Problem Bank Style Rules Design Recipes Language Glossarv Discussion Progress Course > 11: Graphs > Problem: reachable? > Question 6 **₫ B** 📀 Ø. Previous Next > **Question 6** ☐ Bookmark this page Question 6 1/1 point (graded) $After completing the design of \verb| num-rooms|, you go to bed satisfied|, feeling very proud of yourself|. However you wake up the next morning with the property of the prope$ the nagging feeling that you could have designed num-rooms without adding an extra accumulator. How could you have designed num rooms without an extra accumulator? C produce todo at the end \boldsymbol{C} $\;$ produce ${\tt visited}$ at the end C produce (lenth todo) at the end $oldsymbol{\epsilon}$ produce (length visited) at the end Explanation Once the todo list is empty, (length visited) will be the total number of rooms reached from the given room. This version of num-rooms will look like this: (define (num-rooms r0) ;; todo is (listof Room); a worklist accumulator ;; visited is (listof String); context preserving acc, names of rooms already visited (local [(define (fn-for-room r todo visited) (if (member (room-name r) visited)
 (fn-for-lor todo visited) (fn-for-lor (append (room-exits r) todo) (cons (room-name r) visited))))
(define (fn-for-lor todo visited) (cond [(empty? todo) (length visited)] [else (fn-for-room (first todo) (rest todo) visited)]))] (fn-for-room r0 empty empty))) 1 Answers are displayed within the problem Previous Next >

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