1 Computing Local Information

- Similar to that of available expressions.
- Iterate from bottom of block to top.
- Copy(i) is a set of quadruples ⟨u,v,i,pos⟩ such that $u \leftarrow v$ is a copy in block i at position *pos* and neither u nor v is assigned to later in the block (i.e., the copy reaches the exit).
- Kill(i) is a set of quadruples killed by the block.

2 Propagating Information

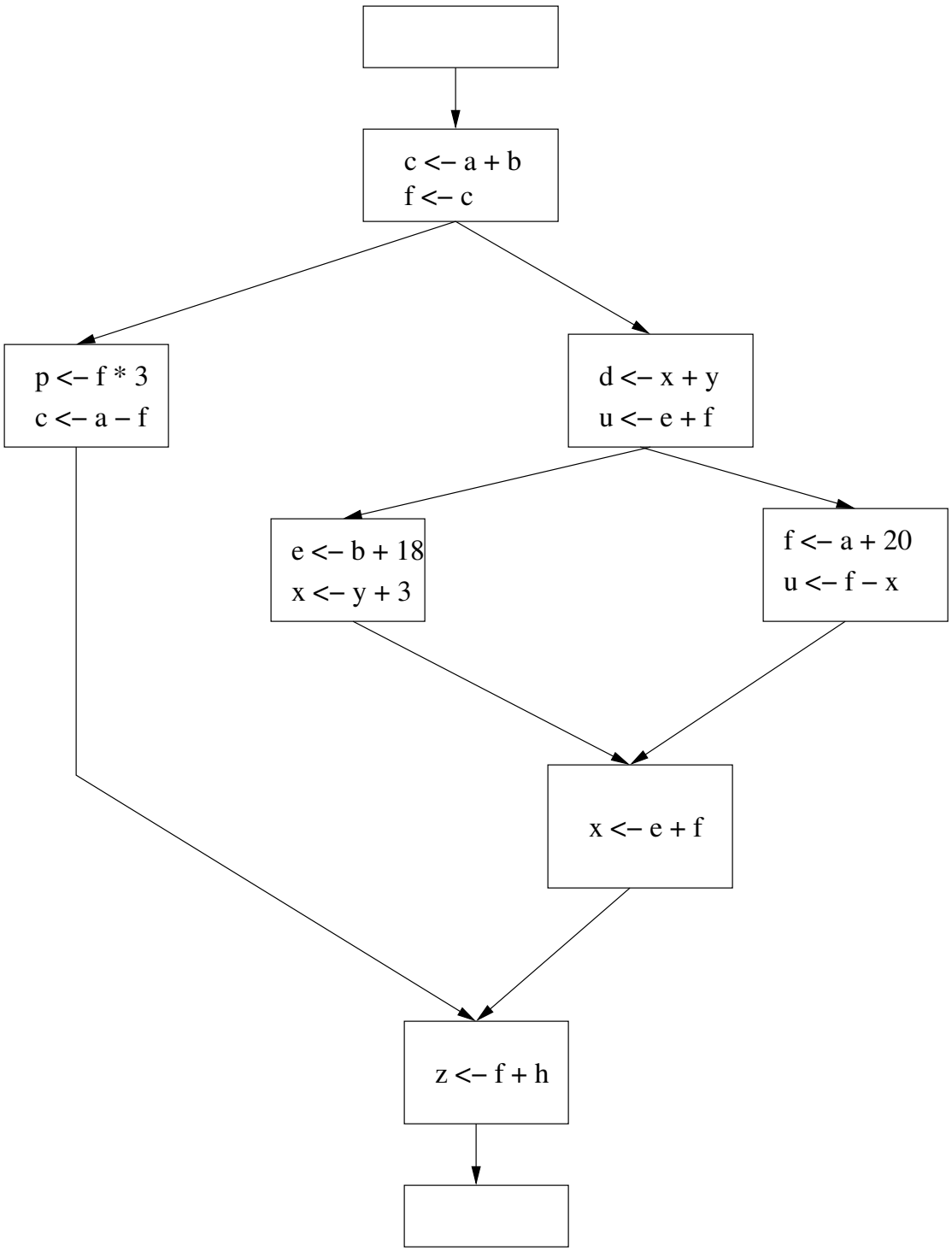
- An copy is available only if it is available from each predecessor.
- Similar to that of available expressions.

$$CPin(n_0) = \emptyset$$

$$CPin(n) = \bigcap_{m \in pred(n)} (\underbrace{Copy(m)}_{\texttt{generated in m}} \cup (\underbrace{CPin(m)}_{\texttt{on entry to m}} - \underbrace{Kill(m)}_{\texttt{killed in m}}))$$

3 Propagating copies

- At each use, if a copy is available, use the copied variable.


c <– a + b
f <– c
p <– f * 3
c <– a – f
d <– x + y
u <– e + f
e <– b + 18
x <– y + 3
f <– a + 20
u <– f – x
x <– e + f
z <– f + h