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┌────────────────── MODULE addressbook ───────────────────┐
CONSTANTS Names, Emails
VARIABLE address

Invariant  $\triangleq$  address  $\in$  [Names  $\rightarrow$  Emails]

Init  $\triangleq$  address =  $\langle \rangle$   A different ideom for an empty function ...

Add(name, email)  $\triangleq$ 
    address' = [n  $\in$  DOMAIN address  $\cup$  {name}  $\mapsto$ 
        IF n  $\in$  DOMAIN address
        THEN address[n]
        ELSE email
    ]

Remove(name)  $\triangleq$ 
    address' = [n  $\in$  DOMAIN address  $\setminus$  {name}  $\mapsto$  address[n]]

Find(name)  $\triangleq$ 
     $\wedge$  name  $\in$  DOMAIN address
     $\wedge$  UNCHANGED address

Next  $\triangleq$ 
     $\exists$  n  $\in$  Names, e  $\in$  Emails :
         $\vee$  Add(n, e)
         $\vee$  Remove(n)
         $\vee$  Find(n)

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\ * Modification History
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