

Forritunarmál Hópverkefni 2

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1

```
(define (last x)
  (if (null? (cdr x))
      (car x)
      (last (cdr x))
  )
)
(last '(1 2 3))
```

```
> (define (last x)
  (if (null? (cdr x))
      (car x)
      (last (cdr x))
  )
)
(last '(1 2 3))
3
```

2

```
(define (remove-last x)
  (if (null? (cdr x))
      '()
      (cons (car x) (remove-last (cdr x)))
  )
)
(remove-last '(1 2 3))
```

```
> (define (remove-last x)
  (if (null? (cdr x))
      '()
      (cons (car x) (remove-last (cdr x)))
  )
)
(remove-last '(1 2 3))

(1 2)
```

3

```
(define (product x)
  (define (producthelp x y)
    (if (null? x)
        y
        (producthelp (cdr x) (* y (car x)))))
  )
  (producthelp x 1)
)
(product '(1 2 3))
(product '())
```

```
> (define (product x)
  (define (producthelp x y)
    (if (null? x)
        y
        (producthelp (cdr x) (* y (car x)))))
  )
  (producthelp x 1)
)
(product '(1 2 3))
(product '())
6
1
>
```

4

```
(define (myappend x y)
  (if (null? x)
      y
      (myappend (remove-last x) (cons (last x) y))
  )
)
(myappend '(1 2 3) '(1 2))
```

```
> (define (myappend x y)
  (if (null? x)
      y
      (myappend (remove-last x) (cons (last x) y))
  )
)
(myappend '(1 2 3) '(1 2))

(1 2 3 1 2)
>
```