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# **tabledata Documentation**

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## 1.1 Summary

tabledata is a Python library to represent tabular data. Used for pytablewriter/pytablereader/SimpleSQLite.



### 2.1 Install from PyPI

```
pip install tabledata
```

### 2.2 Install from PPA (for Ubuntu)

```
sudo add-apt-repository ppa:thombashi/ppa  
sudo apt update  
sudo apt install python3-tabledata
```





Python 2.7+ or 3.4+

### 3.1 Mandatory Python packages

- `DataProperty` (Used to extract data types)
- `six`
- `typepy`

### 3.2 Optional Python packages

- **logbook**
  - Logging using logbook if the package installed
- **pandas**
  - required to get table data as a pandas data frame

### 3.3 Test dependencies

- `pytablewriter`
- `pytest`
- `pytest-runner`
- `tox`



## 4.1 Data Structure

### 4.1.1 TableData

**class** `tabledata.TableData` (*table\_name*, *headers*, *rows*, *dp\_extractor=None*, *type\_hints=None*)  
Class to represent a table data structure.

#### Parameters

- **table\_name** (*str*) – Name of the table.
- **headers** (*list*) – Table header names.
- **rows** (*list*) – Data of the table.

#### `as_dataframe()`

**Returns** Table data as a `pandas.DataFrame` instance.

**Return type** `pandas.DataFrame`

#### Sample Code

```
from tabledata import TableData

TableData(
    "sample",
    ["a", "b"],
    [[1, 2], [3.3, 4.4]]
).as_dataframe()
```

#### Output

```
   a  b
0  1  2
1 3.3 4.4
```

### Dependency Packages

- pandas

`as_dict()`

**Returns** Table data as a dict instance.

**Return type** dict

### Sample Code

```
from tabledata import TableData

TableData(
    "sample",
    ["a", "b"],
    [[1, 2], [3.3, 4.4]]
).as_dict()
```

### Output

```
{'sample': [OrderedDict([('a', 1), ('b', 2)]), OrderedDict([('a', 3.3), ('b', 4.4)])]}
```

`as_tuple()`

**Returns** Rows of the table.

**Return type** list of namedtuple

### Sample Code

```
from tabledata import TableData

records = TableData(
    "sample",
    ["a", "b"],
    [[1, 2], [3.3, 4.4]]
).as_tuple()
for record in records:
    print(record)
```

### Output

```
Row(a=1, b=2)
Row(a=Decimal('3.3'), b=Decimal('4.4'))
```

`column_dp_list`

`dp_extractor`

`equals` (*other*, *cmp\_by\_dp=False*)

`filter_column` (*patterns=None*, *is\_invert\_match=False*, *is\_re\_match=False*, *pattern\_match=<PatternMatch.OR: 0>*)

`static from_dataframe` (*dataframe*, *table\_name="u"*)

Initialize TableData instance from a pandas.DataFrame instance.

### Parameters

- **dataframe** (*pandas.DataFrame*) –

- `table_name` (*str*) – Table name to create.

`has_value_dp_matrix`

`header_dp_list`

`header_list`

`headers`

Get the table header names.

**Returns** Table header names.

**Return type** list or tuple

`in_tabledata_list` (*other*, *cmp\_by\_dp=False*)

`is_empty()`

**Returns** True if the data *headers* or *value\_matrix* is empty.

**Return type** bool

`is_empty_header()`

**Returns** True if the data *headers* is empty.

**Return type** bool

`is_empty_record()`

`is_empty_rows()`

**Returns** True if the tabular data has no rows.

**Return type** bool

`num_columns`

`num_rows`

Number of rows in the tabular data. None if the *rows* is neither list nor tuple.

**Return type** int

**Type** return

`row_list`

`rows`

Original rows of tabular data.

**Returns** Table rows.

**Return type** list or tuple

`table_name`

Name of the table. :rtype: str

**Type** return

`transpose()`

`validate_rows()`

**Raises** `ValueError` –

`value_dp_matrix`

DataProperty for table data. :rtype: list

**Type** return

**value\_matrix**

Converted rows of tabular data.

**Returns** Table rows.

**Return type** list or tuple

## 4.2 Exceptions

**exception** tabledata.**NameValidationError**

Bases: exceptions.ValueError

Exception raised when a name is invalid.

**exception** tabledata.**InvalidTableNameError**

Bases: tabledata.error.NameValidationError

Exception raised when a table name is invalid.

**exception** tabledata.**InvalidHeaderNameError**

Bases: tabledata.error.NameValidationError

Exception raised when a table header name is invalid.

**exception** tabledata.**DataError**

Bases: exceptions.ValueError

Exception raised when data is invalid as tabular data.

## CHAPTER 5

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### Indices and tables

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- `genindex`





## CHAPTER 6

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### Links

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- [GitHub repository](#)
- [Issue tracker](#)
- [PyPI](#)
- [pip](#): A tool for installing Python packages



## CHAPTER 7

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### Indices and tables

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- `genindex`
- `modindex`
- `search`



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