## — MODULE FiniteSets

LOCAL INSTANCE Naturals LOCAL INSTANCE Sequences

Imports the definitions from Naturals and Sequences, but doesn't export them.

 $IsFiniteSet(S) \stackrel{\triangle}{=}$ 

A set S is finite iff there is a finite sequence containing all its elements.

$$\exists \, seq \in Seq(S) : \forall \, s \in S : \exists \, n \in 1 \dots Len(seq) : seq[n] = s$$

 $Cardinality(S) \triangleq$ 

Cardinality is defined only for finite sets.

Let 
$$CS[T \in \text{subset } S] \triangleq \text{if } T = \{\} \text{ then } 0$$
 
Else  $1 + CS[T \setminus \{\text{choose } x : x \in T\}]$ 

IN CS[S]