

## NATURAL FAMILIES

## Why

It is extremely common to use the first so many natural numbers as an index set.

## **Definition**

A *natural family* of sets is a indexedkj family of sets whose index set is an subset of the natural numbers smaller than or equal to some specified natural number.

## **Notation**

Let n be a natural number. Let A be a non-empty set. Let a:  $\{1, \ldots, n\} \to A^*$  We often denote the family of a by  $A_1, \ldots, A_n$ . We often say, "let  $A_1, \ldots, A_n$  be sets," without any reference to the fact that we are thinking of a family.

