CSC104 fall 2013
Computational thinking
week 10

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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
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)
utopia, dystopia?

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

trade traffic for flexibility and time?
; flatten : list -> list
(define (flatten L)
  (cond
   [(cons? L) (apply append (map flatten L))]
   [else (list L)])
)

; predict what (flatten 3) does

; predict what (flatten (list 3)) does

; predict what (flatten (list 1 2 (list 3))) does
(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
Notes