

Q14.

Version with "Mac(n)=n-10, when n>100"

```
(define (Mac n)
  (if (> n 100) (- n 10)
      (Mac (Mac (+ n 11)))))
```

Version with "Mac(n)=n-20, when n>200"

```
(define (Mac n)
  (if (> n 200) (- n 20)
      (Mac (Mac (+ n 21)))))
```

Q15

(a) (4 3 2 1)

(b) ((2 3 4 5) (3 4 5) (4 5) (5))

(c) (define (map f x)
 (maplist (lambda (x) (f (car x))) x))

Q16

(1) removeAll

```
(define (removeAll x l)
  (cond ((null? l) '())
        ((equal? x (car l)) (removeAll x (cdr l)))
        (else (cons (car l) (removeAll x (cdr l))))))
```

(2) remove-ith

```
(define (remove-ith n x l)
  (cond ((null? l) '())
        ((equal? x (car l))
         (if (= n 1) (cdr l)
             (cons (car l) (remove-ith (- n 1) x (cdr l)))))
        (else (cons (car l) (remove-ith n x (cdr l))))))
```

(3) replaceAll

```
(define (replaceAll x y l)
  (cond ((null? l) '())
        ((equal? x (car l)) (cons y (replaceAll x y (cdr l))))
        (else (cons (car l) (replaceAll x y (cdr l))))))
```