

## CS 460 – Exercise 4 - FAQ

**Question:** Should the numbers in the list returned by the `numbers_only` be in the same order as the numbers in the input list?

**Answer:** Yes. The result of `(numbers_only '(a 12 3 (bd 7 19) 0))` should be `(12 3 7 19 0)`.

**Question:** What do I do if I did not get the functions in Exercise 3 completed?

**Answer:** Here they are:

```
;; list_copy will use a recursive approach to copy a list.
(define (list_copy ls)
  (if (list? ls)
      (if (or (null? ls) (null? (cdr ls)))
          ls
          (cons (car ls) (list_copy (cdr ls))))
      "list_copy requires a list argument")
  )
)

;; even_copy will create a copy of the elements in the even numbered
;; positions in a list starting with the second element in the list.
;; The formal argument should be a list.
(define (odd_copy ls)
  (if (list? ls)
      (if (or (null? ls) (null? (cdr ls)))
          ls
          (cons (car ls) (odd_copy (cddr ls))))
      "odd_copy requires a list argument")
  )
)

;; even_copy will create a copy of the elements in the even numbered
;; positions in a list starting with the second element in the list.
;; The formal argument should be a list.
(define (even_copy mylist)
  (if (list? mylist)
      (if (or (null? mylist) (null? (cdr mylist)))
          '()
          (cons (cadr mylist) (even_copy (cddr mylist))))
      "even_copy requires a list argument")
  )
)
```

```

;; insert_last will insert a value into a list as the last element
;; of the list. The formal arguments should be the value to be
inserted into
;; the list and the list.
(define (insert_last myvalue mylist)
  (if (list? mylist)
      (if (null? mylist)
          (cons myvalue mylist)
          (cons (car mylist)
                (insert_last myvalue (cdr mylist))))
      "insert_last requires a list argument")
  )
)

;; list_reverse will reverse the elements of a list. The formal
;; argument should be a list.
(define (list_reverse ls)
  (if (list? ls)
      (if (null? ls)
          '()
          (insert_last (car ls) (list_reverse (cdr ls))))
      "list_reverse requires a list argument")
  )
)

```

**Question:** Question

**Answer:** Answer