Statastical

`Statastic` is a Typst library designed to provide various statistical functions for numerical data. It offers functionalities like extracting specific columns from datasets, converting array elements to different data types, and computing various statistical measures such as average, median, mode, variance, standard deviation, and percentiles.

All functions

arrayStats

Computes a set of statistical measures for an array. Includes: average, median, integer mode, variance, standard deviation, and some percentiles.

Parameters

arrayStats(arr: `array`) -> `dictionary`

arr `array`

Array of numbers.

stats

Computes a set of statistical measures for a specific column in a dataset. Includes: average, median, integer mode, variance, standard deviation, and some percentiles.

Parameters

stats(
  data: `array`,
  colId: `int`
) -> `dictionary`

data `array`

The dataset.

colId `int`

The identifier for the column.

extractColumn

Extracts a specific column from the given dataset based on the column.

Parameters

extractColumn(
  data: `array`,
  colId: `int`
) -> `array`

data `array`

The dataset.

colId `int`

The identifier for the column to be extracted.

tofloatArray

Converts an array's elements to floating point numbers.

Parameters

tofloatArray(arr: `array`) -> `array`

arr `array`

Array with elements to be converted.

toIntArray

Converts an array's elements to integers.

Parameters

toIntArray(arr: `array`) -> `array`

arr `array`

Array with elements to be converted.

isInt

Determines if a given value is an integer.

Parameters

isInt(val: `mixed`) -> `boolean`

val `mixed`

The value to be checked.

lerp

Calculates a value between two numbers at a specific fraction.

Parameters

lerp(
  lower: `float`,
  upper: `float`,
  fraction: `float`
) -> `float`

lower `float`

The lower number.

upper `float`

The upper number.

fraction `float`

The fraction between the two numbers.

arrayAvg

Calculates the average of an array's elements.

Parameters

arrayAvg(arr: `array`) -> `float`

arr `array`

Array of numbers.

avg

Calculates the average of a specific column in a dataset.

Parameters

avg(
  data: `array`,
  colId: `int`
) -> `float`

data `array`

The dataset.

colId `int`

The identifier for the column.

arrayMedian

Calculates the median of an array's elements.

Parameters

arrayMedian(arr: `array`) -> `float`

> **arr** `array`
>
> Array of numbers.

median

Calculates the median of a specific column in a dataset.

Parameters

median(
  data: `array`,
  colId: `int`
) -> `float`

> **data** `array`
>
> The dataset.

> **colId** `int`
>
> The identifier for the column.

arrayIntMode

Calculates the mode of an integer array.

Parameters

arrayIntMode(arr: `array`) -> `array`

> **arr** `array`
>
> Array of integers.

mode

Calculates the mode of a specific column in a dataset.

Parameters

mode(
  data: `array`,
  colId: `int`
) -> `array`

data `array`

The dataset.

colId `int`

The identifier for the column.

arrayVar
Calculates the variance of an array's elements.

Parameters

```
arrayVar(arr: array) -> float
```

arr `array`

Array of numbers.

var
Calculates the variance of a specific column in a dataset.

Parameters

```
var(
  data: array,
  colId: int
) -> float
```

data `array`

The dataset.

colId `int`

The identifier for the column.

arrayStd
Calculates the standard deviation of an array's elements.

Parameters

```
arrayStd(arr: array) -> float
```

arr `array`

Array of numbers.

std
Calculates the standard deviation of a specific column in a dataset.

Parameters

```
std(
  data: array,
  colId: int
) -> float
```

data `array`

The dataset.

colId `int`

The identifier for the column.

arrayPercentile
Calculates a specific percentile of an array's elements.

Parameters

```
arrayPercentile(
  arr: array,
  p: float
) -> float
```

arr `array`

Array of numbers.

p `float`

The desired percentile (between 0 and 1).

percentile
Calculates a specific percentile of a column in a dataset.

Parameters

```
percentile(
  data: array,
  colId: int,
  p: float
) -> float
```

data `array`

The dataset.

colId `int`

The identifier for the column.

p `float`

The desired percentile (between 0 and 1).