

More List-of-Num Examples

```
; A list-of-num is either  
; - empty  
; - (cons num list-of-num)
```


- Implement the function **feed-fish**, which takes an aquarium and feeds each fish 1 lb of food
- Implement the function **large-fish**, which removes every fish that is less than 5 lbs from an aquarium

List-of-Posn

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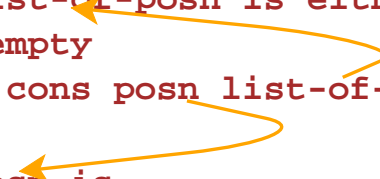
List-of-Posn

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; A posn is  
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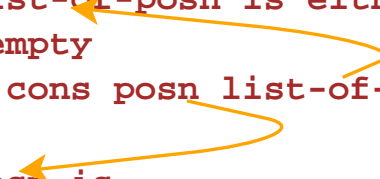
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; func-for-lop : list-of-posn -> ...  
(define (func-for-lop l)  
  (cond  
    [(empty? l) ...]  
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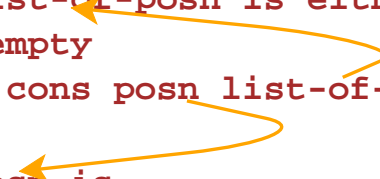
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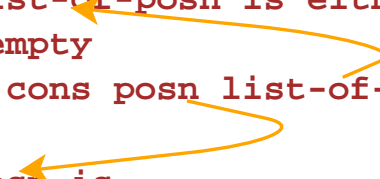
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List-of-Posn Examples

- Implement the function **flip-posns**, which flips the X and Y parts of every posn in a list of posns

List-of-Grade Example

```
; A grade is either  
; - number  
; - empty
```

- Implement the function **all-passed?**, which takes a list of grades and determines whether all are passes

List-of-List-of-Num Example

```
; A list-of-lon is either  
; - empty  
; - (cons list-of-num list-of-lon)
```

- Implement the function **sums**, which takes a list of list-of-numbers and produces a list of sums

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Still, DrScheme prints 11 `conses`

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If you change DrScheme's language level to

Beginning Student with List Abbreviations

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> (cons 1 (cons 2 (cons 3 empty)))
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Don't switch until you understand how `list-of-...` functions match the shape of the data definition

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For consistency, `'1` is the same as `1`

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which is the same as

```
(cons (cons 1 (cons 2 (cons 3 empty)))  
      (cons (cons 2 (cons 4 (cons 6 (cons 8 empty))))  
            (cons (cons 3 (cons 9 (cons 27 empty)))  
                  empty)))
```