Quiz format
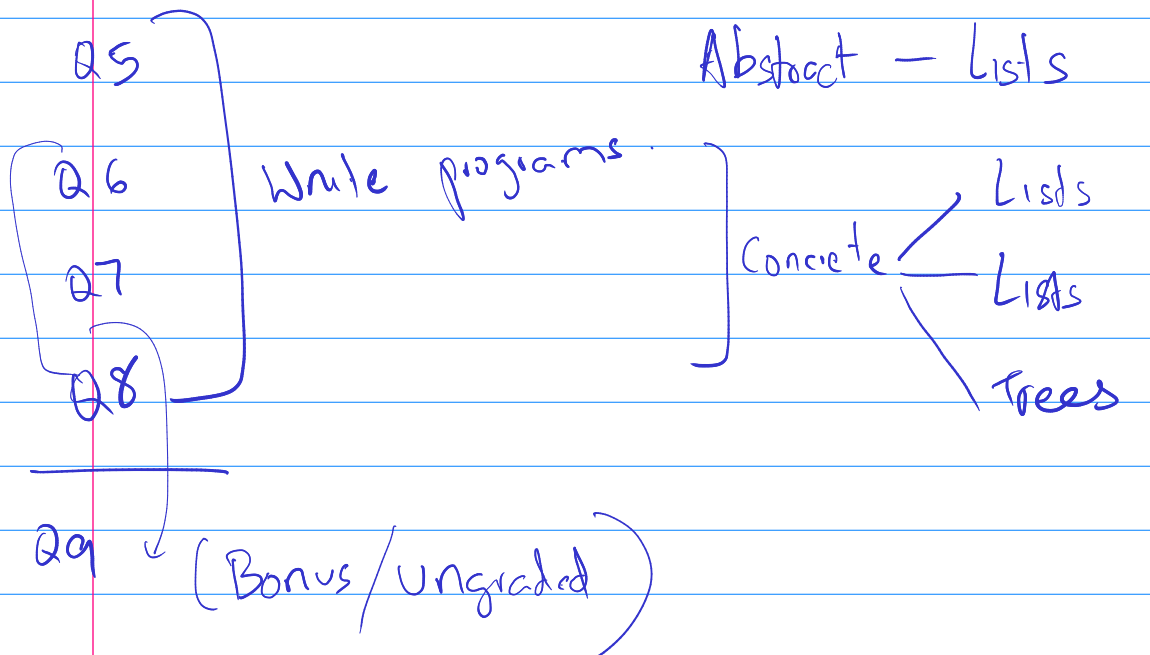
Q1 Bunch of OCaml expressions. Type! (Static)

    a. Is it well-typed? Explain.
    b. If so What's the type?
    c. If not can you fix it?

Q2. Evaluation. Predict the result. (Dynamic)

Q3. Is this program tail recursive?

Q4. Pattern matching. Is it exhaustive?

Q5   Abstract — Lists

Q6   While programs.   Lists

Q7   Concrete   Lists

Q8   Trees

Q9   (Bonus/ungraded)

Arity   Suspended ("Closure")
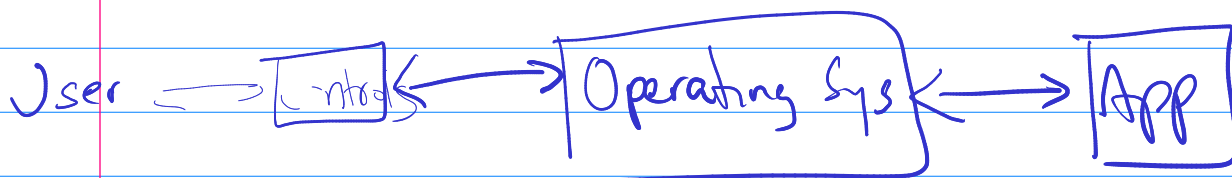   functions

It seems like functions are values?

Functions are
first-class values

⊻ A function should be able
  to return a fn.

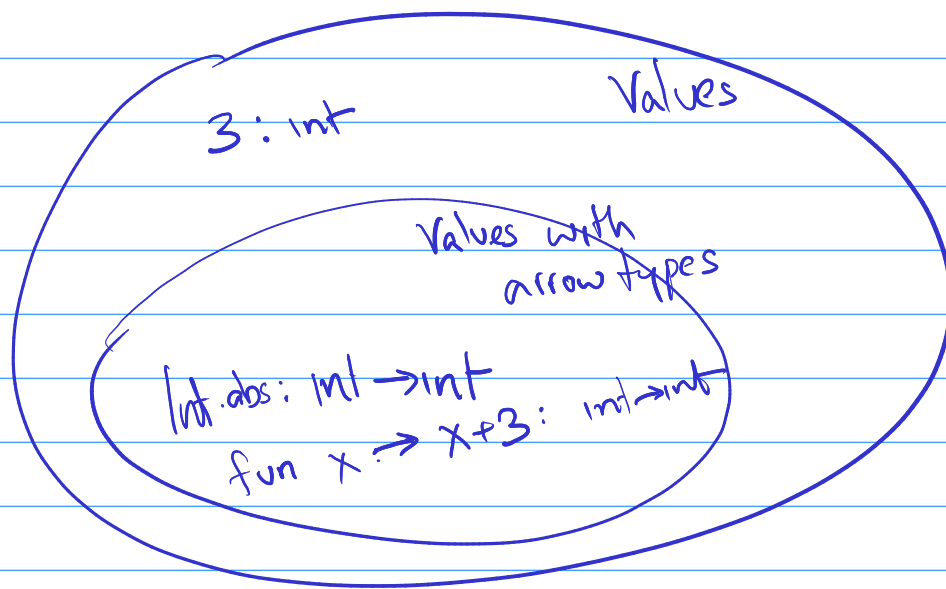⊖ A function should be able to
  take another fn as input'

— Give names to functions.
  While fns without names

User → | ntrols | ⇄ | Operating Sys | ⇄ | App |

Ctrl-C ———
Ctrl-V ———
Alt-F ———

Values

3 : int

Values with
arrow types

Int.abs : int → int
fun x => x+3 : int → int

(let f x = x + 3 in f) 2

2 ——→ f ——→ 5

3 ——→ f ——→ 6

Factory

Grand Canyon

Niagara Falls

Coin press

Coin press