

# Package ‘Records’

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**Type** Package

**Title** Record Values and Record Times

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**Description** Functions for generating k-record values and k-record times

**License** GPL (>= 2)

**LazyLoad** yes

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**NeedsCompilation** no

## R topics documented:

lower.record.times . . . . .	1
lower.record.values . . . . .	2
upper.record.times . . . . .	3
upper.record.values . . . . .	4
<b>Index</b>	<b>6</b>

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lower.record.times      *Sample Lower k-Record Times*

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## Description

Produces lower k-record times for a given sample

**Usage**

```
lower.record.times(sqnc, k)
```

**Arguments**

sqnc	numeric vector of data whose lower k-record times are wanted
k	an integer between 1 and length(sqnc) indicating the rank of lower k-record times

**Value**

a vector of lower k-record times associated with a given sample

**Note**

see **Note** in [upper.record.values](#)

**Author(s)**

Magdalena Chrapek

**References**

Dziubdziela, W., Kopocinski, B. (1976) Limiting properties of k-th record values, *Zastos. Mat.*, **15**, 187–190

**See Also**

[lower.record.values](#)

**Examples**

```
set.seed(10)
x <- rnorm(100)
lower.record.times(sqnc = x, k = 1) #simply lower record times
lower.record.times(sqnc = x, k = 3)
```

---

lower.record.values    *Sample Lower k-Record Values*

---

**Description**

Produces lower k-record values for a given sample

**Usage**

```
lower.record.values(sqnc, k)
```

**Arguments**

sqnc            numeric vector of data whose lower k-record values are wanted  
k                an integer between 1 and length(sqnc) indicating the rank of lower k-record values

**Value**

a vector of lower k-record values associated with a given sample

**Note**

see **Note** in [upper.record.values](#)

**Author(s)**

Magdalena Chrapek

**References**

Dziubdziela, W., Kopocinski, B. (1976) Limiting properties of k-th record values, *Zastos. Mat.*, **15**, 187–190

**See Also**

[lower.record.times](#)

**Examples**

```
set.seed(10)
x <- rnorm(100)
lower.record.values(sqnc = x, k = 1) #simply lower record values
lower.record.values(sqnc = x, k = 3)
```

---

upper.record.times     *Sample Upper k-Record Times*

---

**Description**

Produces upper k-record times for a given sample

**Usage**

```
upper.record.times(sqnc, k)
```

**Arguments**

sqnc            numeric vector of data whose upper k-record times are wanted  
k                an integer between 1 and length(sqnc) indicating the rank of upper k-record times

**Value**

a vector of upper k-record times associated with a given sample

**Note**

see **Note** in [upper.record.values](#)

**Author(s)**

Magdalena Chrapek

**References**

Dziubdziela, W., Kopocinski, B. (1976) Limiting properties of k-th record values, *Zastos. Mat.*, **15**, 187–190

**See Also**

[upper.record.values](#)

**Examples**

```
set.seed(10)
x <- rnorm(100)
upper.record.times(sqnc = x, k = 1) #simply upper record times
upper.record.times(sqnc = x, k = 3)
```

---

upper.record.values    *Sample Upper k-Record Values*

---

**Description**

Produces upper k-record values for a given sample

**Usage**

```
upper.record.values(sqnc, k)
```

**Arguments**

sqnc	numeric vector of data whose upper k-record values are wanted
k	an integer between 1 and length(sqnc) indicating the rank of upper k-record values

**Value**

a vector of upper k-record values associated with a given sample

### Note

The notion of the k-record value was introduced by Dziubdziela and Kopocinski (1976). k-record value is a generalization of the record value in the meaning of such value which is larger (upper record value) or smaller (lower record value) than all previous observations.

Similarly, the k-record time is the extension of record time, that is the moment in which the record value is observed.

### Author(s)

Magdalena Chrapek

### References

Dziubdziela, W., Kopocinski, B. (1976) Limiting properties of k-th record values, *Zastos. Mat.*, **15**, 187–190

### See Also

[upper.record.times](#)

A similar functions (for upper 1-record values only) are `records` in package **evir** and `n.records` in package **iid.test**

### Examples

```
set.seed(10)
x <- rnorm(100)
upper.record.values(sqnc = x, k = 1) #simply upper record values
upper.record.values(sqnc = x, k = 3)
```

# Index

## \*Topic **misc**

- lower.record.times, 1
- lower.record.values, 2
- upper.record.times, 3
- upper.record.values, 4

lower.record.times, 1, 3  
lower.record.values, 2, 2

upper.record.times, 3, 5  
upper.record.values, 2–4, 4