The existing iterator of your **ADS_set** needs to be expanded to include an additional “mode”. In the previous implementation, the iterator returns all *n* elements of the **ADS_set** in any order, whereby the order must always be the same as long as the **ADS_set** is not changed (“normal” mode). In special mode, the iterator returns the elements in the same order, but every third element is "skipped", but the last element (from the normal iterator order) is never skipped. With *n* elements, the iterator in mode specifically returns the elements at positions 1, 2, 4, 5, 7, 8, ..., n. In both modes, the iterator reaches **end()** after the last element returned .

Details: Extend your implementation to include the **ADS_set** method

const_iterator z() const;

z() creates an iterator in special mode. If there is no element in the **ADS_set ,** then **z()== end().**

The time complexity and memory complexity of the operator functions must remain unchanged.
So are e.g. B. additional fields with a non-constant size are not permitted.

Examples:

Suppose the iterator returned by **begin()** returns all n stored elements in the order (1,2,3,4,5,6,7) (1,2,3,4,5,6) (1,2,3 ,4,5) (4,3,6,1) (9,7,8)	Then the iterator returned by z() returns the following elements in the following order
(7,9) (7) ()	(1,2,4,5,7)
	(1,2,4,5,6)
	(1,2,4,5)
	(4,3,1)
	(9,7,8)
	(7,9)
	(7)
	()

Instructions: Do **not** write a new iterator class! Extend the existing iterator class as follows (this is just one of the possible solutions, different correct solutions are of course permitted):

• It must be possible to create an iterator in “special” mode. To do this, a new constructor must be written and/or an existing one must be extended in order to initialize the instance variables accordingly. You may need additional constructor parameters and/or instance variables. It can be helpful if the iterator knows how many elements are in the **ADS_set** and what position the iterator is currently in. • Adjust the increment operations (only!) for the “special” mode: every third element is skipped, unless it is the last element, which is never skipped. After the last element, the iterator is set to **end()** (as always) .

The **ADS_set::z()** method creates an iterator in “special” mode and returns it.

As before , the **ADS_set::begin()** method returns an iterator in “normal” mode.