

Meeting 14: Data Types and Polymorphism



Announcements

- HW4 due Friday 10/13
- Exercise 4 and review session Tue
- Midterm next Thu

Questions

① And, Or, Not explicate

↳ What's in P1? ✓

↳ expounding? ✓

↳ optimising with constants? ✓

② Type checking ✓

③ When to create calls to runtime?

④ Lists / Dictionaries ✓

⑤ a1, a2 - registers for compare ✓

⑥ specifically flattening compare

and, or, not in Python \approx conditional (if-then-else) operators

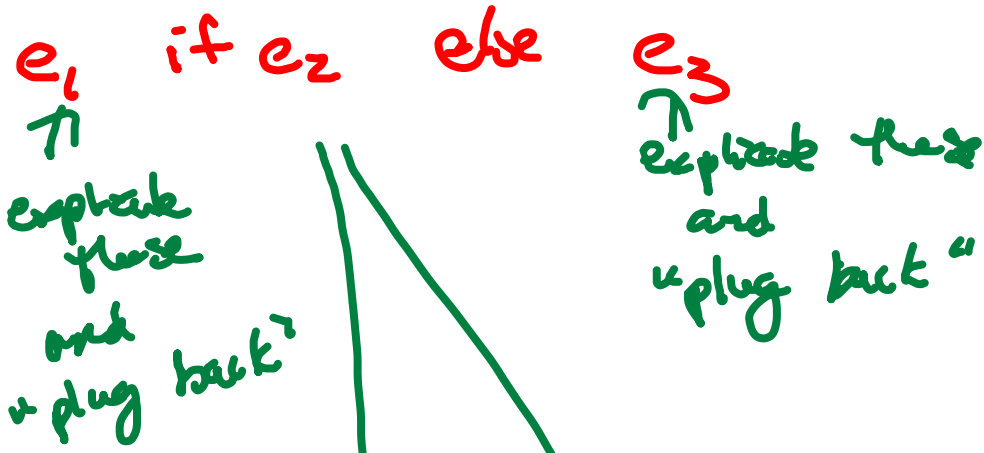
e_1 and e_2
evaluate e_1 if e_1 is "true-y" then
evaluate e_2 and return the value of e_2
or return the value of e_1

e_1 or e_2

not e_1
evaluate e_1 , if e_1 is "true-y" then
return False, or return True

e_1 and e_2
explain \Rightarrow e_2 if e_1 else e_1 duplication! \rightarrow let

not e_1
explain \Rightarrow False if e_1 else True



INT0-Boot B16

False



True



generate code is_true
for check the untagged value is

"False"

=> 0 or != 0

Name ('False')

Pyhton / P1



tagged value (x86)



untagged value (x86)

Constants

Constant Folding (Partial Evaluation)

0 and $e_2 \rightsquigarrow 0$

And (Const(v_1 , e_2))

And (Q , e_2)
