CSC104 winter 2013
Why and how of computing
week 11

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Text: Picturing Programs
Outline

work

Notes
who’s got the better deal?

life with, or without, computers — which works better?

How many hours per week do you expect to work? What about your parents/grandparents? Explain labour-saving devices
previous experience

does technological change automatically improve lives?

land cleared of people provides wool and hands for emerging factories

Some economists report that production actually dropped for the first few decades of the Industrial Revolution. The working day certainly lengthened — to 12 or even 14 hours!
automation/computerization
what has the effect been?

Ford assembly, then and now
where’d everybody go?

In 1940s, a car “cost” 35 hours. Now it’s 19 hours.
hardware effects

storing information gets smaller, cheaper, faster by the decade...

What’s the effect on working lives?
do long hours matter?

...if you have an ergonomic chair and a fuzzball table?

Check out why crunch mode doesn’t work. Chart productivity/hour over a long day.
don’t operate heavy machinery... after working (too much)

prolonged sleeplessness affects motor skills and judgement
utopia, dystopia?

new jobs, flying cars, or no jobs, or retirement?
not just how long, but where

trade traffic for flexibility and time?
\textbf{flatten}

; flatten : list -> list
(define (flatten L)
  (cond
   [(\text{cons} L) (apply \text{append} (map flatten L))]
   [else (list L)])
)

; predict what \text{(flatten 3)} does

; predict what \text{(flatten (list 3))} does

; predict what \text{(flatten (list 1 2 (list 3)))} does
; depth : list -> number
(define (depth L)
  (cond
    [(cons? L) (+ 1 (apply max (map depth L)))]
    [else 0]))

; predict what (depth 3) does

; predict what (depth (list 3 4)) does

; predict what (depth (list 3 4 (list 5 6))) does