# Types of attributes and methods of the class TransactionSet

## **Notation**

- *T* denotes the number of transactions.
- ullet N denotes the number of names associated with the transactions.
- + denotes public attributes and methods (i.e., exported attributes and methods).
- denotes private attributes and methods (i.e., non-exported attributes and methods).

## **Attributes**

+ data: list(named list)

#### Stransaction1

| vector |
|--------|
| vector |
|        |
| vector |
|        |

### \$transaction2

| name 1   | vector |
|----------|--------|
| name 2   | vector |
|          |        |
| name $N$ | vector |

#### **StransactionT**

| name 1   | vector |
|----------|--------|
| name 2   | vector |
|          |        |
| name $N$ | vector |

+ names: vector(character)

+ item\_key: character

+ year\_key: character

## Constructor

+ transaction.set(data: see attribute data, item\_key: character, year\_key: character,

names: vector(character)): TransactionSet

## Methods

+ as(Class: "data.frame"): data.frame

+ as(Class: "transactions"): transactions (class from the package arules)

+ **subset(indices**: vector(numeric) or vector(logical), **keep\_names**: logical): TransactionSet

+ reorder(permutation: vector(numeric) or vector(character)): TransactionSet

+ export(...)

- + **get\_all\_items()**: vector
- + get\_all\_years(): vector
- + get\_itemsets(): list(vector)
- + **get\_items\_from\_info(info**: named list, **presence**: character, **additional**: vector(character)): vector or named list
- + **get\_info\_from\_items(items**: vector, **info\_names**: vector(character), **presence**: character): vector or named list
- + **get\_complex\_trx(as\_indices**: logical): TransactionSet or named vector(integer)
- + get\_simple\_trx(as\_indices: logical): TransactionSet or named vector(integer)
- + **get\_trx\_from\_items(items**: vector, **presence**: character, **as\_indices**: logical**)**: TransactionSet or named vector(integer)
- + **get\_trx\_from\_info(info**: named list, **presence**: character, **as\_indices**: logical**)**: TransactionSet or named vector(integer)
- + complexity\_ratio(items: vector): named vector(numeric)
- + complexity\_index(items: vector): named vector(integer)
- + **co\_occurrence\_matrix(items**: vector, **proportions**: logical**)**: named matrix(integer) or named matrix(numeric)
- + itemset\_chart(identifiers: character, length\_one: logical, jitter: logical, under: character, over: character, title: character, path: character, name: character): TransactionSet
- prepare\_itemset\_chart(identifiers: character, length\_one: logical, under: character, order: character): list

[["transactions"]]: TransactionSet

[["itemsets"]]: list(vector)

[["items"]]: data.frame

| item                 | label                |
|----------------------|----------------------|
| character or numeric | character or numeric |

[["under"]]: vector(character)

+ co\_occurrence\_chart(items: vector, co\_occ: matrix(numeric), proportions: logical,

min\_occ: numeric, max\_occ: numeric, vertex\_size: numeric,

vertex\_alpha: numeric, vertex\_margin: numeric, label\_size: numeric,
label\_margin: numeric, edge\_looseness: numeric, edge\_alpha: numeric,

palette: character or numeric, palette\_direction: numeric): ggplot2 graph

- has\_temporal\_data(): logical
- get\_items(items: character or vector): vector

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