Help s7oev ▼ Systematic Program Design - Part 3 Style Rules Design Recipes Problem Bank Progress Language Glossary Discussion Course > 10: Accumulators > Tail Recursion > Questions 1-7 Previous ⊞⊘ Ø. Next > **Questions 1-7** ☐ Bookmark this page Question 1 1/1 point (graded) Consider the following function: (define (foo a) (bar (baz a))) Is the function \mathtt{baz} in tail position? c yes no **Explanation** The function \mathtt{bar} operates on the result of $(\mathtt{baz}\ \mathtt{a})$, so it is not in tail position. 1 Answers are displayed within the problem Question 2 1/1 point (graded) (define (foo a) (bar (baz a))) Is the function ${\tt bar}$ in tail position? c yes C no Explanation Yes, the result of ${\tt bar}$ is the result of the enclosing function. Show **1** Answers are displayed within the problem Question 3 1/1 point (graded) (define (foo a) (if (bar? a) (baz a) (bumble a))) Is (bar? a) in tail position? o yes no

Explanation

No, the resut of $({\tt bar?\ a})$ must be operated on by if.



Show

1 Answers are displayed within the problem Question 4 1/1 point (graded) (define (foo a) (if (bar? a) (baz a)
(bumble a))) Is (baz a) in tail position? yes C no **Explanation** Yes, the result of $(baz \ a)$ is the result of the enclosing function if $(bar? \ a)$ produces true. Show 1 Answers are displayed within the problem Question 5 1/1 point (graded) (define (foo a) (if (bar? a) (baz a) (bumble a))) Is (bumble a) in tail position? yes C no **Explanation** Yes, the result of (bumble a) is the result of the enclosing function if (bar? a) produces false. Show Answer 1 Answers are displayed within the problem Question 6 1/1 point (graded) (cond [(ringette? a) (ring a)]
 [(hockey? a) (puck a)])) Is (ringette? a) in tail position? o yes € no **Explanation** No, because evaluation of the enclosing cond expression is waiting for its result to determine which cond clause to use. Note that similarily, $({\tt hockey?}\ {\tt a})$ is not in tail position. Show 1 Answers are displayed within the problem Question 7 1/1 point (graded)

(define (sport a)

(cond [(ringette? a) (ring a)]
 [(hockey? a) (puck a)]))

Is $(ring\ a)$ in tail position? • yes C no ~ **Explanation** Yes, because its result will be the result of the enclosing cond expression if (ringette? a) produces true. So evaluation of the enclosing cond is not waiting on its result to determine what to do. Note that similarlly, $(puck\ a)$ is also in tail position. 0 Show Answer **1** Answers are displayed within the problem Previous Next > ⊚⊕§⊚ Some Rights Reserved



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