CS3L: Introduction to Symbolic Programming
Lecture 5: Difference Between Dates Case Study

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Today
- Helper Procedures
- Review Conditionals
- Difference Between Dates

Helper Procedures
- From Yesterday's Lecture:
  - Bake a cake
  - Make the batter
  - Bake the cake
  - Ice the cake
- Today – Build the house
  - Work with a partner on one piece of paper..
  - Make a high-level plan (with 2-4 helper monkeys)
  - Make a slightly lower-level plan for each helper monkey
  - Turn it in!

Predicates
(define (valid-date? day month year)
  (cond
   ((or (< day 1) (> day 31) (< month 1) (> month 12) (<= year 1582)) #f)
   ((= day 31) (member? month '(1 3 5 7 8 10 12)))
   …
  )
)

IF & COND Statements
- return expressions can do “thinking”
  (if <predicate>
    <true case>
    <false case>)
  (cond
    (predicate1 return_expression1)
    (predicate2 return_expression2)
    (else return_expression3))

Important Parts of Difference Between Dates
- Sometime solving it by hand is different than in a computer
- Check helper programs to make sure they work!!!! Don’t propagate errors!
- Divide and Conquer
- Throw out code!
- Pseudo-code