

The background features three vertical bars on the left: a light red bar, a teal bar, and a light beige bar. In the top right and bottom right corners, there is a pattern of small, light red dots arranged in a grid that fades out towards the center.

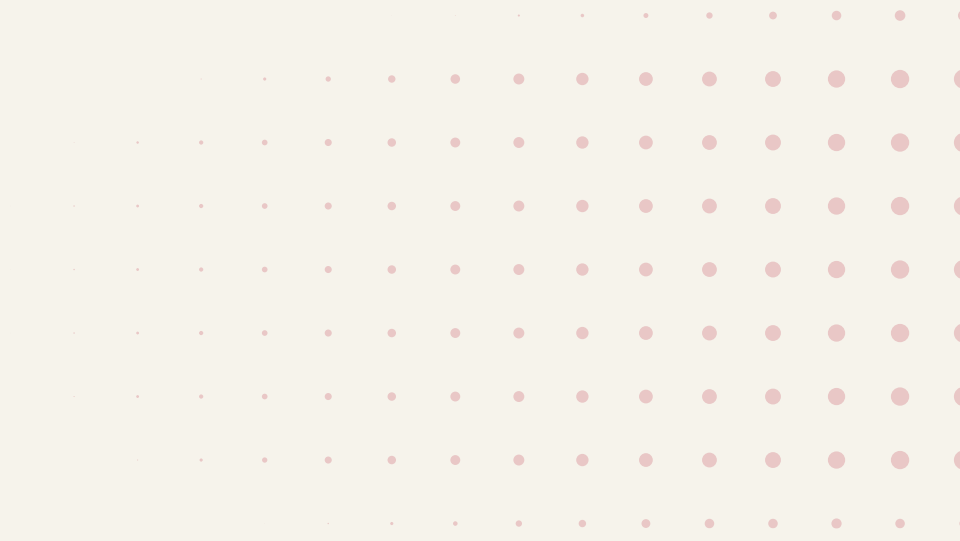
CSC-151

Friday September 19

Fall 2025



AGENDA

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

ANNOUNCEMENTS

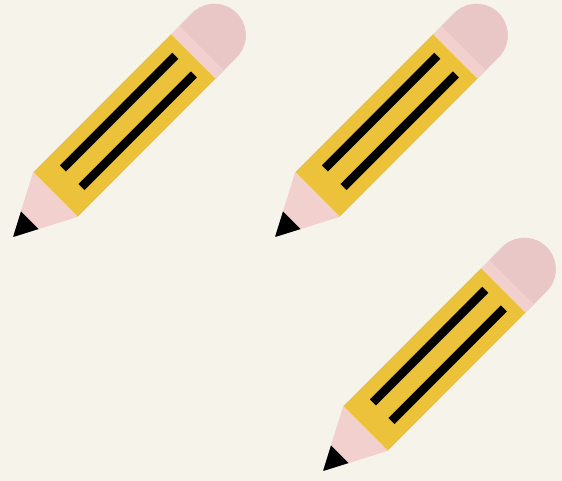
Quiz 2

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

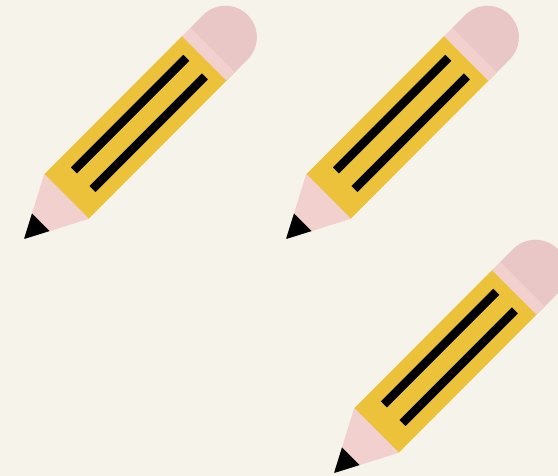
Coding Challenge 3

- Out today
- Due next Thursday

Review



Important procedures on lists



map

input: procedure and list(s)

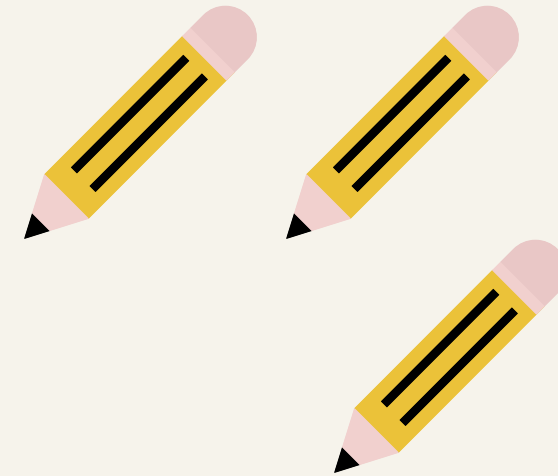
output: list

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

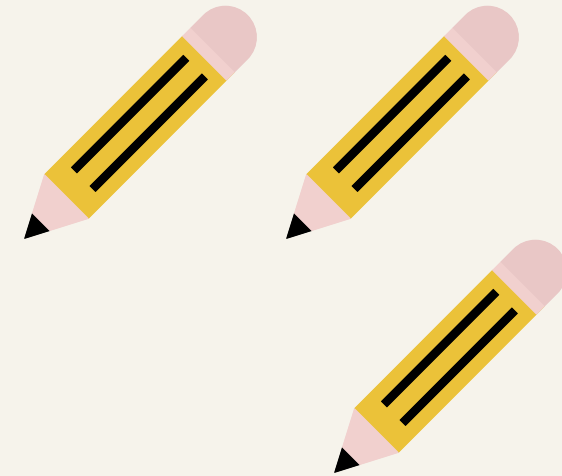
output: whatever the type the procedure outputs (number, string, etc.)

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))))
```

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

section

```
(section <procedure> <params>)
```

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

compose

```
(o procedure1 procedure2 ... procedurek)
```

```
(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!**

