

## CoCoALib - Feature #379

### Iter for subsets/tuples

19 Jun 2013 19:01 - John Abbott

<b>Status:</b>	Closed	<b>Start date:</b>	19 Jun 2013
<b>Priority:</b>	Normal	<b>Due date:</b>	
<b>Assignee:</b>	John Abbott	<b>% Done:</b>	100%
<b>Category:</b>	Data Structures	<b>Estimated time:</b>	0.00 hour
<b>Target version:</b>	CoCoALib-0.99850	<b>Spent time:</b>	7.20 hours
<b>Description</b> Add new iters for subsets/tuples. [JAA see file ShortTerm/oscar.C]			
<b>Related issues:</b>			
Related to CoCoA-5 - Feature #622: New function: RandomSubset		<b>Closed</b>	<b>12 Sep 2014</b>
Related to CoCoALib - Design #1787: Iterator design: compatible with C++STL? ...		<b>In Progress</b>	<b>07 Mar 2024</b>

### History

#### #1 - 01 Apr 2014 17:41 - Anna Maria Bigatti

- Target version set to CoCoALib-0.99533 Easter14

#### #2 - 07 Apr 2014 14:33 - John Abbott

- Target version changed from CoCoALib-0.99533 Easter14 to CoCoALib-0.99534 Seoul14

#### #3 - 09 Jul 2014 18:04 - John Abbott

- Target version changed from CoCoALib-0.99534 Seoul14 to CoCoALib-1.0

#### #4 - 13 May 2015 09:56 - Redmine Admin

- Category set to Data Structures

#### #5 - 10 Dec 2023 20:42 - John Abbott

- Status changed from New to In Progress

- Assignee set to John Abbott

- Target version changed from CoCoALib-1.0 to CoCoALib-0.99850

- % Done changed from 0 to 40

I did this some time ago: it is in **combinatorics.H**.

I think there should be a version which iterates only over subsets of given cardinality: CoCoA-5 can do this, but CoCoALib not.

#### #6 - 10 Dec 2023 21:26 - John Abbott

- % Done changed from 40 to 60

I have now added a new ctor **SubsetIter(n,k)** which iterates over all subsets of cardinality k.

Still do not have an iterator for tuples.

#### #7 - 08 Feb 2024 21:37 - John Abbott

- Status changed from In Progress to Feedback

- % Done changed from 60 to 90

I have now added a first impl of **TupleIter** following the idea behind SubsetIter, *i.e.* the tuples are from the set  $0,1,\dots,n-1$ . Also added an example, and doc.

**#8 - 23 Feb 2024 12:07 - John Abbott**

**ANNA** will test this over the next week :-)

**#9 - 07 Mar 2024 19:26 - John Abbott**

**ANNA** have you tested this?

**#10 - 07 Mar 2024 19:52 - John Abbott**

- *Related to Design #1787: Iterator design: compatible with C++STL? Advancing beyond end? added*

**#11 - 08 Mar 2024 17:34 - Anna Maria Bigatti**

John Abbott wrote:

**ANNA** have you tested this?

I need to find where I wanted to use them: search in examples and tests (in particular code with Eduardo SysReliability, MVT, Taylor)

**#12 - 13 Mar 2024 18:25 - Anna Maria Bigatti**

- *Status changed from Feedback to Closed*

- *% Done changed from 90 to 100*

Tested in ex-Taylor(2). Smooth.

I also added an example (2-subsets in  $\{0,1,2,3\}$ ) in ex-combinatoric1.C