CSC-151

Friday September 19

Fall 2025

AGENDA

1. Digital Studies Visitors?
2. Announcements
3. Reviewing recent topics
4. Finish Wednesday's Lab
5. Wrap-up

Digital Studies Concentration

ANNOUNCEMENTS

Quiz 2

- Graded, posted in Gradescope
- Remember, there is a document to track your progress

Coding Challenge 3

- Out today
- Due next Thursday

Review

Important procedures on lists

`map`

input: procedure and list(s)

output: list

purpose: apply the procedure to every element in the list.

ex1: `(map + (list 1 2 3) (list 4 5 6)) ---> (list 5 7 9)`

ex2: `(map square (list 1 2 3) ---> (list 1 4 9)`

Important procedures on lists

`reduce`

input: procedure and list

output: whatever the type the procedure outputs (number, string, etc.)

purpose: combine elements in the list using procedure

ex1: `(reduce + (list 1 2 3)) ---> 6`

ex2: `(reduce string-append (list "a" "b" "c")) ---> "abc"`

Important procedures on lists

`filter`

input: predicate and list

output: list (a subset of the original list)

purpose: keep only the elements which return `#t` when predicate is applied

ex1: `(filter odd? (list 1 2 3)) ---> (list 1 3)`

ex2: `(filter char-upper-case? (list #\c #\a #\d #\b)) ---> (list)`

Making our own procedures

`lambda`

(define procedure-name
(lambda (parameter(s))
(expression(s))))

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(define add2-lambda
  (lambda (x)
    (+ x 2)))
```

`section`

(section <procedure> <params>)

(define add2-section
(section + _ 2))

`compose`

(o $procedure_1$ $procedure_2$ … $procedure_k$)

(define add2-compose
(o (section + _ 1) (section + _ 1)))

Questions?

NOTES FOR THE LAB

Finish the lab from Wednesday – there are several challenge extra problems if you finish early.

DON'T FORGET...

- Work on CC3
- Fill out the weekly survey on Gradescope
- Have a great weekend!