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MODULE *malgtd1ex7*

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EXTENDS *Integers, TLC*  
 VARIABLES *p*  
 CONSTANTS *input, output*

$n \triangleq 10$   
 $nodes \triangleq 1 \dots n$   
 $l \triangleq [i \in 1 \dots n \mapsto \text{IF } i = 1 \text{ THEN } \{4, 5\} \text{ ELSE}$   
      $\text{IF } i = 2 \text{ THEN } \{6, 7, 10\} \text{ ELSE}$   
      $\text{IF } i = 4 \text{ THEN } \{7, 8\} \text{ ELSE}$   
      $\text{IF } i = 5 \text{ THEN } \{\} \text{ ELSE}$   
      $\text{IF } i = 6 \text{ THEN } \{4\} \text{ ELSE}$   
      $\text{IF } i = 7 \text{ THEN } \{5\} \text{ ELSE}$   
      $\text{IF } i = 8 \text{ THEN } \{5, 2\} \text{ ELSE}$   
      $\{\}$   
 $]$

$lab \triangleq [(x, y) \in (nodes \times nodes) \mapsto$   
      $\text{IF } x = 1 \wedge y = 1 \text{ THEN } \{\langle 1, 2 \rangle\} \text{ ELSE}$   
      $\text{IF } x = 1 \wedge y = 2 \text{ THEN } \{\langle 1, 1 \rangle, \langle 1, 3 \rangle, \langle 2, 2 \rangle\} \text{ ELSE}$   
      $\text{IF } x = 1 \wedge y = 3 \text{ THEN } \{\langle 1, 2 \rangle\} \text{ ELSE}$   
      $\text{IF } x = 2 \wedge y = 2 \text{ THEN } \{\langle 1, 2 \rangle\}$   
      $\text{ELSE } \{\}$   
 $]$

$Init \triangleq p = 1$   
 $M(i) \triangleq \wedge i \in l[p]$   
      $\wedge p' = i$   
 $Next \triangleq \exists i \in 1 \dots n : M(i)$

$Initlab \triangleq p = input$   
 $ML(q) \triangleq \wedge q \in lab[p]$   
      $\wedge p' = q$   
 $Nextlab \triangleq \exists q \in nodes \times nodes : ML(q)$

$Sortie \triangleq p \notin output$

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