

## Dominator Analysis

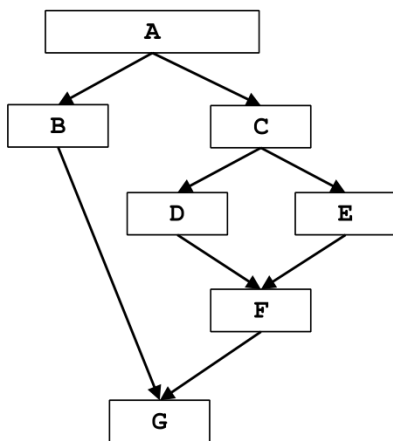
Domain: Set of all nodes (basic blocks)

Direction: Forward  
Meet Operator:  $\cap$

$$\begin{cases} out[b] = f_b(in[b]) \\ in[b] = \bigcap_{p \in pred(b)} out[p] \end{cases}$$

Transfer Function: In general  $f_b(x) = Gen[b] \cup (x \setminus Kill[b])$   
In this case we have  $Gen[b] = \{b\}$  and  $Kill[b] = \emptyset$   
therefore  $f_b(x) = x \cup \{b\}$

Boundary Condition:  $out[entry] = \{entry\}$   
Initial Interior Points:  $out[b] = \cup$



b	Iteration 1		Iteration 2
	IN[b]	OUT[b]	Unchanged
A		A	
B	A	A,B	
C	A	A,C	
D	A,C	A,C,D	
E	A,C	A,C,E	
F	A,C	A,C,F	
G	A		