アルゴリズムとデータ構造入門 第九回課題

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1 square-limit

```
(define right-split (lambda (painter n)
        (if (= n 0)
                painter
                (let ((smaller (right-split painter (- n 1))) )
                        (beside painter (below smaller smaller) )))))

(define up-split (lambda (painter n)
        (if (= n 0)
                painter
                (let ((smaller (up-split painter (- n 1))) )
                        (below painter (beside smaller smaller) )))))

(define corner-split (lambda (painter n)
        (if (= n 0)
                painter
                (let ((up (up-split painter (- n 1)))
                        (right (right-split painter (- n 1))) )
                        (let ((top-left (beside up up))
                                (bottom-right (below right right))
                                (corner (corner-split painter (- n 1))) )
                                (beside (below painter top-left)
                                        (below bottom-right corner) ))))))


(define square-limit (lambda (painter n)
        (let ((quarter (corner-split painter n)) )
                (let ((half (beside (flip-horiz quarter) quarter)))
                        (below (flip-vert half) half)))))
```

2 letter-lambda色付

```
(define filled-letterlambda (vertexes->painter
         (list
                  (make-vect .45 .60) (make-vect .25 .20)
                  (make-vect .25 .20) (make-vect .20 .20)
                  (make-vect .20 .20) (make-vect .20 .10)
                  (make-vect .20 .10) (make-vect .30 .10)
                  (make-vect .30 .10) (make-vect .50 .50)
                  (make-vect .50 .50) (make-vect .70 .10)
                  (make-vect .70 .10) (make-vect .80 .10)
                  (make-vect .80 .10) (make-vect .80 .20)
                  (make-vect .80 .20) (make-vect .75 .20)
                  (make-vect .75 .20) (make-vect .40 .90)
                  (make-vect .40 .90) (make-vect .30 .90)
                  (make-vect .30 .90) (make-vect .30 .80)
                  (make-vect .30 .80) (make-vect .35 .80)
                  (make-vect .35 .80) (make-vect .45 .60) )
         #t ))
```

実行例

(load ”init.lsp”)
(load ”lambda.scm”)
(set-color '#xfccc77)
(filled-letterlambda frm1)

出力

letter-lambda.jpg を添付してあります。

3 letter-lambdaをsquare-limitに適用

実行例

(load ”init.lsp”)
(load ”lambda.scm”)
(load ”square-limit.scm”)
(set-color '#xfccc77)
((square-limit filled-letterlambda 5) frm1)

出力

square-limit.jpg を添付してあります。