

Computer Science I

CMPE/CSCI 1370 - 01

Today

Time	Topic
9:30 - 9:45	big-bang quiz
9:45 - 10:10	reading cond expressions
10:10 - 10:20	writing cond expressions
10:20 - 10:30	big-bang + cond

Quiz!

```
(define (a x y) 10)

(define (b x) (circle 10 "solid" "blue"))

(define (c x) 10)

(big-bang 10
  [to-draw ...]
  [on-tick ...]
  [on-key ...])
```

Which function is a valid handler for `to-draw`, `on-tick`, and `on-key` ?

D. None of the above

E. More than one of the above

Given these function definitions, write a **big-bang** expression:

```
(define (render state)  
  (circle (* state 10) "solid" "blue"))  
  
(define (tock state)  
  (- state 1))  
  
(define (key-pressed state key)  
  10)
```

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Stoplight

- Display light
- Change light based on countdown
- Press a key to pick a light

Conditional expressions: `cond`

What's the syntax for a `cond` expression?

cond expressions

Syntax:

- (
- cond keyword
- Clauses: [Q A]
- Optional: [else A]
-)

Which of the following is an expression of type boolean?

A. `(rectangle 50 75 "solid" "blue")`

B. `(+ 50 75)`

C. `(string-append "tr" "ue")`

D. `(< 75 50)`

E. More than one of the above

Stepping through a `cond`

What is the value of the expression `(clicker 7)` ?

```
(define (clicker a-number)
  (cond
    [(< a-number 5) "bim"]
    [(< a-number 10) "bam"]
    [(< a-number 20) "bum"]
    [else "boom"])))
```

- A. "bim"
- B. "bam"
- C. "bum"
- D. "boom"

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How to write a cond:

1. How many **cases** (clauses)?
2. What are the **answer parts** of each clause?
3. What are the **conditions** to get to each of those answers?
 - a. Within a number range
 - b. Equal to some value

Fill in the blanks!

```
(define (mag x)
  (cond
    [_____]
    [_____]
    [_____]))
```

else

"positive"

(< x 0)

(> x 0)

"zero"

"negative"

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Attendance!

<http://bit.ly/1370-1rollcall>