Class – List 02a

Introduction.

Tasks after first lecture about one way iterators with implementation for arrays.

Task List

1. Implement the iterator which will take another iterator as a base and return every k-th element from collection.
2. Implement as an iterator a generator of Fibbonaci numbers (two first numbers are 1 and 1, every next number is a sum of two previous numbers): 1, 1, 2, 3, 5, 8, 11 etc.
3. Implement an iterator which takes two others iterator and make a shuffling of input collections (using its iterators). E.a. if in the first collection are numbers 1, 2, 3, 4, 5 and in the other there is sequence 11, 12, 13, this iterator will access element in a sequence 1, 11, 2, 12, 3, 13, 4, 5.
4. Define an iterator that provides successive **prime** numbers smaller than the given N. Note: numbers should be generated on the fly, you should not use an array to store them (you can create successive iterators properly combined instead).
5. There is no implementation of the remove () operation in the iterator for the array presented in the lecture. Suggest its implementation and discuss the solution in case we create two iterators for the same array.