projekt\_zaliczeniowy

Generated by Doxygen 1.8.11

## **Contents**

1	Lista	a jednol	kierunkow	va.	1
2	Hiera	archica	Index		3
	2.1	Class I	Hierarchy		. 3
3	Clas	s Index			5
	3.1	Class I	_ist		. 5
4	Clas	s Docu	mentatior	n	7
	4.1	uj::list<	< T >::Co	nstlterator Class Reference	. 7
		4.1.1	Detailed	Description	. 8
		4.1.2	Member	Typedef Documentation	. 8
			4.1.2.1	const_pointer	. 8
			4.1.2.2	const_reference	. 8
			4.1.2.3	difference_type	. 8
			4.1.2.4	iterator_category	. 8
			4.1.2.5	value_type	. 8
		4.1.3	Construc	ctor & Destructor Documentation	. 8
			4.1.3.1	ConstIterator(Node *pos)	. 8
			4.1.3.2	Constiterator()	. 9
		4.1.4	Member	Function Documentation	. 9
			4.1.4.1	operator"!=(const ConstIterator iter)	. 9
			4.1.4.2	operator*()	. 9
			4.1.4.3	operator++()	. 9
			4.1.4.4	operator++(int)	. 9

iv CONTENTS

		4.1.4.5 operator->()	9
		4.1.4.6 operator==(const ConstIterator iter)	9
	4.1.5	Member Data Documentation	9
		4.1.5.1 current	9
4.2	TestCo	onstructors::Integer Class Reference	0
4.3	uj::list<	< T >::Iterator Class Reference	0
	4.3.1	Detailed Description	1
	4.3.2	Constructor & Destructor Documentation	1
		4.3.2.1 Iterator(Node *pos)	1
		4.3.2.2 Iterator()	1
	4.3.3	Member Function Documentation	1
		4.3.3.1 operator*()	1
		4.3.3.2 operator->()	1
4.4	uj::list<	< T > Class Template Reference	1
	4.4.1	Detailed Description	3
	4.4.2	Member Typedef Documentation	3
		4.4.2.1 const_iterator	3
		4.4.2.2 const_pointer	3
		4.4.2.3 const_reference	3
		4.4.2.4 difference_type	3
		4.4.2.5 iterator	3
		4.4.2.6 pointer	3
		4.4.2.7 reference	3
		4.4.2.8 size_type	4
		4.4.2.9 value_type	4
	4.4.3	Constructor & Destructor Documentation	4
		4.4.3.1 list()	4
		4.4.3.2 list(const list &other)	4
		4.4.3.3 ~list()	4
	4.4.4	Member Function Documentation	4

CONTENTS

			4.4.4.1	assign(InputIterator first, InputIterator last)	14
			4.4.4.2	begin()	14
			4.4.4.3	begin() const	14
			4.4.4.4	clear()	14
			4.4.4.5	end()	15
			4.4.4.6	end() const	15
			4.4.4.7	erase(Iterator pos)	15
			4.4.4.8	insert(Iterator pos, const T &value)	15
			4.4.4.9	operator=(const list &other)	15
			4.4.4.10	pop_front()	15
			4.4.4.11	push_back(const T &val)	15
			4.4.4.12	push_front(const T &val)	15
			4.4.4.13	size() const	16
		4.4.5	Member	Data Documentation	16
			4.4.5.1	head	16
			4.4.5.2	size	16
			4.4.5.3	tail	16
	4.5	uj::list<	< T >::Noc	de Class Reference	16
		4.5.1	Detailed	Description	16
	4.6	TestRe	moveUniq	ueReverseSort::Pred Class Reference	17
	4.7	TestAs	signSwapF	Resize Class Reference	17
	4.8	TestCle	earErase C	Class Reference	17
	4.9	TestCo	nstructors	Class Reference	18
	4.10	TestCo	pyConstru	ctorAndAssign Class Reference	18
	4.11	TestFro	ntBack Cl	ass Reference	19
	4.12	TestIns	ert Class I	Reference	19
	4.13	TestLis	t_Iterators	Class Reference	19
	4.14	TestPo	ps Class F	Reference	20
	4.15	TestPu	shes Class	s Reference	20
	4.16	TestRe	moveUniq	ueReverseSort Class Reference	21
	4.17	TestSp	liceMerge	Class Reference	21
Inc	dex				23

# **Chapter 1**

# Lista jednokierunkowa.

Autor: Oskar Jonczyk

## Chapter 2

## **Hierarchical Index**

## 2.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

j::list< T >::ConstIterator	. 7
$uj:: list < T > :: lterator \dots \dots$	10
estConstructors::Integer	. 10
j::list< T >	. 11
j::list< T >::Node	. 16
estRemoveUniqueReverseSort::Pred	. 17
estCase	
TestAssignSwapResize	17
TestClearErase	17
TestConstructors	18
TestCopyConstructorAndAssign	18
TestFrontBack	
TestInsert	
TestList Iterators	
TestPops	20
TestPushes	
TestRemoveUniqueReverseSort	
TestSnliceMerge	

4 Hierarchical Index

## **Chapter 3**

## **Class Index**

## 3.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

uj::list< T >::ConstIterator
TestConstructors::Integer
uj::list< T >::lterator
$ uj: list < T > \dots $
uj::list< T >::Node
TestRemoveUniqueReverseSort::Pred
TestAssignSwapResize
TestClearErase
TestConstructors
TestCopyConstructorAndAssign
TestFrontBack
TestInsert
TestList_Iterators
TestPops
TestPushes
TestRemoveUniqueReverseSort
TestSpliceMerge

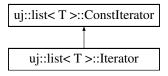
6 Class Index

## **Chapter 4**

## **Class Documentation**

## 4.1 uj::list< T >::ConstIterator Class Reference

Inheritance diagram for uj::list< T >::ConstIterator:



#### **Public Types**

- typedef std::forward\_iterator\_tag iterator\_category
- typedef T value\_type
- typedef std::ptrdiff\_t difference\_type
- typedef const T \* const\_pointer
- typedef const T & const\_reference

#### **Public Member Functions**

- Constiterator ()
- const\_reference operator\* ()
- const\_pointer operator-> ()
- ConstIterator & operator++ ()
- ConstIterator operator++ (int)
- bool operator== (const ConstIterator iter)
- bool operator!= (const ConstIterator iter)

#### **Private Member Functions**

ConstIterator (Node \*pos)

#### **Private Attributes**

Node \* current

#### **Friends**

· class list

#### 4.1.1 Detailed Description

```
\label{template} \begin{split} & template {<} typename \ T {>} \\ & class \ uj{::} list {<} \ T {>} {::} Constiterator \end{split}
```

Iterator po const elementach.

#### 4.1.2 Member Typedef Documentation

 $4.1.2.1 \quad template < typename \ T > typedef \ const \ T * \ uj:: list < T > :: Constlterator:: const\_pointer$ 

Typedef dla iterator\_traits.

4.1.2.2 template<typename T> typedef const T& uj::list< T>::ConstIterator::const\_reference

Typedef dla iterator traits.

4.1.2.3 template<typename T> typedef std::ptrdiff\_t uj::list< T>::ConstIterator::difference\_type

Typedef dla iterator\_traits.

4.1.2.4 template<typename T> typedef std::forward\_iterator\_tag uj::list< T>::ConstIterator::iterator category

Typedef dla iterator\_traits.

4.1.2.5 template<typename T> typedef T uj::list< T>::ConstIterator::value\_type

Typedef dla iterator\_traits.

#### 4.1.3 Constructor & Destructor Documentation

4.1.3.1 template<typename T> uj::list < T>::ConstIterator::ConstIterator( Node \* pos ) [inline], [private]

Konstruktor przyjmujacy element od ktorego chcemy zaczac.

```
4.1.3.2 template<typename T> uj::list< T>::ConstIterator::ConstIterator( ) [inline]
Konstruktor domyslny.
4.1.4 Member Function Documentation
4.1.4.1 template < typename T > bool uj::list < T >::ConstIterator::operator!=( const ConstIterator iter ) [inline]
Porownuje czy pozycje iteratorow sa rozne.
4.1.4.2 template < typename T > const reference uj::list < T >::Constlterator::operator*( ) [inline]
Zwraca wartosc bierzacego elementu.
4.1.4.3 template<typename T> ConstIterator& uj::list< T>::ConstIterator::operator++( ) [inline]
Preinkrementacja.
4.1.4.4 template < typename T > ConstIterator uj::list < T >::ConstIterator::operator++ ( int ) [inline]
Postinkrementacja.
4.1.4.5 template < typename T > const pointer uj::list < T >::Constlterator::operator > ( ) [inline]
Zwraca wskaznik na wartosc bierzacego elementu.
4.1.4.6 template < typename T > bool uj::list < T >::ConstIterator::operator== ( const ConstIterator iter ) [inline]
Porownuje czy pozycje iteratorow sa rowne.
4.1.5 Member Data Documentation
4.1.5.1 template<typename T> Node* uj::list< T>::Constlterator::current [private]
Wskaznik na bierzacy element.
```

Generated by Doxygen

The documentation for this class was generated from the following file:

C:/Users/ojonc\_000/Desktop/projekt\_Zaliczeniowy/main/main/uj\_list.hpp

## 4.2 TestConstructors::Integer Class Reference

#### **Public Attributes**

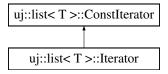
• int **a** = 5

The documentation for this class was generated from the following file:

C:/Users/ojonc\_000/Desktop/projekt\_Zaliczeniowy/main/main/list\_tester.hpp

## 4.3 uj::list< T >::lterator Class Reference

Inheritance diagram for uj::list< T >::lterator:



#### **Public Types**

- typedef T \* pointer
- typedef T & reference
- typedef std::forward\_iterator\_tag iterator\_category
- typedef T value\_type
- typedef std::ptrdiff\_t difference\_type

#### **Public Member Functions**

- Iterator ()
- reference operator\* ()
- pointer operator-> ()
- Iterator operator++ (int)
- Iterator & operator++ ()

#### **Private Member Functions**

Iterator (Node \*pos)

#### **Friends**

class list

#### 4.3.1 Detailed Description

```
template<typename T> class uj::list< T>::lterator
```

Iterator po zwyklych elementach. Dziedziczy po ConstIterator.

#### 4.3.2 Constructor & Destructor Documentation

```
4.3.2.1 template<typename T> uj::list< T>::lterator::lterator ( Node * pos ) [inline], [private]
```

Konstruktor przyjmujacy startowa pozycje.

```
4.3.2.2 template<typename T> uj::list< T>::lterator::lterator( ) [inline]
```

Konstruktor domyslny

#### 4.3.3 Member Function Documentation

```
4.3.3.1 template<typename T> reference uj::list< T>::lterator::operator*( ) [inline]
```

Zwraca wartosc bierzacego elementu.

```
4.3.3.2 template<typename T> pointer uj::list< T>::lterator::operator->( ) [inline]
```

Zwraca wskaznik na wartosc bierzacego elementu.

The documentation for this class was generated from the following file:

• C:/Users/ojonc 000/Desktop/projekt Zaliczeniowy/main/main/uj list.hpp

### 4.4 uj::list< T > Class Template Reference

```
#include <uj_list.hpp>
```

#### Classes

- · class Constiterator
- · class Iterator
- class Node

#### **Public Types**

- typedef T value\_type
- typedef T \* pointer
- typedef const T \* const\_pointer
- typedef T & reference
- typedef const T & const\_reference
- · typedef Iterator iterator
- typedef size\_t size\_type
- typedef std::ptrdiff\_t difference\_type
- · typedef Constiterator const iterator

#### **Public Member Functions**

- list ()
- list (size\_type n, const value\_type &val)
- list & operator= (const list &other)
- list (const list &other)
- template<class InputIterator >

list (InputIterator first, InputIterator last)

- template < class InputIterator >
- void assign (InputIterator first, InputIterator last)
- void assign (size\_type n, const value\_type &val)
- void swap (list &other)
- void resize (size\_type n, value\_type val=value\_type())
- void remove (const value\_type &val)
- template < class Predicate >
  - void **remove\_if** (Predicate pred)
- template<typename Predicate >
- void unique (Predicate equal)
- template<typename Predicate >
- void **sort** (Predicate comp)
- void sort ()
- template<typename Predicate >
  - void merge (list &x, Predicate comp)
- void merge (list &x)
- void reverse ()
- void unique ()
- · bool empty () const
- iterator begin ()
- iterator end ()
- · const\_iterator begin () const
- · const\_iterator end () const
- iterator insert (Iterator pos, const T &value)
- size type size () const
- void pop\_front ()
- void pop\_back ()
- void clear ()
- ∼list ()
- void push\_back (const T &val)
- void push\_front (const T &val)
- void **splice** (Iterator position, list &x)
- void **splice** (Iterator position, list &x, iterator i)
- · void splice (Iterator position, list &x, iterator first, iterator last)
- iterator erase (Iterator pos)
- reference front ()
- reference back ()

#### **Private Attributes**

- Node \* head
- Node \* tail
- unsigned int size\_

#### 4.4.1 Detailed Description

```
\label{eq:typename} \begin{array}{l} \text{template}{<} \text{typename T}{>} \\ \text{class uj::list}{<} \text{ T}{>} \end{array}
```

Lista jednokierunkowa.

#### 4.4.2 Member Typedef Documentation

4.4.2.1 template < typename T > typedef ConstIterator uj::list < T >::const\_iterator

Dla iterator\_traits

4.4.2.2 template < typename T> typedef const T\* uj::list < T>::const\_pointer

Dla iterator\_traits

4.4.2.3 template < typename T> typedef const T& uj::list < T>::const\_reference

Dla iterator\_traits

4.4.2.4 template<typename T> typedef std::ptrdiff\_t uj::list< T>::difference\_type

Dla iterator\_traits

4.4.2.5 template<typename T> typedef Iterator uj::list< T>::iterator

Dla iterator\_traits

4.4.2.6 template < typename T> typedef T\* uj::list < T>::pointer

Dla iterator\_traits

4.4.2.7 template < typename T> typedef T& uj::list < T>::reference

Dla iterator\_traits

```
4.4.2.8 template<typename T> typedef size_t uj::list< T>::size_type
Dla iterator traits
4.4.2.9 template<typename T> typedef T uj::list< T>::value_type
Dla iterator traits
4.4.3 Constructor & Destructor Documentation
4.4.3.1 template<typename T>uj::list< T>::list( ) [inline]
Konstruktor domyslny listy. Konstruuje pierwszy element i ustawia wartosci zmiennych.
4.4.3.2 template<typename T > uj::list < T > ::list (const list < T > & other) [inline]
Kontruktor kopiujacy.
4.4.3.3 template<typename T> uj::list< T>::~list( ) [inline]
Destruktor.
4.4.4 Member Function Documentation
4.4.4.1 template < typename T > template < class InputIterator > void uj::list < T >::assign ( InputIterator first, InputIterator
       last ) [inline]
Sprawdza czy lista jest pusta.
4.4.4.2 template<typename T> iterator uj::list< T>::begin() [inline]
Zwraca iterator na pierwszym elemencie.
4.4.4.3 template < typename T > const_iterator uj::list < T > ::begin ( ) const [inline]
Zwraca const iterator na pierwszym elemencie.
4.4.4.4 template<typename T> void uj::list< T>::clear( ) [inline]
Czysci liste do rozmiaru 0.
```

```
4.4.4.5 template<typename T> iterator uj::list< T>::end() [inline]
```

Zwraca iterator na ostatnim elemencie.

```
4.4.4.6 template<typename T> const_iterator uj::list< T>::end() const [inline]
```

Zwraca const\_iterator na ostatnim elemencie.

```
4.4.4.7 template<typename T> iterator uj::list< T>::erase ( Iterator pos ) [inline]
```

Usuwa element na podanej pozycji.

```
4.4.4.8 template<typename T> iterator uj::list< T>::insert( Iterator pos, const T & value ) [inline]
```

Umieszcza element w liscie na podanej pozycji.

#### **Parameters**

pos	Iterator na pozycji gdzie chcemy wstawić.
value	Wartosc jaka chcemy wstawic do listy.

#### Returns

Returns pos.

```
4.4.4.9 template < typename T > list& uj::list < T >::operator=( const list < T > & other ) [inline]
```

Operator przypisania.

```
4.4.4.10 template < typename T > void uj::list < T >::pop_front() [inline]
```

Usuwa pierwszy element listy.

```
4.4.4.11 template<typename T> void uj::list< T>::push_back( const T & val ) [inline]
```

Wstawia element na koniec listy.

```
4.4.4.12 template<typename T> void uj::list< T>::push_front(const T & val) [inline]
```

Wstawia element na poczatek listy.

```
4.4.4.13 template<typename T> size_type uj::list< T>::size( ) const [inline]
```

Zwraca rozmiar listy.

#### 4.4.5 Member Data Documentation

```
4.4.5.1 template<typename T> Node* uj::list< T>::head [private]
```

Wsk na pierwszy i ostatni element oraz zmienny przechowywujaca rozmiar listy.

```
4.4.5.2 template<typename T> unsigned int uj::list< T>::size_ [private]
```

Wsk na pierwszy i ostatni element oraz zmienny przechowywujaca rozmiar listy.

```
4.4.5.3 template<typename T> Node* uj::list< T>::tail [private]
```

Wsk na pierwszy i ostatni element oraz zmienny przechowywujaca rozmiar listy.

The documentation for this class was generated from the following file:

C:/Users/ojonc\_000/Desktop/projekt\_Zaliczeniowy/main/main/uj\_list.hpp

#### 4.5 uj::list< T >::Node Class Reference

#### **Private Member Functions**

• Node (const T &val, Node \*next\_=nullptr)

#### **Private Attributes**

- T data
- Node \* next

#### **Friends**

- · class list
- · class iterator

#### 4.5.1 Detailed Description

```
\label{template} \begin{split} & template\!<\!typename\ T\!> \\ & class\ uj\!::\!list\!<\!T>\!::\!Node \end{split}
```

Pojedynczy element listy. Zawiera pole data, wsk na nastepny element oraz konstruktor.

The documentation for this class was generated from the following file:

C:/Users/ojonc\_000/Desktop/projekt\_Zaliczeniowy/main/main/uj\_list.hpp

### 4.6 TestRemoveUniqueReverseSort::Pred Class Reference

**Public Member Functions** 

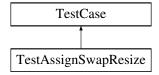
• bool operator() (double a)

The documentation for this class was generated from the following file:

• C:/Users/ojonc\_000/Desktop/projekt\_Zaliczeniowy/main/main/list\_tester.hpp

### 4.7 TestAssignSwapResize Class Reference

Inheritance diagram for TestAssignSwapResize:



#### **Public Member Functions**

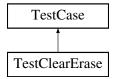
· void runTest ()

The documentation for this class was generated from the following file:

• C:/Users/ojonc\_000/Desktop/projekt\_Zaliczeniowy/main/main/list\_tester.hpp

#### 4.8 TestClearErase Class Reference

Inheritance diagram for TestClearErase:



**Public Member Functions** 

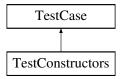
• void runTest ()

The documentation for this class was generated from the following file:

• C:/Users/ojonc\_000/Desktop/projekt\_Zaliczeniowy/main/main/list\_tester.hpp

#### 4.9 TestConstructors Class Reference

Inheritance diagram for TestConstructors:



#### Classes

• class Integer

#### **Public Member Functions**

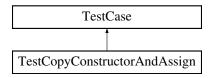
• void runTest ()

The documentation for this class was generated from the following file:

• C:/Users/ojonc\_000/Desktop/projekt\_Zaliczeniowy/main/main/list\_tester.hpp

### 4.10 TestCopyConstructorAndAssign Class Reference

Inheritance diagram for TestCopyConstructorAndAssign:



#### **Public Member Functions**

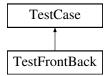
• void runTest ()

The documentation for this class was generated from the following file:

• C:/Users/ojonc\_000/Desktop/projekt\_Zaliczeniowy/main/main/list\_tester.hpp

#### 4.11 TestFrontBack Class Reference

Inheritance diagram for TestFrontBack:



#### **Public Member Functions**

• void runTest ()

The documentation for this class was generated from the following file:

• C:/Users/ojonc\_000/Desktop/projekt\_Zaliczeniowy/main/main/list\_tester.hpp

#### 4.12 TestInsert Class Reference

Inheritance diagram for TestInsert:



#### **Public Member Functions**

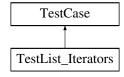
void runTest ()

The documentation for this class was generated from the following file:

• C:/Users/ojonc\_000/Desktop/projekt\_Zaliczeniowy/main/main/list\_tester.hpp

### 4.13 TestList\_Iterators Class Reference

Inheritance diagram for TestList\_Iterators:



#### **Public Member Functions**

• void runTest ()

The documentation for this class was generated from the following file:

• C:/Users/ojonc\_000/Desktop/projekt\_Zaliczeniowy/main/main/list\_tester.hpp

## 4.14 TestPops Class Reference

Inheritance diagram for TestPops:



#### **Public Member Functions**

· void runTest ()

The documentation for this class was generated from the following file:

• C:/Users/ojonc\_000/Desktop/projekt\_Zaliczeniowy/main/main/list\_tester.hpp

#### 4.15 TestPushes Class Reference

Inheritance diagram for TestPushes:



#### **Public Member Functions**

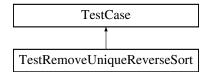
· void runTest ()

The documentation for this class was generated from the following file:

• C:/Users/ojonc\_000/Desktop/projekt\_Zaliczeniowy/main/main/list\_tester.hpp

## 4.16 TestRemoveUniqueReverseSort Class Reference

Inheritance diagram for TestRemoveUniqueReverseSort:



#### Classes

class Pred

#### **Public Member Functions**

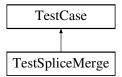
• void runTest ()

The documentation for this class was generated from the following file:

• C:/Users/ojonc\_000/Desktop/projekt\_Zaliczeniowy/main/main/list\_tester.hpp

### 4.17 TestSpliceMerge Class Reference

Inheritance diagram for TestSpliceMerge:



#### **Public Member Functions**

• void runTest ()

The documentation for this class was generated from the following file:

• C:/Users/ojonc 000/Desktop/projekt Zaliczeniowy/main/main/list tester.hpp

# Index

$\sim$ list	uj::list::ConstIterator, 9
uj::list, 14	uj::list::lterator, 11
	operator++
assign	uj::list::ConstIterator, 9
uj::list, 14	operator->
	uj::list::ConstIterator, 9
begin	uj::list::lterator, 11
uj::list, 14	operator=
ala a s	uj::list, 15
clear	operator==
uj::list, 14	uj::list::ConstIterator, 9
const_iterator	
uj::list, 13	pointer
const_pointer	uj::list, 13
uj::list, 13	pop_front
uj::list::ConstIterator, 8	uj::list, 15
const_reference	push_back
uj::list, 13	uj::list, 15
uj::list::ConstIterator, 8	push_front
Constiterator	uj::list, 15
uj::list::ConstIterator, 8	,
current	reference
uj::list::ConstIterator, 9	uj::list, 13
difference_type	size
uj::list, 13	uj::list, 15
uj::list::ConstIterator, 8	size_
,	uj::list, 16
end	size_type
uj::list, 14, 15	uj::list, 13
erase	
uj::list, 15	tail
	uj::list, 16
head	TestAssignSwapResize, 17
uj::list, 16	TestClearErase, 17
	TestConstructors, 18
insert	TestConstructors::Integer, 10
uj::list, 15	TestCopyConstructorAndAssign, 18
Iterator	TestFrontBack, 19
uj::list::lterator, 11	TestInsert, 19
iterator	TestList_Iterators, 19
uj::list, 13	TestPops, 20
iterator_category	TestPushes, 20
uj::list::ConstIterator, 8	TestRemoveUniqueReverseSort, 21
	TestRemoveUniqueReverseSort::Pred, 17
list	TestSpliceMerge, 21
uj::list, 14	•
	uj::list
operator!=	∼list, 14
uj::list::ConstIterator, 9	assign, 14
operator*	begin, 14

24 INDEX

```
clear, 14
     const_iterator, 13
     const_pointer, 13
     const_reference, 13
     difference_type, 13
     end, 14, 15
     erase, 15
     head, 16
     insert, 15
     iterator, 13
     list, 14
     operator=, 15
     pointer, 13
     pop_front, 15
     push_back, 15
     push_front, 15
     reference, 13
     size, 15
     size_, 16
     size_type, 13
     tail, 16
     value_type, 14
uj::list< T>, 11
uj::list< T >::ConstIterator, 7
uj::list< T >::Iterator, 10
uj::list< T>::Node, 16
uj::list::ConstIterator
     const pointer, 8
     const reference, 8
     Constiterator, 8
     current, 9
     difference_type, 8
     iterator_category, 8
     operator!=, 9
     operator*, 9
     operator++, 9
     operator->, 9
     operator==, 9
     value_type, 8
uj::list::lterator
     Iterator, 11
     operator*, 11
     operator->, 11
value_type
     uj::list, 14
     uj::list::ConstIterator, 8
```