MODULE *RadixTreesValidation*

EXTENDS *FiniteSets*, *Integers*, *RadixTrees*

Set of characters to use for the alphabet of generated strings.

CONSTANT *Alphabet*

Length of input strings generated

CONSTANT *MinLength*, *MaxLength*

ASSUME

$\land \{MinLength,\ MaxLength\} \subseteq Nat$

$\land\ MinLength \leq MaxLength$

Number of unique elements to construct the radix tree with. This is a set of numbers so you can test with inputs of multiple sizes.

CONSTANT *ElementCounts*

ASSUME $ElementCounts \subseteq Nat$

Inputs is the set of input strings valid for the tree.

$Inputs \triangleq \text{UNION } \{[1\ldots n \to Alphabet] : n \in MinLength\ldots MaxLength\}$

InputSets is the full set of possible inputs we can send to the radix tree.

$InputSets \triangleq \{T \in \text{SUBSET } Inputs : Cardinality(T) \in ElementCounts\}$

The range of a radix tree should be the set of its inputs.

$RangeIsInput \triangleq$

$\forall\, input \in InputSets :$

$Range(RadixTree(input)) = input$

The expression that should be checked for validity in the model.

$Valid \triangleq RangeIsInput$

* Modification History

* Last modified *Tue Jun* 29 09:06:56 *PDT* 2021 by *mitchellh*

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