

CMPSC 461 Homework 4 Solutions. Prof. G. Tan

Q2

```
(define (sum start end)
  (if (= start end) start
      (+ (sum start (- end 1)) end)))
```

Q3

```
(define (F n)
  (if (= n 0) 1
      (- n (M (F (- n 1))))))
(define (M n)
  (if (= n 0) 0
      (- n (F (M (- n 1))))))
```

Q4

```
(define (reward n)
  (cond ((<= n 2000) (* 0.01 n))
        ((<= n 4000)
         (+ (* 0.015 (- n 2000))
            (reward 2000)))
        ((<= n 5500)
         (+ (* 0.02 (- n 4000))
            (reward 4000)))
        (else
         (+ (* 0.025 (- n 5500))
            (reward 5500)))))
```