─────────────── MODULE *Helper* ───────────────

EXTENDS *Naturals*, *TLC*

VARIABLES *pick*

$Range(T) \triangleq \{\langle T[x], x\rangle : x \in \text{DOMAIN } T\}$
$Pick(S) \triangleq \text{CHOOSE } s \in S : \text{TRUE}$

RECURSIVE $SetReduce(\_, \_, \_)$
$SetReduce(Op(\_, \_), S, value) \triangleq$
  IF $S = \{\}$ THEN *value*
    ELSE LET $s \triangleq Pick(S)$
         IN
         IF $Op(s[1], value) = Op(value, s[1])$
          THEN $SetReduce(Op, S \setminus \{s\}, Op(s[1], value))$
          ELSE $Assert(\text{FALSE}, \text{"error"})$

$Sum(S) \triangleq$ LET $\_op(a, b) \triangleq a + b$
        IN $SetReduce(\_op, S, 0)$

───