

CS3L: Introduction to Symbolic Programming

Lecture 26:
Printing and Stuff

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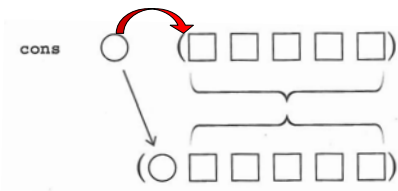
Today

- `cons`
- `reverse`



`cons`

- Takes two arguments
- Makes the first arg. the car of the new list
- Makes the second arg. the cdr of the new list
- The second argument MUST be a list



`reverse` – `car` / `cdr` recursion WRONG

```
(define (reverse lst)
  (if (null? lst)
      '()
      (cons (reverse (cdr lst))
            (car lst))))
```



```
(reverse '(a b c d))
```

```
(cons (reverse '(b c d)) a)
```

```
(cons (cons (reverse '(c d)) b) a)
```

```
(cons (cons (cons (reverse '(d)) c) b) a)
```

```
(cons (cons (cons (cons (reverse '()) d) c) b) a)
```

```
(cons (cons (cons (cons '() d) c) b) a)
```

```
(define (reverse lst)
  (if (null? lst)
      '()
      (cons (reverse (cdr lst))
            (car lst))))
```



Lectures in the next few days

- Recursive lambdas
- Generalized lists (and higher order procedures)
- Python game development libraries
- Writing an executable program
- Tree recursion
- Graphics
- Universal register machines
- Lists
- Lambdas
- Association List
- 61a
- 61b
- 61c
- 110
- 172
- Object oriented programming
- More practice programs
- Meta circular evaluation
- Internships
- Interviewing
- Job market
- What it like to work as a programmer
- What you do with CS that's not programming
- Sca

