

Lab 3 – Find Live

CMPUT 229

Outline

- ▣ Lab_FindLive Assignment:
- ▣ Main idea
- ▣ Tips
- ▣ Questions

Required Functions

- findLive – finds the live registers at each point of interest by finding all paths of reachable code from each of those points. Along each path, parses the instructions seen to gather the live registers.
- You are encouraged to split your work into even more functions (that are called from the above function) for the sake of good coding practice, however we will not be checking for this.

Main Idea - findLive

- ▣ Find all function calls in the program
- ▣ For each function call: trace all paths of reachable code from the instruction immediately after the function call.
- ▣ Parse all seen instructions for live registers.
- ▣ Make sure not to return registers that are dead.

Tips - Liveness:

- ❑ Clear your partial result globals between each found point of interest. Registers that were dead at an early point of interest may be live at a later one, ect.
- ❑ Do not get stuck in tracing a loop.

Tips – Overall:

- It may be useful to for you to check your execution tracing correctness before attempting liveness detection.
- Start early, this assignment has several nontrivial parts.

Lab 3 – Questions?