizes a categorical row using counts.

**Usage**

```r
cat_count(dt, ...)
```

**Arguments**

- `dt` the name of the dataframe object.
- `...` Additional arguments supplied within the package row functions.

**Details**

This is an internal function of `tangram.pipe`. Additional arguments should be supplied for this function to work properly.

- `rowlabel`: the label for the table row name, if different from `row_var`.
- `missing`: if TRUE, missing data is considered; FALSE only uses complete cases.
- `ordering`: Sorts the row variable: options are "ascending" or "descending".
- `sortvar`: Column to sort row on. Requires `ordering` to be ascending or descending. By default, will sort based on overall statistics.
- `digits`: significant digits to use.
Value
A dataframe with summary statistics for a categorical variable.

See Also
Additional prewritten summary functions for categorical data: cat_default, cat_pct, cat_jama

---

cat_default  

*Default summary for a Categorical Row*

Description
Summarizes a categorical row using counts and column proportions.

Usage

cat_default(dt, ...)

Arguments

dt  the name of the dataframe object.
...
   Additional arguments supplied within the package row functions.

Details
This is an internal function of tangram.pipe. Additional arguments should be supplied for this function to work properly.

rowlabel: the label for the table row name, if different from row_var.
missing: if TRUE, missing data is considered; FALSE only uses complete cases.
ordering: Sorts the row variable: options are "ascending" or "descending"
sortvar: Column to sort row on. Requires ordering to be ascending or descending. By default, will sort based on overall statistics.
digits: significant digits to use.

Value
A dataframe with summary statistics for a categorical variable.

See Also
Additional prewritten summary functions for categorical data: cat_pct, cat_count, cat_jama
Description

Summarizes a categorical row using column percentages and the total number in each cell divided by the column total. This is the style used by the Journal of the American Medical Association.

Usage

`cat_jama(dt, ...)`

Arguments

dt: the name of the dataframe object.

...: Additional arguments supplied within the package row functions.

Details

This is an internal function of `tangram.pipe`. Additional arguments should be supplied for this function to work properly.

- `rowlabel`: the label for the table row name, if different from `row_var`.
- `missing`: if TRUE, missing data is considered; FALSE only uses complete cases.
- `ordering`: Sorts the row variable: options are "ascending" or "descending".
- `sortvar`: Column to sort row on. Requires `ordering` to be ascending or descending. By default, will sort based on overall statistics.
- `digits`: significant digits to use.

Value

A dataframe with summary statistics for a categorical variable.

See Also

Additional prewritten summary functions for categorical data: `cat_default`, `cat_pct`, `cat_count`
Description

Summarizes a categorical row using counts and column percentages.

Usage

cat_pct(dt, ...)

Arguments

dt the name of the dataframe object.

... Additional arguments supplied within the package row functions.

Details

This is an internal function of tangram.pipe. Additional arguments should be supplied for this function to work properly.

rowlabel: the label for the table row name, if different from row_var.
missing: if TRUE, missing data is considered; FALSE only uses complete cases.
ordering: Sorts the row variable: options are "ascending" or "descending"
sortvar: Column to sort row on. Requires ordering to be ascending or descending. By default, will sort based on overall statistics.
digits: significant digits to use.

Value

A dataframe with summary statistics for a categorical variable.

See Also

Additional prewritten summary functions for categorical data: cat_default, cat_count, cat_jama
**cat_row**

**Categorical Row**

**Description**

Adds in a categorical row to a `tangram.pipe` table.

**Usage**

```r
cat_row(
  list_obj,
  row_var,
  col_var = NULL,
  newdata = FALSE,
  rowlabel = NULL,
  summary = NULL,
  missing = NULL,
  overall = NULL,
  comparison = NULL,
  digits = NULL,
  ordering = "none",
  sortcol = NULL,
  indent = 5
)
```

**Arguments**

- `list_obj`: the name of the `tbl_start` object previously initialized.
- `row_var`: the name of the variable to be used in the rows.
- `col_var`: the variable to be used in the table columns. Default is from initialized `tbl_start` object.
- `newdata`: enter new dataset name if different from that initialized in `tbl_start`.
- `rowlabel`: the label for the table row name, if different from `row_var`.
- `summary`: summary function for the data, if different from the one supplied in `tbl_start`.
- `missing`: logical: if TRUE, missing data is considered; FALSE only uses complete cases.
- `overall`: logical: if TRUE, an overall column is included.
- `comparison`: the name of the comparison test to use, if different from that initialized in `tbl_start`.
- `digits`: significant digits to use.
- `ordering`: If ascending, will sort by overall ascending order; if descending, will sort by overall descending order. Default is no row sorting.
- `sortcol`: Column to sort row on. Requires ordering to be ascending or descending. By default, will sort based on overall statistics.
- `indent`: number of spaces to indent category names.
empty_row

Value

A list with the categorical row's table information added as a new element to list_obj.

See Also

Possible summary functions for categorical data: cat_default, cat_pct, cat_count, cat_jama

Other related row-building functions: num_row, binary_row, n_row, empty_row

Starting a tangram.pipe table: tbl_start

Examples

iris$Stem.Size <- sample(c("Small", "Medium", "Medium", "Large"), size=150, replace=TRUE)
x <- tbl_start(iris, "Species", missing=TRUE, overall=TRUE, comparison=TRUE) %>%
cat_row("Stem.Size", rowlabel="Stem Size")

empty_row	Empty Row

Description

Produces a empty dividing row in a tangram.pipe table. May have a row header.

Usage

empty_row(list_obj, header = NULL)

Arguments

list_obj the name of the tbl_start object previously initialized.
header a header to include for the empty row.

Value

If a header is included, a list object is returned with a one-element dataframe containing the header as the most recent entry to list_obj. Otherwise, a list is returned containing a blank character as the last element of list_obj.

See Also

Other related row-building functions: num_row, cat_row, binary_row, n_row

Starting a tangram.pipe table: tbl_start
num_date

Date summary for a Numeric Row

Description

Summarizes a numeric row using the five-number summary for a date object.

Usage

num_date(dt, ...)

Arguments

dt the name of the dataframe object.
...
Additional arguments supplied within the package row functions.

Details

This is an internal function of tangram.pipe. Additional arguments should be supplied for this function to work properly.
rowlabel: the label for the table row name, if different from row_var.
missing: if TRUE, missing data is considered; FALSE only uses complete cases.

Value

A dataframe with summary statistics for a numeric variable.

See Also

Additional prewritten summary functions for numeric data: num_default, num_mean_sd, num_medianiqr, num_minmax

num_default

Default summary for a Numeric Row

Description

Summarizes a numeric row using the five-number summary, mean, and standard deviation.

Usage

num_default(dt, ...)

num_diff

Arguments

dt the name of the dataframe object.
... Additional arguments supplied within the package row functions.

details
This is an internal function of tangram.pipe. Additional arguments should be supplied for this function to work properly.
row_label: the label for the table row name, if different from row_var.
missing: if TRUE, missing data is considered; FALSE only uses complete cases.

digits: significant digits to use.

Value
A dataframe with summary statistics for a numeric variable.

See Also
Additional prewritten summary functions for numeric data: num_mean_sd, num_medianiqr, num_minmax, num_date

Description
Default comparison function for numeric data.

Usage
num_diff(dt, num_col, row_var, digits)

Arguments

dt the name of the dataframe object.
num_col the number of categorical columns in the data.
row_var the name of the row variable in the data.
digits significant digits to use.

Value
A dataframe calculating the difference in means between column pairs, as well as an overall one-way ANOVA across all groups.
num_mean_sd

Mean/SD summary for a Numeric Row

Description
Summarizes a numeric row using the mean and standard deviation.

Usage
num_mean_sd(dt, ...)

Arguments
dt the name of the dataframe object.
... Additional arguments supplied within the package row functions.

Details
This is an internal function of tangram.pipe. Additional arguments should be supplied for this function to work properly.
rowlabel: the label for the table row name, if different from row_var.
missing: if TRUE, missing data is considered; FALSE only uses complete cases.
digits: significant digits to use.

Value
A dataframe with summary statistics for a numeric variable.

See Also
Additional prewritten summary functions for numeric data: num_default, num_medianiqr, num_minmax, num_date

num_medianiqr
Median/IQR summary for a Numeric Row

Description
Summarizes a numeric row using the median and interquartile range.

Usage
num_medianiqr(dt, ...)

...
Arguments

dt the name of the dataframe object.
...
Additional arguments supplied within the package row functions.

Details

This is an internal function of tangram.pipe. Additional arguments should be supplied for this function to work properly.

rowlabel: the label for the table row name, if different from row_var.
missing: if TRUE, missing data is considered; FALSE only uses complete cases.
digits: significant digits to use.

Value

A dataframe with summary statistics for a numeric variable.

See Also

Additional prewritten summary functions for numeric data: num_default, num_mean_sd, num_minmax, num_date

num_minmax Min-Max summary for a Numeric Row

Description

Summarizes a numeric row using the minimum and maximum values.

Usage

num_minmax(dt, ...)

Arguments

dt the name of the dataframe object.
...
Additional arguments supplied within the package row functions.

Details

This is an internal function of tangram.pipe. Additional arguments should be supplied for this function to work properly.

rowlabel: the label for the table row name, if different from row_var.
missing: if TRUE, missing data is considered; FALSE only uses complete cases.
digits: significant digits to use.
**Value**

A dataframe with summary statistics for a numeric variable.

**See Also**

Additional prewritten summary functions for numeric data: `num_default`, `num_mean_sd`, `num_medianiqr`, `num_date`

---

### Description

Adds in a numeric row to a `tangram.pipe` table.

### Usage

```r
num_row(
  list_obj,
  row_var,
  col_var = NULL,
  newdata = FALSE,
  rowlabel = NULL,
  summary = NULL,
  missing = NULL,
  overall = NULL,
  comparison = NULL,
  digits = NULL
)
```

### Arguments

- `list_obj` the name of the `tbl_start` object previously initialized.
- `row_var` the name of the variable to be used in the rows.
- `col_var` the variable to be used in the table columns. Default is from initialized `tbl_start` object.
- `newdata` enter new dataset name if different from that initialized in `tbl_start`.
- `rowlabel` the label for the table row name, if different from `row_var`.
- `summary` summary function for the data, if different from the one supplied in `tbl_start`.
- `missing` logical: if TRUE, missing data is considered; FALSE only uses complete cases.
- `overall` logical: if TRUE, an overall column is included.
- `comparison` the name of the comparison test to use, if different from that initialized in `tbl_start`.
- `digits` significant digits to use.
n_row

Value
A list with the numeric row’s table information added as a new element to list_obj.

See Also
Possible summary functions for numeric data: num_default, num_mean_sd, num_medianiqr, num_minmax, num_date
Other related row-building functions: cat_row, binary_row, n_row, empty_row
Starting a tangram.pipe table: tbl_start

Examples
```
x <- tbl_start(iris, "Species", missing=TRUE, overall=TRUE, comparison=TRUE) %>%
  num_row("Sepal.Length", rowlabel="Sepal Length")
```

<table>
<thead>
<tr>
<th>n_row</th>
<th>Row counter</th>
</tr>
</thead>
</table>

Description
Counts the instances of each column variable of the dataframe to be used in a tangram.pipe table (if applicable), and gives an overall row count.

Usage
```
  n_row(
    list_obj,
    col_var = NULL,
    newdata = FALSE,
    missing = NULL,
    overall = NULL
  )
```

Arguments
- list_obj: the name of the tbl_start object previously initialized.
- col_var: the variable to be used in the table columns. Default is from initialized tbl_start object.
- newdata: enter new dataset name if different from that initialized in tbl_start.
- missing: logical: if TRUE, missing data in the column variable is considered; FALSE only uses complete cases.
- overall: logical: if TRUE, an overall column is included.

Value
A list with the row counts added as a new element to list_obj.
print.tangram.pipe

See Also

Other related row-building functions: num_row, cat_row, binary_row, empty_row
Starting a tangram.pipe table: tbl_start

Examples

```r
x <- tbl_start(iris, "Species", missing=TRUE, overall=TRUE, comparison=TRUE) %>%
  n_row()
```

Description

Prints a finished table created from tangram.pipe.

Usage

```r
## S3 method for class 'tangram.pipe'
print(x, ...)
```

Arguments

- `x`: the name of the tbl_start object previously initialized.
- `...`: further arguments passed to or from other methods.

Value

A dataframe object containing the information from the last element of a tangram.pipe class object created using tbl_out(). This is the finalized table object.

Examples

```r
iris$color <- sample(c("Blue", "Purple"), size=150, replace=TRUE)
iris$Stem.Size <- sample(c("Small", "Medium", "Medium", "Large"), size=150, replace=TRUE)
iris$Leaf.Color <- "Green"
x <- tbl_start(iris, "Species", missing=TRUE, overall=TRUE, comparison=TRUE) %>%
  num_row("Sepal.Length", rowlabel="Sepal Length") %>%
  empty_row() %>%
  num_row("Sepal.Width", rowlabel="Sepal Width") %>%
  empty_row() %>%
  num_row("Petal.Length", rowlabel="Petal Length") %>%
  empty_row() %>%
  num_row("Petal.Width", rowlabel="Petal Width") %>%
  empty_row() %>%
  cat_row("Stem.Size", rowlabel="Stem Size") %>%
  empty_row() %>%
  binary_row("color", rowlabel="Color") %>%
  tbl_out() %>%
  print()
```
tangram_styling  Tangram Styling

Description

Used to preprocess a tangram.pipe table for HTML formatting.

Usage

tangram_styling(df)

Arguments

df  The output data frame object to be printed in HTML form.

Value

A dataframe containing HTML formatting code where applicable.

tbl_out  Output Table

Description

Produces a finalized tangram.pipe table.

Usage

tbl_out(list_obj)

Arguments

list_obj  the name of the tbl_start object previously initialized.

Value

A tangram.pipe class object with the finalized table as a dataframe added as the most recent element of list_obj.
Examples

iris$color <- sample(c("Blue", "Purple"), size=150, replace=TRUE)
iris$Stem.Size <- sample(c("Small", "Medium", "Medium", "Large"), size=150, replace=TRUE)
iris$Leaf.Color <- "Green"
x <- tbl_start(iris, "Species", missing=TRUE, overall=TRUE, comparison=TRUE) %>%
  num_row("Sepal.Length", rowlabel="Sepal Length") %>%
  empty_row() %>%
  num_row("Sepal.Width", rowlabel="Sepal Width") %>%
  empty_row() %>%
  num_row("Petal.Length", rowlabel="Petal Length") %>%
  empty_row() %>%
  num_row("Petal.Width", rowlabel="Petal Width") %>%
  empty_row() %>%
  cat_row("Stem.Size", rowlabel="Stem Size") %>%
  empty_row() %>%
  binary_row("color", rowlabel="Color") %>%
  tbl_out()
digits  
The default number of digits to use in the table. By default, the package will use 2 significant digits.

default_num_summary  
The default summary function to use for numerical rows. By default, the package will use `num_default()`, but the user can also choose `num_minmax`, `num_medianiqr`, `num_mean_sd`, or write a custom function to use for the rows.

default_cat_summary  
The default summary function to use for categorical rows. By default, the package will use `cat_default()`, but the user can also choose `cat_pct` or write a custom function to use for the rows.

default_binary_summary  
The default summary function to use for binary rows. By default, the package will use `binary_default()`, but the user can also choose `binary_pct` or write a custom function to use for the rows.

Value  
A list containing separate entries holding information provided in the function’s arguments, as well as a calculated number of column categories to include for the initialized table.

Examples  
`s <- tbl_start(iris, "Species", missing=TRUE, overall=TRUE, comparison=TRUE)`
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