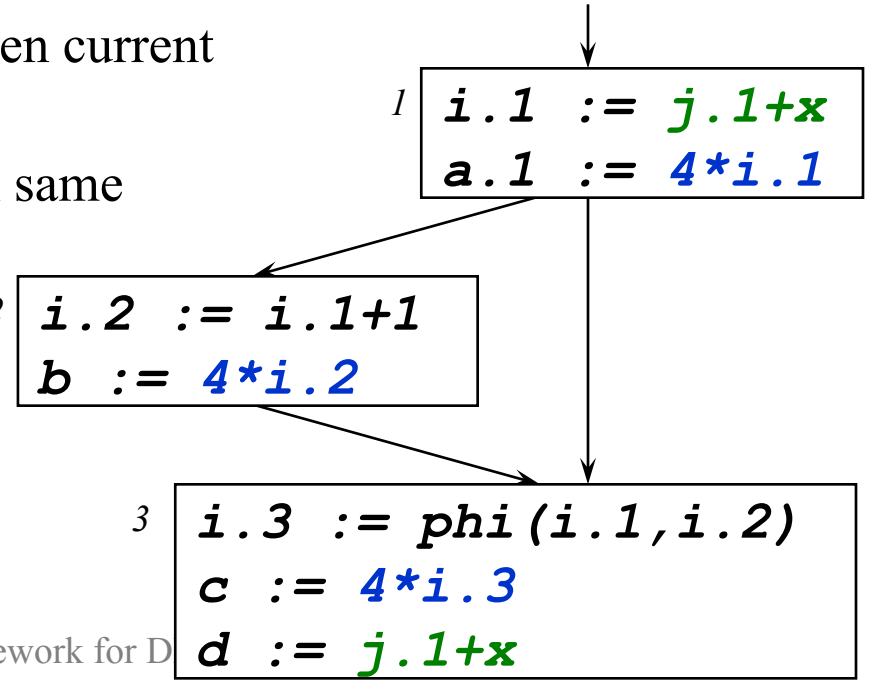
CSE in SSA and LLVM (PA2)

Available Expressions: Possible approach

- Going to miss out on some possibilities.
- Representation for expressions, define operator<
- If gen'ed expressions not in avail_in set
  - Map each gen'ed expression to instruction pointer that creates it
  - Put expression in avail_out set
- If gen'ed expression is in avail_in set, then current instruction is unnecessary
- Special set intersection, expressions with same define are equivalent

Lattice Theoretic Framework Approach

- Effect of instruction n: **`x = e`**
  - kill[n] = {(e, d)| ∀d}
  - gen[n] = {(x, n)}