Feedback — Quiz - Compound

Help

You submitted this quiz on **Sat 28 Sep 2013 12:23 AM EDT (UTC -0400)**. You got a score of **3.33** out of **4.00**.

Question 1

Which functions do we get as a result of the following `define-struct`? Select all that apply.

```
(define-struct ball (colour size))
```

Your Answer		Score	Explanation
☑ `make-size`	✖	0.00	
☑ `make-colour`	✖	0.00	
☑ `ball?`	✔	0.17	
☐ `make-ball`	✖	0.00	
☐ `size?`	✔	0.17	
☐ `ball-size`	✖	0.00	
Total		0.33 / 1.00	

Question Explanation

The functions that we get as a result of the `define-struct` above are:

- constructor: `make-ball`
- selectors: `ball-colour` and `ball-size`
- predicate: `ball?`

Question 2

Consider this partial data definition:

```
(define-struct book (title author))
;; Book is (make-book String String)
;; interp. a book with title and author name

(define B (make-book "Systematic Program Design" "Anonymous"))
```

What should we do to fix the following error?

```
;; Book -> String
;; produce a book citation of the form "title, by author"

(check-expect (citation B) "Systematic Program Design, by Anonymous")

;(define (citation b) "")  ;stub

(define (citation b)
  (string-append (title-book b)
                 ", by "
                 (author-book b)))
```

```
Welcome to DrRacket, version 5.3.1 [3m].
Language: Intermediate Student; memory limit: 128 MB.
title-book: this function is not defined
```

Your Answer		Score	Explanation
○ Replace `(title-book b)` and `(author-book b)` by `title` and `author`			
○ Define a function named `title-book` in the program			
◉ Change the selectors to `book-title` and `book-author`	✔	1.00	
Total		1.00 / 1.00	

Question Explanation

The selector names are `book-title` and `book-author`, not `title-book` and `author-book`.

Question 3

These partial data definitions are for reference as you work through the next few problems.

1) `Theatre`

```
(define-struct theatre (name location))
```

```
;; Theatre is (make-theatre String String)
;; interp. a theatre with name and the name of the city in which it is located

(define T1 (make-theatre "Vancouver Theatre" "Vancouver"))
```

2) `Ticket`

```
(define-struct ticket (seat price))
;; Ticket is (make-ticket Natural Natural)
;; interp. a theatre ticket with seat number and price

(define TC1 (make-ticket 12 70))
```

Given the partial compound data definition for `Theatre`, choose the correct template.

Your Answer	Score	Explanation
`(define (fn-for-theatre t)` `  (...))`		

`(define (fn-for-theatre t)`
`  (... name`
`  location))`		

`(define (fn-for-theatre t)`
`  (... (theatre-name t)`
`  (theatre-location t)))`
	✔ 1.00	

`(define (fn-for-theatre t)` `  (... t))`		
Total	1.00 / 1.00	

Question Explanation

From the Data Driven Templates page, the template should be formed using the selectors as follows:

```
(define (fn-for-theatre t)
  (... (theatre-name t)
       (theatre-location t)))
```

Question 4

Suppose you are asked to design a function that consumes a `Theatre`, and produces `true` if the given theatre is named "Movie Land".

Here is a partial design of that function:

```
;; Theatre -> Boolean
;; produce true if the given theatre is named "Movie Land"

(check-expect (movie-land-theatre? (make-theatre "Vancouver Theatre" "Vancouver"))
 false)

;(define (movie-land-theatre? t) false)  ; stub
```

Which of the following tests is best to add to the function design above?

Your Answer	Score	Explanation
`(check-expect (movie-land-theatre? (make-theatre "The Movies" "Vancouver")) false)`		
`(check-expect (movie-land-theatre? (make-theatre "Movie Land" "Movie Land")) true)`		
`(check-expect (movie-land-theatre? (make-theatre "Movie Land" "Vancouver")) true)`	✔ 1.00	
It doesn't matter which test to add		

Total	1.00 / 1.00

Question Explanation

The test `(check-expect (movie-land-theatre? (make-theatre "The Movies" "Vancouver")) false)` is redundant, and the test `(check-expect (movie-land-theatre? (make-theatre "Movie Land" "Movie Land")) true)` is not very effective as it does not catch the following mistake in the function body:

```
(define (movie-land-theatre? t)
  (string=? (theatre-location t) "Movie Land"))
```

Question 5

Since your quiz grade and feedback will be given to you as soon as you submit this quiz, it is important that you answer this additional question before you proceed:

I promise that I will not post answers to this quiz before the hard deadline on Friday September 27, 11:00 pm PDT (UTC -7).

Your Answer		Score	Explanation
Yes	✔	0.00	
No			
Total		0.00 / 0.00	