

Meeting 8: Register Allocation




Announcements

- HW3 due next Friday 9/29 —

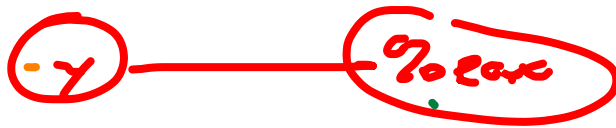
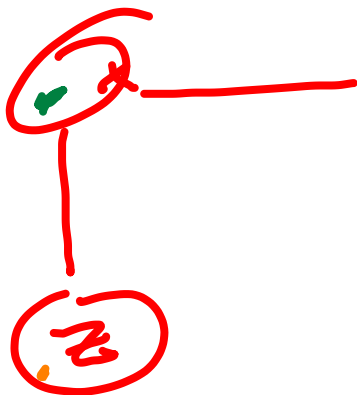
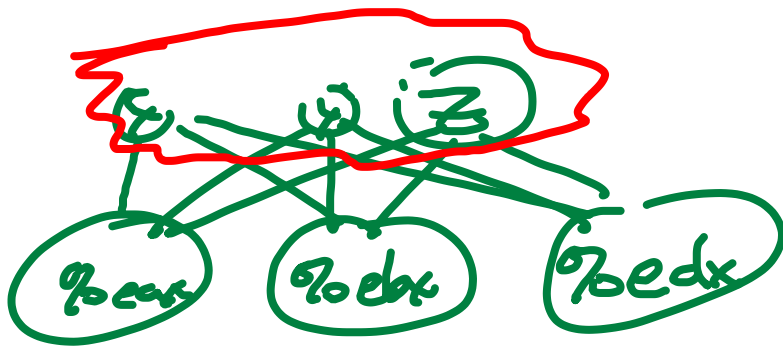
Questions

- ① Liveness and reassignment ✓
- ② Choosing variables and relationship liveness ✓
- ③ 2nd rule interference graph building
- ④ What to vary about HW3? ✓
- ⑤ TBD
- ⑥ How do we spill?


 write to x, y, z
 $\leftarrow \{x, y, z\}$
 call input $\leftarrow \{x, y, z\}$


 read x, y, z

calling convention
 input can clutter
 $\%eax, \%ebx,$
 $\%edx$
 caller-save
 registers



colors = registers

NP-complete

Greedy algorithm:

- Don't backtrack
- Try to "make some locally optimal" decision based on heuristics

- $\%eax$
- $\%ebx$

