```
(((f_0
  (let ((r_0 (ref 0))
        (f_0
         (fork
          (atomic
           (let ((x
                  (fork
                   (ref-set
                    r_0
                    (+
                     (deref
                      r_0)
                     1))))
                  (y
                   (fork
                    (ref-set
                     r_0
                     (+
                      (deref
                       r_0)
                      2)))))
                  (do (join x)
                      (join y)
                      (deref
                       r_0))))))
          (f_1
           (fork
            (atomic
             (let ((x
                    (fork
                     (ref-set
                      r_0
                      (+
                       (deref
                        r_0)
                       3))))
                    (y
                     (fork
                      (ref-set
                       r_0
                       (+
                        (deref
                         r_0)
                        4)))))
                    (do (join x)
                        (join y)
                        (deref
                         r_0)))))))
          (+
           (join f_0)
           (join f_1)))))
  ()))
```

ref out 1

```
(((f_0
  (let ((r_0 r_new)
        (f_0
         (fork
          (atomic
           (let ((x
                  (fork
                   (ref-set
                    r_0
                    (+
                     (deref
                      r_0)
                     1))))
                  (y
                   (fork
                    (ref-set
                     r_0
                     (+
                      (deref
                       r_0)
                      2)))))
                  (do (join x)
                      (join y)
                      (deref
                       r_0))))))
          (f_1
           (fork
            (atomic
             (let ((x
                    (fork
                     (ref-set
                      r_0
                      (+
                       (deref
                        r_0)
                       3))))
                    (y
                     (fork
                      (ref-set
                       r_0
                       (+
                        (deref
                         r_0)
                        4)))))
                    (do (join x)
                        (join y)
                        (deref
                         r_0)))))))
          (+
           (join f_0)
           (join f_1)))))
  ((r_new 0)))
```

let 1

```
(((f_0
  (let ((r_0
         (fork
          (atomic
           (let ((x
                  (fork
                   (ref-set
                    r_new
                    (+
                     (deref
                      r_new)
                     1))))
                  (y
                   (fork
                    (ref-set
                     r_new
                     (+
                      (deref
                       r_new)
                      2)))))
                  (do (join x)
                      (join y)
                      (deref
                       r_new)))))
          (f_1
           (fork
            (atomic
             (let ((x
                    (fork
                     (ref-set
                      r_new
                      (+
                       (deref
                        r_new)
                       3))))
                    (y
                     (fork
                      (ref-set
                       r_new
                       (+
                        (deref
                         r_new)
                        4)))))
                    (do (join x)
                        (join y)
                        (deref
                         r_new)))))))
          (+
           (join f_0)
           (join f_1)))))
  ((r_new 0)))
```

fork

```
(((f_0
  (let ((f_0 f_new)
        (f_1
         (fork
          (atomic
           (let ((x
                  (fork
                   (ref-set
                    r_new
                    (+
                     (deref
                      r_new)
                     1))))
                  (y
                   (fork
                    (ref-set
                     r_new
                     (+
                      (deref
                       r_new)
                      2)))))
                  (do (join x)
                      (join y)
                      (deref
                       r_new)))))))
          (+
           (join f_0)
           (join f_1)))))
  (f_new
   (atomic
    (let ((x
           (fork
            (ref-set
             r_new
             (+
              (deref r_new)
              1))))
           (y
            (fork
             (ref-set
              r_new
              (+
               (deref r_new)
               2)))))
           (do (join x)
               (join y)
               (deref r_new))))))
  ((r_new 0)))
```

let 1

```
(((f_0
  (let ((f_0 f_new)
        (f_1
         (fork
          (atomic
           (let ((x
                  (fork
                   (ref-set
                    r_new
                    (+
                     (deref
                      r_new)
                     1))))
                  (y
                   (fork
                    (ref-set
                     r_new
                     (+
                      (deref
                       r_new)
                      2)))))
                  (do (join x)
                      (join y)
                      (deref
                       r_new)))))))
          (+
           (join f_0)
           (join f_1)))))
  (f_new
   (atomic
    (let ((x
           (fork
            (ref-set
             r_new
             (+
              (deref r_new)
              1))))
           (y
            (fork
             (ref-set
              r_new
              (+
               (deref r_new)
               2)))))
           (do (join x)
               (join y)
               (deref r_new))))))
  ((r_new 0)))
```

fork

```
(((f_0
  (let ((f_1
         (fork
          (atomic
           (let ((x
                  (fork
                   (ref-set
                    r_new
                    (+
                     (deref
                      r_new)
                     3))))
                  (y
                   (fork
                    (ref-set
                     r_new
                     (+
                      (deref
                       r_new)
                      4)))))
                  (do (join x)
                      (join y)
                      (deref
                       r_new)))))))
          (+
           (join f_0)
           (join f_1)))))
  (f_new
   (atomic
    (let ((x
           (fork
            (ref-set
             r_new
             (+
              (deref r_new)
              1))))
           (y
            (fork
             (ref-set
              r_new
              (+
               (deref r_new)
               2)))))
           (do (join x)
               (join y)
               (deref r_new))))))
  ((r_new 0)))
```

let 1

```
(((f_0
  (let ((f_1 f_new1))
    (+
     (join f_new)
     (join f_1))))
  (f_new1
   (atomic
    (let ((x
           (fork
            (ref-set
             r_new
             (+
              (deref r_new)
              1))))
           (y
            (fork
             (ref-set
              r_new
              (+
               (deref r_new)
               2)))))
           (do (join x)
               (join y)
               (deref r_new))))))
  ((r_new 0)))
```

let 1

```
(((f_0
  (let ((f_1
         (fork
          (atomic
           (let ((x
                  (fork
                   (ref-set
                    r_new
                    (+
                     (deref
                      r_new)
                     3))))
                  (y
                   (fork
                    (ref-set
                     r_new
                     (+
                      (deref
                       r_new)
                      4)))))
                  (do (join x)
                      (join y)
                      (deref
                       r_new)))))))
          (+
           (join f_new)
           (join f_1))))
  (f_new 2))
  ((r_new 2)
  (r_new 1)
  (r_new 0)))
```

fork

```
(((f_0
  (let ((f_1 f_new1))
    (+
     (join f_new)
     (join f_1))))
  (f_new1
   (atomic
    (let ((x
           (fork
            (ref-set
             r_new
             (+
              (deref r_new)
              1))))
           (y
            (fork
             (ref-set
              r_new
              (+
               (deref r_new)
               2)))))
           (do (join x)
               (join y)
               (deref r_new))))))
  ((r_new 0)))
```

let 1