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Questions 1-7

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Question 1

1/1 point (graded)

Consider the following function:

```
(define (foo a)
  (bar (baz a)))
```

Is the function `baz` in tail position?

○ yes

◉ no

✔

Explanation
The function `bar` operates on the result of `(baz a)`, so it is not in tail position.

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Question 2

1/1 point (graded)

```
(define (foo a)
  (bar (baz a)))
```

Is the function `bar` in tail position?

◉ yes

○ no

✔

Explanation
Yes, the result of `bar` is the result of the enclosing function.

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Question 3

1/1 point (graded)

```
(define (foo a)
  (if (bar? a)
      (baz a)
      (bumble a)))
```

Is `(bar? a)` in tail position?

○ yes

◉ no

✔

Explanation
No, the resut of `(bar? a)` must be operated on by `if`.

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Question 4

1/1 point (graded)

```
(define (foo a)
  (if (bar? a)
      (baz a)
      (bumble a)))
```

Is `(baz a)` in tail position?

- ⦿ yes
- ○ no

✔

Explanation
Yes, the result of `(baz a)` is the result of the enclosing function if `(bar? a)` produces `true`.

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Question 5

1/1 point (graded)

```
(define (foo a)
  (if (bar? a)
      (baz a)
      (bumble a)))
```

Is `(bumble a)` in tail position?

- ⦿ yes
- ○ no

✔

Explanation
Yes, the result of `(bumble a)` is the result of the enclosing function if `(bar? a)` produces `false`.

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Question 6

1/1 point (graded)

```
(define (sport a)
  (cond [(ringette? a) (ring a)]
        [(hockey? a)   (puck a)]))
```

Is `(ringette? a)` in tail position?

- ○ 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, `(hockey? a)` is not in tail position.

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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
- ○ 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 similarly, `(puck a)` is also in tail position.

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Is `(ring a)` in tail position?

- ⦿ yes
- ○ 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 similarly, `(puck a)` is also in tail position.

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