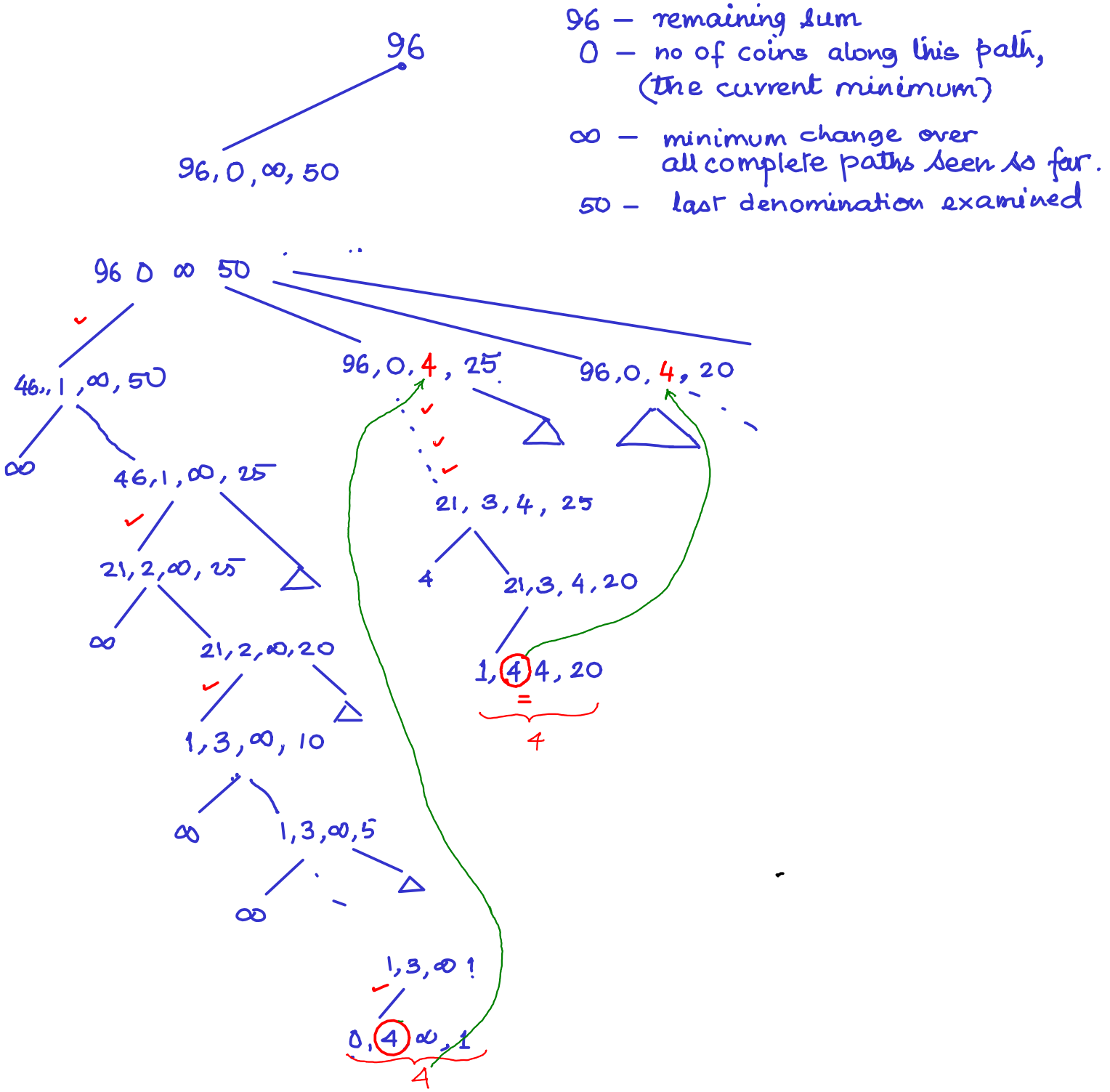
96
96, 0, ∞, 50
96 – remaining sum
0 – no of coins along this path, (the current minimum)
∞ – minimum change over all complete paths seen so far.
50 – last denomination examined
96 0 ∞ 50
46, 1, ∞, 50
96, 0, 4, 25
96, 0, 4, 20
∞
46, 1, ∞, 25
21, 3, 4, 25
21, 2, ∞, 25
4
21, 3, 4, 20
∞
21, 2, ∞, 20
1, 4, 4, 20
=
4
1, 3, ∞, 10
∞
1, 3, ∞, 5
∞
1, 3, ∞, 1
0, 4, ∞, 1
4

```
(define infinity 10000000)
(define (fast-minchange sum)
  (define (minchange-helper sum currmin absmin lastden)
    (cond ((or (= sum 0) (>= currmin absmin))  currmin)
          (else (let* ((m25 (if  (and  (>= sum 25) (>= lastden 25))
                                 (minchange-helper (- sum 25) (+ currmin 1) absmin 25)
                                  absmin))
                       (m20 (if  (and (>= sum 20) (>= lastden 20))
                                 (minchange-helper (- sum 20) (+ currmin 1) m25 20) m25))
                       (m10 (if  (and (>= sum 10) (>= lastden 10))
                                 (minchange-helper (- sum 10) (+ currmin 1) m20 10) m20))
                       (m5 (if   (and (>= sum 5)  (>= lastden 5))
                                 (minchange-helper (- sum 5) (+ currmin 1) m10 5) m10))
                       (m3 (if   (and (>= sum 3)  (>= lastden 3))
                                 (minchange-helper (- sum 3) (+ currmin 1) m5 3) m5))
                       (m2 (if   (and (>= sum 2)  (>= lastden 2))
                                 (minchange-helper (- sum 2) (+ currmin 1) m3 2) m3))
                       (m1 (if   (and (>= sum 1)  (>= lastden 1))
                                 (minchange-helper (- sum 1) (+ currmin 1) m2 1) m2)))
                  m1))))
  (minchange-helper sum 0 infinity 25))
```